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South Carolina Department of Health and Environmental Control

Proposed Plan for Site Remediation

Former AVM Inc. Site

144 Tranquil Church Road Marion, South Carolina 29574

June 2016

ANNOUNCEMENT OF PROPOSED PLAN

The South Carolina Department of Health and Environmental Control (DHEC or the Department) has completed an evaluation of cleanup Alternatives to address contamination at the former AVM Inc. Site located at 144 Tranquil Church Road, Marion, South Carolina (the Site). This Proposed Plan identifies DHEC's Preferred Alternative for cleaning up the contaminated areas and provides the reasoning for this preference. In addition, this Plan includes summaries of the other cleanup Alternatives evaluated.

The Department is presenting this Proposed Plan to inform the public of our activities, gain public input, and fulfill the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This Proposed Plan summarizes information that can be found in greater detail in the Phase II Environmental Site Assessment (April 2005), the Interim Action Report (July 2006), the Remedial Investigation Report (June 2007 & July 2008), Feasibility Study (2015), and other documents contained in the Administrative Record. The Department encourages the public to review these documents to gain an understanding of the Site and the activities that have been completed.

The Department will select the final cleanup remedy after reviewing and considering comments submitted during the 30-day public comment period. The Department may modify the Preferred Alternative or select another response action presented in this Proposed Plan based on new information or public comments. Therefore, the public is encouraged to review and comment on all the Alternatives presented in this Proposed Plan.

DHEC's Preferred Cleanup Summary
Alternative 4: In Situ Chemical Reduction and Enhanced Bioremediation

DHEC's preferred remedial option includes:

- Injection of engineered amendments into the groundwater to reduce contaminant concentrations in the source areas and to establish a permeable reactive barrier (PRB) down gradient of the source areas.
- The promotion of both chemical (abiotic) and microbial (biotic) degradation for the breakdown of volatile organic compounds (VOCs),
- Institutional controls to prevent exposure while groundwater contamination remains,
- Long-term monitoring to evaluate treatment effectiveness.

MARK YOUR CALENDAR

❑ **PUBLIC MEETING:**

When: June 13, 2016 at 6 P.M.
Where: Mullins High School Lecture Hall

DHEC will hold a meeting to explain the Proposed Plan and all of the Alternatives presented in the Evaluation of Remedial Options report. After the Proposed Plan presentation, DHEC will respond to your questions. Oral and written comments will be accepted at the meeting.

❑ **PUBLIC COMMENT PERIOD:**
June 13, 2016 – July 13, 2016

DHEC will accept written comments on the Proposed Plan during the public comment period. Please submit your written comments to:

Lucas Berresford
Project Manager
DHEC's Bureau of Land & Waste Management
2600 Bull Street
Columbia, SC 29201
berresjl@dhec.sc.gov

❑ **FOR MORE INFORMATION:**

Call: Lucas Berresford, 803-898-0747

See: DHEC's website at:
http://www.dhec.sc.gov/environment/lwm/publicnotice.htm

View: The Administrative Record at the following locations:

Marion County Public Library
101 E Ct. St., Marion, SC 29571
Hours: Monday 12:30 pm - 5:30 pm
Tuesday-Wednesday 9:30 am - 5:30 pm
Thursday 12:30 pm - 5:30 pm
Friday 9:30 am - 5:30 pm
Saturday 9:30 am - 1:00 pm
Sunday Closed

DHEC Freedom of Information Office
2600 Bull Street, Columbia, SC
(803) 898-3817
Hours: Monday - Friday: 8:30 am - 5:00 pm

SITE HISTORY

The Site is located at 144 Tranquil Church Road in Marion, Marion County, South Carolina (Figure 1). The facility was constructed in the late 1960s and operations were initiated prior to 1970. The Property includes approximately 34 acres and consists of a 170,000-square-foot manufacturing center, associated parking, and a separate Training Center building in the northern corner of the property. A retention pond, located adjacent and east of the manufacturing center, receives storm water/surface water runoff and non-contact process wastewater from the manufacturing center.

Operations at the facility are associated with the manufacturing of gas springs, vacuum actuators, and window regulators for motor vehicles. AVM Incorporated purchased the facility from Meritor (formerly ArvinMeritor) in December 2007.

