

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

NORTH PARK PUBLIC WATER)	
DISTRICT,)	
)	
Petitioner,)	PCB 22-036
)	(Permit Appeal IL2015500)
v.)	
)	
ILLINOIS ENVIRONMENTAL)	
PROTECTION AGENCY,)	
)	
Respondent.)	

NOTICE OF FILING

TO: Division of Legal Counsel	Clerk
Illinois Environmental Protection Agency	Illinois Pollution Control Board
1021 North Grand Avenue East	100 West Randolph Street, Suite 11-500
P.O. Box 19276	Chicago, Illinois 60601-3218
Springfield IL 62794-9276	
epa.dlc@illinois.gov	

PLEASE TAKE NOTICE that I have today filed with the Office of the Clerk of the Pollution Control Board a Petition for Review of Agency Modification of Response Plan with Respect to VOCs in Community Water Systems of North Park Public Water District, a copy of which is herewith served upon you.

Dated: March 10, 2022

Respectfully submitted,

NORTH PARK PUBLIC WATER DISTRICT

By: /s/ Fredric P. Andes

Fredric P. Andes, Esq.
Alexander J. Bandza, Esq.
BARNES & THORNBURG LLP
One N. Wacker Drive, Suite 4400
Chicago, IL 60606-2833
(312) 357-1313
fredric.andes@btlaw.com
abandza@btlaw.com

Attorneys for North Park Public Water District

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

NORTH PARK PUBLIC WATER)	
DISTRICT,)	
)	
Petitioner,)	PCB 22-036
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ILLINOIS ENVIRONMENTAL)	
PROTECTION AGENCY,)	
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**PETITION FOR REVIEW OF
AGENCY MODIFICATION OF RESPONSE PLAN WITH RESPECT TO
VOCs IN COMMUNITY WATER SYSTEMS**

NOW COMES the Petitioner, North Park Public Water District (“District”), by its attorneys, Barnes & Thornburg LLP, and, pursuant to the Illinois Environmental Protection Act (“Act”) (415 ILCS 5/17.10(c)(2) & 5/40(a)(1)) and 35 Ill. Adm. Code 105, hereby petitions the Illinois Pollution Control Board (“Board”) to appeal the Illinois Environmental Protection Agency’s (“Illinois EPA”) modification of the District’s proposed response plan with respect to volatile organic compounds in community water systems.

In support thereof, the District respectfully states as follows:

I. RECORD OF APPEAL

1. On July 9, 2021, the Illinois EPA provided written notice to the District of its obligations arising out of a detection of tetrachloroethylene (“PCE”) at more than half of the maximum contaminant level (“MCL”) in the District’s Well #2 (“Notice”). (**Ex. A.**)

2. On August 13, 2021, the District submitted its initial proposed response plan to Illinois EPA (“Initial Plan”). (**Ex. B.**)

3. After discussions with Illinois EPA, the District submitted its amended proposed

response plan on September 22, 2021 (“Amended Plan”). (**Ex. C.**)

4. On or about December 14, 2021, Illinois EPA provided its written modification to the District’s Amended Plan (“Modification”). (**Ex. D.**)

5. The Amended Plan and the Illinois EPA’s Modification of the same are the subjects of this appeal.

II. THIS APPEAL IS TIMELY FILED

6. Pursuant to Ill. Adm. Code 101.300(c)(4), the presumed date of service of the Modification is December 18, 2021. Pursuant to Ill. Adm. Code 105.206(a), a petition for an appeal of the Modification must be filed within 35 days after the date of service of the Illinois EPA’s final decision. 35 days after December 18, 2021, is January 22, 2022, which is a Saturday.

7. Pursuant to Ill. Adm. Code 101.300(a), the computation of time will run until the next business day if the last day is a Saturday, Sunday, or national or State legal holiday. Accordingly, in the absence of any extension, the District would have been required to file its petition by Monday, January 24, 2022.

8. On Friday, January 21, 2022, the District submitted a request to extend the appeal period by 45 days, to which Illinois EPA provided its consent.

9. On Thursday, February 17, 2022, the Board granted this 45-day extension request, which would permit the District to file a petition with respect to the Modification on or before March 10, 2022.

III. BACKGROUND

10. The District has four high production sand and gravel wells (Wells #2-5) each approximately 200 feet deep. Wells #3 and #4 are the primary production wells for the District and have been since 2013. Wells #2 and #5 presently serve only as emergency backup supplies for the District. Well #5 is not relevant to this appeal.

11. Each well has a capacity of approximately 4.3 million gallons per day (“mgd”). The historical peak-day usage of the District’s customers is 7.5 mgd. Under normal circumstances, one well (either Well #3 or #4) produces sufficient water to meet the demands of the community. Thus, most of the time, either Well #3 or Well #4 serves as a backup supply for the primary well.

12. Well #2 has not been used as a source of water supply since 2013. The District maintains Well #2 as an operational well so that it can be used as an emergency source of water for use in the event of a loss-of-supply emergency or major fire. It is currently pumped to waste periodically for short periods of time (approximately 15 minutes) on a regular basis for purposes of confirming the well is operational and to collect water quality samples. When Well #2 is pumped to waste, its water runs overland to an inlet on a storm sewer owned by the Village of Machesney Park, Illinois.

