BEFORE THE POLLUTION CONTROL BOARD
OF THE STATE OF ILLINOIS

IN THE MATTER OF:	)	
	)	
SANGAMON VALLEY FARM SUPPLY,	)	
	)	
Petitioner,	)	
	)	
v.	)	PCB 06-43
	)	
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY and VILLAGE OF SAYBROOK, ILLINOIS	)	
	)	
Respondents.	)	

NOTICE OF FILING

To: Mr. Ronald E. Stauffer, Mayor
Village of Saybrook
234 West Lincoln Street
Post Office Box 357
Saybrook, IL 61770-0357

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

PLEASE TAKE NOTICE that I have today filed with the Office of the Clerk of the Illinois Pollution Control Board the **Petition for Community Well Setback Exception** of Sangamon Valley Farm Supply, a copy of herewhich is served upon you.

Respectfully submitted,

By: _____
One of Their Attorneys

Sorling, Northrup, Hanna
Cullen & Cochran, Ltd.
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	)	
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PETITION FOR COMMUNITY WELL SETBACK EXCEPTION

NOW COMES the petitioner, Sangamon Valley Farm Supply ("SVFS"), by and through its attorney, Sorling, Northrup, Hanna, Cullen & Cochran, Ltd., Charles J. Northrup, of Counsel and pursuant to Section 14.2(c) of the Illinois Environmental Protection Act ("Act") and Part 106 of the Board's Procedural Rules (35 Ill. Admin. Code § 106.300, *et seq.*), hereby petitions the Illinois Pollution Control Board ("Board") to grant SVFS an exception from the community water supply well setback requirements in Section 14.2 of the Act. In support of its Petition, SVFS states the following:

I. BACKGROUND

SVFS is seeking a waiver from the setback requirements in Section 14.2 of the Act to enable SVFS to continue to remediate existing shallow groundwater contamination. The shallow groundwater located within the setback zone of one of the Village of Saybrook, Illinois community water supply wells is contaminated with hydrocarbons, most likely residues from former underground storage tanks ("USTs") used to store fuel for resale to the public. The preferred clean up method is the use of direct push technology (i.e. Geoprobe) to inject oxygen release compound ("ORC") directly into the plume of impacted groundwater (referred to herein

as "enhanced natural attenuation"). Upon completion of each injection, the open borehole is backfilled with granular bentonite and hydrated, thereby eliminating the risk of future pathways of contamination into the shallow groundwater zone. The location of the Site is shown on Exhibit A.

Section 14.2 of the Act prohibits the installation of any "new potential route" within 200 feet of an existing municipal water well. 415 ILCS 5/14.2. the use of direct push technology to inject ORC into the plume of impacted groundwater technically falls within the definition of "new potential route". 415 ILCS 5/3.350. Section 14.2 allows for sources to petition the Illinois Pollution Control Board and the Illinois EPA for an exception from this setback requirement under appropriate circumstances. As discussed in this petition, SVFS meets all of the requirements for granting the exception from the setback requirements of Section 14.2 of the Act.

A. The Basis for the Requested Exception

The need for the setback exception arises from broadly worded statutory definitions that technically include the current remediation activities within the definition of "new potential route." Most "injection wells" are considered pathways of contamination, either intentionally as a disposal route, or unintentionally as an easy migration pathway. Both concerns are inapplicable in this case. SVFS seeks to continue to use enhanced natural attenuation to clean up an existing contaminated groundwater source rather than allow this contaminated groundwater to remain in the shallow aquifer. The use of enhanced natural attenuation has been shown to be the most cost effective and technically feasible alternative in this case. In addition, the shallow groundwater that is the subject of ongoing remediation efforts is the same aquifer from which the community water supply well draws its water. Thus, the risk of contamination of the community water

supply by doing nothing is at least as great, if not significantly greater, than the risk of contamination by the use of enhanced natural attenuation. As a result, pursuant to Section 14.2(c), the Board should grant the requested exception as set forth in detail below.

