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gannettfleming.com

February 4, 2022

Ms. Susan Bull
Eastern Region Supervisor, Oil Control Program
Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, MD 21230

**RE: Work Plan - Pilot Pumping System Shutdown
UMD Shore Regional Health Chester River Hospital
MDE Oil Control Program Case 87-2534-KE**

Dear Ms. Bull:

Gannett Fleming (GF), on behalf of University of Maryland Shore Regional Health (SRH), prepared this Work Plan that supersedes and replaces the previously submitted *Request to Discontinue Pumping and begin Post-Remedial Monitoring Program (3/18/21)* and all other correspondence related to the Pilot Shutdown. This version of the Work Plan incorporates feedback from the Town of Chestertown (Town) letter dated January 20, 2022, which was in response to the SRH Draft Work Plan dated January 7, 2022. This Work Plan is intended to replace all draft documents submitted to the Maryland Department of the Environment (MDE) and Town for input (since 2020) regarding system shutdown and post shutdown monitoring requirements. This comprehensive Work Plan includes feedback from the Town and MDE. We are requesting MDE approval to proceed with the Pilot Pumping System Shutdown on or about March 1, 2022.

It is understood that SRH, MDE, and the Town share the mutual goals of protecting the town's water supply, instilling public confidence, and reducing unnecessary costs to SRH. We believe the scope of this Work Plan meets these goals.

This Work Plan includes the following six sections:

- 1. Brief History of Groundwater Pumping System and Pilot System Shutdown Request**
- 2. System Shutdown Activities**
- 3. Pilot Shutdown Groundwater Sampling and Analysis Plan (SAP)**
- 4. Trigger Events and Contingency/Action Plans**
- 5. Schedule Overview**
- 6. Attachments**

1. Brief History of Groundwater Pumping System and Pilot System Shutdown Request

The following dates and documents provide a brief history of SRH's operation of the groundwater pumping system and SRH's request to MDE to shut down the system as a Pilot Test:

- May 1991 – Groundwater pumping system and Liquid Phase Hydrocarbons (LPH) recovery began.
- July 2012 – SRH was given approval for a trial shut down of the groundwater pumping system to assess whether the constituents of concern were sufficiently remediated. During this time, regular monitoring of Site wells continued.
- June 2013 - Routine monitoring detected a significant increase in dissolved-phase hydrocarbon concentrations and SRH notified the MDE that it was restarting the pumping system.
- June 2014 - With MDE approval, SRH implemented a pilot study to demonstrate the viability of a soil cleansing product known as Ivey-sol®, a surfactant injected into the subsurface. The pilot study demonstrated that the surfactant process could be performed safely and could effectively liberate and remove LPH.
- January 2015 – SRH submitted a Groundwater Remediation Pilot Test Evaluation Report and proposed an updated 2015 Corrective Action Plan (CAP). On July 22, 2015, MDE approved the revised CAP. Under the Approved CAP, SRH began the surfactant injection and extraction events in August 2015 and concluded them in March 2016.
- May 2016 - A Settlement Agreement and Consent Order (SACO) was executed between SRH and MDE. The SACO details regulatory requirements of SRH and provides direction for achieving case closure.
- June 2016 –A separate Agreement was executed between Town of Chestertown and SRH pertaining to remediation and long-term monitoring at the site.
- February 2020 – SRH Work Plan was submitted to MDE to shut down the pumping system and commence a “*Pilot Post-Remedial Monitoring Period*” (i.e., *Work Plan*).
- April 2020 - MDE issued a “*System Shut-down and Post-Remedial Monitoring Approval*” letter that approved SRH’s Work Plan and added additional monitoring requirements.
- June 2020 - MDE postponed their April 2020 system shutdown approval after the system was inadvertently off for a period without prior MDE approval.
- September 2020 – MDE issued a letter requiring Monitored Natural Attenuation (MNA) monitoring and MNA reporting for two quarters prior to starting the pilot system shutdown, in addition to other requirements.
- March 2021 – After two quarters of MNA monitoring and reporting the MNA results to MDE as required in the September 2020 MDE letter, as well as completing the previously required monitoring program, a SRH letter request was again submitted to MDE to shutdown the pumping system and begin the pilot post-remedial monitoring period.
- May 2021 – The Town sent a letter to MDE with fifteen (15) comments/questions in response to the March 2021 SRH pilot shutdown request. The Town letter also included a request to discuss the data and SRH’s analysis.
- June 2021 – SRH submitted Responses to the Town’s May 2021 Letter. This included an itemized response to each of the Town’s fifteen (15) comments/questions.
- September 29, 2021 – A virtual meeting was held with the Town, SRH, and MDE in attendance to discuss the pilot shutdown plan, Town comments, and SRH responses. During the meeting the Town discussed their concerns that the Work Plan lacked specific triggers and action plans relative to the pilot post-remedial period.
- November 5, 2021 – In response to the Town’s concerns aired during the September meeting, a “Draft” Work Plan Modification - Pilot Pumping System Shutdown document was submitted to MDE and to the Town for review.
- December 22, 2021 – An additional virtual meeting was held with the Town, SRH, and MDE to discuss the Draft Work Plan Modification document. The Town requested revisions to the

document as follows: 1) provide a timeframe and “date” for additional evaluations after the Pilot “trial” shutdown to review the data and discuss next steps with the Town and MDE, and 2) add specific actions relative to the requirement to “employ aggressive measures to prevent further migration of the subject constituents” if concentrations exceed Trigger levels at the sentinel wells.

- January 7, 2021 – A revised draft Work Plan Modification - Pilot Pumping System Shutdown Work Plan was submitted to the Town for comment and review.
- January 20, 2021 – The Town provided a letter to SRH with additional feedback and requested changes to the Work Plan.
- January 21, 2021 – During a technical review call, MDE provided additional feedback to GF on the draft Work Plan.

2. System Shutdown Activities

Upon MDE approval, the pumping system will be shut down and left on standby with the capability to restart the system within 10 days at MDE’s request. The following actions will be taken at the time of shutdown:

- Recovery well pumps will be removed from the wells, cleaned, and stored in the on-site pumping system shed for future use as needed.
- The system shed will be cleaned, drained of all fluids, and left in standby mode in the event a restart is required.
- The electrical disconnect will be locked out and tagged out.

The groundwater Sampling and Analysis Plan (SAP) for the Pilot is presented in the following section, which immediately commences after shutdown.

3. Pilot Shutdown Groundwater Sampling and Analysis Plan (SAP)

The SAP has been developed to comprehensively monitor groundwater and collect sufficient data over a six-month period in conjunction with the Pilot Pumping System Shutdown. This data will be used to evaluate LPH presence and occurrence, groundwater trends, ongoing MNA, as well as to evaluate if any relevant triggers/conditions (presented later in this document) exist that would necessitate further investigation, restarting the pumping system or other remedial approaches. The SAP will consist of the following monitoring activities to start immediately after shutting down the system:

Groundwater Water Table Elevation Measurements & LPH Monitoring

- Post Shutdown Recharge Gauging: After turning off the remediation system, all 55 wells will be gauged daily for five consecutive days to monitor the water table's return to pre-pumping levels.
- Monthly Gauging: After completion of the first week of gauging as described above, all 55 wells will be gauged once per month for 6 months.
- LPH Monitoring: If LPH is detected in any well during any gauging event, the thickness of LPH will be recorded and then LPH will be manually bailed from each well. MDE and the Town will be notified if > 0.01 feet of LPH is detected in a well south of Brown Street and >0.05 feet north of Brown Street. If after bailing, LPH recharges to a thickness that warrants evaluation of recoverability as per ITRC Guidelines, a baildown test will be performed in the well to assess recoverability. If recoverability analysis results are greater than ITRC Guidelines regarding Maximum Extent Practicable for removal of LPH, a Work Plan will be submitted to MDE to recover LPH.

Groundwater Sampling & Laboratory Analysis

- Monthly groundwater sampling will be performed at 20 wells listed below during the 6-month post-shutdown monitoring period.
- Quarterly groundwater sampling of all 55 monitoring, recovery, and sentinel wells will be performed.

All groundwater samples will be collected using low-flow methods. At each well, an electric well pump will be temporarily installed at the approximate mid-point of the saturated screened interval and a pump controller will be used to limit flow such that drawdown does not exceed 0.3-foot. Groundwater will be pumped into a flow-through cell and a calibrated YSI or Horiba (or similar) will be used to monitor temperature, specific conductivity, pH, oxidation reduction potential (ORP), dissolved oxygen (DO), and turbidity at approximate 5-minute intervals. Samples will be collected only after stabilization is indicated by three consecutive measurements not exceeding the following limits: 3% change in temperature, 3% change in specific conductivity, ± 0.1 pH, ± 10 mv ORP, 10% change in DO, and 10% change in turbidity.

The following presents the SAP details for groundwater sampling, analysis, and reporting.

TABLE 1. Sampling and Analysis Plan (SAP) Summary

Task	Frequency	MW Locations	Duration (Events)	Analysis	Reporting
Monthly GW Sampling	Monthly	20 wells*	6-months (4 events)	<ul style="list-style-type: none"> ▪ TPH-DRO** ▪ Full VOCs w/oxygenates ▪ Naphthalene ▪ Dissolved Oxygen ▪ Nitrate (field) ▪ Nitrate (lab - 10% samples) ▪ Soluble iron (field) ▪ pH (field) ▪ ORP (field) ▪ Temperature (field) 	Monthly Email with data summary to MDE and Town
Quarterly GW Sampling	Quarterly	All 55 site wells	Quarterly (Ongoing)	<ul style="list-style-type: none"> ▪ TPH-DRO** ▪ Full VOCs w/oxygenates ▪ Naphthalene ▪ Dissolved Oxygen ▪ Nitrate (field) ▪ Nitrate (lab - 10% of samples) ▪ Soluble iron (field) ▪ pH (field) ▪ ORP (field) ▪ Temperature (field) 	Routine Quarterly Monitoring Reports (QMR)
<p>*20 wells: MW-9, MW-10R, MW-11, MW-13, MW-14, MW-15, MW-16, MW-19, MW-20, MW-24, MW-33, MW-34, MW-35, MW-37, MW-48, MW-49, MW-50, MW-51, MW-54, and MW-56</p> <p>**TPH-DRO: Sampling of all wells for TPH-DRO and 15 wells: MW-9, MW-10R, MW-11, MW-13, MW-14, MW-20, MW-37, MW-41, MW-43, MW-45, MW-46, MW-47, MW-51, MW-53, and MW-54, for TPH-DRO <u>using both</u> EPA Method 8015 without Silica Gel Cleanup and method 8015 with the Silica Gel Cleanup (SGC) preparation method by EPA Method 3630.</p>					

An Isocontour map titled “**Figure 1 – TPH-DRO Concentrations in Groundwater (October 2021)**” is attached to this letter for reference. The pilot shutdown process is depicted as a timeline and flow chart in the attached **Figure 2: Pilot System Shutdown Process and Timeline**.

4. Trigger Events and Contingency/Action Plans

In response to the concerns discussed at the September 29, 2021, and December 22, 2021 meetings with the Town, as well as the January 20, 2022 letter (**Attachment A**) from the Town, SRH prepared the following summary of important and relevant triggers/conditions and action plans for the pilot pumping system shutdown. Most triggering events/condition and action plans presented in **Table 1** below are existing requirements taken from existing documents, including the MDE SACO of May 2016 (**Attachment B**) and the Town Agreement (TA) of June 2016 (**Attachment C**).

We are proposing modifications to action plans as described below and, in the spirit of cooperation and compromise, we are proposing a new, “Early Warning Condition” and action plan in this document for approval by MDE and the Town.

TABLE 2. SUMMARY OF TRIGGERS AND ACTION PLANS

#	Triggering Event/Condition	Contingency/Action Plan	Document
1.	MDE instructs SRH to restart the Pumping System. MDE has this right at any time.	SRH will restart the system within 10 days	SACO paragraph 42
2.	Groundwater concentrations exceeding 0.47 mg/L TPH-DRO or 0.0017 mg/L Naphthalene (Trigger Levels) in any of the seven (7) Sentinel Wells: S-1, S-2, S-3, MW-18, MW-23, MW-28, MW-29.	SRH will employ aggressive measures to prevent further migration of the subject constituents. Aggressive measures could include mobilizing a system to cutoff migration of dissolved phase hydrocarbons. This could include a mobile pumping system or other methods approved by MDE.	TA section 6
		The 3 years sampling period will restart	TA section 3
		SRH will restart the existing groundwater containment system.	New Action Proposed in this Document
3.	Detection of any Contaminants of Concern above Trigger Levels in an active Town production well.	SRH is obligated to indemnify and hold harmless the Town for all costs and remedial actions necessary to ensure the production and delivery of safe drinking water by the Town.	TA section 5
4.*	LPH > 0.01 ft in any well south of Brown St.	Report to MDE within 2-hours. Bail/recover LPH. If after bailing LPH recharges, a recoverability analysis will be performed as applicable per ITRC Guidelines. If Recoverability is greater than ITRC Guidelines, submit a revised Work Plan to recover LPH. If LPH does not recharge, recoverability data will not be analyzed, and the well will be gauged & bailed again each month.	Modified actions proposed in this document.