In July 2006, Interim Action (IA) activities were conducted to address contaminated soil in the zinc plating line area. Approximately one ton of visibly contaminated soil, to depths up to 2 feet, was excavated and disposed of offsite at a permitted facility. A historical floor drain was removed and associated piping sealed with concrete.

Site investigations from 2004 through 2012 identified the presence of chlorinated volatile organic compounds (VOCs) in soil and groundwater. In summary, the following site activities have taken place:

- Phase I Environmental Site Assessment (ENSAFE, January 2005)
- Phase II Environmental Site Assessment (ENSAFE, April 2005)
- Interim Action (IA) (ENSAFE, July 2006), and
- Remedial Investigation (RI) (ENSAFE, June 2007 & July 2008)
- Focused Feasibility Study (FFS) (ENSAFE, November 2015)

The RI identified two areas as the primary chlorinated VOC source areas at the Site. The first source area is located near the northern end of the facility building where trichloroethylene (TCE) and its daughter products are the main constituents of concern (COCs). The second source area is located on the southern end of the building where methylchloroform (1,1,1-TCA) and its daughter products are more prevalent. The two source areas are separated by a groundwater divide, one that flows in a northerly direction and the other in a southerly direction. In March of 2006, Arvin Meritor and DHEC entered into Responsible Party Voluntary Cleanup Contract (VCC) 05-5626-RP. The RI and FFS were performed pursuant to the VCC.

AREAS OF CONCERN

The two areas of concern identified in the Remedial investigation are defined as the Northern and Southern Areas (Figure 2).

The Northern area consists of the northern portion of the site in the vicinity of the asphalt parking lot, training center and MW-08 and MW-09. The northern parking lot is located between the technology center on the west side of the Site, just off of Tranquil Church Road, and the training center, which is near the Site's detention pond.

The primary COCs in this area are tetrachloroethylene (PCE), TCE and their respective breakdown products. TCE has been detected in groundwater at concentrations of up to 5,000 micrograms per liter (ug/L), considerably higher than the maximum contaminant level (MCL) of 5 ug/L. PCE concentrations were as high as 5200 ug/L, considerably higher than the MCL of 5 ug/L. The TCE groundwater plume extends approximately 500 feet in length.

The Southern Area consists of the former degreaser area and the vacuum actuator assembly (VAA) area. The chlorinated ethane, 1,1,1-TCA and its degradation products 1,1-dichloroethylene (DCE) and 1, 1-dichloroethane (DCA) are the primary COCs at the southern area. During the 2008 RI, the highest concentrations of 1,1,1-TCA (6,080 ug/L) and 1,1-DCE (3,790 ug/L) were reported from DP04, well above their respective MCLs of 200 ug/L and 7 ug/L, respectively. The highest concentrations of 1,1-DCA (6,670 ug/L) were detected at DP06, well above the MCL of 5 ug/L. These locations were in the vicinity of the former vapor degreaser and VAA.

SUMMARY OF SITE RISKS

Source area releases have migrated into the water table. TCE has been detected in groundwater at concentrations of up to 5,000 ug/L. 1,1,1-TCA and 1,1-DCE have been detected in groundwater at concentrations of 6,080 ug/L and 3,790 ug/L, respectively.

The primary risk to the public is from direct ingestion or exposure to contaminated groundwater. The groundwater plumes are contained on the Plant property and there are currently no direct receptors. The Department's current judgment is that the Preferred Alternative identified in this Proposed Plan is necessary to protect public health or the environment from actual or threatened releases of hazardous substances into the environment.

CLEANUP GOALS

Remedial Action Objectives (RAOs) are developed in order to set goals for protecting human health and the environment. The goals should be as specific as possible, but should not unduly limit the range of Alternatives that can be developed. Accordingly, the following RAOs were developed for the Site:

1. Prevent human ingestion of groundwater with COCs greater than MCLs (or regional screening levels (RSLs) for tap water where an MCL does not exist); and
2. Minimize the time required for groundwater COC concentrations to reduce below MCLs and restore groundwater to drinking water standards.

The primary COCs at the Site are VOCs, particularly TCE, PCE, 1,1,1-TCA, 1,1-DCA, and 1-1-DCE.