13. After receiving the Notice, Stanley Consultants prepared the Initial Plan and submitted it on behalf of the District to the Illinois EPA on August 13, 2021. After discussions with Illinois EPA, Stanley Consultants prepared the Amended Plan and submitted it on behalf of the District to the Illinois EPA on September 22, 2021.

14. The Amended Plan contained nine discrete tasks:
- a. Study Aquifer Contamination Issues
 - b. Develop Emergency Loss-of-Supply Protocols
 - c. Purchase and Maintain Well Repair Equipment
 - d. Enact a Water Conservation Ordinance
 - e. Increase Well #2 Flushing
 - f. Maintain Frequent Water Quality Testing
 - g. Develop a Program to Address Well #2 Water Quality Issues

- h. Submit Quarterly Progress Reports to the Agency
- i. Enact Well #2 Water Quality Program and Improvements

15. The Amended Plan has two primary goals. **First**, study the contamination detected in Well #2 to determine the nature and extent of contamination as well as appropriate remedial solutions, if any. **Second**, while that study and any necessary improvements are underway, take all appropriate measures to reduce the likelihood of needing to use Well #2 during emergencies. Such measures include, for example, enacting a water conservation ordinance so as to increase the likelihood that if either Well #3 or #4 goes offline, the other Well can maintain supply. Also, purchasing and maintaining additional well repair equipment and keeping an on-call emergency response well repair crew would ensure that if both Wells #3 and #4 go offline simultaneously, the timeline to bring them back online does not depend on waiting to procure equipment or subject any service contract to competitive bidding requirements.

16. In its Modification, the Illinois EPA modified the Amended Plan in three key respects. **First**, the Illinois EPA required that if the District desired to continue to flush Well #2 into the storm drain system, it would need to obtain a National Pollution Discharge Elimination System (“NPDES”) permit. **Second**, it required that the District physically disconnect Well #2 from the system “until such time a treatment option is implemented or Well #2 is properly abandoned.” **Third**, the Illinois EPA essentially disallowed any time to determine the nature and extent of contamination as well as appropriate remedial solutions, requiring that the District submit **the** proposed treatment option by March 2022. The first modification is not at issue in this appeal.

IV. **ARGUMENT**

A. **Relevant Statutory Background**

17. The purpose of the Act’s provisions with respect to volatile organic compounds in community water systems is to “require[e] owners and operators of community water systems to

take **appropriate** action when carcinogenic volatile organic compounds (“VOCs”) are detected in finished water.” 415 ILCS 5/17.10(a)(2) (emphasis added).

18. Therefore, after receiving a notice on the detection of a VOC, a community water system is to “submit to the Agency a response plan designed to (i) prevent an exceed[ance] of the maximum contaminant level in the finished water and (ii) reduce the concentration of the carcinogenic volatile organic compound so that it does not exceed the applicable method detection limit in the finished water.” *Id.* 5/17.10(c).

19. “In approving, modifying, or denying a plan required under this Section, the Agency **shall take into account the technical feasibility and economic reasonableness** of the plan and any modification to the plan.” *Id.* 5/17.10(c)(1) (emphasis added). In other words, the Illinois EPA must consider technical feasibility and economic reasonableness in its review.

B. It Is Not Technically Feasible, Nor is It Responsible, to Require that the District Disconnect Well #2 From Its System

20. The District has not detected any VOC in any water pumped from Well #2 above an MCL. Indeed, even the result that led to the Notice was not above the MCL. Therefore, water from Well #2 is safe even under relevant regulatory thresholds.

21. Without Well #2 available for operation, the District is left vulnerable in the event either Well #3 or #4 fails to operate properly. A loss-of-supply emergency could be needlessly created if one of those two wells is not immediately available for emergency use. Because the District also supplies water to fire hydrants, a loss-of-supply emergency can have catastrophic consequences to property and persons in the event of a major fire. Therefore, it is not technically feasible, nor is it responsible, to disconnect Well #2 from the District’s system.

C. It Is Not Economically Reasonable to Require that the District Construct a Treatment Option Prior to Studying the Nature and Extent of Contamination and Any Remedial Options

22. The Illinois EPA is required to take into account economic reasonableness when reviewing the Amended Plan. 415 ILCS 5/17.10(c)(1). It plainly has not done so by requiring that the District construct a treatment system without even knowing the potential contaminants and the levels at which they should be treated.

23. In the absence of any meaningful data, one approach would be to select the most conservative or elaborate option that treats the most contaminants and the highest volumes. But such an expensive treatment option may not be necessary. Furthermore, without studying the nature and extent of contamination, the District may even select the wrong treatment system, or such an unstudied treatment option may in fact exacerbate the problem. The District will only know what, if any, treatment options are appropriate by being given the time to study the issue. The District does not have unlimited revenues, and it must serve its customers in a cost-effective manner. Hiking their rates to fund a possibly irrelevant or misguided treatment option is fiscally irresponsible, and thus it is plainly not economically reasonable, as required under the Act. *See* 415 ILCS 5/17.10(c)(1).

WHEREFORE, for the reasons stated above, the District requests that the Board: (a) vacate the Illinois EPA's requirement for the District to physically disconnect Well #2; and (b) vacate the Illinois EPA's position to the extent that it does not permit the District the time to study the nature and extent of contamination at Well #2 and evaluate appropriate treatment options.