5.*	LPH > 0.05 ft in any well north of Brown St.	Report to MDE within 2-hours if detected >0.05 ft for three consecutive events. Bail/recover LPH. If after bailing LPH recharges a recoverability analysis will be performed as applicable per ITRC Guidelines. If Recoverability is greater than ITRC Guidelines, submit a revised Work Plan to recover LPH. If LPH is does not recharge, recoverability data will not be analyzed, and the well will be gauged & bailed again each month.	Modified actions proposed in this document.
6.*	Groundwater concentrations exceeding 1 mg/L TPH-DRO or 0.017 mg/L Naphthalene in “all” of the following 6 wells for 3 consecutive quarterly sampling events: MW-24, MW-16, MW-50, MW-49, MW-15, MW-17.	If Trigger exceeded, resample within 1 week. If resample exceeds trigger result, exceedance is confirmed and action is required. If resample does not exceed on 2nd event (resulting in one sample above trigger and one below), a 3rd resample will occur within 1 week. If trigger is confirmed, submit a Site Investigation Work Plan within 30 days, which could include borings, new wells, and or other work. Restart the pumping system	New “Early Warning Condition” and new action plan proposed in this document.

The modifications proposed to action plans for numbers 4 and 5 in Table 1 are consistent with current ITRC technical guidance for removal of free product to the maximum extent practicable, as is required by MDE regulations. The new early warning condition proposed in number 6 above ensures that action will be taken before Trigger Levels defined in the Town Agreement are potentially exceeded at the Sentinel wells.

If no trigger events occur during the 6-month pilot, MDE will review the data to determine whether the project may move to the post-remedial monitoring required under the SACO.

5. Schedule Overview

The schedule milestones below assumes an 8-month timeline:

- Assume Shutdown occurs in March 2022.
- A 90-day data review will be scheduled with the MDE and Town in June 2022.
- The 6-month pilot will be complete in August 2022 and the system will remain off at that time pending additional MDE feedback unless a trigger and need for action occurs.
- A Pilot Shutdown Summary report will be submitted in September 2022 and a meeting with the MDE and Town will be held October 2022.

A detailed list of activities each month is provided below.

TABLE 2. 2022 Pilot Pumping System Shutdown – Monthly Activities

March 2022*	April 2022	May 2022	June 2022
System shutdown 1-week well gauging *20 wells* sampling Evaluate triggers *Email* data report	Monthly well gauging *20 wells* sampling Evaluate triggers *Email* data report 1 st QTR QMR Report	Monthly well gauging All site well sampling Evaluate triggers *Email* data report	Monthly well gauging Evaluate triggers *20 wells* sampling *Email* data report 90-day data review Meeting with MDE and Town
<i>March 2022* - 1st Quarter 2022 Groundwater will occur in week of 2/21/22 prior to system shutdown</i> <i>*Email* - data summary to be sent monthly to MDE and Town.</i>			
July 2022	August 2022	September 2022	October 2022
Monthly well gauging *20 wells* sampling Evaluate triggers *Email* data report 2 nd QTR QMR Report	Monthly well gauging All site well sampling Evaluate triggers *Email* data report Six-month pilot complete	Data evaluation Evaluate triggers Pilot Summary Report Pumping system to remain off pending MDE.	3 rd QTR QMR Report Meeting with MDE and Town
<i>*20 wells*: MW-9, MW-10R, MW-11, MW-13, MW-14, MW-15, MW-16, MW-19, MW-20, MW-24, MW-33, MW-34, MW-35, MW-37, MW-48, MW-49, MW-50, MW-51, MW-54, and MW-56</i>			

This Work Plan and activities presented herein are intended for a 6-month period after system shutdown. Upon completion of the Pilot Pumping System Shutdown a summary report will be submitted to MDE. We greatly appreciate your consideration of this request and look forward to your response. Should you have questions, please do not hesitate to contact us.

Sincerely,
GANNETT FLEMING, INC.



Steve Slatnick
 Senior Project Manager



Ken Guttman, PE, PMP
 Principal Engineer

cc: A. Miller (MDE), C. Ralston (MDE) K. Kozel (Shore Health), M. Powell, W. Ingersoll, Mayor Foster
 Attachments:

Figure 1 – TPH-DRO Concentrations in Groundwater (October 2021)

Figure 2 - Pilot System Shutdown Process Flow Chart and Timeline

Attachment A - Town Letter January 20, 2022

Attachment B - MDE Settlement Agreement and Consent Order (SACO) of May 2016

Attachment C - Town Agreement (TA) of June 2016.



Remediation Building

ROBERTS DRIVE

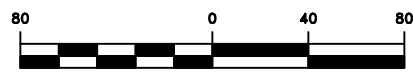
RIVERSIDE STREET

CAMPUS AVENUE

BYFORD DR

BROWN STREET

2013 ADDITION



GRAPHIC SCALE (FEET)

LEGEND

MW-40 ●
RW-3B ☐

MONITORING WELL
RECOVERY WELL

— 1 —
3.4
ND

TPH-DRO CONCENTRATION
CONTOUR (mg/L)
TPH-DRO CONCENTRATION (mg/L)
NOT DETECTED AT OR ABOVE THE
LABORATORY REPORTING LIMIT OF
0.1 mg/L

FIGURES EXCLUDES ABANDONED
RECOVERY AND MONITORING WELL
LOCATIONS. MONITORING WELL
MW-22 IS A RECOVERY WELL.

RECOVERY WELL TPH-DRO
CONCENTRATIONS WERE NOT
CONSIDERED IN CONTOURING

DESIGNED BY: DHK
DRAWN BY: JAO
CHECKED BY: BRC

CHESTER RIVER HOSPITAL
CENTER
QUARTERLY REPORT - Q4 2021
CHESTERTOWN, MD

FIGURE 8
TPH-DRO CONCENTRATIONS IN
GROUNDWATER (OCTOBER 2021)

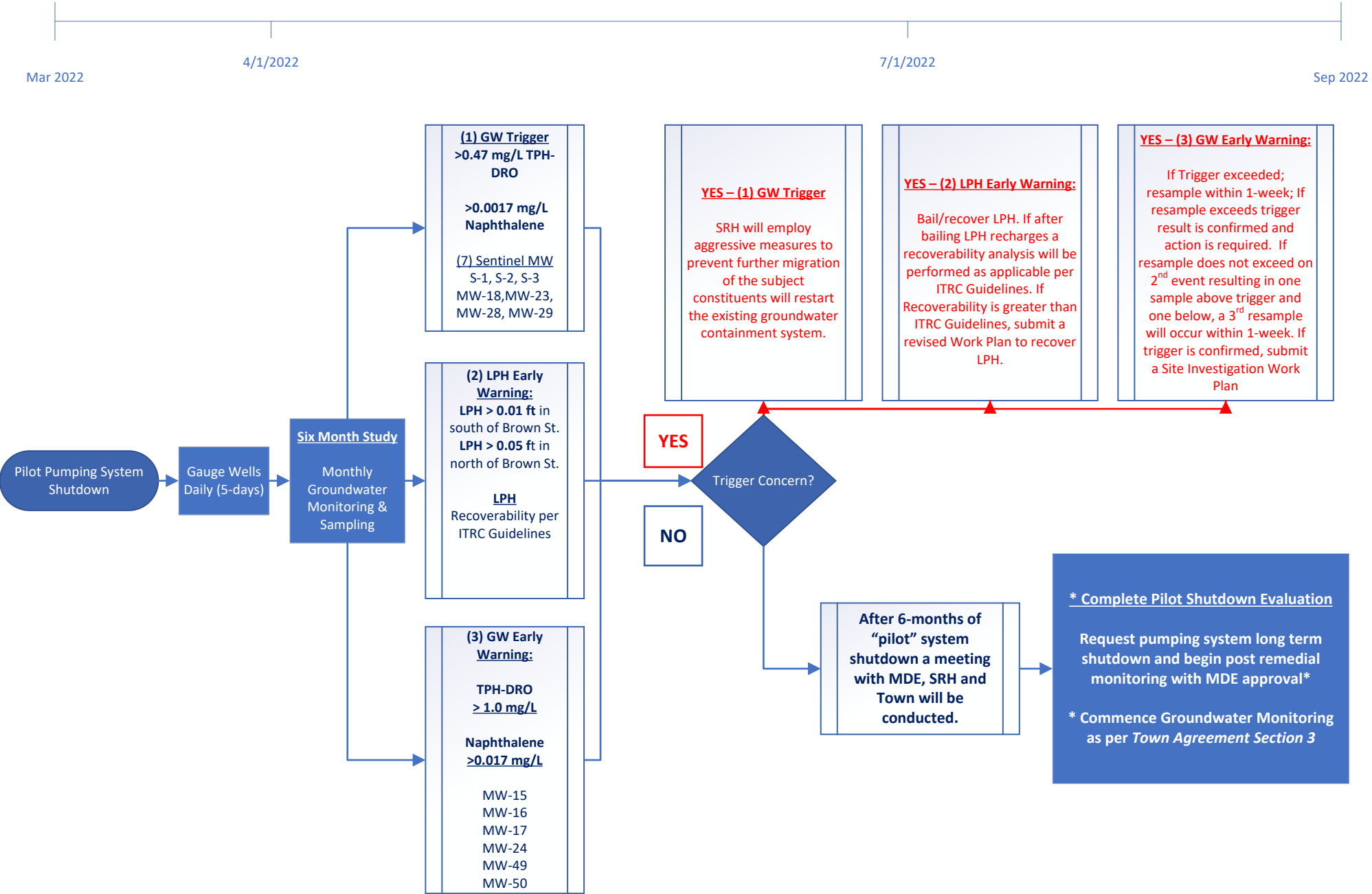


Gannett Fleming
BALTIMORE, MARYLAND

7133 RUTHERFORD ROAD, SUITE 300
BALTIMORE, MARYLAND 21244

TW-6 ●

Figure 2: Shore Regional Health Conceptual Trial Pilot System Shutdown Study Process Flow



Appendix A

Town Letter January 20, 2022

Town of Chestertown



118 N. Cross Street, Chestertown, MD 21620
tel: 410-778-0500 fax: 410-778-4378
email: office@chestertown.com
url: www.townofchestertown.com

Mayor
David Foster
Council
Samuel T. Shoge
Thomas A. Herz, Jr.
Rev. Ellsworth Tolliver
Meghan E. Efland
Town Manager
William S. Ingersoll

January 20, 2022

Ken Koziel
Chief Executive Officer
Maryland Shore Regional Health
219 S. Washington Street
Easton, MD 21601

Re: DRAFT Post-Remedial Pilot Work Plan

Dear Ken:

The Town of Chestertown (Town) appreciated Maryland Shore Regional Health's (Hospital) and the Maryland Department of the Environment (MDE) Oil Control Program's (OCP) participation in a zoom call on December 22, 2021, to discuss the Hospital's draft Pilot Post-Remedial Monitoring Proposed Work Plan (Pilot Plan), prepared by Gannett Fleming, the consultant for the Hospital. The Town recognizes the Hospital's urgency in finalizing its proposal, but the Pilot Plan must include safeguards adequate to protect the Town's water supply and restore the public's confidence in this process.

In response to your request that the Town submit the changes that we would require in any Pilot Shutdown Plan, we offer the following:

- 1) There must be a fully agreed upon trigger or detection level for TPH-DRO concentrations that offers protection for the Town's water supply. The trigger of 4.7 mg/l - proposed both in TABLE 1. Item # 7. and in Exhibit B (3) GW Early Warning - is not acceptable because it is roughly five times the 1 ppm TPH-DRO detection level expressly identified in Section 41 of the 2016 Settlement Agreement Consent Order (SACO) between the Hospital and MDE. The approach reflected in Table 1 of the Work Plan confuses the respective roles of the *1 ppm detection level in Section 41 of the SACO* and that of the *0.47 mg/l detection level cited in Section 3(c) of the 2016 Agreement* between the Town and the Hospital. Under Section 41 of the SACO, reaching the 1 ppm level was – and remains – the prerequisite that would allow the Hospital to submit to MDE “a request to turn off the pump and treat system and begin post-remedial monitoring.” By contrast, the 4.7 mg/l level cited in the Section 3(c) of the Town-Hospital Agreement appears within the provisions establishing sampling requirements and is unrelated to a scenario in which the pump and treat system is turned off. Instead, Section 3(c) establishes 4.7 mg/l (along with

0.0017 mg/l for naphthalene) as detection levels, which if exceeded would trigger a restart of the 3-year sampling period referenced in the Agreement until such a 3-year period yielded results below the detection levels. It is evident from the provisions of the two agreements that contaminant levels below 4.7 mg/l but above 1 ppm were not intended to allow for the creation of a “safe harbor” zone in a shut-off scenario such that no restart of the system would be required unless detection levels rose *above* 4.7. Instead, achieving the 1 ppm level was required *before* MDE would entertain a request to shut off the pump and treat system. That the shut-down proposed now is a “pilot plan” with action triggers - including the actions set out in Table 1 of the proposed Plan - does not change the conclusion that the role of the 4.7 mg/l “trigger” does not square with SACO Section 41 and would silently amend it. Despite the forgoing (and the fact that the Quarterly Report, Q4 2021, already shows at least 6 exceedances of the 1 ppm standard near Brown Street), the Town will consider going forward with the Post-Remedial Pilot Work Plan provided our other conditions are met. This one-time exception to the SACO requirement is in recognition of the greater transparency now provided by Gannett Fleming. Note that the exception will require an enforceable trigger of 1 ppm TPH-DRO for purposes of Table 1, Item #7, and Exhibit B (3) GW Early Warning, in the proposed flow chart and will require that the Hospital adequately addresses our other concerns listed below.

