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ENVIRONMENT

Mr. Steven Scharf, P.E.
NYSDEC Central Office
Remedial Action, Bureau A
Division of Environmental Remediation
625 Broadway
Albany, NY 12233-7015

Subject:
GM-38 Area Remedy Design Support - Groundwater Sampling Results and Capture Zone Interpretation, Former Naval Weapons Industrial Reserve Plant, Bethpage, New York.
NYSDEC Site #1-30-003B.
Prime Contract No. N62472-99-D-0032, Navy EFA-NE RAC II.
Subcontract # 054827.

Date:
15 September 2005

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NY001416.0003.0001A

Dear Mr. Scharf:

ARCADIS is submitting this letter report to the New York State Department of Environmental Conservation (NYSDEC), on behalf of the Department of the Navy (Navy) and TetraTech EC (TTEC), in response to a required work scope itemized in the NYSDEC June 22, 2005 letter to Mr. James Colter. Specifically, this letter report summarizes the work scope completed and results obtained for the following tasks identified in the June 22, 2005 letter:

- Task 1: Sample existing monitoring and remedial wells in the vicinity of the GM-38 Area remedy.
- Task 2: Determine the capture zones of the GM-38 remedy recovery wells and the Bethpage Water District (BWD) Plant 4 supply wells.
- Task 3: Use available analytical data to present the concentrations of volatile organic contamination in the aquifer in the GM-38 Area.
- Task 4: Use all available information to determine if the GM-38 Area recovery wells are properly located in the GM-38 Area groundwater "hotspot."
- Task 5: Submit a report with the findings of the above tasks.

The work scope completed and results obtained relative to Tasks 1 and 3 (above) are discussed herein under the report section entitled "Groundwater Quality Results." The work scope conducted and results obtained for groundwater modeling performed relative to Tasks 2 and 4 (above) are discussed in this report in the section entitled, "Capture Zone Interpretation." Task 5 (above) is addressed by this report.

Groundwater Quality Results

From July 19 through July 22, 2005, ARCADIS, in compliance with our NYSDEC-approved July 15, 2005 Work Plan, collected groundwater samples for volatile organic compounds (VOCs) analysis from the two GM-38 Area recovery wells (RW-1 and RW-2) and seven nearby monitoring wells (GM-38D, GM-38D2, RW1-MW1, RW1-MW2, RW2-MW1, RW2-MW2, and RW2-MW3) (see Figure 1). Sampling methodology and results are discussed below.

As outlined in the July 15th Work Plan, ARCADIS collected samples from Wells GM-38D and GM-38D2 using dedicated bladder pumps following the United States Environmental Protection Agency (USEPA) Micropurge and Low-Flow sampling methodologies. Field parameters measured during well purging included pH, specific conductance, temperature, oxidation-reduction potential (ORP), dissolved oxygen (DO), and depth to water. Following stabilization of field parameters (per the Micropurge protocol), the sample was collected from the pump discharge. Purge water from these wells was disposed of in the Nassau County Department of Public Works (DPW) Publicly Owned Treatment Works (POTW) sanitary sewer intake Manholes #129 and #133 (DPW-approved discharge locations in the GM-38 Area) using methods that have been employed by ARCADIS during other groundwater sampling events performed for Operable Unit 2.

The remaining five monitoring wells (i.e., Wells RW1-MW1, RW1-MW2, RW2-MW1, RW2-MW2, and RW2-MW3, which were constructed with 40-ft of well screen) and the two recovery wells (i.e., Wells RW-1 and RW-2) were purged using temporary submersible pumps (installed and operated by Delta Well & Pump Co., Inc.) that were set above the well screens. These wells were purged using the conventional minimum three-standing-well-volume method at rates of approximately 25 gallons per minute (gpm) (monitoring wells) and 100 gpm (recovery wells). Field parameters (pH, specific conductance, and temperature) were measured initially and at completion of purging each successive well volume of water. Purge water was containerized, transported, and discharged (without additional analysis) to the aforementioned approved POTW location. Upon completion of the three well

volume purge and stabilization of field parameters, the approved sampling assembly was used to collect the groundwater sample. The sampling assembly consisted of a "sample tee", valved port, and disposable polyethylene tubing (similar to a manometer assembly that is typically used to measure flow rate from a production well). A second valve was located downstream of the sample tee to create a slight amount of back-pressure to ensure the polyethylene tubing remained full of water during sampling. To collect the groundwater sample, the sampling valve was fully opened to allow the water to flow into the polyethylene tubing and then the 40-milliter VOC vials were filled (without headspace) for the specified analysis.

Groundwater samples collected were submitted to a NYS-certified laboratory (Analytical Laboratory Services, Inc., located in Middletown, Pennsylvania) for analysis of the Target Compound List (TCL) VOCs using USEPA Method 8260B. The following quality assurance/quality control (QA/QC) samples were also collected: blind field duplicate (collected from Well RW-1), equipment (field) blanks, trip blanks, and matrix spike/matrix spike duplicate for the analysis specified above. Validated analytical results of samples collected during the July 2005 monitoring event, including QA/QC samples, are summarized in Table 1.

In addition to being sampled in July 2005, some of the wells were also sampled by TTEC in April/May 2005 using the USEPA Micropurge and Low-Flow methodologies. The validated analytical results for the April/May 2005 round are summarized in Table 2.

A comparison of the analytical results from the April/May 2005 and the July 2005 rounds indicate that, with the exception of Monitoring Well RW1-MW2, all July total VOC (TVOC) concentrations are within 15-percent of the April/May values. The May 2005 TVOC concentration for Well RW1-MW2 was 367.83 ug/L, while the July 2005 TVOC concentration was 1,023.45 ug/L; an increase of 178 percent. We believe that the lower TVOC concentration detected in Well RW1-MW2 during the April/May 2005 sampling event verses that detected in the July 2005 event is attributable to the use of the micropurge/low flow sampling technique to sample a well that is equipped with a 40 ft well screen and is installed in an area of the aquifer where the plume is stratified over the zone screened. Whereas the low flow sampling technique employed for the April/May 2005 sampling event only affected and drew water into the well from a small area near the top of the well screen, the more conventional well purge/sample collection methods employed for the July 2005 round affected and drew water from the whole 40 ft length of well screen, and provided a more representative sample of groundwater quality within that portion of

the aquifer screened. Table 3 summarizes the screen zones for the wells sampled and the BWD Plant 4 supply wells.

Based on the currently available groundwater quality data for the GM-38 Area, as presented herein, Wells GM-38D, GM-38D2, RW-1, and RW1-MW2 appear to be located within the core of the GM-38 Area "hot spot", while Wells RW-2 and RW1-MW1 appear to be at the perimeter of the GM-38 Area. While TVOC concentrations in the GM-38 Area Remedial Well RW-2 are currently lower than concentrations in Remedial Well RW-1, it is expected (based on the modeling performed as described below) that the combined capture zones for Remedial Wells RW-1 and RW-2 will fully encapsulate the contaminant mass in the GM-38 Area "hot spot" and isolate it from the BWD Plant 4 Supply Wells.

The goal of the GM-38 Remedy is to address a "hot spot" area of groundwater contaminated with significantly higher concentrations of VOCs than exists within the remainder of the groundwater plume that has emanated from the Northrop Grumman and Navy properties. The GM-38 "hot spot" has been defined by NYSDEC as groundwater with total VOC concentrations in excess of 1 ppm. However, the remedial design to be submitted by the Navy will extract and treat all groundwater with total VOC concentrations in excess of 500 ppb. As a result, an area larger than that intended by the NYSDEC will be treated. The 500 ppb "hot spot" was delineated by the Navy utilizing data collected from seven vertical profile borings (VPBs) which were all advanced to the Raritan Clay unit. When the Navy uses the term "hot spot", the Navy is referring to the area where groundwater contamination is in excess of 500 ppb, which includes the area immediately surrounding the GM-38D and D2 well cluster where groundwater contamination exists at concentrations in excess of 1 ppm.

Capture Zone Interpretation

Groundwater flow and particle tracking simulations were conducted to assess the hydraulic impact on the capture zone of the BWD Plant 4 Supply Wells resulting from the operation of the GM-38 Area Remedial System. Four simulations (see below) were conducted. For each of the four simulations the pumping rates of the GM-38 Remedial Wells (RW-1 and RW-2) and the BWD Plant 4 Wells were varied as described below; all other wells (both remedial wells and public supply) in the model domain were pumped at their previously assigned rates. The following four scenarios were simulated:

1. BWD wells operating at average pumping rates (Well 6915 at 380 gallons per minute [gpm] and Well 6916 at 415 gpm) with GM-38 remedial wells off.

2. BWD wells operating at average pumping rates (Well 6915 at 380 gpm and Well 6916 at 415 gpm) with GM-38 remedial wells on (Well RW-1 at 800 gpm and Well RW-2 at 300 gpm).

3. BWD wells operating at peak pumping rates (Well 6915 at 680 gpm and Well 6916 at 570 gpm) with GM-38 remedial wells off.

4. BWD wells operating at peak pumping rates (Well 6915 at 680 gpm and Well 6916 at 570 gpm) with GM-38 remedial wells on (Well RW-1 at 800 gpm and Well RW-2 at 300 gpm).

Screen zones and well depths below land surface for the GM-38 Remedial Wells, BWD Plant 4 Wells and GM-38 Monitoring Wells are summarized in Table 3. Figures 2 through 8 provide a graphical presentation of the capture zones associated with the BWD Plant 4 Supply Wells and the GM-38 Remedial Wells. In each of the figures, particles were started in the screen zone of the supply and/or remedial wells and backward tracked to the water table. For clarity, particle path lines originating at BWD Plant 4 are colored blue, while those originating at the GM-38 Remedial Wells are colored green. The particle paths shown are a projection of multiple sets of particles started throughout the screen zone. It is important to remember that the particles are being tracked via a three-dimensional model, but their paths are being displayed on a two-dimensional figure. As a result, some of the particle paths appear to cross one another when they actually are passing through different model layers. Likewise, some figures seem to imply that the capture zone associated with the remedial wells intersects or otherwise interferes with the BWD Plant 4 Well Field capture zone. This is not the case. By definition, the capture zone is the volumetric portion of an aquifer from which groundwater flow is diverted to a pumping well. Based on that definition, groundwater flow from one portion of an aquifer cannot be diverted to two or more pumping wells. Therefore, the particles paths depicting the movement of groundwater cannot intersect. Rather, when viewed in cross section (see Figure 5), it is apparent that the capture zone of the GM-38 Remedial Wells overlies the BWD Plant 4 Well Field capture zone.

Figures 9 through 11 show the capture zones for the GM-38 Remedial Wells and the BWD Plant 4 Well Field on a model layer (depth specific) basis. The diagonally shaded areas shown on the figures (blue for BWD and green for remedial wells)

represent those portions of the three-dimensional capture zones that exist in a particular model layer. Also shown is the extent of the TVOC "hot spot" in each model layer. There is no intersection or overlapping of the capture zones, and the "hot spot" is entirely within the GM-38 Remedial well capture zone in each layer.

The following is a description of each of the attached figures:

Figure 1 is a Site Plan showing the GM-38 Remedial System location and its surroundings.

Figure 2 shows the model-predicted capture zone that develops when the BWD Plant 4 Well Field (Wells 6915 and 6916) operates at its average pumping rate.

Figure 3 shows the changed model-predicted capture zone for the BWD Plant 4 Well Field when the GM-38 Remedial wells are active. As in Figure 2 the BWD Plant 4 Well Field is operating at its average pumping rate. Although the particle paths associated with the GM-38 Remedial Wells are not shown on this figure, the wells were active in the simulation, and caused the capture zone of BWD Plant 4 to shift slightly to the east and north.