Dated: March 10, 2022

Respectfully submitted,

NORTH PARK PUBLIC WATER DISTRICT

By: /s/ Fredric P. Andes

Fredric P. Andes, Esq.
Alexander J. Bandza, Esq.
BARNES & THORNBURG LLP
One N. Wacker Drive, Suite 4400
Chicago, IL 60606-2833
(312) 357-1313
fredric.andes@btlaw.com
abandza@btlaw.com

Attorneys for North Park Public Water District

CERTIFICATE OF E-MAIL SERVICE

I, the undersigned, certify the following:

- That I have served the attached Petition for Review of Agency Modification of Response Plan with Respect to VOCs in Community Water Systems by e-mail upon the Illinois Environmental Protection Agency at the e-mail address of epa.dlc@illinois.gov.
- That my e-mail address is abandza@btlaw.com.
- That the number of pages in the e-mail transmission is 9.
- That the e-mail transmission took place before 5:00 p.m. on the date of Mar. 10, 2022.

/s/ Alexander J. Bandza
An Attorney for North Park Public Water District

EXHIBIT A



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397

JB PRITZKER, GOVERNOR

JOHN J. KIM, DIRECTOR

July 9, 2021

CERTIFIED MAIL

RETURN RECEIPT REQUESTED

7012 0470 0001 2972 4640

North Park Public Water District
Attn: Kelly Saunders
1350 Turret Drive
Machesney Park, Illinois 61115

Dear Kelly Saunders,

Notice is hereby issued by the Illinois Environmental Protection Agency (Illinois EPA) to the owner and operator of the North Park Public Water District community water system under Section 25d-3(a)(2)(B) of the Environmental Protection Act (Act), 415 ILCS 5/25d-3(a)(2)(B).

This notification is required pursuant to Section 17.10(c) of the Act, due to the presence of a carcinogenic volatile organic compound in the finished water of the North Park Public Water District community water system. Tetrachloroethylene (PCE) was detected and confirmed in the finished water of Well No. 2 at a concentration of 2.57 ug/L, which exceeds 50% the Maximum Contaminant Level (MCL) of 5.0 ug/L.

The following items must be addressed pursuant to the Act:

1. Within five (5) business days of receiving this notice, the owner and operator of the community water system must provide the following to all residents and owners of premises connected to the affected community water system [see 415 ILCS 5/25d-3(a)(2)(B)]:
 - a) A copy of this notice by first-class mail or by e-mail; or
 - b) Notification, in a form approved by the Illinois EPA, via first-class postcard, text message, or telephone; except that notices to institutional residents (including, but not limited to, residents of school dormitories, nursing homes, and assisted care facilities) may be made to the owners and operators of those institutions, who shall provide to all residents notification in a form approved by the Illinois EPA. The front of the envelope or postcard that is sent to residents and owners of premises connected to your community water system shall provide the following text in at least 18-point font: PUBLIC HEALTH NOTICE - READ IMMEDIATELY. For a postcard, text message, or telephonic communication, the Illinois EPA will specify the minimum information that the owner or operator must include in such methods of notice.

2125 S. First Street, Champaign, IL 61820 (217) 278-5800
1101 Eastport Plaza Dr., Suite 100, Collinsville, IL 62234 (618) 346-5120
9511 Harrison Street, Des Plaines, IL 60016 (847) 294-4000
595 S. State Street, Elgin, IL 60123 (847) 608-3131

2309 W. Main Street, Suite 116, Marion, IL 62959 (618) 993-7200
412 SW Washington Street, Suite D, Peoria, IL 61602 (309) 671-3022
4302 N. Main Street, Rockford, IL 61103 (815) 987-7760

Electronic Filing: Received, Clerk's Office 3/10/2022

If you choose to notify according to Option No. 1(b) above, please contact Jeff Guy, Illinois EPA Office of Community Relations, to discuss specific notification requirements:

Jeff Guy, Right-to-Know Coordinator
Phone: (217) 785-8724
Email: Jeff.Guy@illinois.gov

2. Within seven (7) calendar days after sending the notices, the owner and operator of the community water system must provide the Illinois EPA with proof that the notices have been sent [see 415 ILCS 5/25d-3(a)(2)(B)].
3. Within 45 calendar days of receiving this notice, the owner and operator of the community waters system must submit a response plan to the Illinois EPA designed to prevent an exceedance of the MCL in the finished water and reduce the concentration of PCE so that it does not exceed the applicable method detection limit in the finished water [see 415 ILCS 5/17.10(c)].

If the notification that you select does not include a written copy of this notice, the owner or operator shall include a written copy of this notice in the next water bill that is sent to the residents and owners of the premises. However, if the water bill is sent on a postcard, no written copy of this notice is required if the postcard includes the following internet address for the notice posted on the Illinois EPA website:

<https://www2.illinois.gov/epa/topics/drinking-water/public-water-users/Pages/notices.aspx>.