- 2) The trigger (or detection level established in #1 above) must be incorporated in the flow chart and in the overall Work Plan. There must also be a specific provision that more than one exceedance incident will necessitate prompt notification of OCP and the Town. It will also require the convening of an immediate meeting of the Hospital, the Town, and OCP to address the exceedance, including the need for a restart of the pump and treat system (or installation of a new pump and treat system at a location designed to control any movement of the plume).
- 3) The Pilot Plan must provide that sampling, monitoring, and evaluating TPH-DRO data that will rely on EPA’s Method 8015 and not on silica gel sampling methodology.
- 4) In order to ensure accurate groundwater trend analyses during the Pilot, the Town requests a baseline not influenced by events that spike higher TPH-DRO detection levels. The 5-year baseline used by Gannett Fleming in their recent Mann Kendall statistical analysis may have been compromised by the Ivy-Sol push-pull technology (Ivy Sol) implemented at that time. According to the Ivy Sol Workplan (dated January 19, 2015) the Ivy Sol surfactant technology liberated absorbed material from the vadose (smear) zone into the groundwater. Given the likelihood of having a high detection level of TPH-DRO in a 5-year baseline there will also be a greater likelihood for inaccurate observations showing decreasing trends in the groundwater statistical analysis. The Town requests that OCP and/or Gannett Fleming consider a 2-year baseline for the Mann-Kendall Statistical Analysis to evaluate groundwater trends in the Pilot Plan.
- 5) The approved Pilot Plan should include a review period and a joint meeting among the Hospital, the Town, and OCP to analyze data and the ongoing activities after the shut-down of the pump and treat system has been in effect for 90 days. Such a meeting will cover data and ongoing activities and will ensure an opportunity to modify the Pilot Plan as needed.

A second meeting among the parties would be convened after the first 180 days of shutdown to assess all the data collected in that six-month period and to discuss the remediation status, that will inform the next steps. The meetings at the 90-day and 180-day points would not supersede the requirement for any meetings that may be convened under #2, above, unless all parties agree otherwise.

Lastly, the Town would like to express its uneasiness, with Gannett Fleming's recent statement that LPH has not been detected since well redevelopment activities. Such a statement contradicts data from June 24, 2021, September 23, 2021, and October 7, 2021, cited in Gannett Fleming's Quarterly Reports. Weathered Liquid Phase hydrocarbons (LPH) sheens were observed (RW-3B, RW-2D) and photos of measurable LPH (pages 275-276) are depicted in the most recent (December 2021) Quarterly Report . LPH detection and observations are an ongoing concern for all involved and must not be marginalized based on 6 weeks of observations.

Thank you for the opportunity to review the Hospital's Draft Pilot Plan, as modified. The Town looks forward to collaborating with Maryland Shore Regional Health and OCP in developing a Pilot Post-Remedial Monitoring Work Plan that will help achieve our three-fold goal of protecting our municipal water supply, restoring public confidence, and reducing the Hospital's costs of cleanup.

Sincerely,

A handwritten signature in cursive script, appearing to read "David Foster".

David Foster, Mayor

Enclosure

cc: Michael Powell
Chris Ralston
Susan Bull
Andrew Miller
Kenneth Guttman
Steve Slatnick
Bill Ingersoll
Bob Sipes
Michael Forlini
Bethami Auerbach

TPH-DRO Concentrations in milligrams/l down gradient from the Hospital in Chestertown

	MW3	MW37	MW9	MW22	RW4	MW43	MW53	MW10R	MW41	RW5	MW54	RW20	MW14	MW47	MW46	MW13	MW45	MW20	MW28	MW46	MW2
Mar-16	< 1	< 1	> 1	< 1	< 1	< 1	NA	< 1	> 1	< 1	NA	ND	> 1	> 1	> 1	< 1	> 1	< 1	NA	> 1	> 1
Jul-21	0.17	0.24	ND	ND	0.2	2.1	0.11	0.18	0.41	0.34	3.2	0.13	0.21	0.2	0.56	3	3.1	1.8	ND	0.56	ND
Oct-21	ND	0.2	0.13	0.11	0.2	1.4	ND	ND	ND	0.59	3.7	0.1	0.58	0.67	1.2	5.2	3.1	2.2	0.1	ND	ND
CHANGE	-0.17	-0.02	0.13	0.11	-0	-0.7	-0.11	-0.18	-0.41	0.25	0.5	-0.03	0.37	0.47	0.64	2.2	0	0.4	0.1	0.56	ND
	D	D	D&U	D&U	NC	D	D	D	D	U	U	D	D&U	D&U	D&U	U	?	U	U	D&U	D

LEGEND:



- > 1 In 2016
- < 1 In 2016
- ND In 2016
- NA In 2016
- ND Not Detectable
- NA Not Available
- NC No Change

Appendix B

MDE Settlement Agreement and Consent Order (SACO) of May 2016

**THE STATE OF MARYLAND
DEPARTMENT OF THE
ENVIRONMENT**

v.

**UNIVERSITY OF MARYLAND
SHORE REGIONAL HEALTH
100 Brown Street
Chestertown, MD**

**: LAND MANAGEMENT
: ADMINISTRATION
: 1800 Washington Blvd
: Baltimore, Maryland 21230**

**:
:
: MDE CASE NO: 1987-2534-KE
: FACILITY ID NO: 3168
:
:
:**

SETTLEMENT AGREEMENT AND CONSENT ORDER

This Settlement Agreement and Consent Order (“Consent Order”) is entered into by and between the State of Maryland, Department of the Environment (the “Department”) and the University of Maryland Shore Regional Health (“the Hospital”) (together, the “Parties”).

WHEREAS, pursuant to its powers, duties, and responsibilities vested in the Secretary of the Environment by § 1-301, § 1-404, §§ 4-401 through 4-708 of the Environment Article of the Annotated Code of Maryland and in the Code of Maryland Regulations 26.10.01 through 26.10.15, and delegated to the Director of the Land Management Administration, the Department has conducted and continues to conduct a thorough review of the remediation of a discharge of oil at the Hospital facility located at 100 Brown Street, Chestertown, in Kent County, Maryland and detected in approximately 1989.

WHEREAS, the Hospital is an acute care community hospital within the University of Maryland Medical System.

WHEREAS, Kenneth D. Kozel is the President and Chief Executive Officer of the University of Maryland Shore Regional Health, and he has the authority to bind the Hospital.

WHEREAS, the Hospital is the owner and operator of a 10,000 gallon underground storage tank (“UST”) that is used to store fuel oil for the Hospital facility.

WHEREAS, the Department and the Hospital agree that settlement of this matter is in the public interest, and that entry of this Consent Order without further litigation is the most appropriate means of resolving this matter.

LEGAL AUTHORITIES

WHEREAS, as the owner and operator of USTs in the State of Maryland, the Hospital is subject to federal and State laws and regulations governing oil-related facilities, activities, and pollution, that include, but are not limited to, the following:

A. The Department's Authority

1. The State of Maryland, Department of the Environment is responsible for administering and enforcing State laws regarding USTs, oil-related facilities, and oil-related activities, and oil pollution in and on the land and waters of the State. The Department's statutory authority is set forth in § 1-301, § 1-404, §§ 4-401 through 4-708 of the Environment Article of the Annotated Code of Maryland ("Environment Article"). Pursuant to its statutory powers, duties, and responsibilities, the Department adopts regulations addressing the methods, standards and devices for storage of oil to prevent pollution of the waters of the State. Section 4-405 of the Environment Article. The Department's implementing regulations, including those for oil pollution and UST management, are codified in the Code of Maryland Regulations ("COMAR") 26.10.01 through 26.10.15.

2. The Department investigates releases of oil to determine the nature and extent of the environmental damage, determines the cause and source of the release, and requires repair of damage and restoration of water resources to a degree necessary to protect the best interest of the public. Section 4-405 of the Environment Article.

3. The Department is empowered to issue orders to persons responsible for discharging oil to take corrective action to mitigate the effects of the pollution and restore the natural resources. Sections 4-

412(a)(i), 4-415 of the Environment Article.

4. Where there has been a release of oil that may impact groundwater resources, in executing its mandated responsibilities, the Department may order or take any actions authorized by §§ 4-401 through 4-708 of the Environment Article and COMAR 26.10.01 through 26.10.15 that include, but are not limited to, investigation of the source, nature, and extent of the release; source repair or removal; and soil and/or water removal, remediation, sampling, and evaluation.

5. The Department enforces violations of Title 4, Subtitle 4, violations of rules and regulations adopted under Title 4, Subtitle 4, and violations of orders and permits issued under Title 4, Subtitle 4 by application of the various provisions concerning civil, administrative, and criminal enforcement actions, corrective orders and injunctive relief, and damages, fees, fines, and penalties located throughout Title 4, Subtitles 4 through 7 of the Environment Article and COMAR 26.10.01 through 26.10.15.

6. The Department may obtain monetary and criminal penalties from persons responsible for the discharge of petroleum products. Sections 4-417, 4-418, 4-501 of the Environment Article.

7. After considering certain statutorily-enumerated factors, the Secretary of the Department, may impose an administrative civil penalty of up to \$10,000 for each day a person violates any provision of Title 4, Subtitle 4, or any rule, regulation, order or permit adopted or issued under Subtitle 4, not to exceed a total maximum penalty of \$100,000. Section 4-417(d) of the Environment Article. The Department also may file civil actions for the same types of violations and can seek penalties up to \$25,000 per violation, without limitation, with each day upon which a violation occurs constituting a separate offense. Section 4-417(a) of the Environment Article.

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B. Definitions

8. “‘Oil, petroleum products, and their by-products’ means oil of any kind and in liquid form including, but not limited to, petroleum, fuel oil, sludge, oil refuse, oil mixed with other waste, crude oils, and every other nonedible liquid hydrocarbon regardless of specific gravity. Oil includes aviation fuel, gasoline, kerosene, light and heavy fuel oils, diesel motor fuels, asphalt, and crude oils, but does not include liquefied petroleum gases, such as liquefied propane, or any edible oils.” COMAR 26.10.01.01B(14); § 4-401(h) of the Environment Article. “Oil” also includes oil mixed with or added to or otherwise contaminating soil, waste, or any other liquid or solid media. Section 4-401(h) of the Environment Article. Oil is a “regulated substance”. COMAR 26.10.02.04B(50)(b).

9. “‘Waters of the State’ includes both surface and underground waters within the boundaries of the State subject to its jurisdiction, including that portion of the Atlantic Ocean within the boundaries of the State, the Chesapeake Bay and its tributaries, and all ponds, lakes, rivers, streams, public ditches, tax ditches, and public drainage systems within the State, other than those designed and used to collect, convey, or dispose of sanitary sewage. The flood plain of free-flowing waters determined by the Department on the basis of the 100-year flood frequency is included as waters of the State.” COMAR 26.10.01.01B(4); § 4-101.1(d) of the Environment Article.

10. “Discharge” means “the addition, introduction, leaking, spilling, or emitting any oil to State waters or the placing of any oil in a location where it is likely to reach State waters.” Section 4-401(d) of the Environment Article; COMAR 26.10.01.01B(7).

11. “‘Underground storage tank (UST)’ means any one or combination of tanks, including underground pipes connected to the tank, and the volume of which, including the volume of underground pipes connected to it, is 10 percent or more beneath the surface of the ground.” COMAR 26.10.02.04B(64).

12. “‘UST system’ or ‘tank system’ means an underground storage tank, connected underground piping, underground ancillary equipment, and containment system, if any.” COMAR 26.10.02.04B(66).

13. “Petroleum UST system” means an UST system that contains petroleum, motor fuels, jet fuels, distillate fuel oils, residual fuel oils, heating oils, lubricants, petroleum solvents, and used oils. COMAR 26.10.02.04B(46).

14. “Owner” includes a person either who owns an oil storage facility or UST system, or both, used for storage, use, or dispensing of regulated substances, or who owned the UST system immediately before the discontinuation of its use. COMAR 26.10.02.04B(42).

15. “Operator” means “a person in control of, or having responsibility for, the daily and periodic operation, or the repair, maintenance, closure, testing, or installation, of the UST system.” COMAR 26.10.02.04B(40).

C. It is Unlawful to Discharge Oil Into Waters of the State.

16. It is unlawful for any person to discharge or allow the discharge of oil into or on any waters of the State of Maryland, except in the case of an emergency imperiling life or property, unavoidable accident, collision, or stranding, or pursuant to a permit. Section 4-410(a) of the Environment Article. A person “may not pump, discharge, spill, throw, drain, deposit, or cause to be deposited, oil or other matter containing oil, into, near, or in an area likely to pollute waters of the State.” COMAR 26.10.01.02A, 26.10.02.01A.

17. Persons responsible for the discharge of oil (“Responsible Party or Responsible Parties”) include (1) the owner of the discharged oil; (2) the owner, operator or person-in-charge of the oil storage facility, vessel, barge or vehicle involved in the discharge at the time of or immediately before the discharge; and (3) any other person who caused the discharge. Section 4-401(j)(1) of the

Environment Article; COMAR 26.10.02.01C, 26.10.02.04B(45).

D. Duties of a Responsible Party

18. Report the Discharge: Any person involved in the discharge or spillage of oil shall report the incident to the Department within two hours. Section 4-410 of the Environment Article; COMAR 26.10.01.03; 26.10.08.04

19. Site Remediation: A responsible party must “immediately clean up and abate the effects of the spillage and restore the natural resources of the State.” Section 4-405(c) of the Environment Article. “Responsibility for the prompt control, containment and removal of any released regulated substance shall be with the person responsible for the discharge, the owner of the property, the owner of the regulated substance, the owner and operator of the storage system, and the person-in-charge of the facility, vessel, or vehicle involved in the release.” COMAR 26.10.02.01C; 26.10.08.04.

20. Investigation: “In order to determine the full extent and location of soils contaminated by the release and the presence and concentrations of dissolved product contamination in the groundwater, owners, operators, and other responsible parties shall conduct investigations of the release, the release site, and the surrounding area potentially affected by the release if any of the following conditions exist: (1) there is evidence that groundwater wells have been affected by the release; (2) free product is present; (3) there is evidence that contaminated soils may contaminate groundwater; and (4) the Department requests an investigation, based on the potential effects of contaminated soil or groundwater on nearby surface water and groundwater resources.” COMAR 26.10.09.06A.