Figure 4 shows the model-predicted capture zones of both the BWD Plant 4 Well Field and the GM-38 Remedial Wells with the BWD Plant 4 Well Field operating at its average pumping rate.

Figure 5 shows a cross-sectional view of the model-predicted capture zones of both the BWD Plant 4 Well Field and the GM-38 Remedial Wells with the BWD Plant 4 Well Field operating at its average pumping rate. In this figure, particle paths are viewed from a point northwest of the wells, looking toward the southeast. As is shown in the figure, particles originating at the BWD Plant 4 Well Field are predicted by the model to move through the aquifer beneath the capture zone of the GM-38 Remedial Wells.

Figure 6 shows the model-predicted capture zone that develops when the BWD Plant 4 Well Field operates at its peak pumping rate.

Figure 7 shows the changed model-predicted capture zone for the BWD Plant 4 Well Field when the GM-38 Remedial wells are active. As in Figure 6, the BWD Plant 4 Well Field is operating at its peak pumping rate. Although the particle paths associated with the GM-38 Remedial Wells are not shown on the figure, the wells were active in

the simulation, and caused the capture zone of BWD Plant 4 to shift slightly to the north and east.

Figure 8 shows the model-predicted capture zones of both the BWD Plant 4 Well Field and the GM-38 Remedial Wells with the BWD Plant 4 Well Field simulated as pumping at its peak rate.

Figures 9, 10, and 11 also show the model predicted capture zones of both the BWD Plant 4 Well Field and the GM-38 Remedial Wells with the BWD Plant 4 Well Field simulated as pumping at its peak rate. The three figures however, only show that portion of the capture zones that exist in Model Layers 6, 7, and 8, respectively. The TVOC "hot spot" exists in these same three model layers, and is shown accordingly. The capture zone for the BWD Plant 4 Well Field, even under peak pumping conditions, does not intersect any portion of the defined "hot spot".

Conclusions

- Under all scenarios simulated, the BWD Plant 4 capture zone does not include the GM-38 Area "hot spot". In fact, the plan view figures show that the operation of the GM-38 remedial system shifts the BWD Plant 4 capture zone to the north and east, away from the impacted portion of the aquifer, under both average and peak pumping conditions at BWD Plant 4.

- The capture zone of the GM-38 remedial wells includes the specific aquifer horizon corresponding to the GM-38 Area "hot spot".

- The screened zones of the BWD Plant 4 Wells are deeper than the GM-38 Remedial Wells. The cross sectional view illustrates that the capture zone of BWD Plant 4 is deeper than the capture zone of the GM-38 remedial wells.

- Layer specific capture zone figures demonstrate that the capture zone of the GM-38 remedial wells efficiently isolates the GM-38 Area "hot spot" portion of the aquifer from the capture zone of BWD Plant 4.

- Based on the above report and conclusions, the GM-38 Area remedial wells are properly located in the "hot spot".

Feel free to contact us if you have questions.

Sincerely,

ARCADIS G&M, Inc.

Douglas Smolensky (RP)

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Table 1. Summary of VOCs Detected in Groundwater Samples Collected from GM-38 Area Wells, Naval Weapons Industrial Reserve Plant, July 2005, Bethpage, New York.

Constituent (units in ug/L)	Sample ID: / Sample Date:	GM-38D 7/20/2005		GM-38D2 7/19/2005		RW1-MW-1 7/22/2005		RW1-MW-2 7/22/2005		RW-1 7/22/2005	
Acetone		<10.0		<10.0		<10.0		<10.0		R	
Benzene		<1.0		<1.0		<1.0		<1.0		<1.0	
Bromochloromethane		<1.0		<1.0		<1.0		<1.0		<1.0	
Bromodichloromethane		<1.0		<1.0		<1.0		<1.0		<1.0	
Bromoform		<1.0		<1.0		<1.0		<1.0		<1.0	
Bromomethane		<1.0		<1.0		<1.0		<1.0		<1.0	
2-Butanone (MEK)		R		R		R		R		R	
Carbon Disulfide		<1.0		<1.0		<1.0		<1.0		<1.0	
Carbon Tetrachloride		**0.92**	**J**	<1.0		<1.0		<1.0		<1.0	
Chlorobenzene		<1.0		<1.0		<1.0		<1.0		**0.86**	**J**
Chlorodibromomethane		<1.0		<1.0		<1.0		<1.0		<1.0	
Chloroethane		<1.0		<1.0		<1.0		<1.0		<1.0	
Chloroform		**0.90**	**JB**	**1.1**		**0.70**	**J**	**1.4**		**1.4**	
Chloromethane		<1.0		<1.0		<1.0		<1.0		<1.0	
1,2-Dibromo-3-chloropropane		<5.0		<5.0		<5.0		<5.0		<5.0	
1,2-Dibromoethane (EDB)		<1.0		<1.0		<1.0		<1.0		<1.0	
1,1-Dichloroethane		**4.3**		**0.59**	**J**	**0.79**	**J**	**5.5**		**7.4**	
1,2-Dichloroethane		**0.88**	**J**	<1.0		<1.0		<1.0		<1.0	
1,1-Dichloroethene		**7.6**		**2.5**		**2.8**		**12.3**		**16.8**	
cis-1,2-Dichloroethene		**2.1**		**8.3**		**80.4**		**476**		**708**	
trans-1,2-Dichloroethene		<1.0		**0.35**	**J**	**1.3**		**7.6**		**11.1**	
1,2-Dichloropropane		<1.0		<1.0		<1.0		<1.0		<1.0	
cis-1,3-Dichloropropene		<1.0		<1.0		<1.0		<1.0		<1.0	
trans-1,3-Dichloropropene		<1.0		<1.0		<1.0		<1.0		<1.0	
1,4-Dioxane		--		--		--		--		--	
Ethylbenzene		<1.0		<1.0		<1.0		<1.0		<1.0	
2-Hexanone		<10.0		<10.0	J	<10.0		<10.0		<10.0	
4-Methyl-2-Pentanone (MIBK)		<4.0		<4.0		<4.0		<4.0		<4.0	
Methylene Chloride		<1.0		<1.0		<1.0		<1.0		<1.0	
Styrene		<1.0		<1.0		<1.0		<1.0		<1.0	
1,1,2,2-Tetrachloroethane		<1.0		<1.0		<1.0		<1.0		<1.0	
Tetrachloroethene		**1.6**		<1.0		<1.0		**134**		**354**	
Toluene		<1.0		**0.32**	**J**	**0.33**	**J**	<1.0		**0.72**	**J**
Total Xylenes		<3.0		<3.0		<3.0		<3.0		**1.2**	**J**
1,1,1-Trichloroethane		**5.3**		**1.7**		<1.0		**1.0**		**1.6**	
1,1,2-Trichloroethane		**0.69**	**J**	**2.1**		<1.0		**0.65**	**J**	**0.76**	**J**
Trichloroethene		**607**		**1350**		**52.7**		**198**		**327**	
Vinyl Chloride		<1.0		<1.0		<1.0		**187**		**183**	
o-Xylene		<1.0		<1.0		<1.0		<1.0		**0.42**	**J**
m/p-Zylene		<2.0		<2.0		<2.0		<2.0		**0.83**	**J**
Sum of Constituents		**631.29**		**1,366.96**		**139.02**		**1,023.45**		**1,615.09**	

Bold value indicates a detection.

J	Estimated value.
B	Detected in associated blank sample.
R	Rejected value.
--	Not analyzed.
(1)	Rep072205 was collected from Well RW-1.
FB	Field blank
TB	Trip blank

Table 1. Summary of VOCs Detected in Groundwater Samples Collected from GM-38 Area Wells, Naval Weapons Industrial Reserve Plant, July 2005, Bethpage, New York.

Constituent (units in ug/L)	Sample ID: Rep072205[(1)] Sample Date: 7/22/2005		RW2 MW-1 7/20/2005		RW2-MW-2 7/21/2005		RW2 MW-3 7/20/2005		RW2 7/21/2005	
Acetone	R		<10.0		<10.0		<10.0		<10.0	
Benzene	**0.21**	**J**	<1.0		<1.0		<1.0		<1.0	
Bromochloromethane	<1.0		<1.0		<1.0		<1.0		<1.0	
Bromodichloromethane	<1.0		<1.0		<1.0		<1.0		<1.0	
Bromoform	<1.0		<1.0		<1.0		<1.0		<1.0	
Bromomethane	<1.0		<1.0		<1.0	J	<1.0		<1.0	J
2-Butanone (MEK)	R		R		R		R		R	
Carbon Disulfide	<1.0		<1.0		<1.0		<1.0		<1.0	
Carbon Tetrachloride	<1.0		<1.0		<1.0		<1.0		**0.39**	**J**
Chlorobenzene	**0.9**	**J**	<1.0		<1.0		<1.0		<1.0	
Chlorodibromomethane	<1.0		<1.0		<1.0		<1.0		<1.0	
Chloroethane	<1.0		<1.0		<1.0		<1.0		<1.0	
Chloroform	**1.4**		<1.0		<1.0		<1.0		**0.43**	**J**
Chloromethane	<1.0		<1.0		<1.0		<1.0		<1.0	
1,2-Dibromo-3-chloropropane	<5.0		<5.0		<5.0		<5.0		<5.0	
1,2-Dibromoethane (EDB)	<1.0		<1.0		<1.0		<1.0		<1.0	
1,1-Dichloroethane	**7.6**		**0.93**	**J**	**0.78**	**J**	**0.31**	**J**	**1.7**	
1,2-Dichloroethane	<1.0		<1.0		<1.0		<1.0		<1.0	
1,1-Dichloroethene	**16.4**		**0.58**	**J**	**0.41**	**J**	<1.0		**1.2**	
cis-1,2-Dichloroethene	**712**		**0.55**	**J**	**0.41**	**J**	**0.66**	**J**	**1.7**	
trans-1,2-Dichloroethene	**11.1**		<1.0		<1.0		<1.0		<1.0	
1,2-Dichloropropane	<1.0		<1.0		<1.0		<1.0		<1.0	
cis-1,3-Dichloropropene	<1.0		<1.0		<1.0		<1.0		<1.0	
trans-1,3-Dichloropropene	<1.0		<1.0		<1.0		<1.0		<1.0	
1,4-Dioxane	--		--		--		--		--	
Ethylbenzene	**0.62**	**J**	<1.0		<1.0		<1.0		<1.0	
2-Hexanone	<10.0		<10.0		<10.0		<10.0		<10.0	
4-Methyl-2-Pentanone (MIBK)	<4.0		<4.0		<4.0		<4.0		<4.0	
Methylene Chloride	<1.0		<1.0		<1.0		<1.0		<1.0	
Styrene	<1.0		<1.0		<1.0		<1.0		<1.0	
1,1,2,2-Tetrachloroethane	<1.0		<1.0		<1.0		<1.0		<1.0	
Tetrachloroethene	**326**		<1.0		<1.0		<1.0		<1.0	
Toluene	**2.1**		**0.85**	**J**	**0.53**	**J**	**0.50**	**J**	**0.77**	**J**
Total Xylenes	**3.4**		**1.4**	**J**	<3.0		<3.0		**1.0**	**J**
1,1,1-Trichloroethane	**1.6**		**0.37**	**J**	<1.0		<1.0		**0.79**	**J**
1,1,2-Trichloroethane	**0.81**	**J**	<1.0		<1.0		<1.0		<1.0	
Trichloroethene	**331**		**34.6**		**13.8**		**20.6**		**185**	
Vinyl Chloride	**185**		<1.0		<1.0		<1.0		<1.0	
o-Xylene	**1.1**		**0.4**	**J**	<1.0		<1.0		**0.36**	**J**
m/p-Zylene	**2.3**		**0.98**	**J**	<2.0		<2.0		**0.68**	**J**
Sum of Constituents	**1,603.54**		**40.66**		**15.93**		**22.07**		**194.02**	

Bold value indicates a detection.