Failure to provide the notification required under Section 25d-3(a) of the Act to all residents and owners of premises connected to your community water system may result in a civil penalty of up to \$5.00 for each premise connected to the community water system for each day of violation [see 415 ILCS 5/42(b)(6)]. Additionally, any person who knowingly makes a false, fictitious, or fraudulent statement, orally or in writing, to the Illinois EPA commits a Class 4 felony. A second or subsequent offense after conviction is a Class 3 felony [see 415 ILCS 5/44(h)].

PCE is a manufactured volatile organic compound widely used for dry-cleaning fabrics and metal degreasing operations. Studies have shown that that exposure to PCE might lead to a higher risk of developing certain types of cancer. Additional Information regarding PCE can be found at:

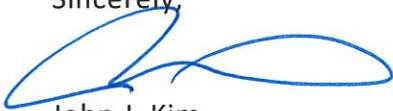
<https://www.epa.gov/sites/production/files/2016-09/documents/tetrachloroethylene.pdf> (USEPA);
and

<https://www.atsdr.cdc.gov/toxfaqs/tfacts18.pdf> (Agency for Toxic Substance and Disease Registry).

For purposes of this letter, "carcinogen" means carcinogen as defined in Section 58.2 of the Act. "Community water system," "finished water," "maximum contaminant level," "method detection limit," and "volatile organic compound" shall have the meanings ascribed to them in rules adopted by the Board at Part 611 of Title 35 of the Illinois Administrative Code.

Should you have questions or require further information, please contact Jeff Guy, Right-to-Know Coordinator, at (217) 785-8724 or Michael Brown, Manager, Division of Public Water Supplies, at (217) 782-0020.

Sincerely,



John J. Kim
Director

cc: Sanjay Sofat, Illinois EPA BOW
Michael Brown, Illinois EPA BOW
Michael Summers, Illinois EPA BOW

EXHIBIT B

August 13, 2021

Mr. John J. Kim
Director
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

**SUBJECT: North Park Public Water District - Well No. 2 Contamination Response Plan
IL2015500**

Dear Mr. Kim:

The North Park Public Water District (District) has prepared the following Well 2 Contamination Response Plan intended to outline the steps needed to firmly identify and quantify the pollutants of concern and the remediation steps needed to assure water supplied by the well meets all safe drinking water regulations.

Background

The District has four high production sand and gravel wells (Wells 2, 3, 4, and 5) each approximately 200 feet deep. There is no confining layer above the aquifer used by the wells. Wells 3 and 4 are the primary production wells for the District and have been since 2013. Wells 2 and 5 presently serve only as emergency backup supplies for the District.

Each of the wells generally produces approximately 3,000 gpm (4.3 mgd). The water is pumped from the aquifer at depths greater than 80 feet with little water level drawdown. The water is treated with chlorine and fluoride prior to distribution.

Under normal circumstances, one well (either Well 3 or Well 4) produces sufficient water to meet the water demands of the community. Thus, most of the time, either Well 3 or Well 4 serves as a backup supply for the primary well.

During drought events, such as for a portion of this past summer, maximum demand days have reached 7.5 mgd (5,200 gpm) and both Wells 3 and 4 must operate to maintain adequate system pressures and refill the elevated water storage tanks at night. Without either Well 2 or Well 5 available for operation, the District is left vulnerable in the event either Well 3 or Well 4 fails to operate properly. In this situation a loss of supply emergency could be needlessly created if one of those two standby wells is not immediately available for emergency use.

Well 5 was fully disconnected from the distribution system in May 2021, pending the results of an investigation of the source(s) of PFAS contamination at that location. Therefore, the District must rely on Well 2 in the event of a loss of supply emergency.

The use of Well 2 by the District has been very limited since 2013 for two reasons. First, this well is located at the southern end of the distribution system. When it is in operation it tends to cause Tower 1 to overflow before the other elevated tanks are filled. Second, the well has shown evidence of low levels of manmade contamination.

The source of these contaminants and the extent of the aquifer contamination is unknown at this time.

Preparation of this Response Plan was required by the Agency because one sample, collected in July 2021 had a Tetrachloroethene concentration of 2.57 ug/l.

To address the issue of contamination at Well 2 and to maintain the use of Well 2 as an emergency standby water source, the District is taking the following steps.

Planned Tasks

1. Study Aquifer Contaminations Issues

The District has hired engineering consultant Stantec to evaluate the sources and solutions for perfluoroalkyl substances found in District wells in various combinations and concentrations.

Their work will include:

- Assessment of the movement of contaminants in the subsurface and determination of additional studies required.
- Investigation of PFAS sources.
- Assessment of operational alternatives to reduce water contamination including the drilling of new wells.
- Assessment of treatment alternatives for existing wells.

The results of this study may impact the District's response to the contamination issues at Well 2 with regards to current volatile organic chemical concerns.

2. Develop Emergency Loss of Supply Protocols

The District is currently preparing an emergency response plan (ERP) for various situations including loss of supply caused by pump failures; regional power outages; tornados and other events that can remove either or both Wells 3 and 4 from service. This ERP will describe the procedures necessary to either bring the wells back into service very quickly or replace the lost water production with water from Well 2. Depending on the necessary actions needed to maintain fire protection and drinking water, actions such as pump and control repairs, limitations on outside water usage, emergency outside drinking water supplies, and public notification may be necessary.