21. “Owners, operators, and other responsible parties shall submit information collected under [COMAR 26.10.09.06A] as soon as practicable but not later than 60 days after confirmation of the discharge or in accordance with a schedule established by the Department.” COMAR 26.10.09.06B.

22. Response Plans for Release Sites: “The Department may require owners, operators, and

other responsible parties to submit additional information or to develop and submit a corrective action plan for responding to contaminated soil and groundwater. If a plan is required owners, operators and other responsible parties shall submit the plan according to a schedule and format established by the Department. Additionally, owners, operators, and other responsible parties may, after fulfilling the requirements of [COMAR 26.10.09.02 – .04] be required to submit a corrective action plan (“CAP”) for responding to contaminated soil and groundwater. In either case, owners, operators, and other responsible parties are responsible for submitting a plan that provides for adequate protection of human health and the environment as determined by the Department, and shall modify [the] plan as necessary to meet this standard.” COMAR 26.10.09.07.

23. “Remediation activities shall continue until removal of the released regulated substance has been accomplished to the satisfaction of the Department.” COMAR 26.10.09.07E.

24. Additional definitions and provisions pertinent to oil control statutes and/or regulations can be found throughout §§ 4-401 through 4-708 of the Environment Article and COMAR 26.10, and they are incorporated by reference herein to the extent they relate to the subject matter of this Consent Order.

STATEMENT OF FACTS

WHEREAS, the Department has investigated the Hospital facility at 100 Brown Street, Chestertown, Maryland (“the Site”) and has made findings that include, but are not limited to, the following:

25. On or about June 1987, the Department was notified of tank test failures for a 1,000-gallon #2 heating oil UST and a 10,000-gallon #2 heating oil UST servicing the Hospital. In 1989, monitoring wells were installed, and testing of those wells revealed that oil had impacted groundwater on-Site.

26. The Department determined that the Hospital was a responsible party for the discharge of

oil at the Site, and the Hospital has not disputed this determination. The Department case file number for this discharge of oil at the Site is: 1987-2534-KE.

27. Since discovery of the release, the Hospital has cooperated with the Department in the remediation of the Site. In May of 1991, the Hospital installed a groundwater remediation system to recover liquid phase heating oil from the subsurface and contain the dissolved product plume on the Site.

28. By July 1999, a total of 66,287 gallons of oil had been recovered. Also in 1999, three groundwater recovery wells were replaced (RW-1, RW-2, and RW-3). In 2001 and 2002, the groundwater treatment system was upgraded to address a significant decrease in product recovery per month. The upgrades included additional recovery and monitoring wells and new product recovery pumps. By March 2012, approximately 83,428 gallons of liquid heating oil had been recovered.

29. In July 2012, the Hospital was given approval for a trial pump and treat system shutdown to assess whether constituents of concern (e.g. liquid phase hydrocarbons (“LPH”) and total petroleum hydrocarbons and diesel range organics (“TPH-DRO”)) were remediated sufficiently to be protective of public health and the environment in the absence of the groundwater recovery. During this time, regular monitoring of site wells continued on a monthly schedule.

30. In June 2013, the routine monitoring detected an increase in contamination levels and the Hospital notified the Department that it was restarting the pump and treat system.

31. With Department approval, in 2014, the Hospital implemented a pilot study to demonstrate the viability of a soil cleansing product known as Ivey-Sol[®] (“surfactant”) to safely liberate sorbed residual hydrocarbons from soils in the subsurface to prevent further contamination. The pilot study demonstrated that the surfactant process could be done safely and could be effective in liberating and removing sorbed residual hydrocarbons.

32. In January 2015, the Hospital submitted a Groundwater Remediation Pilot Test Evaluation Report and Proposed 2015 Action Plan. By letter from the Department to the Hospital dated July 22, 2015, the Department approved the 2015 Action Plan, as modified by letter from H&B Solutions, LLC to the Department dated April 24, 2015 (collectively, the “Approved CAP”).

33. Under the Approved CAP, the Hospital began the surfactant injection and extraction events in August 2015. The surfactant injection and extraction events were concluded in March 2016.

34. The Hospital continues to operate the pump and treat system while it collects groundwater samples and conducts routine monitoring of site conditions to confirm the effectiveness of the site remediation efforts.

WHEREAS, as of the effective date of the execution of this Consent Order, the data collected from the Hospital’s work performed at the Site demonstrates a decreasing trend in the concentrations of dissolved phase petroleum constituents within the majority of the monitoring well network and has continued to demonstrate no detections of dissolved phase petroleum constituents in the wells down gradient from the original release and at the Hospital’s property line.

WHEREAS, the Hospital and the Department wish to address the investigation and remediation of oil contamination at and from the Site, on the terms set forth herein.

WHEREAS, the mutual objectives of the Hospital and the Department in entering into this Consent Order are to provide for and achieve compliance at the Site with Title 4, Subtitles 4 through 7 of the Environment Article and the implementing COMAR regulations and to achieve restoration of the natural resources in a manner and degree that protects public health and the environment.

WHEREAS, the Hospital and the Department are entering into this Consent Order to address the investigation and remediation of oil contamination at and from the Site without the expense and inconvenience of litigation and without the admission, imposition, or adjudication of liability or guilt.

NOW THEREFORE, in consideration of the foregoing and the mutual agreements set forth herein, the following provisions are hereby **AGREED** and **CONSENTED** to by and between the Hospital and the Department:

WORK TO BE PERFORMED

35. The Hospital shall implement the Approved CAP in accordance with its terms, including any amendments thereto.

36. Any subsequent amendments to the Approved CAP must be in writing and executed by both parties.

37. Parties may choose to address Minor Technical Modifications to the Approved CAP in accordance with the “Minor Technical Modifications” provisions of this Consent Order.

38. Once the Approved CAP has been completed, the Hospital shall continue monthly and quarterly sample collection of the Department designated monitoring wells including laboratory testing of appropriate constituents as previously directed by the Department including using EPA Method 8260 for volatile organic compounds, fuel oxygenates, and naphthalene and using EPA Method 8015 for TPH-DRO. The Hospital shall also begin monitoring groundwater quarterly for surfactants using EPA Method 5540D until surfactants are no longer detected in any of the site wells. The Hospital shall submit quarterly reports of the sampling and analysis pursuant to the Department’s schedule.

39. Monthly and quarterly sampling shall continue pursuant to ongoing Department monitoring requirements until project closure or upon written determination by the Department that the existing quarterly and monthly monitoring is to be replaced with a revised/updated monitoring plan.

40. The Department and the Hospital have discussed the need to install several soil borings on the site for the collective purposes of logging soil types with depth, collecting soil samples with depth, collecting groundwater samples, and determining the presence of LPH with depth. The Department will

send a request for a work plan to the Hospital for this purpose. The Hospital will submit a work plan for the Department's approval. The Department will review the work plan and approve it, or approve it with modifications. The Hospital will complete the approved work plan within the time frames specified by the Department. The Hospital will compile all data collected from this soil boring investigation into a comprehensive report to be submitted to the Department at the time to be specified in the work plan approval.

41. Once surfactants are no longer detected by laboratory analysis and TPH-DRO concentrations are at or less than 1 part per million (ppm), the Hospital may submit to the Department a request to turn off the pump and treat system and begin post-remedial monitoring.

42. Post-remedial monitoring will consist of continued monthly and quarterly sample collection of the Department designated monitoring wells including laboratory testing of appropriate constituents as previously directed by the Department. The post-remedial monitoring will continue for a period of at least two years (i.e. 24 monthly monitoring events and 8 quarterly monitoring events).

43. During the post-remedial monitoring time period, the pump and treat system must be maintained intact at the site. If during the post-remedial monitoring period, the Department instructs the Hospital to restart the pump and treat system, the Hospital will do so within 10 days. If the pump and treat system is required to be restarted, the Hospital will follow the same procedures to request permission to turn off the pump and treat system and will enter into a new post-remedial monitoring period, as described in paragraphs 41 and 42.

44. At the conclusion of the post-remedial monitoring period, the Hospital may request final case closure using the seven risk factors as described in the Department's *Maryland Environmental Assessment Technology (MEAT) for Leaking Underground Storage Tanks* guidance document. In addition to the seven risk factor analysis and consistent with the MEAT guidance document, the

Hospital must demonstrate that an asymptotic trend in dissolved-phase contamination has been established. The Hospital will demonstrate this by using, at a minimum, a statistical trend analysis, such as the Mann-Kendall test, to determine whether the contaminant plume is statistically stable or statistically decreasing.

45. The Department will review the case closure request and other supporting documentation to make a final determination on closure of the case. After receiving the Department's approval for the final case closure process, the Hospital will meet with the Town of Chestertown's Mayor, Town Manager, and Utilities Manager ("Town officials") to communicate final steps in closing the remediation project.

46. Upon receiving the Department's written approval that the case closure process can be initiated, the Hospital may begin decommissioning the pump and treat system and properly abandoning wells. If approved by the Department, the Hospital may retain wells for purposes of monitoring groundwater conditions after the Department's case has been closed. The Hospital will submit all documentation demonstrating that wells have been abandoned per State regulations and the pump and treat system has been decommissioned.

47. The Department shall determine when remediation is completed to an extent that is protective of public health and the environment. The Department, in its sole discretion, will issue a "Final Closure Letter" pursuant to COMAR 26.10.01.05E pertaining to the Site.

GENERAL TERMS OF IMPLEMENTATION

A. Scope of "the Site"

48. For purposes of the work and activities to be performed by the Hospital under this Consent Order, references in this Consent Order to "the Site" refer to the location of the subject the Hospital facility and to properties affected by the release as determined by the Department. References in this

Consent Order to “the Site” do not limit the authority of the Department to require the Hospital to perform work at properties the Department determines have been affected by the release. References to “on-Site” or “off-Site” work in this Consent Order or in any document or communication pertaining to the subject matter of this Consent Order do not affect the scope or meaning of “the Site” as it is used throughout this Consent Order.

B. Field Activities

49. The Hospital shall notify the Department’s Case Manager for the Site at least five (5) business days before engaging in any field activities related to sampling at the Site, such as well drilling, installation of equipment, or sampling, unless an emergency makes advance notice impracticable.

50. At the request of the Department, the Hospital shall provide or allow the Department or its authorized representatives to take split or duplicate samples of any samples collected by the Parties. Similarly, at the request of the Hospital, the Department shall allow the Hospital to take split or duplicate samples of any samples collected by the Department. The Department shall notify the Hospital at least five (5) business days before conducting any sampling, unless an emergency makes advance notice impracticable.

51. The Hospital shall submit to the Department the results of all sampling, monitoring, and/or tests or other data generated by or on behalf of the Parties pursuant to work performed at the Site. The Department may limit the timing and scope of submission of data.

52. Nothing herein shall be interpreted as limiting the sampling authority of the Department under any federal or State law.

C. Minor Technical Modifications

53. “Minor Technical Modifications” are modifications in the studies, techniques, procedures or designs utilized in carrying out the work in the Approved CAP or other work at the Site

which do not alter or affect in any way the substance of the work approved by the Department and which are consistent with the objectives of the Consent Order and necessary to the completion of the approved work.

54. Minor Technical Modifications may be made by mutual agreement of the Department's Case Manager and the Hospital's Case Manager, shall be memorialized by written (including electronic) correspondence between these Case Managers, and shall have as an effective and enforceable date the date that the Parties designate in their correspondence. Any Minor Technical Modifications approved by the Department shall be deemed incorporated into and part of the Approved CAP or any amendments thereto.

55. The Case Managers shall send copies of their correspondence (including electronic) memorializing such Minor Technical Modifications to the Principal Points of Contact for both Parties.

D. Site Deadlines

56. "Deadlines" as referenced herein shall include all dates established for deadlines, due dates, endpoints, completion dates, submission dates, schedules, and/or periodic scheduling of any action or submission required pertinent to the Site.

57. Revisions to Deadlines. Based on good cause shown, the Department shall approve revised Deadlines for investigative, remedial, monitoring, sampling, or reporting requirements. "Good cause" shall include, but not be limited to, additional data or engineering analysis developed during characterization, development or implementation of the Approved CAP, Revised CAP, amendments thereto, or other governing remedial plan that demonstrates that the work cannot be completed according to the approved Deadline.

58. If the work is delayed by direction of the Department, the schedule for completion of the work shall be extended by the time period of the delay, provided, however, if the Department suspends

the work and the reasons are due to the negligent or willful acts or omissions of the Hospital, or its contractor(s), then any extension of the schedule of completion shall be at the discretion of the Department.

59. When Deadlines are changed, the revisions shall be effective, implemented, and enforceable, upon the dates directed or agreed to by the Department.

60. Provisions In The Event of Delay or Anticipated Delay and Force Majeure. The Hospital shall perform the requirements of this Consent Order in the manner and within the time limits set forth herein, unless the performance is delayed by events or circumstances arising from causes beyond the reasonable control of the Hospital or unforeseeable events, which cannot be avoided or overcome by due diligence and which delays or prevents performance in the manner or by a date required by this Consent Order.

61. Circumstances beyond the reasonable control of the Hospital include, without limitation, earthquake, flood, hurricane, severe weather or other act of God; war; riot; terrorism; injunction; fire; labor stoppage; freight embargo; material shortages; appropriation of funding by the Maryland General Assembly, and compliance with any law, rule, or Order of any governmental body, either existing now or hereafter created, that conflicts with the requirements or obligations of this Consent Order. Circumstances beyond the reasonable control of the Hospital also may include failure by the Hospital to secure access to third-party properties, provided that the Hospital made timely and good-faith efforts to obtain access to the properties at issue.