The remediation goals for VOC-affected groundwater are the state MCLs, as specified in the South Carolina Maximum Contaminant Levels in Drinking Water at S.C. Code Ann. R.61-58.5.N(2), or the Tapwater Screening Levels in EPA's Regional Screening Level tables if an MCL does not exist (see Table 1).

SCOPE AND ROLE OF THE ACTION

The proposed action in this plan will be the final cleanup action for the Site. The remedial action objectives for this proposed action include preventing human ingestion of groundwater, minimizing the time required for groundwater COC concentrations to reduce below MCLs and restoring groundwater to drinking water standards.

SUMMARY OF REMEDIAL ALTERNATIVES

Based on information collected during site investigations, a Focused Feasibility Study (FFS) was conducted to identify, develop, and evaluate cleanup options and remedial Alternatives. The FFS process used the information gathered during the Remedial Investigation and other assessments to develop and evaluate potential remedial Alternatives. Each remedial Alternative evaluated by the Department is described briefly below. Note: A final Remedial Design will be developed prior to implementation.

SUMMARY OF REMEDIAL ALTERNATIVES

Alternative	Description
1: No Action	• Site is left in its current condition • Discontinuation of groundwater and surface water monitoring • Net present worth: $0
2: Monitored Natural Attenuation (MNA)	• Relies on monitoring the natural degradation processes that reduce contaminant concentrations • Long-term groundwater monitoring program for 30 years • Institutional controls would be implemented to restrict groundwater use • Net present worth: $868,600
3: Groundwater Extraction	• Groundwater extraction and ex-situ treatment • Institutional controls would be implemented to restrict groundwater use • Long-term groundwater monitoring • Net present worth: $10,443,700
4: In Situ Chemical Reduction and Enhanced Bioremediation	• Injection of carbon and Zero Valent Iron amendments to promote both biological and chemical breakdown of VOC contaminants in groundwater • Institutional controls to prevent exposure • Long-term monitoring to evaluate treatment effectiveness • Net present worth: $905,700 (adjusted for inflation over 30 year period)

DESCRIPTION OF ALTERNATIVES

Alternative 1 - No Action

No action is included as a baseline for comparison with other Alternatives. Under this Alternative, no action is taken to treat or prevent potential exposure to contaminated groundwater, or reduce volume, toxicity, or mobility of contaminants. This action would rely on natural attenuation processes to reduce contaminant concentrations over time. This action does not include any institutional controls (e.g., deed restrictions) or monitoring to evaluate natural attenuation or COC extent and the Site would be uncontrolled. This Alternative would not be protective of human health or the environment and could take more than 100 years to achieve the RAOs.

Alternative 2 – Monitored Natural Attenuation (MNA)

MNA would consist of a long-term groundwater monitoring to assess contaminant trends. Institutional controls would be used to prevent groundwater use and to maintain the current site use. The net present worth for this remedial Alternative through Year 30 is approximately $868,600. Natural degradation will likely reduce COCs to the RAOs over a long duration of approximately 100 years.

Alternative 3 – Groundwater Extraction

This Alternative would consist of groundwater extraction, ex-situ treatment, institutional controls, and long-term groundwater monitoring. The main objective of this Alternative is hydraulic containment and source remediation.

This Alternative would include construction of recovery wells, pumps, piping, and a treatment system (air stripper). A total of eight groundwater extraction wells were assumed, five at the northern

plume area and three at the southern plume area inside the facility. Treated groundwater would be discharged to the local publicly-owned treatment works (POTW). Primary components of the treatment system include main holding tank, transfer pumps, piping, air stripper treatment system, instrumentation and controls, freeze protection, lighting, and security fencing.

The net present worth, adjusted for inflation, for this remedial Alternative, through Year 30, is approximately $10,433,700. This technology will likely reduce COCs to the RAOs in approximately 30 or more years.

Alternative 4 – In Situ Chemical Reduction and Enhanced Bioremediation (ISCR /ISB)

In Situ chemical reduction (ISCR) and enhanced bioremediation (ISB) consists of two parts. The first is the ISCR. This is accomplished by injecting zero valent iron (ZVI) into the ground to promote chemical degradation in the source area and in the down gradient permeable reactive barrier (PRB). As groundwater moves through the barrier, the contaminants react with the iron and are treated. The second part of this remedy involves ISB. This is accomplished by injecting carbon substrates (examples include lactate or molasses) into the groundwater in both the southern and northern source areas as well as in the down gradient flow path of the contaminant plume in the PRB. The injections will stimulate microbial activity and create an environment favorable for biological reductive dechlorination, thus treating the source areas and reducing the plume size.