3. Purchase and Maintain Well Repair Equipment

Maintaining water service without relying heavily on Well 2 includes having replacement pumping equipment on hand for immediate insertion in the primary wells. Additionally, an on-

call emergency response well repair crew should be kept on retainer with a local well maintenance company to allow work to start without the necessity of bidding and development of service contracts.

The District will develop a list of pumping, electrical power supply, and control equipment that are essential for the operation of Wells 3 and 4. They will then purchase one set of equipment that can be used interchangeably at either well. The District will also make contractual arrangements for retained emergency well repair response. Under normal circumstances an emergency response will not be needed because the system can operate 95% of the time with one well. But to assure the use of Well 2 is minimized until its status is resolved, having the labor and equipment on hand should reduce primary well down time to a matter of hours instead of days.

4. Water Conservation Ordinances

The District does not currently have any water conservation ordinances because they were not needed in the past. Now that the District may have a shortage of water in a drought condition if either Well 3 or Well 4 is out service and the District is attempting to limit the need to call on Well 2 to prevent a loss of supply emergency, the District Board will work with its attorneys to develop a water conservation ordinance that is appropriate for the circumstances.

5. Increase Well 2 Flushing

Well 2 has not been flushed for extended periods of time in the past because when the water from the well is discharged on the ground surface it floods the adjacent street and a nearby intersection due to a lack of storm sewer inlet capacity. The District is working with the Village of Machesney Park to design and construct the inlet capacity needed to direct the water directly into the storm sewer and prevent the street flooding.

Once the pipe and inlet improvements are approved and constructed, an aggressive schedule of pumping will be developed for Well 2 to better define the contaminants and their concentrations in the aquifer. Based on this work, it may be determined that some monitoring wells are needed in the capture zone to identify potential concentrations and sources of the contaminants.

6. Maintain Frequent Water Quality Testing

Before a final water quality testing protocol is determined, the testing parameters and frequency of Well 2 flushing must be determined based on the proposed flushing program. At this time, the District anticipates testing the Well 2 water quality based on the hours of pumpage accomplished with a possible interval of testing being every 700 hours of well operation.

7. Develop Program to Address Well 2 Water Quality Issues

The District will prepare a report summarizing the testing program, work completed to date, and options for moving forward inclusive of cost estimates and action items as appropriate. The report will be structured so that it can be used as a project plan for purposes of applying for low interest loan funding from the state. The completed plan will be submitted to the Agency for review and approval before the work described in it is started.

8. Submit Quarterly Progress Reports to the Agency

Until the Well 2 contamination issues are resolved the District will provide the Agency with quarterly status reports outlining the completed and ongoing work.

9. Enact Well 2 Water Quality Program

When the contaminants to be addressed are quantified, the best means to address the issues are determined, and funding is in place, the District will construct the appropriate improvements at Well 2.

Schedule

The following table summarizes each of the tasks and their time frames for completion.

Task	Action Started	Action Completed	Notes
Study Aquifer Contamination (Stantec)	August 2021	February 2022	Additional work may be added to study
Develop Emergency Loss of Supply Protocol	September 2021	February 2022	
Purchase and Maintain Well Repair Equipment	October 2021	February 2022	
Enact Water Conservation Ordinances	October 2021	February 2022	Subject to Board Approval
Increase Well 2 Flushing	August 2021	To be determined	Likely to require at least 18 months.
Maintain Water Quality Testing	August 2021	To be determined	
Develop Well 2 Water Quality Program	March 2022	August 2024	
Submit Quarterly Progress Reports	November 2021	To be determined	
Enact Well 2 Water Quality Program	September 2024	To be determined	

Please let us know if you have any questions or require additional information.

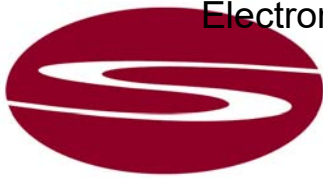
Sincerely,
Stanley Consultants, Inc.



Larry Thomas, P.E.
 Principal Engineer

cc: Sanjay Sofat
 Michael Brown
 Michael Summers
 Kelly Saunders

EXHIBIT C



September 22, 2021
(Original Submittal August 13, 2021)

Mr. John J. Kim
Director
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

SUBJECT: North Park Public Water District (IL2015500) - Well No. 2 Contamination Response Plan with Addendum No. 1

Dear Mr. Kim:

The North Park Public Water District (District) has prepared the following Well 2 Contamination Response Plan intended to outline the steps needed to firmly identify and quantify the pollutants of concern and the remediation steps needed to assure water supplied by the well meets all safe drinking water regulations.

Background

The District has four high production sand and gravel wells (Wells 2, 3, 4, and 5) each approximately 200 feet deep. There is no confining layer above the aquifer used by the wells. Wells 3 and 4 are the primary production wells for the District and have been since 2013. Wells 2 and 5 presently serve only as emergency backup supplies for the District.

Each of the wells generally produces approximately 3,000 gpm (4.3 mgd). The water is pumped from the aquifer at depths greater than 80 feet with little water level drawdown. The water is treated with chlorine and fluoride prior to distribution.

Under normal circumstances, one well (either Well 3 or Well 4) produces sufficient water to meet the water demands of the community. Thus, most of the time, either Well 3 or Well 4 serves as a backup supply for the primary well.