62. If any event occurs which causes or may cause delays in the completion of a deadline as required under this Consent Order, the Hospital shall notify the Department in writing not more than twenty (20) days after the delay or when the Hospital knew or should have known of the anticipated delay, whichever is earlier. The notice shall be directed to the Department's Principal Point of Contact.

63. The notice shall describe in detail the anticipated length of the delay, the precise cause or causes of the delay, the measures taken and to be taken by the Hospital to minimize the delay, and the timetable by which those measures shall be implemented. The Hospital shall adopt all reasonable measures to avoid or minimize any such delay.

64. Failure by the Hospital to comply with the notice requirements of this Section shall render this Section void and no effect as to the particular incident involved and constitute a waiver of the Hospital's right to seek an extension of the time for performance of its obligations under this Consent Order.

65. The burden of proving that any delay is caused by circumstances entirely beyond the control of the Hospital which could not be overcome by due diligence shall rest with the Hospital. Such circumstances do not include, changed economic circumstances, routine inclement weather, or failure to obtain federal, State, or local permits, unless the Hospital has made timely and reasonable application for such permits. Increased costs or expenses associated with the implementation of actions called for by this Consent Order shall not, in any event, be a basis for changes in this Consent Order or extensions of time under this Consent Order. Delay in achievement of one interim step shall not necessarily justify or excuse delay in achievement of subsequent steps.

66. If the Parties agree that the delay or anticipated delay in compliance with this Consent Order has been or will be caused by circumstances entirely beyond the control of the Hospital which could not be overcome by due diligence, the time for performance hereunder may be extended for a period no longer than the delay resulting from such circumstances. In such event, the Parties shall stipulate to such extension of time.

67. If the Department determines that the event or anticipated event which has caused or will cause the delay constitutes an unforeseeable event or circumstance beyond the control of the

Hospital, the time for performance hereunder shall be extended for an appropriate period of time as determined by the Department, but not less than a period of time substantially equal to the length of the necessary delay, and any stipulated penalty shall not accrue. The Department shall inform the Hospital in writing of its approval.

68. In the event that the Hospital and the Department cannot agree that any delay or failure has been or will be caused by unforeseeable events or circumstances entirely beyond the control of the Hospital which could not be overcome by due diligence, or if there is no agreement on the length of the extension, the Department will notify the Hospital in writing of its decision and any delays in the completion of the deadline shall not be excused.

69. Enforcement of Deadlines. Deadlines and revised Deadlines for investigative, remedial, monitoring, sampling, and reporting work to be performed pertinent to the Site shall be effective, implemented, and enforceable, upon the dates directed or agreed to by the Department.

E. Communication and Notification

70. Principal Points of Contact. Work plans, reports, correspondence, approvals, disapprovals, notices, requests for supervisory review, and other submissions relating to or required by this Consent Order shall be in writing and shall be sent to the Principal Points of Contact for the Parties. The Department and the Hospital identify their respective Principal Points of Contact as follows:

The Department Principal Point of Contact	The Hospital Principal Point of Contact
<p>Christopher H. Ralston Program Administrator Oil Control Program Maryland Department of the Environment 1800 Washington Boulevard Baltimore, MD 21230 (410) 537-3470 (Telephone) (410-537-3092 (Fax) chris.ralston@maryland.gov</p>	<p>Kenneth D. Kozel President and CEO University of Maryland Shore Regional Health 219 S. Washington Street Easton, MD 21601 (410) 822-1000 x-5500 (Telephone) Ken.Kozel@umm.edu</p> <p>and</p> <p>Michael C. Powell Gordon Feinblatt LLC 233 E. Redwood Street Baltimore, MD 21202 (410) 576-4145 (Telephone) mpowell@gfrlaw.com</p>
The Department Case Manager	The Hospital Principal Case Manager
<p>Susan Bull Oil Control Program Maryland Department of the Environment 1800 Washington Boulevard Baltimore, MD 21230 (410) 537-3499 (Telephone) (410-537-3092 (Fax) susan.bull@maryland.gov</p>	<p>Dane S. Bauer HB Solutions 37534 Oliver Drive Selbyville, DE 19975 (410) 812-9109 (Telephone) dbauer@hallandbauer.com</p>

71. In the event the identity or contact information for a Principal Point of Contact changes, the Party with the changed information shall notify the other Party of the new information within ten (10) business days. Notifications shall be sent by any of the following methods: (a) hand delivery; (b) first class mail; (c) facsimile; (d) email; or (e) overnight mail by private courier. Notice shall be deemed delivered on the day on which it was received by the last recipient to which notice was addressed.

72. Town Officials. The Hospital shall provide the Town officials with copies of all reports and work plans associated with the cleanup and investigation activities for this case. The Department

shall provide the Town officials with copies of all requests for and approvals of reports and work plans associated with the cleanup and investigation activities for this case.

F. Permits

73. Unless expressly stated otherwise in this Consent Order, in any instance where otherwise applicable law or this Consent Order requires the Hospital to secure a permit to authorize construction or operation of any device, including all treatment, water appropriation, preconstruction, construction, and operating permits required under State law, the Hospital shall make such application in a timely manner.

74. The enforcement of all such permits shall be in accordance with their own terms.

G. Right of Entry

75. To ensure compliance with this Consent Order, the Department and any authorized representatives of the Department, including contractors, are authorized to enter and freely move about the Site, subject to the rights of quiet enjoyment held by the Hospital and/or any tenants at the Site, at all reasonable times and upon reasonable notice. Nothing herein shall be interpreted as limiting the inspection authority of the Department under Maryland law. The Department agrees that while at the Site, it and its representatives and contractors will comply with all applicable laws, regulations, ordinances, or procedures related to access to the Site, including, but not limited to, all security laws, regulations, and procedures, and any health and safety protocols and procedures established by the Hospital.

76. To the extent that work required by this Consent Order, the Approved CAP, or any amendments thereto, must be conducted on property that is not owned by the Hospital, the Hospital shall use its reasonable best efforts to obtain access agreements from the present owner(s) and/or lessee(s), as appropriate, of such property within sixty (60) days of receipt of notice of Department

approval of any plan submitted hereunder requiring such work. "Reasonable best efforts," as used in this Section shall include, at a minimum, but shall not be limited to, the Hospital sending a certified letter to the present owner(s) and/or lessees of such property requesting access agreements to permit the Hospital and its authorized representatives to enter such property for the purpose of performing sampling, monitoring, investigation or corrective actions. The Hospital shall, upon request, provide the Department with copies of all access agreements or such written requests for property access. The Hospital may redact confidential terms from such access agreements.

77. In the event that access agreements cannot be obtained within the time period set forth in the preceding paragraph, the Hospital shall promptly notify the Department in writing, indicating all efforts made to obtain such agreements, and the Department may, consistent with its legal authority, assist the Hospital in obtaining access. Where possible and within the limitations of State law, upon request of the Hospital, the Department may assist the Hospital by providing information and statements of support to governmental entities outside the direct supervision of the Land Management Administration. In the event that the Department obtains such access, the Hospital shall be obligated to reimburse the Department for any costs judicially awarded or reasonably incurred in the exercise of its authority. If the Hospital cannot obtain such access, the work required or the Approved CAP may be modified by mutual agreement between the Department and the Hospital to take account of the lack of such access.

DISPUTE RESOLUTION

78. The dispute resolution procedures of this Section of this Consent Order shall be the exclusive mechanism for the Hospital to raise and resolve disputes arising under or with respect to this Consent Order. Nothing herein shall be construed to prohibit the Department from exercising any other remedy available to the Department at law or equity to enforce the terms of this Consent Order.

79. Any dispute, which arises under or with respect to this Consent Order shall in the first instance be the subject of informal negotiations between the Parties in an attempt to resolve the dispute in good faith and an expeditious manner. The dispute shall be considered to have arisen when one party sends written Notice of Dispute to the other parties.

80. The Parties shall have thirty (30) calendar days following receipt of a Notice of Dispute to reach an agreement. The Hospital shall be entitled to meet jointly with the Department's Director of the Land Management Administration during this thirty (30) day period.

81. At the conclusion of the thirty (30) day period, the position advanced by the Department shall be considered binding on the Hospital, unless within twenty (20) calendar days following the conclusion of the informal dispute resolution procedures, the Hospital serves on the Department a written Statement of Position on the matter in dispute which shall include, but not be limited to, its proposed resolution, any factual data, analysis, opinion, or other supporting documentation relied upon by the Hospital.

82. Within twenty (20) calendar days following receipt of the Hospital's Statement of Position, the Department will serve on the Hospital its Statement of Position which shall include, but not be limited to, its proposed resolution, any factual data, analysis, opinion, or other supporting documentation relied upon by the Department.

83. A Record for Review shall be maintained by the Department and shall contain all Statements of Position, including all supporting documentation submitted pursuant to the Dispute Resolution provisions of this Consent Order.

84. Within fifteen (15) calendar days of receipt of the Department's Statement of Position, the Hospital may inspect the Record for Review and suggest supplementation of the Record with appropriate relevant documents.

85. The Department's Director of the Land Management Administration shall issue a written Statement of Decision to the Hospital resolving the dispute based on the Record for Review compiled pursuant to the Dispute Resolution provisions of this Consent Order. The Parties agree that any such written Statement of Decision shall be a Final Order of the Department pursuant to § 4-412 of the Environment Article of the Annotated Code of Maryland, and the Hospital may appeal an adverse decision under §§ 10-222 and 10-223 of the State Government Article of the Annotated Code of Maryland. Judicial Review of the Department's decision shall be based upon the Record for Review compiled pursuant to the Dispute Resolution provisions of this Consent Order.

86. Receipt of the Statement of Decision shall be binding on the Hospital unless the Hospital timely files with the appropriate court and serves on the Department a notice of judicial appeal in accordance with Title 7, Subtitle 2 of the Maryland Rules of Civil Procedure.

87. The invocation of formal dispute resolution procedures of this Consent Order shall not extend, postpone, or affect, in any way, any obligation of the Parties under this Consent Order not directly in dispute.

STIPULATED PENALTIES

88. Unless there has been a written modification of a requirement of this Consent Order by the Department, the Department may assess stipulated penalties for any failure by the Hospital to comply with the terms of this Consent Order, including any failure to perform investigative or remedial work or to meet any endpoint, completion date, deadline, submission date, and/or schedule set forth herein, set forth in the Approved CAP, or set forth by the Department in any Revised CAP, letter, directive, order, plan, approval, or amendments thereto, issued by the Department to the Hospital related to the subject matter of this Consent Order.

89. The Hospital shall pay stipulated penalties in the amount of five hundred dollars (\$500.00) per violation per day for the first 60 days, one thousand, five hundred dollars (\$1,500.00) for the 61st through 120th days, and two thousand, five hundred dollars (\$2,500.00) per violation per day for each day of noncompliance thereafter.

90. Every day that a violation exists constitutes a separate violation. All stipulated penalties that the Department chooses to assess shall begin to accrue on the day after the performance was due or on the day a violation occurs, whichever is applicable, and shall continue to accrue until performance is completed to the Department's satisfaction or until the violation ceases. Nothing in this Consent Order shall prevent the simultaneous accrual of separate stipulated penalties for separate violations of this Consent Order.

91. The Hospital shall pay stipulated penalties within thirty (30) days after the Department's written demand. The stipulated penalty payment shall be made payable to the "Maryland Department of the Environment, Maryland Oil Fund" and shall be mailed to:

Maryland Department of the Environment
P.O. Box 1417
Baltimore, MD 21203-1417.

For proper credit of the payment, the Hospital shall reference "MDE Case 1987-2534-KE, Payment of Stipulated Penalty" on the payment or in its correspondence.

92. None of the stipulated penalties in this Consent Order shall be construed as an election of remedy or other limitation on the Department's discretion to seek, in lieu of stipulated penalties, any other remedy or sanction available to it for violations of this Consent Order or any other State law or regulation not expressly made the subject of this Consent Order.

93. The stipulated penalties provided for in this Consent Order shall be in addition to any other rights, remedies, or sanctions available to the Department by reason of the Hospital's failure to

comply with any requirement of this Consent Order or applicable law but shall be in lieu of statutory fines or penalties for failure to comply with any requirement of this Consent Order.

ENFORCEMENT

94. The parties agree that this agreement constitutes a Final Administrative Order enforceable in a judicial forum.

95. The Department can enforce the provisions of this Consent Order, including those related to statutory and regulatory requirements; investigative and remedial work; record keeping; reporting; and, endpoints, completion dates, deadlines, submission dates, and/or schedules set forth herein, set forth in the Approved CAP, or set forth by the Department in any letter, directive, order, plan, approval, or amendments thereto, issued by the Department to the Hospital related to the subject matter of this Consent Order.

96. In the event that the Hospital fails to comply with any provision of this Consent Order, the Department shall have the right to seek any and all legal and equitable remedies available to it for any violations that are the subject of this Consent Order, and any performance or payment of penalties are forfeited by the Hospital.

RELEASE

97. This Consent Order shall remain in force and effect, and shall operate to toll any civil statute of limitations, until the Hospital has paid any Stipulated Penalties which may have accrued during the term of this Consent Order, has completed all obligations set forth in and contemplated by this Consent Order, and the Department is satisfied that remediation on-Site and off-Site has been completed to an extent that is protective of public health and the environment, and the Department, in its sole discretion, will issue a "Final Closure Letter" pursuant to COMAR 26.10.01.05E pertaining to the Site.

98. Upon completion of the provisions in the preceding paragraphs, the Department agrees not to file claims for civil fines and penalties against the Hospital for the UST system equipment, maintenance, testing, operation, recordkeeping and oil pollution violations that were alleged or could have been alleged prior to the execution of this Consent Order, and the Department shall release the Hospital of responsibility for civil fines and penalties regarding the same.