To assess remedial performance, a long term groundwater monitoring plan will be put in place to evaluate the effectiveness of the remedy.

The net present worth, adjusted for inflation, for this remedial action, through Year 30, is approximately $905,700. This Alternative should reduce the timeframe of achieving the RAOs within 10-30 years.

EVALUATION OF ALTERNATIVES

The National Contingency Plan requires the Department use specific criteria to evaluate and compare the different remediation Alternatives in order to select a remedy. The criteria are:

1. Overall protection of human health and the environment;
2. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs);
3. Long-term effectiveness and permanence;
4. Reduction of toxicity, mobility, or volume through treatment;
5. Short-term effectiveness;
6. Implementability;
7. Cost; and
8. Community acceptance

The main objectives for the preferred remedial action are to be protective of human health and the environment and to comply with State and Federal regulations. These two objectives are considered *threshold criteria*. For an Alternative to be considered as final, these two threshold criteria must be met.

The following measures are considered *balancing criteria*: long-term effectiveness and permanence; reduction of toxicity, mobility, or volume through treatment; short-term effectiveness; implementability; and cost. These criteria are used to weigh the major technical feasibility and cost advantages and disadvantages.

Community response to the preferred Alternative and the other considered Alternatives is a *modifying criterion* that will be carefully considered by the Department prior to final remedy selection.

COMPARATIVE ANALYSIS OF ALTERNATIVES

A comparative analysis of each Alternative was performed. In this type of analysis, the Alternatives were evaluated in relation to one another for each of the evaluation criteria. The purpose of the analysis is to identify the relative advantages and disadvantages of each Alternative.

Overall Protection of Human Health and the Environment

When evaluating Alternatives in terms of overall protection of human health and the environment, consideration is given to the manner in which Site-related risks are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.

Alternative 1 (No Action): No Action offers the least protection of human health and the environment. This Alternative provides no active treatment, no elimination of further migration of contamination, and no restriction to future use of contaminated groundwater and surface water.

Alternative 2 (MNA): MNA is more protective of human health and the environment than Alternative 1. This Alternative involves long term monitoring of the groundwater contamination and deed restrictions to restrict the use of groundwater at the site.

Alternative 3 (Groundwater Extraction): Groundwater Extraction is more protective than Alternatives 1 and 2. Protection of human health is accomplished by controlling exposure to and use of Site groundwater through institutional controls. This Alternative would prevent current and future use of groundwater, thus reducing the potential risk posed by exposure to contaminated groundwater. The groundwater extraction system would likely hydraulically contain the contaminant plume, but would only marginally accelerate restoration of groundwater quality as compared to natural attenuation processes.

Alternative 4 (ISCR and ISB): This Alternative provides the highest degree of protection of human health and the environment by reducing contamination in situ. Contaminant concentrations in the source area should be decreased by the tandem use of ISCR and ISB, which will work together to promote both chemical and biological degradation of the contaminants. During the remediation process, protection of human health is further accomplished by controlling exposure to and use of Site groundwater through institutional controls.

Compliance with ARARs

This factor evaluates whether the Alternative meets Federal and State environmental statutes, regulations, and other requirements that pertain to the Site, or whether a waiver is justified.

Alternative 1 (No Action): This Alternative would not prevent groundwater ingestion or promote restoration of groundwater to drinking water standards and therefore, does not comply with the ARARs.

Alternative 2 (MNA): Like Alternative 1, this Alternative does not comply with the ARARs, as there is no active remedy to reduce groundwater contamination to below MCLs. Additionally, there is no assurance that it would restore groundwater to below the MCLs over an extended period of time. However, since institutional controls would be implemented, no additional location or action-specific ARARs are triggered by this Alternative.

Alternative 3 (Groundwater Extraction): This Alternative would comply with ARARs via the implementation of an active remedy. Groundwater extraction would provide an element of hydraulic control on the contaminant plume which could be evaluated through the existing groundwater monitoring well network. However, additional action-specific ARARs may be triggered by this Alternative, such as the South Carolina Pollution Control Act regulating the discharge of extracted groundwater to the POTW.