J Estimated value.
B Detected in associated blank sample.
R Rejected value.
-- Not analyzed.
(1) Rep072205 was collected from Well RW-1.
FB Field blank
TB Trip blank

Table 1. Summary of VOCs Detected in Groundwater Samples Collected from GM-38 Area Wells, Naval Weapons Industrial Reserve Plant, July 2005, Bethpage, New York.

Constituent (units in ug/L)	Sample ID: / Sample Date:	FB072005 7/20/2005		FB072105 7/21/2005		FB072005 7/20/2005		FB072105 7/21/2005		FB072205 7/22/2005		TB071905 7/19/2005	
Acetone		<10.0		<10.0		<10.0		<10.0		R		<10.0	
Benzene		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
Bromochloromethane		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
Bromodichloromethane		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
Bromoform		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
Bromomethane		<1.0		<1.0	J	<1.0		<1.0	J	<1.0		<1.0	
2-Butanone (MEK)		R		R		R		R		R		R	
Carbon Disulfide		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
Carbon Tetrachloride		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
Chlorobenzene		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
Chlorodibromomethane		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
Chloroethane		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
Chloroform		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
Chloromethane		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
1,2-Dibromo-3-chloropropane		<5.0		<5.0		<5.0		<5.0		<5.0		<5.0	
1,2-Dibromoethane (EDB)		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
1,1-Dichloroethane		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
1,2-Dichloroethane		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
1,1-Dichloroethene		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
cis-1,2-Dichloroethene		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
trans-1,2-Dichloroethene		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
1,2-Dichloropropane		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
cis-1,3-Dichloropropene		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
trans-1,3-Dichloropropene		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
1,4-Dioxane		--		--		--		--		--		--	
Ethylbenzene		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
2-Hexanone		<10.0		<10.0		<10.0		<10.0		<10.0		<10.0	J
4-Methyl-2-Pentanone (MIBK)		<4.0		<4.0		<4.0		<4.0		<4.0		<4.0	
Methylene Chloride		<1.0		**0.47**	**J**	<1.0		**0.47**	**J**	<1.0		<1.0	
Styrene		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
1,1,2,2-Tetrachloroethane		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
Tetrachloroethene		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
Toluene		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
Total Xylenes		<3.0		<3.0		<3.0		<3.0		<3.0		<3.0	
1,1,1-Trichloroethane		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
1,1,2-Trichloroethane		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
Trichloroethene		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
Vinyl Chloride		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
o-Xylene		<1.0		<1.0		<1.0		<1.0		<1.0		<1.0	
m/p-Zylene		<2.0		<2.0		<2.0		<2.0		<2.0		<2.0	
Sum of Constituents		**0**		**0.47**		**0**		**0.47**		**0**		**0**	

Bold value indicates a detection.

J	Estimated value.
B	Detected in associated blank sample.
R	Rejected value.
--	Not analyzed.
(1)	Rep072205 was collected from Well RW-1.
FB	Field blank
TB	Trip blank

Table 1. Summary of VOCs Detected in Groundwater Samples Collected from GM-38 Area Wells, Naval Weapons Industrial Reserve Plant, July 2005, Bethpage, New York.

Constituent (units in ug/L)	Sample ID:	TB072005		TB072105		TB072205	
	Sample Date:	7/20/2005		7/21/2005		7/22/2005	
Acetone		<10.0		<10.0		R	
Benzene		<1.0		<1.0		<1.0	
Bromochloromethane		<1.0		<1.0		<1.0	
Bromodichloromethane		<1.0		<1.0		<1.0	
Bromoform		<1.0		<1.0		<1.0	
Bromomethane		<1.0		<1.0	J	<1.0	
2-Butanone (MEK)		R		R		R	
Carbon Disulfide		<1.0		<1.0		<1.0	
Carbon Tetrachloride		<1.0		<1.0		<1.0	
Chlorobenzene		<1.0		<1.0		<1.0	
Chlorodibromomethane		<1.0		<1.0		<1.0	
Chloroethane		<1.0		<1.0		<1.0	
Chloroform		**0.67**	**J**	<1.0		<1.0	
Chloromethane		<1.0		<1.0		<1.0	
1,2-Dibromo-3-chloropropane		<5.0		<5.0		<5.0	
1,2-Dibromoethane (EDB)		<1.0		<1.0		<1.0	
1,1-Dichloroethane		<1.0		<1.0		<1.0	
1,2-Dichloroethane		<1.0		<1.0		<1.0	
1,1-Dichloroethene		<1.0		<1.0		<1.0	
cis-1,2-Dichloroethene		<1.0		<1.0		<1.0	
trans-1,2-Dichloroethene		<1.0		<1.0		<1.0	
1,2-Dichloropropane		<1.0		<1.0		<1.0	
cis-1,3-Dichloropropene		<1.0		<1.0		<1.0	
trans-1,3-Dichloropropene		<1.0		<1.0		<1.0	
1,4-Dioxane		--		--		--	
Ethylbenzene		<1.0		<1.0		<1.0	
2-Hexanone		<10.0	J	<10.0		<10.0	
4-Methyl-2-Pentanone (MIBK)		<4.0		<4.0		<4.0	
Methylene Chloride		<1.0		<1.0		<1.0	
Styrene		<1.0		<1.0		<1.0	
1,1,2,2-Tetrachloroethane		<1.0		<1.0		<1.0	
Tetrachloroethene		<1.0		<1.0		<1.0	
Toluene		<1.0		<1.0		<1.0	
Total Xylenes		<3.0		<3.0		<3.0	
1,1,1-Trichloroethane		<1.0		<1.0		<1.0	
1,1,2-Trichloroethane		<1.0		<1.0		<1.0	
Trichloroethene		<1.0		<1.0		<1.0	
Vinyl Chloride		<1.0		<1.0		<1.0	
o-Xylene		<1.0		<1.0		<1.0	
m/p-Zylene		<2.0		<2.0		<2.0	
Sum of Constituents		**0.67**		**0**		**0**	

Bold value indicates a detection.

J	Estimated value.
B	Detected in associated blank sample.
R	Rejected value.
--	Not analyzed.
(1)	Rep072205 was collected from Well RW-1.
FB	Field blank
TB	Trip blank

Table 2. Summary of VOCs Detected in Groundwater Samples Collected from GM-38 Area Wells, Naval Weapons Industrial Reserve Plant, April-May 2005, Bethpage, New York.

Constituent (units in ug/L)	Sample ID: RW1-MW1 Sample Date: 5/4/2005		Sample ID: RW1-MW2 Sample Date: 5/4/2005		Sample ID: RW2-MW1 Sample Date: 5/4/2005		Sample ID: RW2-MW2 Sample Date: 5/4/2005		Sample ID: RW2-MW2D Sample Date: 5/4/2005		Sample ID: RW2-MW3 Sample Date: 5/3/2005	
Acetone	<10		<10		<10		<10		<10		<10	
Benzene	<1		<1		<1		<1		<1		<1	
Bromochloromethane	<1		<1		<1		<1		<1		<1	
Bromodichloromethane	<1		<1		<1		<1		<1		<1	
Bromoform	<1		<1		<1		<1		<1		<1	
Bromomethane	<1		<1		<1		<1		<1		<1	
2-Butanone (MEK)	R		R		R		R		R		R	
Carbon Disulfide	<1		<1		<1		<1		<1		<1	
Carbon Tetrachloride	<1		<1		<1		<1		<1		<1	
Chlorobenzene	<1		<1		<1		<1		<1		<1	
Chlorodibromomethane	<1		<1		<1		<1		<1		<1	
Chloroethane	<1		<1		<1		<1		<1		<1	
Chloroform	<1		<1		<1		<1		<1		<1	
Chloromethane	<1		<1		<1		<1		<1		<1	
1,2-Dibromo-3-chloropropane	<5		<5	J	<5		<5	J	<5	J	<5	J
1,2-Dibromoethane (EDB)	<1		<1		<1		<1		<1		<1	
1,1-Dichloroethane	**0.74**	**J**	**4.6**		**0.53**	**J**	<1		<1		**0.68**	**J**
1,2-Dichloroethane	<1		<1		<1		<1		<1		<1	
1,1-Dichloroethene	**1.3**		**3.2**		<1		<1		<1		<1	
cis-1,2-Dichloroethene	**78.6**		**181**		<1		**0.33**	**J**	<1		**0.40**	**J**
trans-1,2-Dichloroethene	**2**		**2.5**		<1		<1		<1		<1	
1,2-Dichloropropane	<1		<1		<1		<1		<1		<1	
cis-1,3-Dichloropropene	<1		<1		<1		<1		<1		<1	
trans-1,3-Dichloropropene	<1		<1		<1		<1		<1		<1	
1,4-Dioxane	**1.75**	**J**	**4.01**	**J**	**5.34**	**J**	**7.45**	**J**	**7.36**	**J**	**7.42**	**J**
Ethylbenzene	<1		<1		<1		<1		<1		<1	
2-Hexanone	<10		<10		<10		<10		<10		<10	
4-Methyl-2-Pentanone (MIBK)	<4		<4		<4		<4		<4		<4	
Methylene Chloride	<1		<1		<1		<1		<1		<1	
Styrene	<1		<1		<1		<1		<1		<1	
1,1,2,2-Tetrachloroethane	<1		<1		<1		<1		<1		<1	
Tetrachloroethene	<1		<1		<1		<1		<1		<1	
Toluene	<1		**0.32**	**J**	<1		**0.33**	**J**	**0.36**	**J**	<1	
Total Xylenes	<3		<3		<3		<3		<3		<3	
1,1,1-Trichloroethane	<1		**1.3**		<1		<1		<1		<1	
1,1,2-Trichloroethane	<1		<1		<1		<1		<1		<1	
Trichloroethene	**53.6**		**158**		**37.6**		**7.8**		**7.9**		**16.2**	
Vinyl Chloride	<1		**12.9**		<1		<1		<1		<1	
o-Xylene	<1		<1		<1		<1		<1		<1	
m/p-Zylene	<2		<2		<2		<2		<2		<2	
Sum of Constituents	**137.99**		**367.83**		**43.47**		**15.91**		**15.62**		**24.70**	

Bold value indicates a detection.

-- Not analyzed.
J Estimated value.
R Rejected value.
D Duplicate sample.
TB Trip blank.

Table 2. Summary of VOCs Detected in Groundwater Samples Collected from GM-38 Area Wells, Naval Weapons Industrial Reserve Plant, April-May 2005, Bethpage, New York.