RESERVATION OF RIGHTS

99. By executing this Consent Order, the Hospital waives its right to a hearing on any issue of law or fact set forth in this Consent Order. However, the Hospital has not waived such right that may exist for any separate action that may be brought by any third party for any alleged violations described herein.

100. Nothing in this Consent Order shall limit the authority of the Department to issue any orders or to take any action it deems necessary to protect the public.

101. The Hospital's installation and operation of UST systems at the Site after the execution of this Consent Order are not part of this Consent Order.

102. Any discharge of oil from the Site after the execution of this Consent Order will be deemed by the Department to be a separate case than its Oil Control Program Case No. 1987-2534-KE and is not part of this Consent Order.

103. The Department reserves, and this Consent Order is without prejudice to, all rights against the Hospital with respect to the following matters: civil and administrative enforcement actions for violations which occur after the effective date of this Consent Order; criminal enforcement actions, or violations of State law not arising from Title 4, Subtitles 4 through 7 of the Environment Article.

104. Nothing in this Consent Order shall be construed to prevent the Department from seeking any legal or equitable remedies available to it for violations of State law that are not the subject of this

Consent Order.

105. Nothing in this Consent Order shall be construed to relieve the Hospital of any violations or obligations under laws and regulations promulgated by or enforced by local, municipal, or federal entities.

106. The Hospital and the Department intend that nothing in this Consent Order shall be construed as a release or covenant not to sue any third party. Nothing contained in this Consent Order shall affect any right, claim, cause of action, or defense of any party, hereto with respect to third parties. The Hospital and the Department specifically reserve any and all rights, defenses, claims, demands, and causes of action that the Hospital and the Department may have against any third parties relating in any way to the subject matter in this Consent Order.

107. Neither the terms nor conditions of this Consent Order, nor any act of performance by the Hospital or the Department, shall collaterally estop the Department in any other proceeding with any third party.

108. This Consent Order does not and is not intended to create any rights, claims, or benefits for any third party. No third party shall have any legally enforceable rights, claims, or benefits under this Agreement, nor shall any third party have any rights to enforce the terms of this Agreement. No act of performance by the Hospital or the Department, nor forbearance to enforce any term of this Consent Order by the Department, shall be construed as creating any rights, claims, or benefits for any third party.

109. This Consent Order does not affect and is not intended to influence any third party's rights to independently investigate, evaluate, respond to, and file claims regarding any impacts from groundwater or drinking water pollution.

GENERAL PROVISIONS

110. Authority to Bind: By his signature below, Kenneth D. Kozel, on behalf of the Hospital, acknowledges that he is fully authorized to enter into this Settlement Agreement and Consent Order and to bind the Hospital to the terms and conditions of this Settlement Agreement and Consent Order.

111. Changes in Control of the Hospital: No change in ownership or legal status of the Hospital shall affect the Hospital's obligations under this Consent Order. In the event of any change in ownership or control of the Hospital, either through a sale of a majority of the assets, or other transfer of a majority interest, the Hospital shall notify the Department, in writing, within ninety (90) business days following the change, of the nature of the change and the effective date of the change. The Hospital shall provide an opportunity to review this Consent Order to any persons or entities acquiring a majority interest in the Hospital prior to the change in ownership or control.

112. Transfer of Site or Responsibility for Performance: The transfer of ownership or of any other interest in the Site, in whole or in part, to another entity, shall not alter or relieve the Hospital of its obligations to comply with all of the terms of this Consent Order and shall have no effect on the obligation of the Hospital for implementing all of the investigative and remedial actions in this Consent Order. As a condition to any such transfer of the Site, the Hospital shall reserve all access rights to the Site necessary to comply with the terms of this Consent Order. Any transfer of ownership or of any other interest in the Site, in whole or in part, without complying with the terms of this Paragraph constitutes a violation of this Consent Order.

113. The Hospital may, through contract, lease, agreement of sale, or other instrument, transfer responsibility for performance of some or all of the work required under this Consent Order to a third party, provided the Hospital remains liable for the oil contamination and work required to remediate such contamination in the event that the third party does not fully comply with the terms of this Consent

Order to the satisfaction of the Department. Except as set forth herein, the Hospital must notify the Department ten (10) days before entering into such an agreement with a third party. The Department may require that the third party agree to report directly to the Department, and shall approve the terms of any such transfer of responsibility to a third party. This paragraph is not intended to apply to the Hospital's retention of contractors or consultants to perform, or assist the Hospital in performing, the work.

114. Entire Agreement: This Consent Order constitutes the final, complete and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this Consent Order, and supersedes all prior agreements and understandings among the Parties related to the subject matter herein. No document, representation, inducement, agreement, understanding, or promise not otherwise set forth herein or incorporated by reference herein shall constitute any part of this Consent Order or the settlement it represents, nor shall they be used in construing the terms of this Consent Order.

115. Modification: No modifications of this Consent Order, or any part thereof, shall be valid except by written amendment executed by the parties hereto.

116. Severability: The Hospital and the Department agree that if any of the provisions of this Consent Order contravene or are held to be invalid under any applicable law, such provisions shall not invalidate the Consent Order in its entirety, but the Consent Order shall be construed as if not containing the particular provisions, and all remaining obligations of the parties shall remain in effect and in force to the maximum extent reasonable.

117. Not a Permit: This Consent Order is not and shall not be construed to be a permit, or a modification of any permit, under any federal, State, or local laws or regulations. Notwithstanding any provision of this Consent Order, the Hospital is responsible for achieving and maintaining complete

compliance with all applicable federal, State, and local laws, regulations, and permits; and the Hospital's compliance with this Consent Order shall be no defense to any action by the Department commenced pursuant to said laws, regulations, or permits, except to the extent the action is based on matters resolved through this Consent Order.

118. Applicable Law: The laws of the State of Maryland shall govern this Consent Order.

119. Effective Date: This Consent Order is effective upon signature by the Hospital and the Department.

IT IS SO AGREED AND CONSENTED TO:

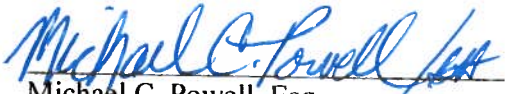
**UNIVERSITY OF MARYLAND
SHORE REGIONAL HEALTH**



Kenneth D. Kozel
President and Chief Executive Officer

Date 5/11/16

Approved as to form and legal sufficiency
This _____ day of _____, 2016.



Michael C. Powell, Esq.
Gordon Feinblatt, LLC
233 East Redwood Street
Baltimore, Maryland 21202-3332
(410) 576-4175
Counsel for University of Maryland Shore Regional Health


**STATE OF MARYLAND,
DEPARTMENT OF THE ENVIRONMENT**



Hilary D. Miller, Director
Land Management Administration

Date 5/17/16

Approved as to form and legal sufficiency
This 17th day of May, 2016.



Priscilla N. Carroll
Assistant Attorney General
Office of the Attorney General
Maryland Department of the Environment
1800 Washington Boulevard, Suite 6048
Baltimore, Maryland 21230-1719
(410) 537-3039; (410) 537- 3943 (fax)

Appendix C

Town Agreement (TA) of June 2016.

AGREEMENT

This Agreement is entered into this ____ day of June, 2016 between the Town of Chestertown, Maryland (“Town”) and the University of Maryland Shore Medical Center at Chestertown Hospital and the University of Maryland Medical System Corporation (collectively the “Hospital”), together the “Parties.”

WHEREAS, the Town has expressed concern about the possibility of damage to the Town’s water supply resulting from a certain fuel oil spill in the mid-1980s (the “Oil Spill”) at Kent & Queen Anne’s Hospital, now known as University of Maryland Shore Medical Center at Chestertown (“Hospital”) and the subsequent remediation and mitigation activities undertaken by the Hospital (“Remediation”).

WHEREAS, the Hospital does not believe that there will be any damage to the Town’s water supply from the Oil Spill or Remediation and does not take responsibility for any damage to the Town’s Water supply which is not associated with the Oil Spill or Remediation.

WHEREAS, the Hospital is performing the Remediation pursuant to an Action Plan approved by the Maryland Department of the Environment (“MDE”) with conditions, a copy of which is attached (“Action Plan”), and the Town has expressed concerns about the efficacy and implementation of the Remediation and Action Plan.

WHEREAS, MDE is expected to evaluate the performance of the Remediation pursuant to the seven risk factors described in MDE’s Maryland Environmental Assessment Technology for Leaking Underground Storage Tanks guidance (“MEAT”) and MDE may decide to terminate any Remediation requirement (other than limited post-closure monitoring) pursuant to that guidance document or otherwise.

WHEREAS, for purposes of this agreement, “Contaminants of Concern” means Total Petroleum Hydrocarbons – Diesel Range Organics (“TPH-DRO”), naphthalene, and residual Ivey-sol surfactant, provided that the contaminant originated from the Oil Spill or the Remediation.

WHEREAS, the Town is desirous of an agreement with the Hospital whereby, in the event of any detection of specified Contaminants of Concern in certain Town wells proven to have originated from the Hospital Oil Spill or the Remediation which would prevent the continued use of those wells as a safe source of supply or require changes to the Town’s water treatment (facilities or operations), the Hospital will indemnify and hold harmless the Town and assume liability for damages/costs to the Town’s wells or water treatment proximately caused by the Oil Spill or Remediation and the Hospital is desirous of an agreement to resolve the Town’s objections to the Remediation and Action Plan approved by MDE and the Town’s concerns with the anticipated termination of the Remediation.

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the Parties hereby agree as follows:

1. **Recitals Incorporated.** The foregoing recitals are incorporated into and made a part of this Agreement.

2. **Transparency & Data Sharing.**

a. The results of all sampling and monitoring requirements imposed by the MDE on the Hospital, by Consent Order or otherwise, will be shared with the Town. All MEAT related activities, reports and sampling/monitoring data submitted by the Hospital to MDE, and any orders and actions originating from MDE to the Hospital, will be provided to the Town.

b. Unless otherwise prohibited, the Hospital agrees to provide the Town with a reasonable opportunity to review and comment on any proposed order, agreement or decision from/by MDE related to the Remediation, including the location of any new wells.

c. The Hospital will notify the Town with written copy of any changes to the Action Plan.

3. **Sampling.**

a. The Hospital will perform sampling in accordance with the Action Plan, a copy of which is attached hereto as Exhibit A. In accordance with the Action Plan, the samples are analyzed for Contaminants of Concern using EPA Method 8015 for TPH-DRO and MDE prescribed lab testing protocols for other Contaminants of Concern.

b. The sampling results from the approved Action Plan will be used to establish baseline levels in the monitoring wells based upon average results. After baseline sampling, Hospital will continue to conduct monthly sampling in accordance with the approved Action Plan. The Hospital will install three additional monitoring wells in town right of way or hospital property as follows: one well to be located approximately mid-way between wells MW-18 and MW-23, one well approximately mid-way between wells MW-18 and MW-28 (and on the northern side of Campus Avenue) and one well located approximately 50 feet southwest of well MW-28 (on the northern) side of Campus Avenue. Together these three new wells in addition to existing wells MW-18, MW-23, MW-28 and MW-29 are the seven "Sentinel Monitoring Wells." (The attached exhibit shows the proposed locations.) Following any termination of the Remediation by MDE pursuant to the MEAT guidance or otherwise, the Hospital will continue to take quarterly samples of the Sentinel Monitoring Wells for the longer of (1) three years from the discontinuation of the pump and treat system or (2) any period required by MDE for post-closure monitoring.

c. If TPH-DRO is detected in excess of 0.47 ppm, naphthalene is detected in excess of 0.0017 ppm, or any surfactants are detected in any of the Sentinel Monitoring Wells

(the “Trigger Levels”), the three (3) year sampling period will restart until three years of quarterly sampling results fail to detect such constituents above the specified limits. Summary reports will be submitted by Hospital to Town on a quarterly basis and to MDE if requested by MDE.

d. All groundwater sampling procedures shall be conducted using industry accepted protocols, or as directed by MDE.

4. **Detection of Contamination – Notice.** The detection of any Contaminants of Concern above the Trigger Levels in any Sentinel Monitoring Well shall be promptly reported by the Hospital to the Town and to MDE.

5. **Indemnification.**

a. The detection of any Contaminants of Concern above the Trigger Levels in an active Town production well used as a drinking water source and proximately caused by the Oil Spill or the Remediation shall trigger Hospital’s obligation to indemnify and hold harmless the Town for all costs of remedial actions necessary to ensure the production and delivery of safe drinking water by the Town to residents and businesses without interruption. This may require the relocation or replacement of the impacted well or the addition or additional treatment depending on the nature and extent of the contaminants. If the Parties are unable to agree whether the contaminants originate from the Oil Spill or Remediation then the Parties, in good faith, shall agree to attempt to resolve the issue through non-binding arbitration using a neutral arbitrator. Each Party reserves the right to seek a declaratory judgment or injunctive relief to establish the origination of the contaminants.

b. In the event that any Contaminant of Concern is detected above the Trigger Levels in a Town production well but has not been detected above the Trigger Levels in any Sentinel Monitoring Well, that shall establish a rebuttable presumption that the contaminants in the production well did not originate from the Oil Spill or the Remediation.

6. **Responsive Actions.** If any Contaminant of Concern above the Trigger Levels is detected in any Sentinel Monitoring Well, Hospital will employ aggressive measures to prevent further migration of the subject constituents. Such responsive measures may, after consultation with Town and MDE, include:

a. recovery, expanded pump and treat actions or installation of additional monitoring wells;

b. weekly gauging of impacted wells until the earlier of (1) no Contaminants of Concern in excess of the Trigger Levels have been detected for four quarters or (2) a determination is made that the contaminants did not originate from the Oil Spill or Remediation;

c. a groundwater evaluation to delineate the total vertical and horizontal extent of all Contaminants of Concern in order to fully consider associated risks and additional remediation measures that may be required to protect the Town public water supply; and

d. If following remedial action the concentration of any Contaminant of Concern rebounds or the initial amount of the constituent detected remains the same or increases, consideration shall be given to an alternative water supply source for the Town.