Alternative 4 (ISCR and ISB): Like Alternative 3, this Alternative would comply with the ARARs with the use of an active remedy and would not produce any waste byproducts. This Alternative should reduce the timeframe for complete restoration of groundwater and would eventually attain MCLs within 10 – 30 years.

Long-Term Effectiveness and Permanence

Evaluation of long-term effectiveness and permanence considers the ability of an Alternative to maintain protection of human health and the environment over time.

Alternative 1 (No Action): The No Action Alternative includes no controls for exposure and no long-term management measures. All current and potential future risks would remain under this Alternative

Alternative 2 (MNA): The extent of groundwater contamination, and presence of degradation products suggest that natural attenuation is occurring at the site. MNA would not decrease the time for restoration of groundwater. Natural degradation will likely reduce COCs to the RAO over a long duration (100 or more years).

Alternative 3 (Groundwater Extraction): Groundwater recovery and an ex-situ treatment system have been reliable to maintain hydraulic containment. The timeframe for restoration of groundwater would be 30 to 100 or more years. The technology is expected to have low to moderate effectiveness. This technology will likely reduce COCs to the RAO over a long duration (30 or more years).

Alternative 4 (ISCR and ISB): The injected amendments are expected to be effective for at least three to five years, and should greatly accelerate restoration of groundwater quality through reductive dechlorination. This Alternative should reduce the timeframe for complete restoration of groundwater and would eventually attain MCLs within 10 – 30 years. This Alternative is the most effective in the long term.

Reduction of Toxicity, Mobility, and Volume through Treatment

This factor evaluates an Alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present.

Alternative 1 (No Action): The No Action Alternative does not reduce the toxicity, mobility, or volume of contaminated groundwater through treatment; however, natural attenuation will reduce COCs eventually in 30 to 100 or more years. The No Action Alternative does not satisfy the statutory preference for treatment.

Alternative 2 (MNA): This Alternative does not provide active remediation to reduce the toxicity, mobility, or volume of contaminated groundwater, but relies on the natural attenuation process to reduce toxicity and volume of contaminants. Contaminant mobility would remain unchanged.

Alternative 3 (Groundwater Extraction): The groundwater extraction Alternative provides active treatment by means of an air stripper system. Residual materials remaining from the treatment system could include air stripper packing media and spent activated carbon if air treatment is necessary. These materials would require management and treatment or disposal, triggering additional action-specific ARARs for this Alternative.

Alternative 4 (ISCR and ISB): This Alternative should reduce contaminant concentrations in both the source areas with the tandem use of ISCR and ISB and in the down gradient flow direction with the use of a PRB. This Alternative is the best at Reduction of Toxicity, Mobility, and Volume and provides active treatment of contamination.

Short-Term Effectiveness

The short-term effectiveness evaluation takes into consideration short-term risks that might be posed to on-Site workers, the surrounding community, or the environment during implementation of the remedy, as well as the time until protection is achieved.

Alternative 1 (No Action): As no actions are taken, this remedial Alternative would not pose any direct short-term risks to the community, workers or environment. However, No Action would pose a risk of undetected offsite migration and exposure to potential receptors, and inadvertent future use of groundwater onsite.

Alternative 2 (MNA): Exposure to Site contaminants by the community and workers during implementation of this remedy is not expected. Potential risks associated with monitoring activities are minimal and easily controlled.

Alternative 3 (Groundwater Extraction): Minimal risks are anticipated for this groundwater extraction remedy. The remedy would require movement of large volumes of contaminated water on a continuous basis. Transfer of contaminated groundwater from inside the active facility to outside for treatment may present a safety concern to workers due to leaks and the frequent operation and maintenance requirements. Risks of unforeseen migration of contaminants in

groundwater would be reduced under this Alternative due to hydraulic control in the subsurface and active monitoring.

Alternative 4 (ISCR and ISB): Minimal risks are anticipated for this remedial Alternative. This Alternative does not typically generate waste or violent subsurface reactions, and is considered to have less potential for disruption to ongoing Site operations compared to other active treatment technologies such as groundwater extraction. Injection substrate materials are safe and generally benign. Based on the location of the proposed injections in relation to the Site boundary, the quantity of amendments, and emplacement of PRBs in the down gradient plumes, the short term risk of displacing source area mass is considered minimal.