Constituent (units in ug/L)	Sample ID: 096-RW2-053 Sample Date: 4/18/2005		09-RW2-054 4/18/2005		IW1-MW1 5/3/2005		Rinsate Blank 01 5/3/2005		Rinsate Blank 02 5/4/2005	
Acetone	<10		<10		<10		<10		<10	
Benzene	<1		<1		<1		<1		<1	
Bromochloromethane	<1		<1		<1		<1		<1	
Bromodichloromethane	<1		<1		<1		<1		<1	
Bromoform	<1		<1		<1		<1		<1	
Bromomethane	<1		<1		<1		<1		<1	
2-Butanone (MEK)	R		R		R		R		R	
Carbon Disulfide	<1		<1		<1		<1		<1	
Carbon Tetrachloride	**0.30**	**J**	<1		<1		<1		<1	
Chlorobenzene	<1		<1		<1		<1		<1	
Chlorodibromomethane	<1		<1		<1		<1		<1	
Chloroethane	<1		<1		<1		<1		<1	
Chloroform	**0.31**	**J**	<1		**0.94**	**J**	<1		<1	
Chloromethane	<1		<1		<1		<1		<1	
1,2-Dibromo-3-chloropropane	<5		<5		<5	J	<5	J	<5	J
1,2-Dibromoethane (EDB)	<1		<1		<1		<1		<1	
1,1-Dichloroethane	**1**		**1**		**0.39**	**J**	<1		<1	
1,2-Dichloroethane	<1		<1		<1		<1		<1	
1,1-Dichloroethene	**0.95**	**J**	**0.88**	**J**	<1		<1		<1	
cis-1,2-Dichloroethene	**1.2**		**0.88**	**J**	<1		<1		<1	
trans-1,2-Dichloroethene	<1		<1		<1		<1		<1	
1,2-Dichloropropane	<1		<1		<1		<1		<1	
cis-1,3-Dichloropropene	<1		<1		<1		<1		<1	
trans-1,3-Dichloropropene	<1		<1		<1		<1		<1	
1,4-Dioxane	**4.21**	**J**	**4.20**	J	R		<4		<4	
Ethylbenzene	<1		<1		<1		<1		<1	
2-Hexanone	<10		<10		<10		<10		<10	
4-Methyl-2-Pentanone (MIBK)	<4	J	<4	J	<4		<4		<4	
Methylene Chloride	<1		<1		<1		<1		<1	
Styrene	<1		<1		<1		<1		<1	
1,1,2,2-Tetrachloroethane	<1		<1		<1		<1		<1	
Tetrachloroethene	<1		<1		<1		<1		<1	
Toluene	<1		<1		<1		<1		<1	
Total Xylenes	<3		<3		<3		<3		<3	
1,1,1-Trichloroethane	**0.57**	**J**	**0.56**	**J**	**0.47**	**J**	<1		<1	
1,1,2-Trichloroethane	<1		<1		<1		<1		<1	
Trichloroethene	**175**		**177**		<5		<5		<5	
Vinyl Chloride	<1		<1		<1		<1		<1	
o-Xylene	<1		<1		<1		<1		<1	
m/p-Zylene	<2		<2		<2		<2		<2	
Sum of Constituents	**183.54**		**184.52**		**1.80**		**0**		**0**	

Bold value indicates a detection.

-- Not analyzed.
J Estimated value.
R Rejected value.
D Duplicate sample.
TB Trip blank.

Table 2. Summary of VOCs Detected in Groundwater Samples Collected from GM-38 Area Wells, Naval Weapons Industrial Reserve Plant, April-May 2005, Bethpage, New York.

Constituent (units in ug/L)	Sample ID: / Sample Date:	TB01 5/3/2005		TB02 5/4/2005
Acetone		<10		<10
Benzene		<1		<1
Bromochloromethane		<1		<1
Bromodichloromethane		<1		<1
Bromoform		<1		<1
Bromomethane		<1		<1
2-Butanone (MEK)		R		R
Carbon Disulfide		<1		<1
Carbon Tetrachloride		<1		<1
Chlorobenzene		<1		<1
Chlorodibromomethane		<1		<1
Chloroethane		<1		<1
Chloroform		<1		<1
Chloromethane		<1		<1
1,2-Dibromo-3-chloropropane		<5	J	<5
1,2-Dibromoethane (EDB)		<1		<1
1,1-Dichloroethane		<1		<1
1,2-Dichloroethane		<1		<1
1,1-Dichloroethene		<1		<1
cis-1,2-Dichloroethene		<1		<1
trans-1,2-Dichloroethene		<1		<1
1,2-Dichloropropane		<1		<1
cis-1,3-Dichloropropene		<1		<1
trans-1,3-Dichloropropene		<1		<1
1,4-Dioxane		<4		--
Ethylbenzene		<1		<1
2-Hexanone		<10		<10
4-Methyl-2-Pentanone (MIBK)		<4		<4
Methylene Chloride		<1		<1
Styrene		<1		<1
1,1,2,2-Tetrachloroethane		<1		<1
Tetrachloroethene		<1		<1
Toluene		<1		<1
Total Xylenes		<3		<3
1,1,1-Trichloroethane		<1		<1
1,1,2-Trichloroethane		<1		<1
Trichloroethene		<5		<5
Vinyl Chloride		<1		<1
o-Xylene		<1		<1
m/p-Zylene		<2		<2
Sum of Constituents		**0**		**0**

Bold value indicates a detection.

-- Not analyzed.
J Estimated value.
R Rejected value.
D Duplicate sample.
TB Trip blank.

Table 3. Summary of GM-38 Area Well Details, Naval Weapons Industrial Reserve Plant, Bethpage, New York.

Well ID	Depth (ft bls)	Screen Zone(s) (ft bls)
Monitoring Wells		
GM-38D	340	320-340
GM-38D2	495	475-495
RW1-MW1	435	395-435
RW1-MW2	435	395-435
RW2-MW1	510	470-510
RW2-MW2	510	470-510
RW2-MW3	510	470-510
Recovery Wells		
RW-1	435	335-395 / 410-430
RW-2	515	440-510
Supply Wells		
BWD 6915	615	550-615
BWD 6916	618	568-618

ft bls feet below land surface
BWD Bethpage Water District

Acad Version : R16.1s (LMS Tech)
User Name : ehughes

Date\Time : Thu, 15 Sep 2005 – 5:07pm
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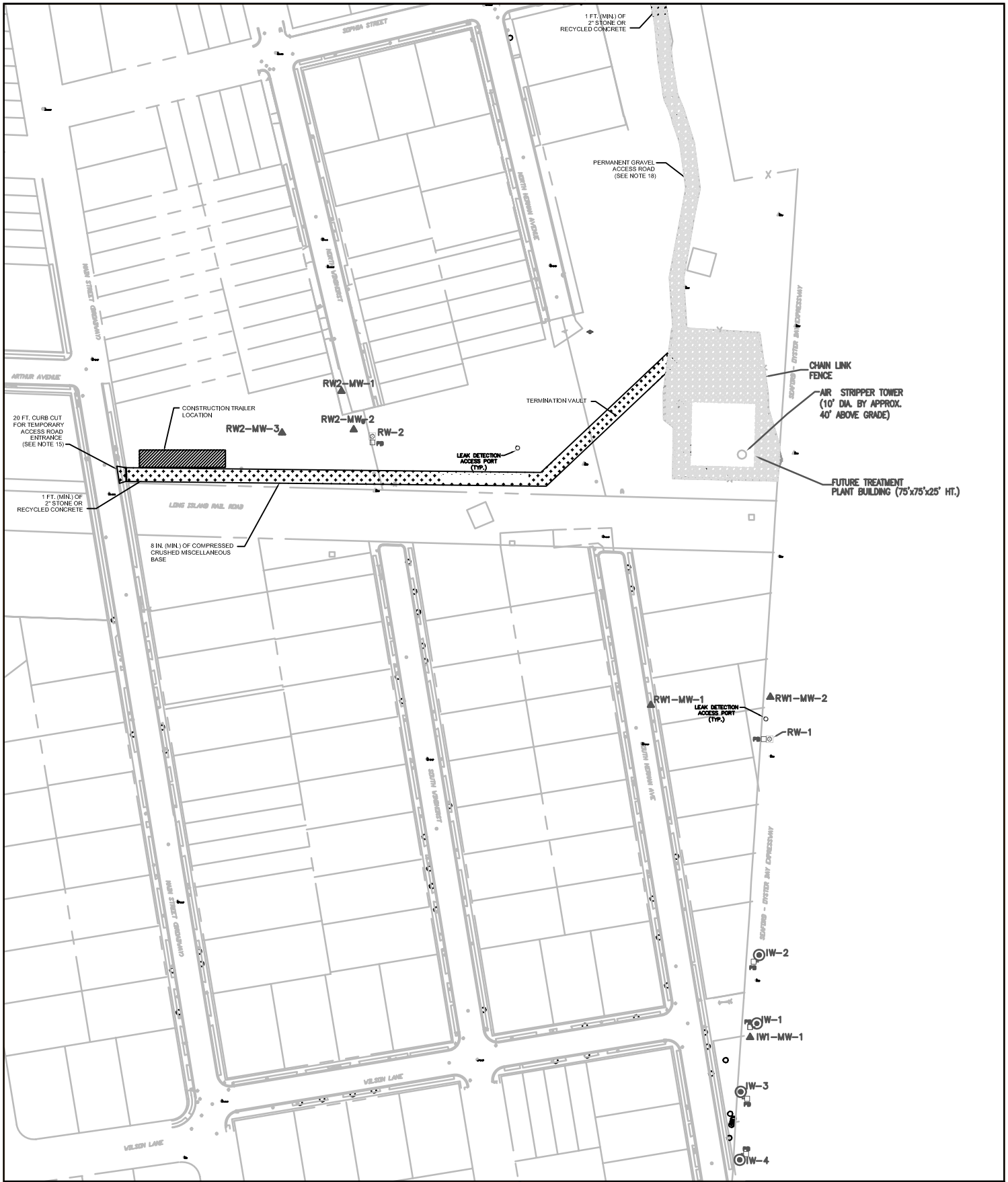

0 150'
1" = 150'

ARCADIS
88 Duryea Road
Melville, NY 11747
Tel: 631-249-7600 Fax: 631-249-7610
www.arcadis-us.com

PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
R. PORSCHE	N. VALKENBURG		R. PORSCHE
SHEET TITLE		TASK/PHASE NUMBER	DRAWN BY
SITE PLAN GM38 REMEDIAL SYSTEM		0001A	E. HUGHES
		PROJECT NUMBER	DRAWING NUMBER
		NY001416.0003	1