7. **Cooperation.**

a. Upon a detection of any Contaminant of Concern above the Trigger Levels, the Town and Hospital will cooperate in evaluating and implementing the appropriate short and long term mitigation, remediation and corrective action options; however, the Town's responsibility to provide safe potable water to its citizens without interruption shall remain a priority for the Town. The Hospital accepts responsibility for assuring that Town residents are not deprived of access to safe potable water as the result of the Oil Spill or Remediation.

b. The Town agrees that the seven risk factors for closure of the pump and treat system specified in the MEAT guidance document are applicable and subject to enforcement by MDE. The Town and the Hospital agree to work cooperatively to achieve the closure of the existing pump and treat system if, and only if, the monitoring results indicate that the criteria specified in the Action Plan and the MEAT guidance document are achieved. The Hospital's obligations for post closure monitoring and indemnification pursuant to this Agreement shall continue whether or not the pump and treat system is discontinued.

8. **Enforceability.** This Agreement is binding on the Parties, their successors and assigns. The Hospital's promise to indemnify and hold harmless the Town and to assume liability for certain costs after a trigger event shall be readily enforceable and backed by the full faith and credit of the University of Maryland Medical System.

9. **No Admissions.** This Agreement is understood and intended by the Parties to provide a mutually acceptable resolution of disputed claims in a way that enables the Parties to move forward in a productive manner and is without any admission of liability or fact. Nothing in this Agreement shall be considered as an admission by any Party.

10. **Final Agreement.** This Agreement contains the final and entire Agreement between the Parties hereto and supersedes all prior discussions, stipulations, or writings between the Parties regarding matters resolved in this Agreement.

11. **Modification.** The terms of this Agreement may be modified in writing by mutual agreement of the Parties.

12. **Maryland Law Governs.** This Agreement shall be governed by and construed in accordance with the laws of the State of Maryland.

13. **Construction.** This Agreement has been negotiated freely by the Town and Hospital and both Parties participated in the drafting of this Agreement. Therefore, this Agreement shall not be construed strictly for or against either Party.

14. **Execution & Modification.** By executing this Agreement, each Party represents and warrants that the person signing this Agreement is duly authorized and has full authority to execute this Agreement on behalf of the Party and to bind the Party to the terms of this Agreement. This Agreement may be executed in counterparts, each of which shall constitute one and the same instrument, and shall be deemed effective as of the date last party executes this Agreement.

IN WITNESS WHEREOF, the Parties have executed this Agreement effective as of the date and year first above written.

TOWN OF CHESTERTOWN:

6/22/16
Date


By: Chris Cerino

Title: Mayor

**UNIVERSITY OF MARYLAND SHORE
MEDICAL CENTER AT CHESTERTOWN
HOSPITAL**

6/22/16
Date




By: Kenneth D. Kozel, MBA, FACHE

Title: President and CEO

UNIVERSITY OF MARYLAND MEDICAL SYSTEM CORPORATION

6/22/16
Date



By: Robert A. Chrencik

Title: President and CEO

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EXHIBIT A

MDE Approved Action Plan for Remediation

Page 7 of 8

4771014.1 99680/000212 05/02/2016

EXHIBIT B

Revised Sentinel Well Locations

4771014.1 99690/000212 05/02/2016



H&B Solutions, LLC
37534 Oliver Drive
Selbyville, DE 19975

Tel: 410.292.4385

April 18, 2016

Maryland Department of the Environment
Oil Control Program
1800 Washington Blvd.
Baltimore, MD 21230-1708

Attn: Mr. Andrew Miller
Remediation Division Chief

Re: Chester River Hospital Center
Request for Subsurface Investigation Work Plan
Project No: 14004.00

Dear Mr. Miller:

As requested, this serves to satisfy the Maryland Department of the Environments (MDE's) March 23, 2016 letter and to provide the necessary "Subsurface Investigation Work Plan". To reconfirm, this is an amendment/add-on to the 2015 Action Plan, weekly summary reports, and the ongoing monthly and quarterly sampling and reporting. Pursuant to ongoing commitments associated with these existing plans and documents, the groundwater pump and treat system remains on and Chester River Hospital Center (CRHC) continues to work with MDE on the drafting of a settlement agreement and consent agreement that outlines CRHC's responsibilities with respect to continued investigation and remediation of the heating oil contamination at and from the site.

As confirmed in our March 30, 2016 letter, we agree that in previous meetings MDE discussed additional assessment activities in selected areas of the site for determining whether there was "significant residual contamination or free phase heating oil remaining at the site." The following; therefore, supplements the 2015 Remediation Action Plan and provides the specific scope of work for additional investigation which will allow MDE to better assess the effectiveness of the long-term pump and treat system which has been the focus of cleanup efforts for these many years.

Work Plan:

Using the MDE Site Map which identified approximate locations for six (6) new soil boring and monitoring wells, we have requested and received a proposal from Earth Data Incorporated. The purpose of this work is to complete soil stratification logging and soil sampling, and to facilitate vertical delineation of potential petroleum residuals. This will provide the information necessary for CRHC and the MDE to evaluate the possible residual extent of liquid phase hydrocarbons (LPH) and residual petroleum contamination in soils and groundwater. Earth Data's plan as submitted also provides for the conversion of these borings into permanent monitoring wells to facilitate continued monitoring at these locations.

In order to provide for this necessary work, Earth Data will:

1. Obtain all required drilling permits.
2. Coordinate existing underground utility location and marking with CRHC personnel.
3. Mobilize to the site with a Mobile B-61 truck-mounted drilling rig and support equipment.

4. Saw-cut the asphalt at each drilling location and hand-clear each location to a minimum depth of three feet (3') before starting any coring or drilling operations.
5. Collect continuously-cored soil samples at each of the six (6) locations to the total estimated depth for each new monitoring well as follows:
 - a. MW-51-- 65 feet
 - b. MW-52-- 55 feet
 - c. MW-53-- 56 feet
 - d. MW-54-- 51 feet
 - e. MW-55-- 48 feet
 - f. MW-56-- 46 feet
6. Describe and field-screen the soil borings as further detailed below.
7. Collect, label, and ship soil samples to the laboratory for analysis as further described below.
8. Upon completion of the soil boring, ream the hole using six and one quarter inch (6 ¼") I.D. hollow-stem augers to total depth.
9. Install a four inch (4") diameter monitoring well in each reamed hole to include:
 - a. Schedule forty (40) flush-thread PVC well casing
 - b. Twenty feet (20') of schedule forty (40) flush-thread PVC well screen.
 - c. Filter pack to five feet (5') above the top of the well screen.
 - d. Hole plug in the annular space from five feet (5') above the top of the well screen to ground surface.
10. Containerize drill cuttings for disposal by others as further described below.
11. Fully develop each well by means of a combination of active surging, pumping and purging as further described below.
12. Contain all water generated during the drilling operations for on-site disposal into the Town of Chestertown's sanitary sewer system. (Earth Data will obtain the necessary authorizations from the Town.)
13. Collect, label, and ship water samples to the laboratory for analysis as further described below.
14. Furnish and install a locking test plug and flush-mount protective casing at each new well.
15. Pour a concrete pad at each well to match the other existing monitoring wells at the site.
16. Demobilize from the site.
17. Provide H&B Solutions with a copy of all permit applications, permits, field reports, driller's logs, completion reports, and other relevant field data which will be used to provide the necessary reporting to the MDE of the completed work effort.

In conformance with the MDE's specific requirements in regards to the above referenced Work Plan, we have stipulated to all contractors identified to perform the work that they must adhere to the implementation plan and set of assumptions as identified below.

1. The work to survey the wells into the existing monitoring well network will be performed by Davis, Bowen & Friedel, Inc. (DBF). DBF will field locate the new wells and leave markers for Earth Data's use.
2. Earth Data will collect, label, and ship soil and water samples to Phase Separation Science. Tests to be performed will be those specified by MDE to include full-suite volatile organic compounds (VOCs), including fuel oxygenates and naphthalene, using EPA Method 8260 and for total petroleum hydrocarbons diesel range organics (TPH-DRO) using EPA Method 8015B. (Once this work has been completed, results assessed,

- and report provided to the MDE; these new wells will be added to the existing suite of wells onsite and become part of the monthly and quarterly sampling currently required.)
3. All driller's logs, field reports, well permit applications, completion reports, etc., will be provided to H&B Solutions. We will include this data as part of the report to be submitted to the MDE at the conclusion of the Work Plan.
 4. An Earth Data geologist will be present onsite to describe and field-screen the collection of continuous core samples at each site. Soil samples will be collected from ground surface to the proposed total depth for each well.
 5. All continuous soil samples will be collected using a discrete Macro-core sampling device. Small diameter hollow-stem augers can be advanced in conjunction with the macro-core sampling tool to permit the collection of continuous soil cores in loose or water-saturated soil zones.
 6. All samples will be screened visually and with a photo-ionization detector (PID) using consistent methodology to minimize volatilizing prior to screening with the PID.
 7. Soil samples for laboratory analysis will be collected in each boring at the soil/groundwater interface and from the location exhibiting the highest PID response. Samples collected for analysis will be field preserved in accordance with EPA Method 5035.
 8. Earth Data will transfer all drill cuttings into fifty-five (55) gallon drums. The drums will be sealed and BrightFields will assist with sampling, transport, and disposal of approximately thirty (30) fifty-five (55) gallon drums containing DRO impacting soil cuttings which will be generated during monitoring well and installation activities by Earth Data. Specifically:
 - a. BrightFields will mobilize to the Site to collect one (1) composite soil sample from the fifty-five (55) gallon drums containing soil cuttings. The composite soil sample will be submitted to Test America Laboratories located in Edison, New Jersey, for Toxicity Characteristics Leaching Procedure (TCLP) Metal, TCLP Volatile Organic Compounds (VOCs), and Polychlorinated Biphenyls (PCBs) analysis. Laboratory analysis is required by the disposal facility to evaluate whether the soil is classified as hazardous.
 - b. BrightFields will coordinate the waste removal, transport, and disposal of the fifty-five (55) gallon drums at an approved disposal facility.
 9. All water generated during the project (well development, additional pumping, decon water, etc.) will be contained in 500 gallon poly tanks to be provided by Earth Data and staged at the site. It is assumed that the Town of Chestertown will allow disposal of all water into their sanitary sewer system after being pumped through a portable granular activated carbon (GAC) unit, to be provided by Earth Data. (Being coordinated by Earth Data.) Off-site water disposal, if required, will be the responsibility of BrightFields.
 10. Earth Data will construct all monitoring wells in accordance with MDE's Maryland Environmental Assessment Technology (MEAT) for Leaking Underground Storage Tanks guidance document.
 11. The new wells will be developed utilizing active surging and additional pumping/purging as required. Wells will be developed until reasonably clear.
 12. The area around each well will be secured by CRHC (cones, marking tape, etc.) such that Earth Data personnel will have adequate working space for truck-mounted drilling rig and support equipment.
 13. Earth Data, BrightFields, and DBF will coordinate all on-site activities with H&B Solutions.
 14. If liquid-phase hydrocarbons (LPH) are detected, Earth Data will immediately notify H&B Solutions and the MDE-OCP as required. Within two (2) hours of discovery H&B

Solutions will call MDE at 410.537.3442 and report the findings. H&B Solutions will immediately develop the appropriate response and coordinate same with MDE.

15. All work will be performed in PPE Level D, and Earth Data will provide all required PPE for its personnel.
16. All wells will be constructed with four inch (4") diameter, Schedule forty (40) PVC, flush-thread well casing and screen.
17. Each well will be constructed with twenty feet (20') of well screen; ten feet (10') of well screen above and below the water table surface as measured in adjacent monitoring wells. A summary table to illustrate anticipated well construction details and basis for the design is included below.

New Well I.D.	Closest Existing Well I.D.	Historic High Water Level (ft.)	Historic Low Water Level (ft.)	Average Depth to Water (ft.)	March 2016 Depth to Water (ft.)	Proposed Well Total Depth (ft.)	Proposed Screen Interval (ft.)	Estimated Pumping Influence
MW-51	MW-5	49.18	55.05	52.12	50.73	65	40' to 60'	Low
MW-52	MW-42	36.68	43.21	39.95	39.36	55	30' to 50'	Low
MW-53	MW-43	37.44	43.64	40.54	41.09	56	31' to 51'	Low-Mod.
MW-54	MW-41	33.04	40.39	36.72	36.44	51	26' to 46'	Low
MW-55	MW-45	30.66	36.03	33.35	33.02	48	23' to 43'	Low
MW-56	MW-20	29.24	35.58	32.41	31.62	46	21' to 41'	Low

18. All monitoring wells will be completed with a flush-mount protective casing and concrete pad, similar to the other existing wells at the site.
19. The order in which the wells are drilled will be coordinated with the maintenance staff at CRHC in order to minimize impacts to traffic flow, pedestrian areas, and on-site parking.
20. Based on March, 2016 water level data provided by EBA Engineering, the approximate construction features of the six (6) wells will be as follows:

New Well I.D.	Closest Existing Well I.D.	March 2016 Water Level (ft.)	Proposed Total Depth (ft.)	Proposed Screen Interval (ft.)
MW-51	MW-5	50.73	65	40' to 60'
MW-52	MW-42	39.36	55	30' to 50'
MW-53	MW-43	41.09	56	31' to 51'
MW-54	MW-41	36.44	51	26' to 46'
MW-55	MW-45	33.02	48	23' to 43'
MW-56	MW-20	31.62	46	21' to 41'

21. Each well will be constructed with an approximate five foot (5') sump below the deepest set well screen to accept sediment accumulation during normal well operation and maintenance.
22. In consideration of the site logistical challenges associated with drilling MW-51 (closest existing well is MW-5) in the courtyard, MDE has indicated different drilling methods/techniques can be used. Earth Data proposes to continuously core and construct a two inch (2") diameter monitoring well at this location. All other wells will be four inch (4") diameter as originally specified.