B. Nature of the SVFS's Operations

1. SVFS's Former and Current Operations.

SVFS formerly operated a gasoline service station at the corner of Main and Lincoln Streets in Saybrook until early 1996. In April 1998, the underground storage tanks at the facility were removed. Upon removal, an inspector from the Office of the State Fire Marshal determined a release had occurred from one of the tanks. The inspector reported the release had occurred from a tank used to store diesel fuel. However, documentation was later filed to indicate the tank stored gasoline. SVFS subsequently entered into the Leaking Underground Storage Tank ("LUST") program with the Illinois EPA under which it is currently conducting soil and groundwater remediation activities in pursuit of a No Further Remediation ("NFR") letter from Illinois EPA. These clean up efforts have included removal of approximately 330 cubic yards of impacted soil, application of 60 pounds of ORC to the base of the excavation, installation of 13 monitoring wells, and application of 8,040 pounds of ORC to the shallow groundwater through a total of 317 injection points in the vicinity of the SVFS facility. During the process of the ongoing remediation activities, SVFS learned that a portion of the current shallow groundwater contamination had migrated to within approximately 75 feet of the existing community water supply well for the Village of Saybrook, Illinois. SVFS's environmental consultants, Ideal Environmental Engineering, Inc. ("Ideal"), prepared a Corrective Action Plan and Budget and submitted to the Illinois EPA for review. This Plan included the use of enhanced natural attenuation as the preferred clean reduce the contaminant levels. The ORC injections were

proposed to occur in two phases. The initial injections would be performed upon approval of the Plan by the Illinois EPA, with a follow-up round of injections performed approximately 12 months after the initial treatment. Some of the proposed injections were positioned within the 200-foot setback of the community water supply well. The Illinois EPA approved the Plan and Budget by letter dated December 1, 2000, a copy of which is included as Exhibit B. The initial round of injections was performed starting in July 2001, after removal of contaminated soils from the site were completed. A sketch showing the approximate locations of the injection points relative to the SVFS facility and the community water supply well is included as Exhibit C.

Following completion of the four quarterly groundwater sampling events for the first year of monitoring, and review of the analytical results, the follow-up injection treatment was modified to increase the quantity of ORC at each injection point and the number and overall placement of the injection points. Again, some of the injection points were located within the 200-foot setback of the community water supply well, which are shown on the sketch provided as Exhibit D. This modification was verbally authorized by the Illinois EPA project manager, and a Corrective Action Plan Amendment and Budget were submitted upon completion of the follow-up injections. The Corrective Action Plan Amendment included a second follow-up round of injections, to be completed approximately 12 months after the first follow-up injections. By letter dated February 27, 2003, the Illinois EPA conditionally approved the Amendment, denying approval of the second follow-up round of injections without groundwater and soil sample analyses showing the need for the additional injections. A copy of this letter is included as Exhibit E.

Following completion of the four quarterly groundwater sampling events for the second year of monitoring, and review of the analytical results, a second Corrective Action Plan Amendment and Budget were prepared and submitted to the Illinois EPA for review. This Amendment included a second follow-up round of injections to treat lingering groundwater contamination in the vicinity of the facility. By letter dated December 8, 2004, the Illinois EPA informed SVFS that it had failed to file an inventory of the injections. SFVS promptly prepared and submitted the required Injection Well Inventory Form to the Illinois EPA under cover letter dated December 23, 2004. The letter went on to state that some of the proposed injection points were within the well setback and would be prohibited absent a well setback exception. A copy of this letter is provided as Exhibit F. The Illinois EPA denied the Corrective Action Plan Amendment by separate letter dated December 20, 2004, a copy of which is provided as Exhibit G.

With the exception of the above-mentioned ongoing clean up efforts, SVFS no longer conducts any operations. Mrs. Margaret Gibbens, the sole remaining shareholder of SVFS, intends to dissolve the corporation upon receipt of the NFR from the Illinois EPA, and the sale of the SVFS facility.