Acad Version : R16.1s (LMS Tech)
User Name : ehughes

Date\Time : Wed, 14 Sep 2005 – 5:49pm
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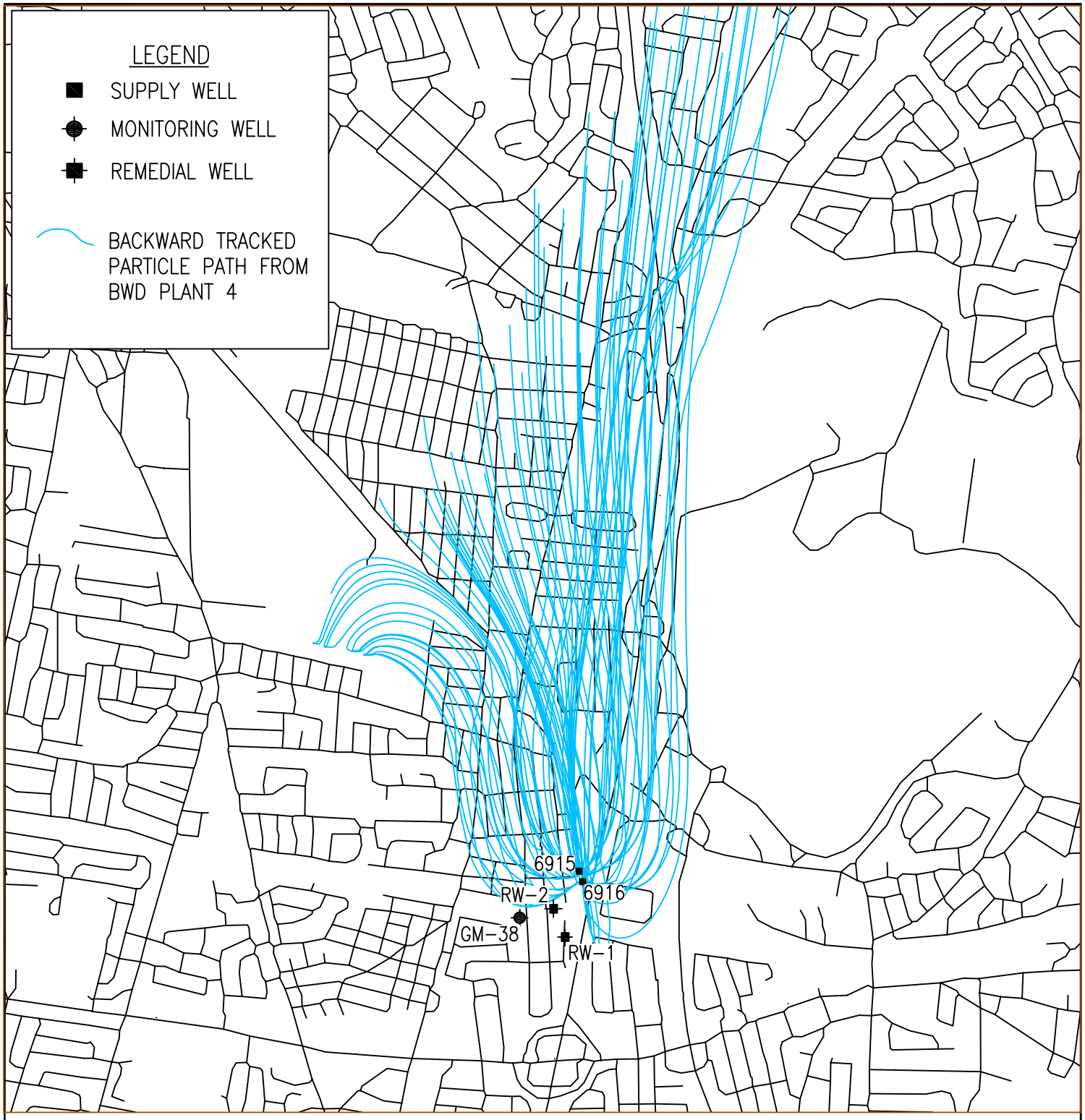

0 2000' 4000'

SCALE: 1" = 2000'

NOTE:
BETHPAGE WATER DISTRICT PLANT 4 WELLS (6915 AND 6916) ARE OPERATING AT THEIR PEAK PUMPING RATES.

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PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
R. PORSCHE	N. VALKENBURG		R. PORSCHE
SHEET TITLE		TASK/PHASE NUMBER	DRAWN BY
CAPTURE ZONE FOR BETHPAGE WATER DISTRICT PLANT 4 WELLS		0001A	E. HUGHES
		PROJECT NUMBER	DRAWING NUMBER
		NY001416.0003	2

Acad Version : R16.1s (LMS Tech)
User Name : ehughes

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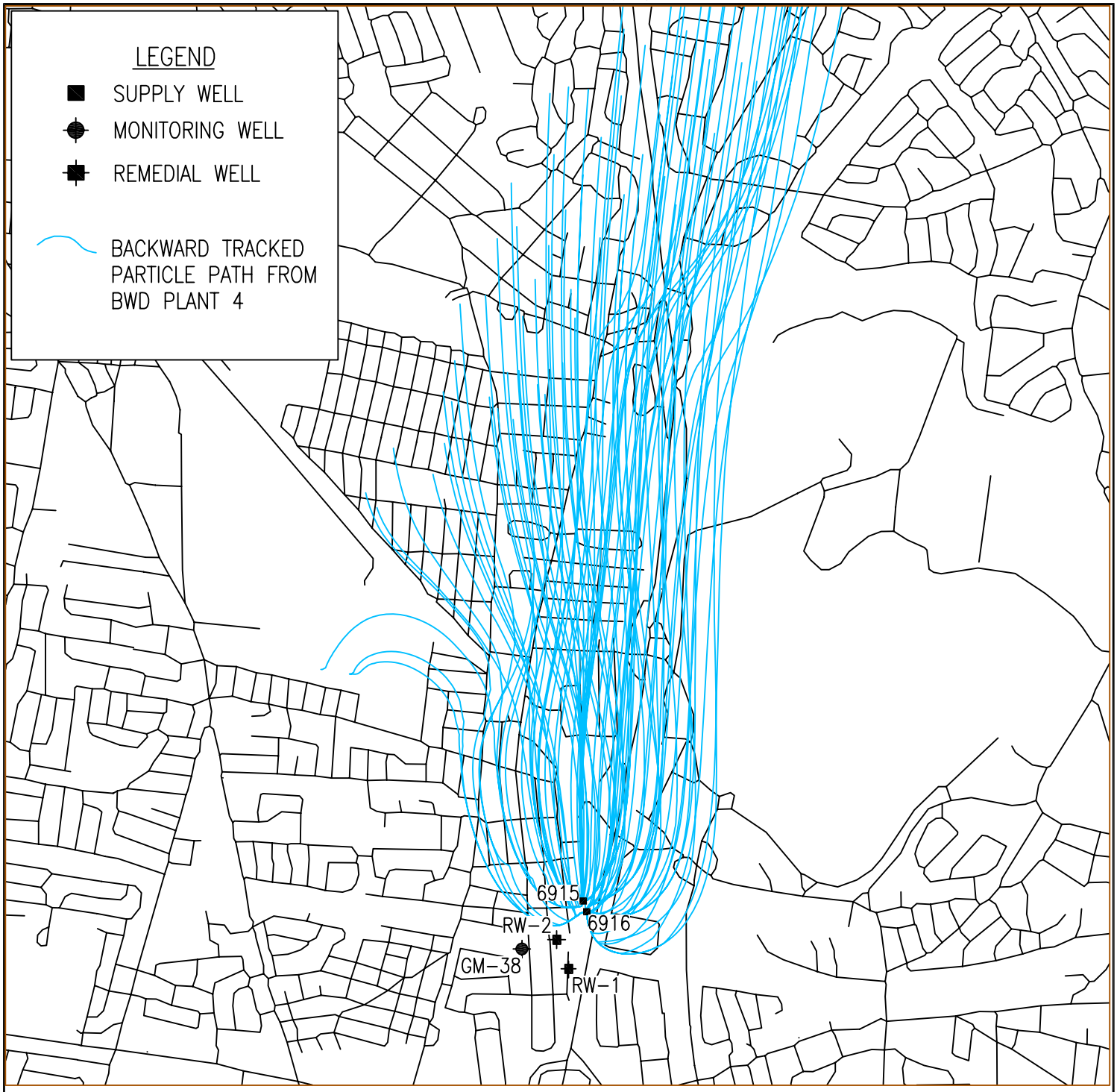

0 2000' 4000'

SCALE: 1" = 2000'

NOTES:

1. BETHPAGE WATER DISTRICT PLANT 4 WELLS (6915 AND 6916) ARE OPERATING AT THEIR AVERAGE PUMPING RATES.
2. GM-38 REMEDIAL WELLS (RW-1 AND RW-2) ARE OPERATING AT THEIR DESIGN RATES, BUT THEIR PARTICLE PATHS ARE NOT SHOWN.

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PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
R. PORSCHE	N. VALKENBURG		R. PORSCHE
SHEET TITLE		TASK/PHASE NUMBER	DRAWN BY
CAPTURE ZONE FOR BETHPAGE WATER DISTRICT PLANT 4 WELLS		0001A	E. HUGHES
		PROJECT NUMBER	DRAWING NUMBER
		NY001416.0003	3

Acad Version : R16.1s (LMS Tech)
User Name : ehughes
Date\Time : Wed, 14 Sep 2005 – 5:51pm
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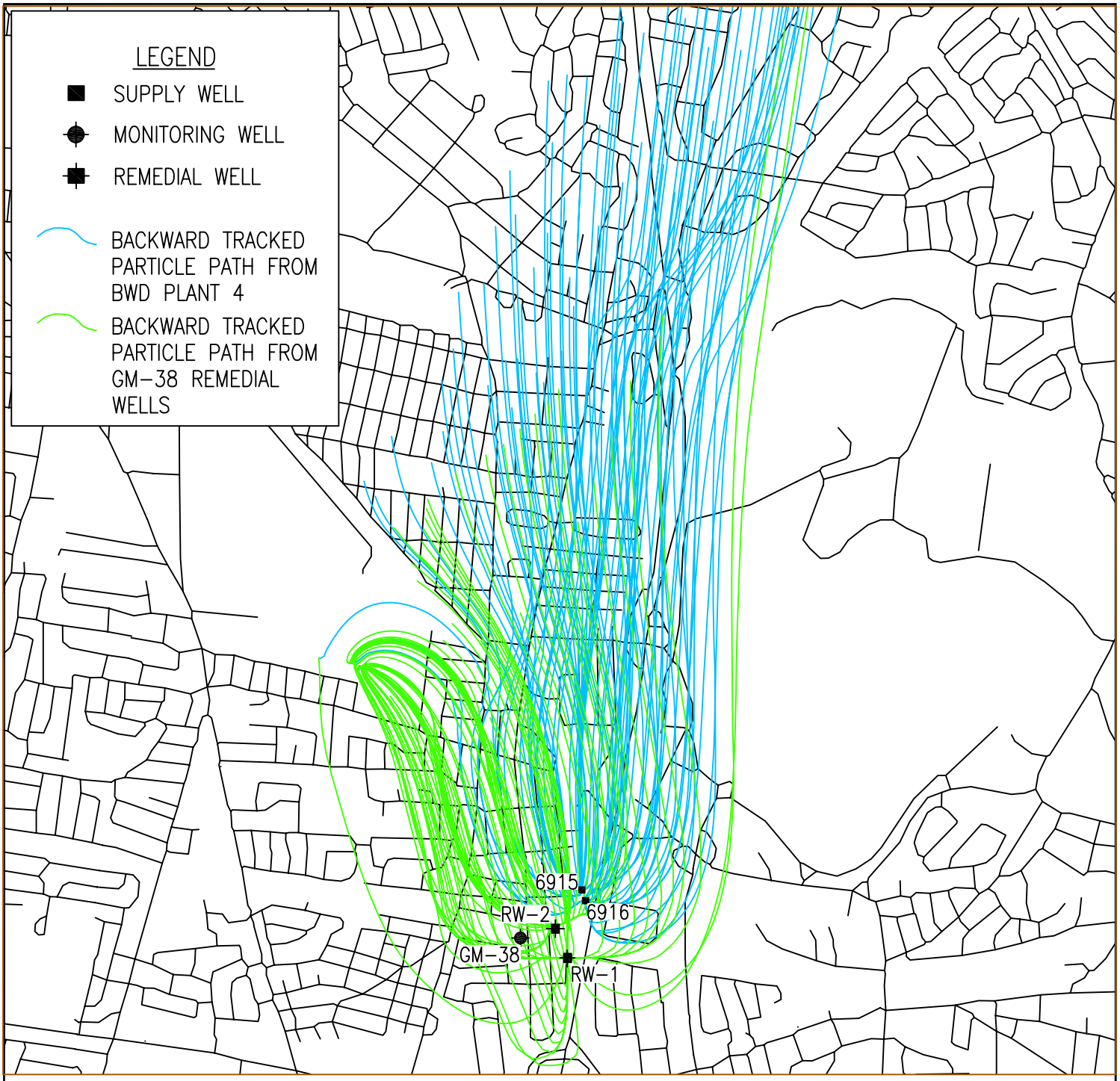

NOTES:

1. BETHPAGE WATER DISTRICT PLANT 4 WELLS (6915 AND 6916) ARE OPERATING AT THEIR AVERAGE PUMPING RATES.
2. GM-38 REMEDIAL WELLS (RW-1 AND RW-2) ARE OPERATING AT THEIR DESIGN RATES.