To construct MW-51 Earth Data will:

- a. Coordinate site access requirements with H & B Solutions.
- b. Remove one eight foot (8') section of privacy fence located on the east side of the courtyard to facilitate rig access in coordination with CRHC staff.
- c. Coordinate with CRHC electricians/maintenance staff for the temporary relocation of certain electrical equipment installed on and in the vicinity of the privacy fence.
- d. Coordinate with a private utility locating company to mark the area in the vicinity of the proposed location for MW-51.
 - i. Note: This is a very important aspect of the work for overall project safety. There is a buried fuel tank and other underground utilities in the vicinity of the proposed location for MW-51 in the hospital courtyard.
- e. If required, trim selected tree branches in the courtyard as necessary to facilitate rig placement and operation.
 - i. Earth Data will consult with H&B Solutions and/or others as directed prior to trimming any tree branches.
- f. Mobilize to the site with a track-mounted combination direct-push/hollow stem auger rig and support equipment.
- g. Collect continuously-cored soil samples to a total depth of approximately sixty-five feet (65').
- h. Describe and field-screen the soil borings as previously detailed.
- i. Collect, label, and ship soil samples to the laboratory for analysis as previously described.
- j. Upon completion of the soil boring, ream the hole using four and one quarter inch (4 1/4") I.D. hollow-stem augers to total depth.
- k. Install a two inch (2") diameter monitoring well to include:
 - i. Schedule forty (40) flush-thread PVC well casing
 - ii. Twenty feet (20') of schedule forty (40) flush-thread PVC well screen.
 - iii. Filter pack to five feet (5') above the top of the well screen.
 - iv. Hole plug in the annular space from five feet (5') above the top of the well screen to ground surface.
- l. Containerize drill cuttings for disposal by others.
- m. Fully develop the well by means of a combination of active surging, pumping, and purging as previously described.
- n. With the Town's approval, contain all water generated for on-site disposal into the Town of Chestertown's sanitary sewer system as previously described.
- o. Collect, label, and ship water samples to the laboratory for analysis.
- p. Furnish and install a locking test plug and flush-mount protective casing.
- q. Pour a concrete pad.
- r. Demobilize the drilling rig from the courtyard area.
- s. Restore the site and privacy fence.
- t. Coordinate re-installation of the electrical equipment previously removed to facilitate mobilization.
- u. Provide H&B Solutions with a copy of all permit applications, permits, field reports, driller's logs, completion reports, and other relevant field data.

During construction (estimated two days) Earth Data proposes to leave its flatbed truck parked at the site, backed-up to the courtyard privacy fence. This will allow for timely

demobilization of equipment upon drilling completion. The fence gap will be marked with caution tape and "Do Not Enter" signage at night.

Implementation Schedule:

Task	Due Date
Obtain MDE approval of the Work Plan	May 2, 2016
CRHC Authorizes Contractors to Proceed	May 4, 2016
Earth Data Obtains MDE Drilling Permits	May 11, 2016
DBF Field Locates New Wells	May 11, 2016
Earth Data Completes Field Work/Drilling of New Wells	June 8, 2016
BrightFields Disposes of all Drilling Material	June 8, 2016
DBF Locates New Wells into Existing Network	June 13, 2016
Demobilization, Laboratory Testing, and Initiation of Summary Report	June 14, 2016
H&B to Submit Site Assessment Report to MDE	August 1, 2016

Monitoring and Reporting:

Consistent with your March 23, 2016 letter we will provide you with a Site Assessment Report no later than forty-five (45) days following the completion of all approved "Subsurface Investigation Work Plan" activities. However, we propose similar to what we did for the 2015 Action Plan, that weekly reports will be prepared which provide the status of the activities for the week. This will include the location and area where work is being conducted, activities completed, monitoring dates, sample results, and other pertinent information to the weeks efforts. These weekly reports will be used in turn to create the Site Assessment report referenced above, which will include a summary of findings and recommendations as well as next steps.

We look forward to your review and approval of the work plan so that we can initiate the scope outlined above and complete the effort consistent with the above referenced schedule.

Sincerely,

H&B Solutions, LLC

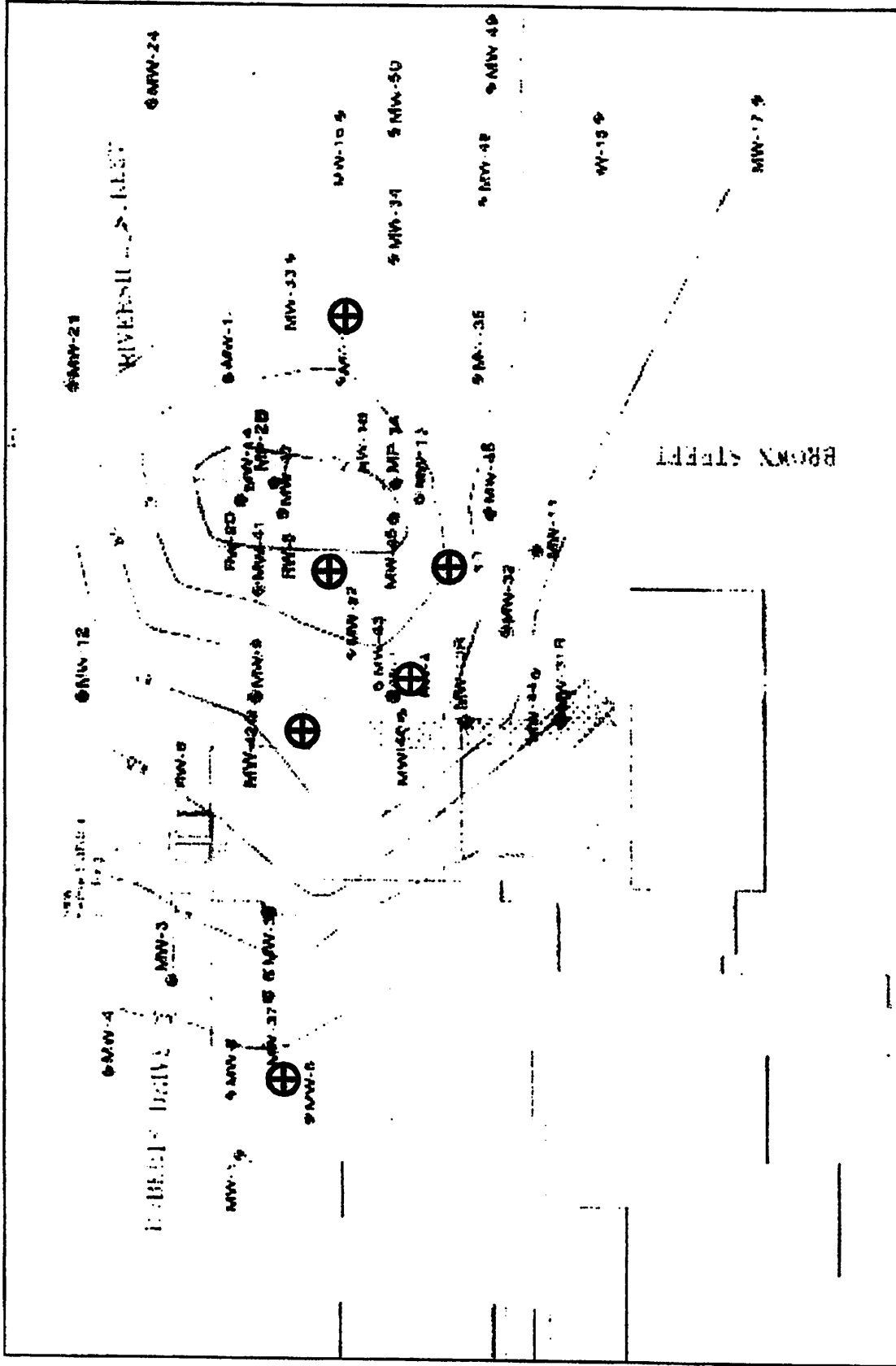


Dane S. Bauer
Member

Enclosure

Cc: Mayor Chris Cerino (Town of Chestertown) w/enclosure
Mr. Bill Ingersoll (Town of Chestertown) w/enclosure
Mr. Bob Sipes (Town of Chestertown) w/enclosure
Mr. Michael Forlini, Esq. (Funk & Bolton, PA) w/enclosure
Mr. John Beskid (Kent County Health Department) w/enclosure
Mr. James Sines (EBA Engineering, Inc.) w/enclosure
Mr. Michael Powell, Esq. (Gordon-Feinblatt, LLC) w/enclosure
Mr. Horacio Tablada (MDE) w/enclosure
Ms. Virginia Kearney (MDE) w/enclosure

Dr. Ching-Tzone Tien, Ph.D., PE (MDE) w/enclosure
Mr. Michael Eisner (MDE) w/enclosure
Mr. Saeid Kasraei (MDE) w/enclosure
Mr. John Grace (MDE) w/enclosure
Ms. Priscilla Carroll, Esq. (MDE) w/enclosure
Ms. Hilary Miller (MDE) w/enclosure
Ms. Susan Bull (MDE) w/enclosure
Mr. Christopher Ralston (MDE) w/enclosure
Mr. Kenneth Kozel (SRH) w/enclosure



⊕ Approximate location of soil boring / monitoring well

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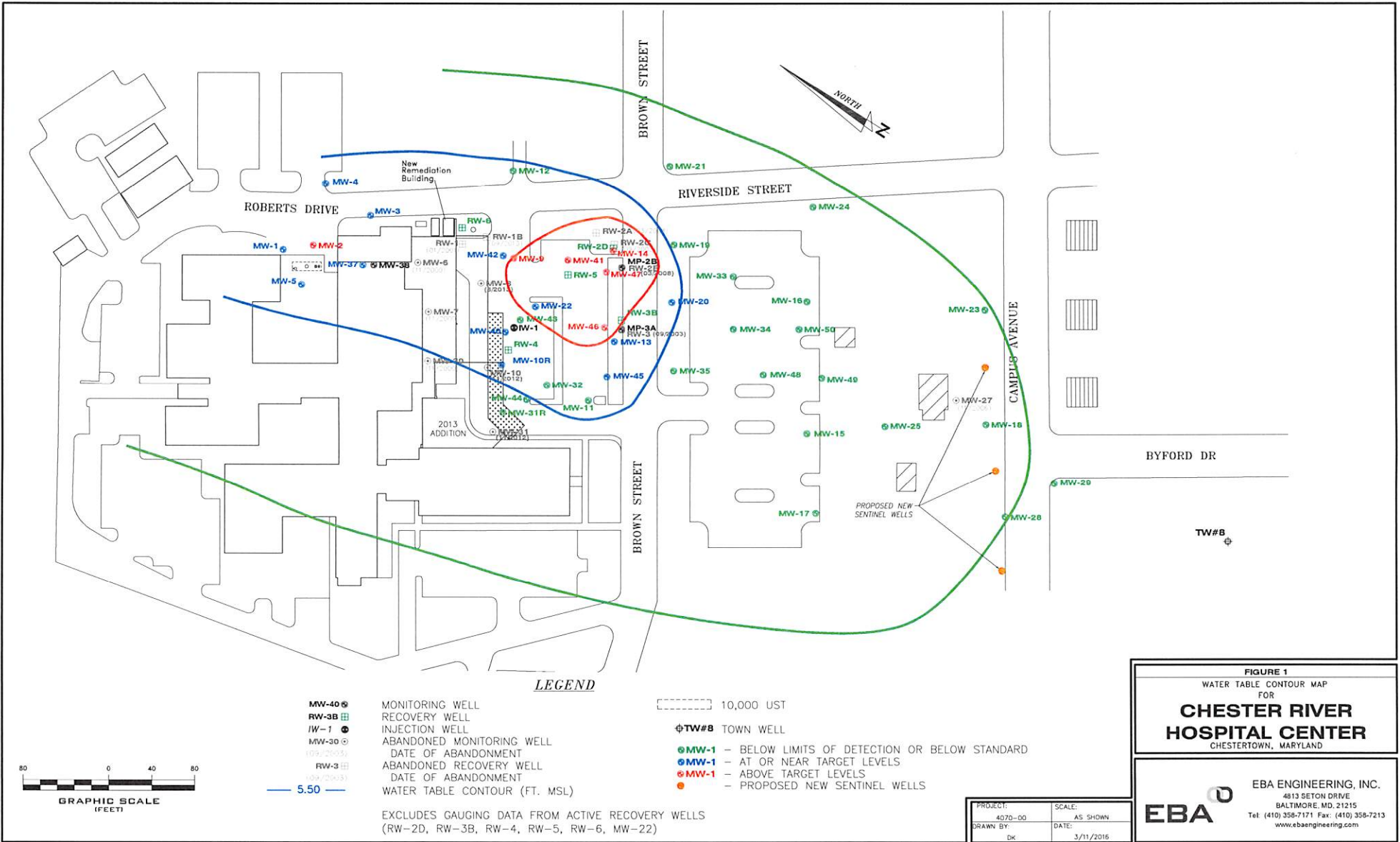


Figure 5 - Monitoring Wells map February 22, 2016 - Chester River Hospital Center, Chestertown, Maryland.