Implementability

The analysis of implementability considers the technical feasibility and administrative feasibility of remedy implementation, as well as the availability of required materials and services.

Alternative 1 (No Action): As no actions are taken, this remedial Alternative is easily implemented.

Alternative 2 (MNA): This remedy is readily implementable. Institutional controls will require completion of documentation and coordination with appropriate regulatory authorities but are easily implementable.

Alternative 3 (Groundwater Extraction): This remedy is considered implementable at the Site with moderate difficulty. Significant infrastructure would be required, and modifications to the current facility. Subsurface piping and well vault installation at the active manufacturing facility would require significant planning and engineering.

Alternative 4 (ISCR and ISB): The ISCR/ISB Amendments and materials are readily available and specialized vendors are available to implement the work. This Alternative is considered moderately difficult to implement but not as difficult as Groundwater extraction.

Cost

The cost analysis evaluated both capital and annual operation and maintenance (O&M) costs. The net present value of an Alternative is the sum of initial capital costs and the discounted value of O&M costs over the lifespan of the remedy. For the purpose of this evaluation, cost has been determined over a 30-year period for comparison and estimation purposes only. This time period allows for a reasonable estimation of potential costs, the development of prospective new technologies, and/or additional risk-based cleanup goals which may be adopted within that period. Actual remediation and time-to-closure will be dependent on long-term effectiveness of the treatment and attainment of the RAOs.

Alternative 1 (No Action):	$0
Alternative 2 (MNA):	$ 868,600
Alternative 3 (Groundwater Extraction):	$ 10,433,700
Alternative 4 (ISCR /ISB):	$905,700

Community Acceptance

Community acceptance of the preferred remedy will be evaluated after the public comment period. Public comments will be summarized and responses provided in the Responsiveness Summary Section of the Record of Decision document that will present the Department's final Alternative selection. The Department may choose to modify the preferred Alternative or select another remedy based on public comments or new information.

SUMMARY OF THE DEPARTMENT'S PREFERRED ALTERNATIVE

The Department has identified Alternative 4 (In Situ Chemical Reduction and Enhanced Bioremediation) as the preferred remedy for the Site.

In Situ chemical reduction and enhanced bioremediation consists of two parts. The first is the In Situ Chemical Reduction. This is accomplished by injecting ZVI into the ground to promote chemical degradation in the source area and in the down gradient PRB. The injections will stimulate chemical degradation of the contaminants. As groundwater moves through the down gradient barrier, the contaminants react with the iron and are treated. The second part of this remedy involves In Situ Bioremediation (ISB). This is accomplished by injecting carbon substrates (examples include lactate or molasses) into the groundwater in both the southern and northern source areas as well as in the down gradient PRB. The carbon substrates promote microbial activity and create an environment favorable for biological reductive dechlorination, thus treating the contaminated groundwater.

This Alternative protects human health and the environment by reducing contamination in situ. Contaminant concentrations in the source area should be decreased by the tandem use of ISCR and ISB while the down gradient flow of the contaminant plume will be further degraded when interacting with the PRB. During the remediation process, protection of human health is further accomplished by controlling exposure to and use of Site groundwater through institutional controls.