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PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
R. PORSCHE	N. VALKENBURG		R. PORSCHE
SHEET TITLE		TASK/PHASE NUMBER	DRAWN BY
CAPTURE ZONES FOR BETHPAGE WATER DISTRICT PLANT 4 WELLS AND GM-38 REMEDIAL WELLS		0001A	E. HUGHES
		PROJECT NUMBER	DRAWING NUMBER
		NY001416.0003	4

Acad Version : R16.1s (LMS Tech)
User Name : ehughes
Date\Time : Wed, 14 Sep 2005 – 5:52pm
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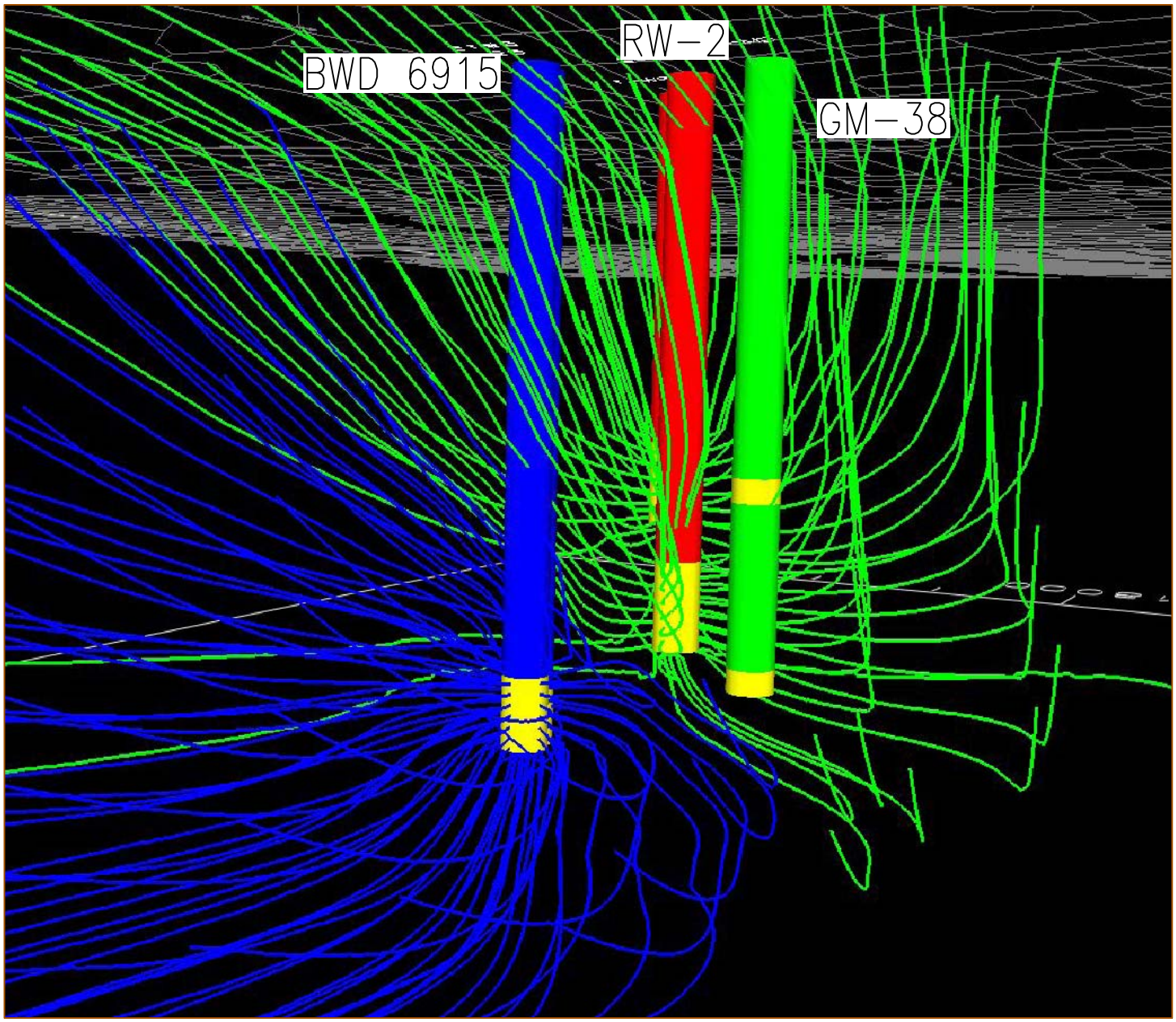

SCALE: NOT TO SCALE

VIEW LOOKING SOUTHWEST

BACKWARD TRACKED PARTICLE PATH FROM BWD PLANT 4

BACKWARD TRACKED PARTICLE PATH FROM GM-38 REMEDIAL WELLS

NOTE:

1. BETHPAGE WATER DISTRICT PLANT 4 WELLS (6915 AND 6916) ARE OPERATING AT THEIR AVERAGE PUMPING RATES.
2. GM-38 REMEDIAL WELLS (RW-1 AND RW-2) ARE OPERATING AT THEIR DESIGN RATES.

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PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
R. PORSCHE	D. SMOLENSKY		R. PORSCHE
SHEET TITLE: CROSS SECTIONAL VIEW OF CAPTURE ZONES FOR BETHPAGE WATER DISTRICT PLANT 4 WELLS AND GM-38 REMEDIAL WELLS		TASK/PHASE NUMBER 0001A	DRAWN BY E. HUGHES
		PROJECT NUMBER NY001416.0003	DRAWING NUMBER 5

Acad Version : R16.1s (LMS Tech)
User Name : ehughes

Date\Time : Wed, 14 Sep 2005 – 5:52pm
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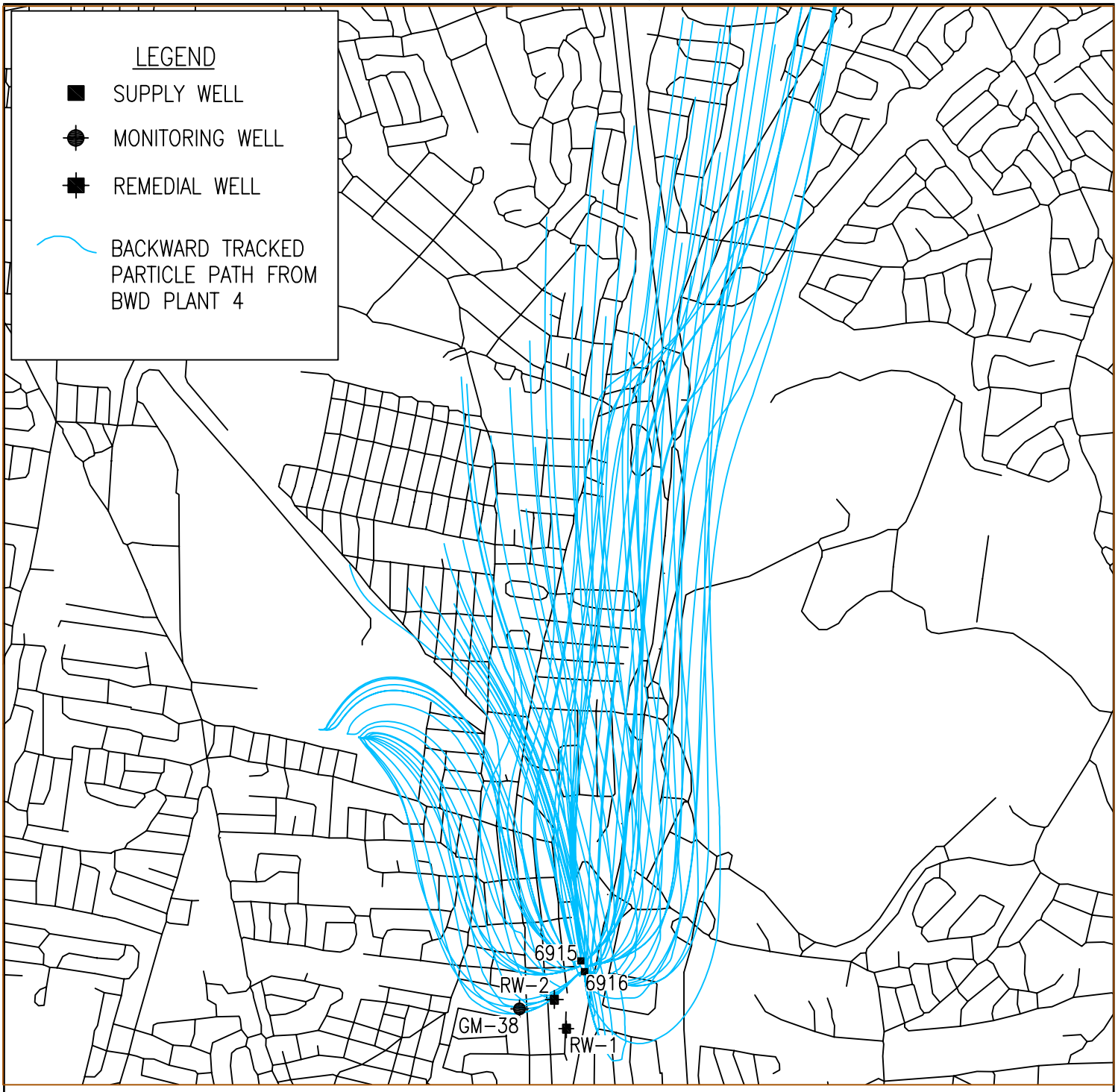

0 2000' 4000'

SCALE: 1" = 2000'

NOTES:

1. BETHPAGE WATER DISTRICT PLANT 4 WELLS (6915 AND 6916) ARE OPERATING AT THEIR PEAK PUMPING RATES.

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PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
R. PORSCHE	N. VALKENBURG		R. PORSCHE
SHEET TITLE		TASK/PHASE NUMBER	DRAWN BY
CAPTURE ZONE FOR BETHPAGE WATER DISTRICT PLANT 4 WELLS		0001A	E. HUGHES
		PROJECT NUMBER	DRAWING NUMBER
		NY001416.0003	6