During drought events, such as for a portion of this past summer, maximum demand days have reached 7.5 mgd (5,200 gpm) and both Wells 3 and 4 must operate to maintain adequate system pressures and refill the elevated water storage tanks at night. Without either Well 2 or Well 5 available for operation, the District is left vulnerable in the event either Well 3 or Well 4 fails to operate properly. In this situation a loss of supply emergency could be needlessly created if one of those two standby wells is not immediately available for emergency use.



Well 5 was fully disconnected from the distribution system in May 2021, pending the results of an investigation of the source(s) of PFAS contamination at that location. Therefore, the District must rely on Well 2 in the event of a loss of supply emergency.

The use of Well 2 by the District has been very limited since 2013 for two reasons. First, this well is located at the southern end of the distribution system. When it is in operation it tends to cause Tower 1 to overflow before the other elevated tanks are filled. Second, the well has shown evidence of low levels of manmade contamination.

The source of these contaminants and the extent of the aquifer contamination is unknown at this time.

Preparation of this Response Plan was required by the Agency because one sample, collected in July 2021 had a Tetrachloroethene concentration of 2.57 ug/l.

To address the issue of contamination at Well 2 and to maintain the use of Well 2 as an emergency standby water source, the District is taking the following steps.

Planned Tasks

1. Study Aquifer Contaminations Issues

The District has hired engineering consultant Stantec to evaluate the sources and solutions for perfluoroalkyl substances found in District wells in various combinations and concentrations.

Their work will include:

- Assessment of the movement of contaminants in the subsurface and determination of additional studies required.
- Investigation of PFAS sources.
- Assessment of operational alternatives to reduce water contamination including the drilling of new wells.
- Assessment of treatment alternatives for existing wells.

The results of this study may impact the District's response to the contamination issues at Well 2 with regards to current volatile organic chemical concerns.

2. Develop Emergency Loss of Supply Protocols

The District is currently preparing an emergency response plan (ERP) for various situations including loss of supply caused by pump failures; regional power outages; tornados and other events that can remove either or both Wells 3 and 4 from service. This ERP will describe the procedures necessary to either bring the wells back into service very quickly or replace the lost water production with water from Well 2. Depending on the necessary actions needed to maintain fire protection and drinking water, actions such as pump and control repairs, limitations on outside water usage, emergency outside drinking water supplies, and public notification may be necessary.

3. Purchase and Maintain Well Repair Equipment

Maintaining water service without relying heavily on Well 2 includes having replacement pumping equipment on hand for immediate insertion in the primary wells. Additionally, an on-



call emergency response well repair crew should be kept on retainer with a local well maintenance company to allow work to start without the necessity of bidding and development of service contracts.

The District will develop a list of pumping, electrical power supply, and control equipment that are essential for the operation of Wells 3 and 4. They will then purchase one set of equipment that can be used interchangeably at either well. The District will also make contractual arrangements for retained emergency well repair response. Under normal circumstances an emergency response will not be needed because the system can operate 95% of the time with one well. But to assure the use of Well 2 is minimized until its status is resolved, having the labor and equipment on hand should reduce primary well down time to a matter of hours instead of days.

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The District does not currently have any water conservation ordinances because they were not needed in the past. Now that the District may have a shortage of water in a drought condition if either Well 3 or Well 4 is out service and the District is attempting to limit the need to call on Well 2 to prevent a loss of supply emergency, the District Board will work with its attorneys to develop a water conservation ordinance that is appropriate for the circumstances.

5. Increase Well 2 Flushing

Well 2 has not been flushed for extended periods of time in the past because when the water from the well is discharged on the ground surface it floods the adjacent street and a nearby intersection due to a lack of storm sewer inlet capacity. The District is working with the Village of Machesney Park to design and construct the inlet capacity needed to direct the water directly into the storm sewer and prevent the street flooding.

Once the pipe and inlet improvements are approved and constructed, an aggressive schedule of pumping will be developed for Well 2 to better define the contaminates and their concentrations in the aquifer. Based on this work, it may be determined that some monitoring wells are needed in the capture zone to identify potential concentrations and sources of the contaminates.

6. Maintain Frequent Water Quality Testing

Before a final water quality testing protocol is determined, the testing parameters and frequency of Well 2 flushing must be determined based on the proposed flushing program. At this time, the District anticipates testing the Well 2 water quality based on the hours of pumpage accomplished with a possible interval of testing being every 700 hours of well operation.

7. Develop Program to Address Well 2 Water Quality Issues

The District will prepare a report summarizing the testing program, work completed to date, and options for moving forward inclusive of cost estimates and action items as appropriate. The report will be structured so that it can be used as a project plan for purposes of applying for low interest loan funding from the state. The completed plan will be submitted to the Agency for review and approval before the work described in it is started.



8. Submit Quarterly Progress Reports to the Agency

Until the Well 2 contamination issues are resolved the District will provide the Agency with quarterly status reports outlining the completed and ongoing work.

9. Enact Well 2 Water Quality Program

When the contaminants to be addressed are quantified, the best means to address the issues are determined, and funding is in place, the District will construct the appropriate improvements at Well 2.

Schedule

The following table summarizes each of the tasks and their time frames for completion.