2. SVFS's Control Equipment.

Prior to treating the hydrocarbons in the shallow groundwater, approximately 330 cubic yards of impacted soils were removed from the location of the former underground storage tanks. Upon completion of the soil excavation activities, approximately 60 pounds of ORC were applied to the base of the excavation in an effort to treat residual soil contamination remaining in the hole. The excavation was backfilled and capped with an asphalt cover to limit the potential of migration of surface runoff through the excavation.

To date, a total of 8,040 pounds of ORC have been injected into the shallow groundwater through 317 injection points, both inside and outside the 200-foot setback limit of the community water supply well. Upon completion of each injection, the open hole was backfilled with granular bentonite and hydrated, thereby eliminating the risk of future pathways of contamination into the shallow groundwater zone.

The groundwater contaminant levels in the vicinity of the site have steadily decreased during completion of remedial activities. The groundwater contaminant levels in monitoring well MW-2, located on the SVFS property, rose to their highest levels during the sampling event in December 2001, approximately six months after completion of the soil excavation activities. This likely occurred due to migration of existing contamination in the vicinity of the former soil excavation area. The contaminant levels have been documented to have reduced by approximately 50% from December 2001 until June 2004 (from a total benzene-ethyl benzene-toluene-xylenes (BETX) concentration of 13,148 micrograms per liter (ug/L) to 6,631 ug/L). The highest documented groundwater contaminant levels associated with this site have occurred in monitoring well MW-7 (located within the minimum community water well setback), with the total BETX concentration rose to 33,380 ug/L. In the same period of time, the total BETX concentration in MW-7 has been reduced by approximately 84%, to 5,414 ug/L. Currently, the groundwater contaminant levels exceed Agency standards in two of the wells associated with this facility (five of the wells originally showed contaminant levels above Agency standards). The groundwater sample results summaries for the five originally contaminated wells are provided in tabular format and graphed as Exhibits H through L.

II. COMPLIANCE WITH THE SETBACK REQUIREMENTS WOULD IMPOSE AN ARBITRARY AND UNREASONABLE HARDSHIP (35 IAC 106.310(A))

The Board should grant an exception in this case because preventing SVFS from continuing to utilize enhanced natural attenuation to remediate the contaminated shallow aquifer would delay the clean up of the shallow aquifer and add significant and unnecessary costs. The other remediation alternatives discussed in the original Corrective Action Plan are discussed in more detail in Section IV of this Petition. However, with each of them, their respective negatives outweigh their respective benefits.

There are two primary factors that make adherence to the setback requirements arbitrary and unreasonable in this case. First, the use of enhanced natural attenuation within the setback area is intended to improve the water quality. The area is already contaminated with hydrocarbons and remedial activities have been previously approved by the Illinois EPA in this area. The remediation activities performed to date at this site have been documented to be successful in reducing hydrocarbon concentrations in the shallow groundwater.

Second, Mrs. Margaret Gibbens, the sole remaining shareholder of SVFS, has indicated her intent to dissolve the corporation. She has continued to maintain SVFS for the sole purpose of funding the ongoing environmental remediation. The longer it takes to complete the remediation and obtain an NFR, the longer Mrs. Gibbens is required to maintain SVFS. SVFS has and will continue to maintain adequate resources to fund the completion of remediation and obtain an NFR, but it does not want to prolong or delay this process unnecessarily.

Because the most cost efficient and expedient remediation technology is the use of enhanced natural attenuation to remediate the shallow aquifer, adherence to the prohibition on locating "injection wells" within a minimum setback of a community water supply well would be arbitrary and unreasonable under these circumstances. This is bolstered by the fact the Illinois

EPA has previously approved these remedial injections within the minimum setback at this particular site.