Acad Version : R16.1s (LMS Tech)
User Name : ehughes
Date\Time : Wed, 14 Sep 2005 – 5:53pm
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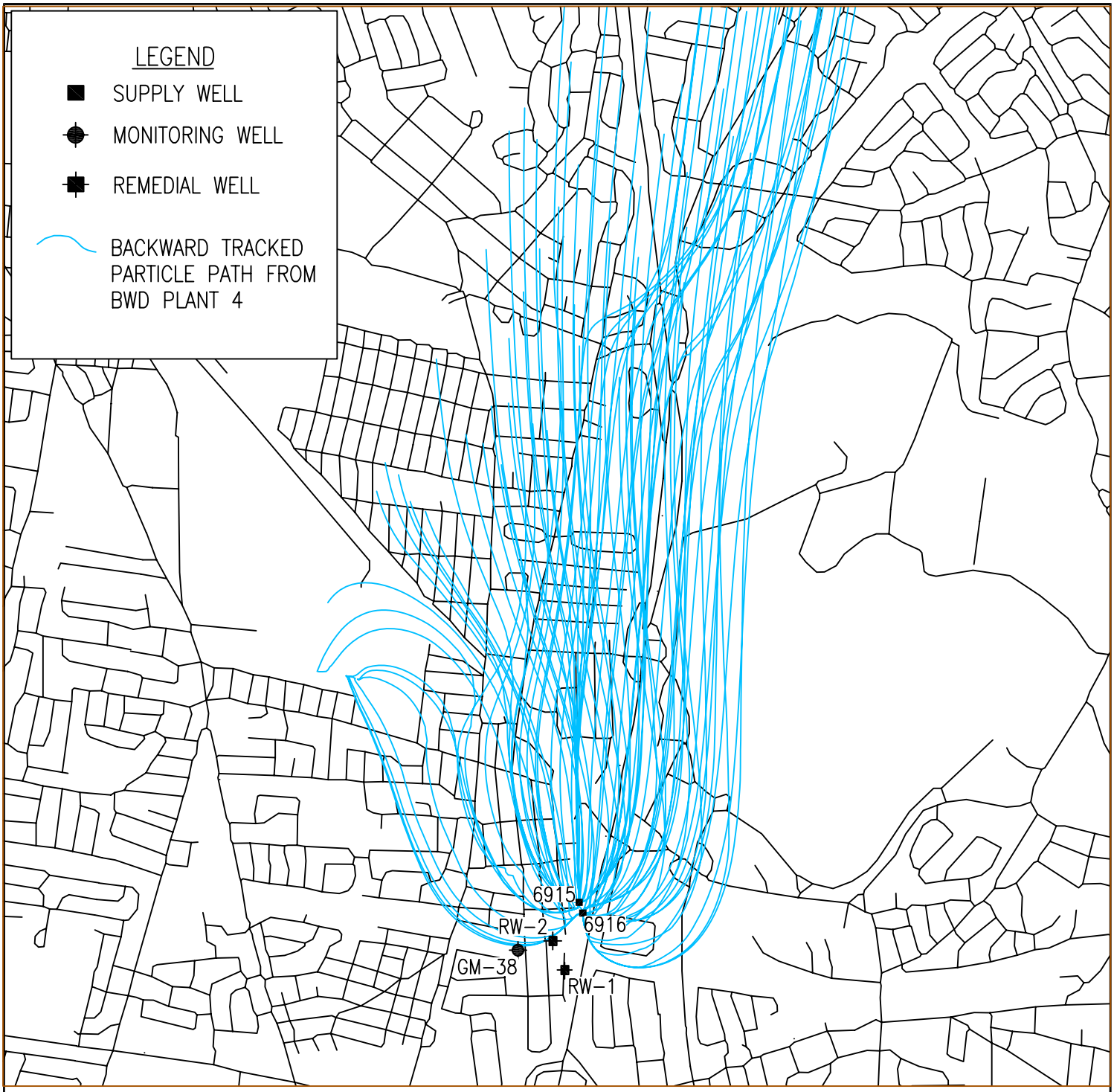

SCALE: 1" = 2000'

NOTES:

1. BETHPAGE WATER DISTRICT PLANT 4 WELLS (6915 AND 6916) ARE OPERATING AT THEIR PEAK PUMPING RATES.
2. GM-38 REMEDIAL WELLS (RW-1 AND RW-2) ARE OPERATING AT THEIR DESIGN RATES, BUT THEIR PARTICLE PATHS ARE NOT SHOWN.

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PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
R. PORSCHE	N. VALKENBURG		R. PORSCHE
SHEET TITLE		TASK/PHASE NUMBER	DRAWN BY
CAPTURE ZONE FOR BETHPAGE WATER DISTRICT PLANT 4 WELLS		0001A	E. HUGHES
		PROJECT NUMBER	DRAWING NUMBER
		NY001416.0003	7

Acad Version : R16.1s (LMS Tech)
User Name : ehughes

Date\Time : Wed, 14 Sep 2005 – 5:54pm
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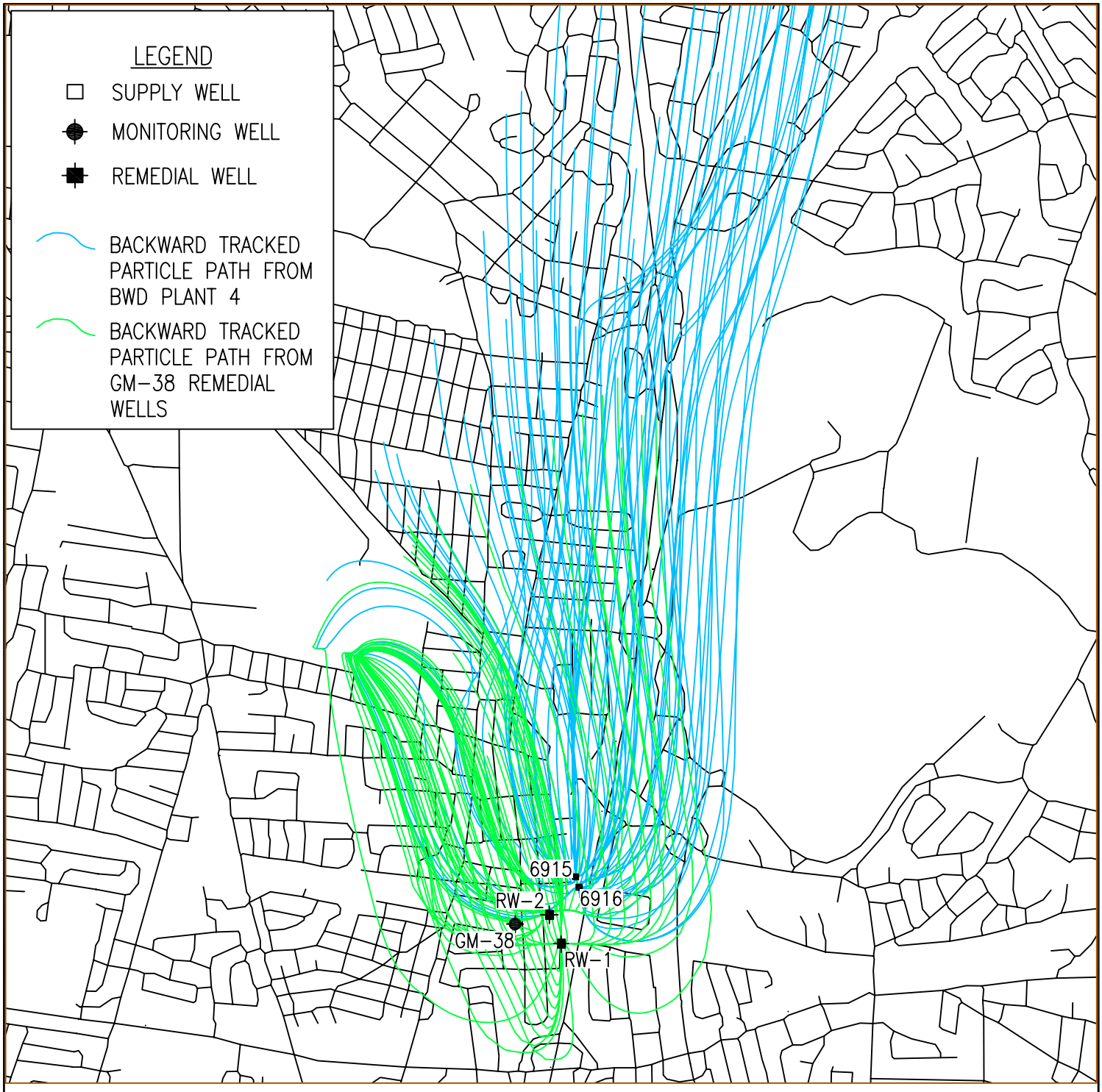

0 2000' 4000'

SCALE: 1" = 2000'

NOTES:

1. BETHPAGE WATER DISTRICT PLANT 4 WELLS (6915 AND 6916) ARE OPERATING AT THEIR PEAK PUMPING RATES.
2. GM–38 REMEDIAL WELLS (RW–1 AND RW–2) ARE OPERATING AT THEIR DESIGN RATES.

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PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
R. PORSCHE	N. VALKENBURG		R. PORSCHE
SHEET TITLE		TASK/PHASE NUMBER	DRAWN BY
CAPTURE ZONES FOR BETHPAGE WATER DISTRICT PLANT 4 WELLS AND GM–38 REMEDIAL WELLS		0001A	E. HUGHES
		PROJECT NUMBER	DRAWING NUMBER
		NY001416.0003	7

Acad Version : R16.1s (LMS Tech)
User Name : ehughes
Date\Time : Thu, 15 Sep 2005 – 10:38am
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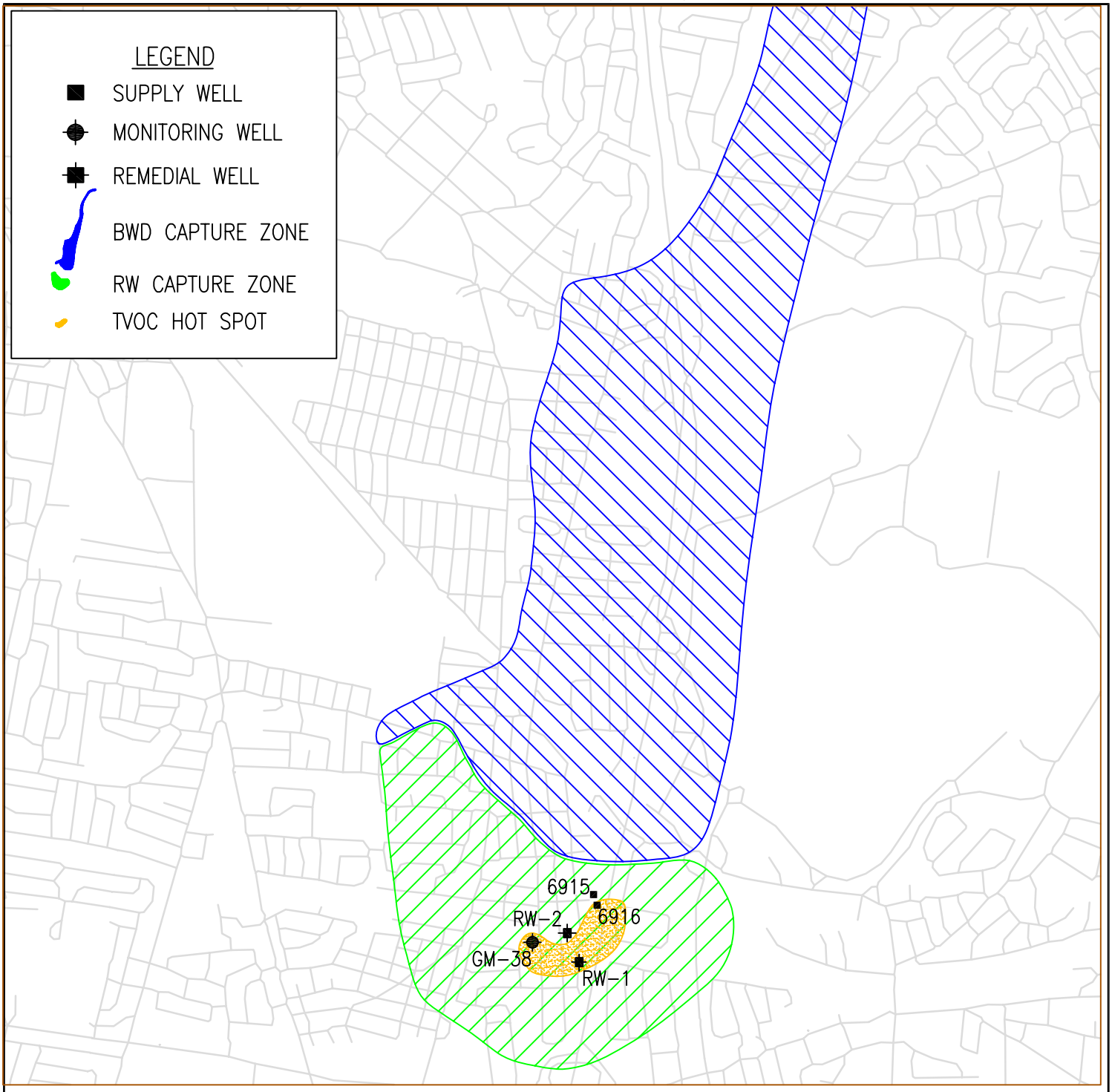

NOTES:

1. BETHPAGE WATER DISTRICT PLANT 4 WELLS (6915 AND 6916) ARE OPERATING AT THEIR PEAK PUMPING RATES.
2. GM–38 REMEDIAL WELLS (RW–1 AND RW–2) ARE OPERATING AT THEIR DESIGN RATES.