Task	Action Started	Action Completed	Notes
Study Aquifer Contamination (Stantec)	August 2021	February 2022	Additional work may be added to study
Develop Emergency Loss of Supply Protocol	September 2021	February 2022	
Purchase and Maintain Well Repair Equipment	October 2021	February 2022	
Enact Water Conservation Ordinances	October 2021	February 2022	Subject to Board Approval
Increase Well 2 Flushing	August 2021	To be determined	Likely to require at least 18 months.
Maintain Water Quality Testing	August 2021	To be determined	
Develop Well 2 Water Quality Program	March 2022	August 2024	
Submit Quarterly Progress Reports	November 2021	To be determined	
Enact Well 2 Water Quality Program	September 2024	To be determined	

Please let us know if you have any questions or require additional information.

Sincerely,
Stanley Consultants, Inc.

Larry Thomas, P.E.
Principal Engineer

cc: Sanjay Sofat
Michael Brown
Michael Summers
Kelly Saunders



**ADDENDUM NO. 1
NORTH PARK PUBLIC WATER DISTRICT
WELL NO. 2 CONTAMINATION RESPONSE PLAN**

The original response plan was submitted August 13, 2021. This addendum was prepared in response to questions and concerns expressed by the Illinois Environmental Protection Agency (IEPA) during a conference call with the District on September 7, 2021.

The IEPA determined that additional information is required with respect to how the response plan addresses requirements outlined in 415 ILCS 5/17.10(c) of the Environmental Protection Act. Specifically, supplemental information is needed with respect to how the response plan will “prevent an exceedance of the maximum contaminant level in the finished water and reduce the concentration of the carcinogenic volatile organic compound so that it does not exceed the applicable method detection limit in the finished water.”¹

Additional Background Information

Well No. 2 has not been used as a source of water supply since 2013. Even with the drought conditions during the summer of 2021 when water demands required the District to use two wells (3 and 4) simultaneously, Well No. 2 was not needed to maintain water levels in the elevated tanks. The District maintains Well No. 2 as an operational well so that it can be used as an emergency source of water for use in the event of a loss of supply emergency or major fire.

The well is currently pumped to waste periodically for short periods of time (approximately 15 minutes) on a regular basis for purposes of confirming the well is operational and to collect water quality samples.

When Well No. 2 is pumped to waste, water from the well runs overland to an inlet on a storm sewer owned by the Village of Machesney Park, Illinois. The storm sewer piping has adequate carrying capacity for the well discharge, but has inadequate inlet capacity to direct the water into the pipes. The storm sewer system operated by Machesney Park is allowed to discharge to the Rock River under General NPDES Permit ILR40 for Discharge from Small Municipal Separate Storm Sewer Systems (MS4). A copy of the permit is attached.² This permit allows the discharge of pumped groundwater into the storm sewer system and hence the discharge of this water into the Rock River.

¹ From email dated 9/7/21 from Jeffrey Guy to Kelly Saunders.

² The Village has submitted for renewal of the permit. IEPA has advised the Village to continue to operate under the current permit until the IEPA is able to process the renewal.



Additional Planned Tasks Information

1. Study Aquifer Contaminations Issues

The District has had a teleconference with attorneys to discuss the potential of recovering the costs of aquifer contamination mitigation from the manufacturers of the chemicals. No other additional information is available at this time.

2. 3. and 4. Develop Emergency Loss of Supply Protocols; Purchase and Maintain Well Repair Equipment; and Water Conservation Ordinances

All three of these tasks are intended to reduce the potential that Well No. 2 will need to be used in the future to meet water supply emergencies until the water contamination issue is resolved. As stated previously, even during the drought conditions this summer the District did not pump any water from Well No. 2 into the distribution system.

The District is currently preparing a list of Wells 3 and 4 repair equipment and a cost estimate for inclusion in the District's upcoming year's budget so that the equipment can be purchased next year.

The water conservation ordinance being prepared for consideration by the District Board is based on keeping the maximum demand day flow to less than the capacity of one well (approximately 4.3 mgd) when only one well is available for service. The historical peak day usage is 7.5 mgd. The ordinance is anticipated to include stages of reduction based on weather and demand with stage one restrictions being an odd-even address system to reduce exterior water demand and stage two restrictions prohibiting the use of exterior water for landscape watering and car washing.

5. and 6. Increase Well No. 2 Flushing; Water Quality Testing

As noted above, the storm sewer system to which Well No. 2 currently discharges is currently permitted through the IEPA NPDES general permit program. The discharges from the well are allowed under the permit and will not cause any violations of the water quality standards that apply to the Rock River.

The storm sewer pipe and inlet improvements are being designed. Once they are approved and constructed, aggressive pumping of the well will start and will continue dependent on weather conditions (The District cannot discharge water from the well during rainstorms). The chemical parameters of concern will be tested approximately once a month.

7. Develop Program to Address Well 2 Water Quality Issues

The District will prepare a Project Plan summarizing the testing program, work completed to date, and options for moving forward inclusive of design concepts, alternatives considered, cost estimates and action items as appropriate. The completed Project Plan will be submitted to the Agency for review and approval before the work described in it is started.

Project Plan alternatives could include construction of replacement wells, aquifer remediation, and/or water treatment at the well site.