III. ENHANCED NATURAL ATTENUATION IS THE BEST AVAILABLE CONTROL TECHNOLOGY ECONOMICALLY ACHIEVABLE (35 IAC 106.310(B))

SVFS is seeking the exception to the setback requirements to enable it to clean up existing contamination located within the setback area of a community water supply well. Thus, the regulatory criterion mandating the best available control technology economically achievable to minimize the likelihood of contamination of the potable water supply well should be analyzed more broadly. In essence, the key inquiry in this case involves selecting the remediation technology that will be most effective in cleaning up the existing contamination and not, by itself, increase the risk of exacerbating such contamination. This inquiry must also consider the "economic achievability" of any potential technology. When these factors are considered under the circumstances of this case, enhanced natural attenuation is the best available technology economically achievable.

Ideal has evaluated several potential alternatives to enhanced natural attenuation. Each one of the potential alternatives is described below. The potential alternatives include: (1) installing a traditional "pump and treat" system; (2) installing a traditional "air sparging with vapor extraction" system; or (3) relocating the community water supply well to an area free of existing contamination. As shown in this Section, each of these alternatives presents technical, practical and financial obstacles that eliminate them as the preferred approach.

A. Pump & Treat

The effective removal and subsequent treatment of groundwater from the contaminated shallow aquifer is limited in this case due to the fact the shallow groundwater is approximately 30 feet below ground surface in the vicinity of the site. The depth to the shallow aquifer hinders the removal of contaminated groundwater which is required as part of remediation. Since a recovery trench would be out of the question due to the depth, a series of recovery wells, each outfitted with a submersible pump, would be required to remove the groundwater at a sufficient rate so as to limit migration of contaminants. This, coupled with the County's limitations on work that can occur within its Right-of-Way, would tremendously increase the initial capital expenditures. Thus, pump and treat technology is not recommended based upon its technical feasibility. Moreover, the estimated cost to design and install the pump & treat system is approximately $150,000 to $200,000, with long-term operations and maintenance costs of approximately $400,000 to $500,000 over 20 years.

B. Air Sparging with Soil Vapor Extraction

The effective treatment of contaminated groundwater is limited in this case again due to the fact the shallow groundwater is approximately 30 feet below ground surface in the vicinity of the site. This method of remediation requires the introduction of compressed air into the shallow groundwater. The contaminants are volatilized and collected through a soil vapor extraction system. Due to the depth of the groundwater at this site, the installation of the soil vapor extraction system would be extremely difficult and costly. Thus, air sparging system with soil vapor extraction is not recommended based upon its technical feasibility. The estimated cost to design and install the air sparging system with soil vapor extraction is $150,000 to $200,000,

with long-term operations and maintenance costs of approximately $200,000 to $300,000 over 10 years.

C. Replacement and Relocation of Municipal Well

The cost to move the municipal well is currently unknown, but estimated to be between $500,000 and $750,000. Unknown factors that need to be addressed prior to a final estimated price include the number of test borings/pump tests to determine the sustainable yield of the aquifer, distance required to connect the new well to the existing water supply network, and need to purchase the parcel on which to locate the well, as well as securing easements or condemning property to locate the pipeline. Furthermore, following replacement of the well, SVFS will still be required to either minimize remediation under TACO or complete remediation through enhanced natural attenuation or another form of alternative technology in order to obtain closure of this incident. This alternative is cost prohibitive and uncertain.

D. Enhanced Natural Attenuation

Enhanced natural attenuation uses direct push technology to deliver the ORC directly to the areas of contamination. By delivering the ORC directly, remediation of the site is not hindered by the depth to the shallow groundwater. The estimated cost to complete the remediation of the SVFS site utilizing enhanced natural attenuation is approximately an additional $175,000 and will take approximately one year to complete.