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PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
R. PORSCHE	N. VALKENBURG		R. PORSCHE
SHEET TITLE: TVOC HOT SPOT AND CAPTURE ZONES FOR THE BWD AND GM38 REMEDIAL WELLS IN MODEL LAYER 6		TASK/PHASE NUMBER 0001A	DRAWN BY E. HUGHES
		PROJECT NUMBER NY001416.0003	DRAWING NUMBER 9

Acad Version : R16.1s (LMS Tech)
User Name : ehughes
Date\Time : Thu, 15 Sep 2005 – 10:36am
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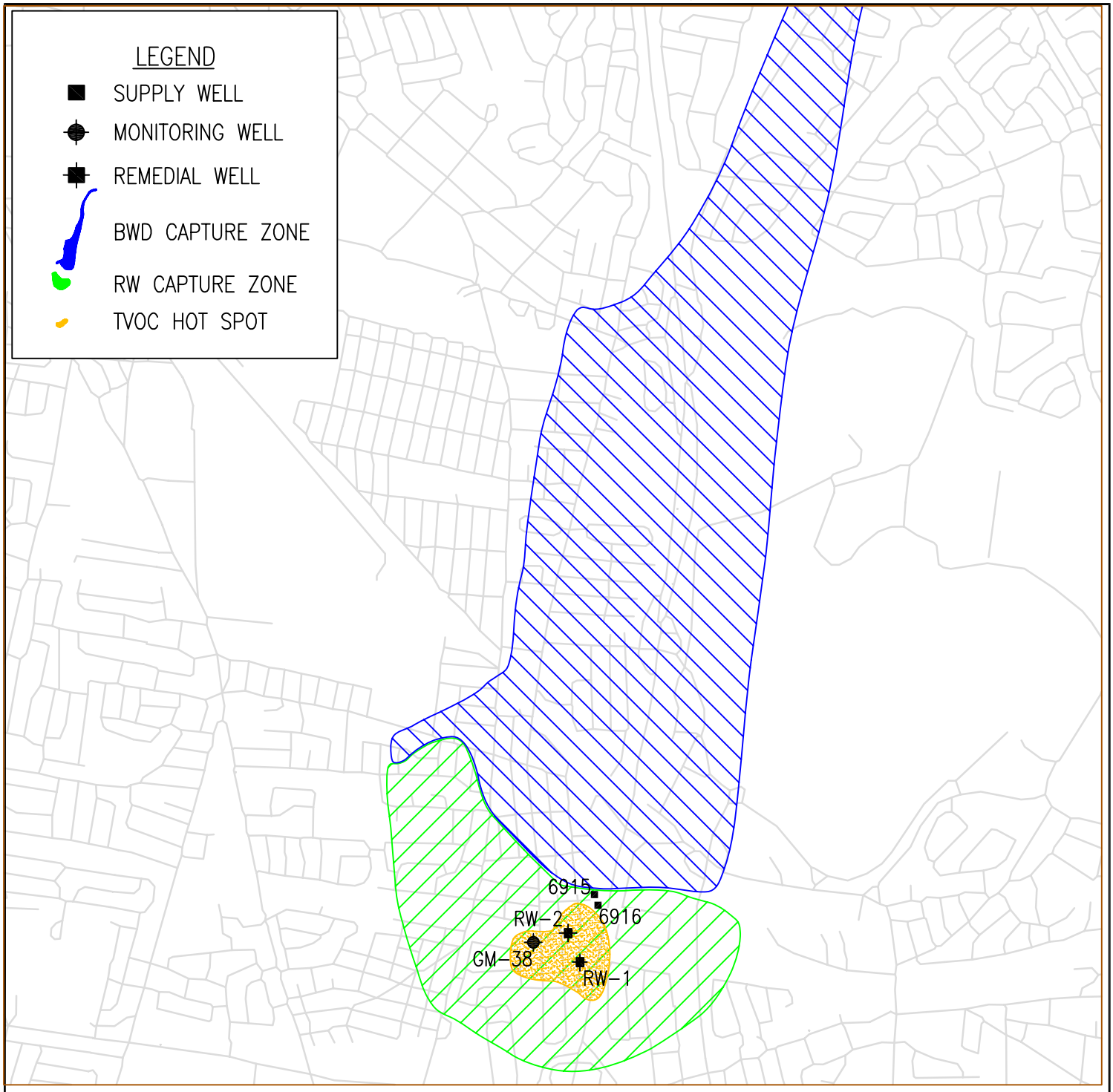

NOTES:

1. BETHPAGE WATER DISTRICT PLANT 4 WELLS (6915 AND 6916) ARE OPERATING AT THEIR PEAK PUMPING RATES.
2. GM–38 REMEDIAL WELLS (RW–1 AND RW–2) ARE OPERATING AT THEIR DESIGN RATES.

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PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
R. PORSCHE	N. VALKENBURG		R. PORSCHE
SHEET TITLE: TVOC HOT SPOT AND CAPTURE ZONES FOR THE BWD AND GM38 REMEDIAL WELLS IN MODEL LAYER 7		TASK/PHASE NUMBER 0001A	DRAWN BY E. HUGHES
		PROJECT NUMBER NY001416.0003	DRAWING NUMBER 10

Acad Version : R16.1s (LMS Tech)
User Name : ehughes
Date\Time : Thu, 15 Sep 2005 – 10:35am
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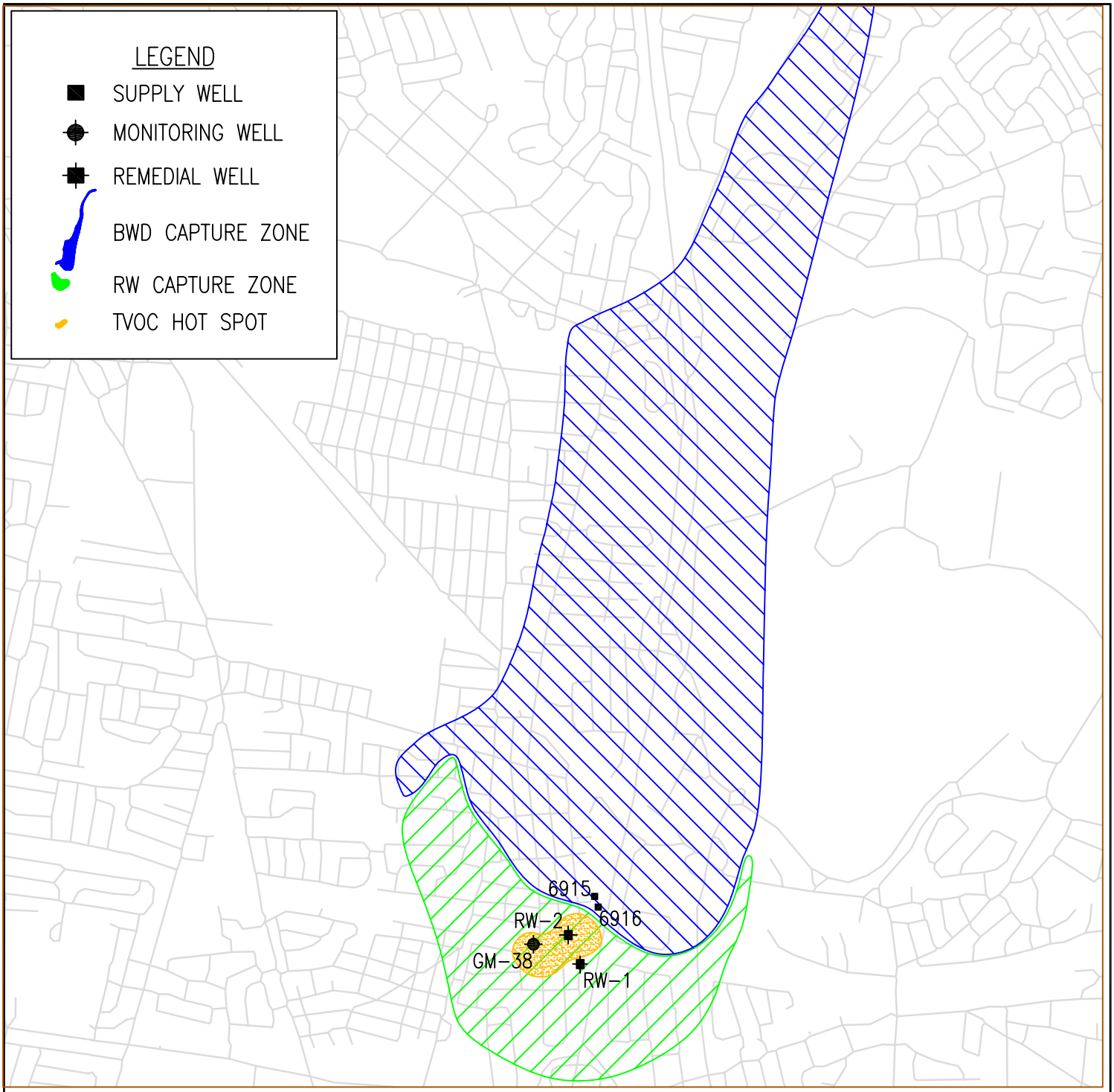

NOTES:

1. BETHPAGE WATER DISTRICT PLANT 4 WELLS (6915 AND 6916) ARE OPERATING AT THEIR PEAK PUMPING RATES.
2. GM–38 REMEDIAL WELLS (RW–1 AND RW–2) ARE OPERATING AT THEIR DESIGN RATES.

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PROJECT MANAGER	DEPARTMENT MANAGER	LEAD DESIGN PROF.	CHECKED BY
R. PORSCHE	N. VALKENBURG		R. PORSCHE
SHEET TITLE: TVOC HOT SPOT AND CAPTURE ZONES FOR THE BWD AND GM38 REMEDIAL WELLS IN MODEL LAYER 8		TASK/PHASE NUMBER 0001A	DRAWN BY E. HUGHES
		PROJECT NUMBER NY001416.0003	DRAWING NUMBER 11