8. Submit Quarterly Progress Reports to the Agency

Until the Well 2 contamination issues are resolved the District will provide the Agency with quarterly status reports outlining the completed and ongoing work.

9. Enact Well No. 2 Water Quality Program

Once the Project Plan is completed and approved, the District will secure project financing and start the design and construction of the improvements identified in the Project Plan. The improvements may include three primary types of response: construction of a replacement well; elimination of the source of the contaminants and remediation of the aquifer; and provision of treatment on the Well No. 2 site to allow it to be used to supply the community in compliance with all regulations in place at that time.

If we assume treatment of Well No. 2 water is the likely best option, a means of treatment that is effective at the reduction of volatile organic chemicals (VOCs) and PFAS chemicals below the detection limits will be required. This requirement eliminates aeration as a means to reduce the VOCs. Today, our best means of treatment may be various forms of activated carbon or reverse osmosis. Our options may change in the future with the further development of ion exchange resins, adsorptive media, and advanced oxidation processes or other newer technologies not yet developed.

The difficulty in identifying the best means of treatment at this time is the requirement that the final concentrations be below the detection limit. This is particularly difficult because we do not know what the anticipated maximum concentrations we will encounter once the well is in full use. These concerns are why time is needed to fully understand the extent of the contamination that is to be addressed.

The District does not anticipate that it will need to use Well No. 2 to supply the distribution system during this interim period. But it also cannot predict if or when there will be a tornado that destroys Wells Nos. 3 and 4 or a major fire that depletes the water storage tanks.



Updated Schedule

The following table summarizes each of the tasks and their time frames for completion. The timeframe has been compressed by one year.

Task	Action Started	Action Completed	Notes
Study Aquifer Contamination (Stantec)	August 2021	February 2022	Additional work may be added to study
Develop Emergency Loss of Supply Protocol	September 2021	February 2022	
Purchase and Maintain Well Repair Equipment	October 2021	February 2022	
Enact Water Conservation Ordinances	October 2021	February 2022	Subject to Board Approval
Storm Sewer Permitting and Construction Work	October 2021	March 2022	
Increase Well 2 Flushing	March 2022	September 2023	Likely to require at least 18 months.
Maintain Water Quality Testing	August 2021	September 2023	
Develop Well 2 Project Plan including IEPA Review	March 2022	August 2023	
Submit Quarterly Progress Reports	November 2021	To be determined	
Enact Well 2 Water Quality Program: Design, Finance, & Construct Needed Improvements	September 2023	January 2026	

EXHIBIT D



217/782-1020

December 14, 2021

North Park Public Water District
Attn: Kelly Saunders
1350 Turret Drive
Machesney Park, Illinois 61115

Re: IL2015500, NORTH PARK PWD – PCE Response Plan

Dear Kelly Saunders:

The Illinois EPA (Agency) has reviewed the proposed response plan submitted on behalf of North Park PWD dated September 22, 2021. The response plan partially outlines the treatment and implementation schedule proposed to reduce the concentration of tetrachloroethylene (PCE) detected in your public water supply to below the applicable method detection limit.

The Agency's review of the proposed plan has determined that while multiple treatment options have been provided for consideration to reduce the concentration of PCE in your public water supply, a treatment option to complete this task has not been determined at this time, as required by Section 17.10 of the Environmental Protection Act. In addition, you have proposed a completion date for installation of a treatment option in January 2026, this time frame is exceedingly long and cannot be approved should the well remain in service. Furthermore, North Park PWD is currently utilizing a National Pollution Discharge Elimination System (NPDES) permit, issued and authorized for use by the Village of Machesney Park, to discharge PCE contaminated water into the storm drain system and Rock River.

If North Park PWD's intent is to continue discharging Well #2 into the storm drain system and Rock River, they must obtain an NPDES permit as required under Section 12(a) and (f) of the Environmental Protection Act. The NPDES permit must be granted by the Agency's Bureau of Water, Division of Water Pollution Control (DWPC), Permit Section. Until such time, North Park PWD cannot discharge Well #2 in the storm drain system and Rock River. Therefore, North Park PWD must physically disconnect Well #2 from the system until such time a treatment option is implemented or Well #2 is properly abandoned.

Based on the information provided by North Park PWD, the Agency has modified the following schedules and tasks associated with your response plan:

Task and Schedules

Completion Date

Discontinue use and physically disconnect Well #2 from the system -	January, 2022
Discontinue use of NPDES MS4 permit ILR400221 issued to the Village of Machesney Park -	January, 2022
Apply for NPDES operating permit if you choose to discharge Well #2 into the storm drain and/or Rock River -	February, 2022
Determine and submit information for treatment options to the Agency for approval -	March, 2022
Complete construction and obtain operating permit -	February, 2024

North Park PWD must submit a status update verifying completion of each task on or before the specified completion dates. Failure to comply with this schedule may result in a formal violation notice according to Section 31(a)(1) of the Illinois Environmental Protection Act.

If you have any questions, please call me at the telephone number referenced above.

Sincerely,



Michael Summers, P.G.
Groundwater Section Manger
Division of Public Water Supplies
Bureau of Water

cc: Rockford Regional Office
Ryan Bennett
Jeff Guy
PWS File 08

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4302 N. Main Street, Rockford, IL 61103 (815) 987-7760