Continued use of enhanced natural attenuation is the best alternative for remediation of the SVFS site. It has been shown to work at this site, it is safe, and it is the most cost effective. The treatment will consist of multiple injection points via direct push equipment with an injection point designed to inject in a horizontal pattern outward from the injection point. The treatment within the setback area will consist of approximately 70 pounds of ORC mixed into 50

gallons of water injected at each location. The injection points will be placed on an approximate 10-foot grid throughout the estimated groundwater contaminant zone. Further discussion of the technology is provided in Exhibit M.

IV. THE MAXIMUM FEASIBLE ALTERNATIVE SETBACK WILL BE UTILIZED (35 IAC 106.310(C))

The date collected to date demonstrates that the contaminated shallow groundwater exists in a plume located underneath the SVFS site. The closest edge of the current contaminant plume to the community water supply well is approximately 115 feet east of the municipal well. Direct push technology allows SVFS to maintain hydraulic control of the contaminated shallow groundwater while delivering ORC directly to the contaminated shallow groundwater. Since SVFS is able to treat only the impacted shallow groundwater, SVFS is making every effort to minimize the number of injections within the setback of the municipal well. Under the proposed layout, approximately 55 to 60 injection locations appear to be within the setback of the municipal well. SVFS will work closely with the Illinois EPA in finalizing the precise locations of each ORC injection well.

V. ENHANCED NATURAL ATTENUATION WILL NOT HARM THE COMMUNITY WATER SUPPLY (35 IAC 106.310(D))

The use of enhanced natural attenuation in this case is the appropriate remediation technology because it will work without harming the community water supply. According to Regenesis (maker of the ORC), the material is environmentally safe. The material contains magnesium peroxide and magnesium oxide, both of which, into contact with water, convert to magnesium hydroxide. The ORC also has a small amount of food grade potassium phosphates. Regenesis reports that the magnesium oxide, magnesium peroxide, and magnesium hydroxide are safe to ingest in small quantities. Both magnesium peroxide and magnesium hydroxide are

used as anti-acids. The Technical Bulletin describing the ORC as environmentally safe has been provided in Exhibit M.

VI. PROOF OF NOTICE TO AFFECTED POTABLE WELL SUPPLY OWNERS

SVFS has caused written notice and a copy of this Petition to be sent to the following affected potable well supply owners: Village of Saybrook, 234 West Lincoln Street, Saybrook, Illinois; Mr. Ronald E. Stauffer, Mayor. The above notified person was selected based upon a survey conducted by Ideal to identify all potable water supply well owners within the setback area of the proposed ORC injection wells pursuant to 35 IAC 106.302(b), 35 IAC 101 and Section 14.2(c) of the Act.

VII. REQUEST FOR EXPEDITED HEARING

Mrs. Gibbens intends to dissolve the corporation and sell the SVFS property upon receipt of an NFR letter. Obtaining the requested waiver from the setback requirements is a key step in furthering the ongoing remediation process toward completion. SVFS requests a hearing on this petition as soon as the Board can reasonably schedule it.

WHEREFORE, for the foregoing reasons, SVFS respectfully requests the Board to grant an exception from the setback requirements contained in Section 14.2 of the Act.

SANGAMON VALLEY FARM SUPPLY,
Petitioner

By: _____
One of Its Attorneys

Sorling, Northrup, Hanna,
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Charles J. Northrup, of Counsel
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607 East Adams Street
PO Box 5131
Springfield, IL 62705
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PROOF OF SERVICE

The undersigned hereby certifies that an original and 9 (9) copies of the foregoing document were served to:

Ms. Dorothy Gunn, Clerk
Pollution Control Board
100 West Randolph Street, Suite 11-500
Chicago, IL 60601

And by Certified Mail, Return Receipt Requested to

Mr. Ronald E. Stauffer, Mayor
Village of Saybrook
234 West Lincoln Street
Post Office Box 357
Saybrook, IL 61770-0357

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

and by depositing same in the United States mail in Springfield, Illinois, on the 15th day of September, 2005, with postage fully prepaid.