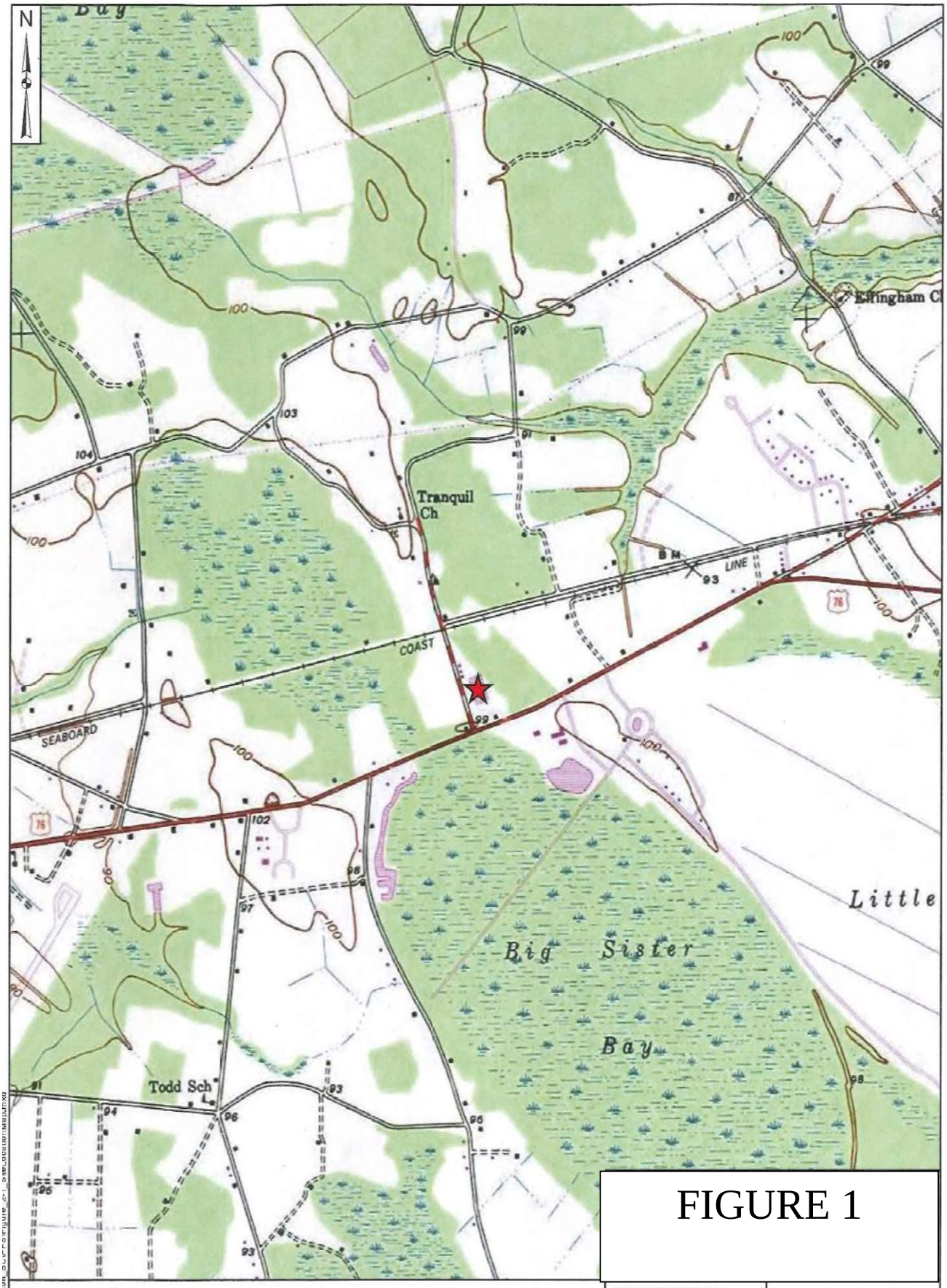
This Alternative should reduce contaminant concentrations in the source area with the tandem use of ISCR and ISB. Diffused concentrations in the down gradient plume will be further reduced by the PRB. This Alternative is the best at Reduction of Toxicity Mobility or Volume and provides active treatment of contamination.

Although it is moderately difficult to implement and may have some minor short-term impacts at the facility, it is the most acceptable active remedy. It also should provide the shortest timeframe to reach the remedial goals.

The estimated net present worth for this remedial action through Year 30 is approximately $905,700.

Table 1		
Constituent of Concern	**MCL** (ug/L)	**Highest On-Site Concentration** (ug/L)
Tetrachloroethene (PCE)	5	5200
Trichloroethene (TCE)	5	5000
1,1,1–Trichloroethane (1,1,1–TCA)	200	6080
1,1–Dichloroethane (1,1–DCA)	2.7*	6670
1,1–Dichloroethene (1,1–DCE)	7	3790
cis–1,2–Dichloroethene (cis–1,2–DCE)	70	3130
Methylene Chloride (dichloromethane)	5	19
Vinyl Chloride (VC)	2	84.7

*Tapwater Value-EPA RSL Table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http://services.arcgisonline.com/arcgis/services/USA_Topo_Maps
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FIGURE 1

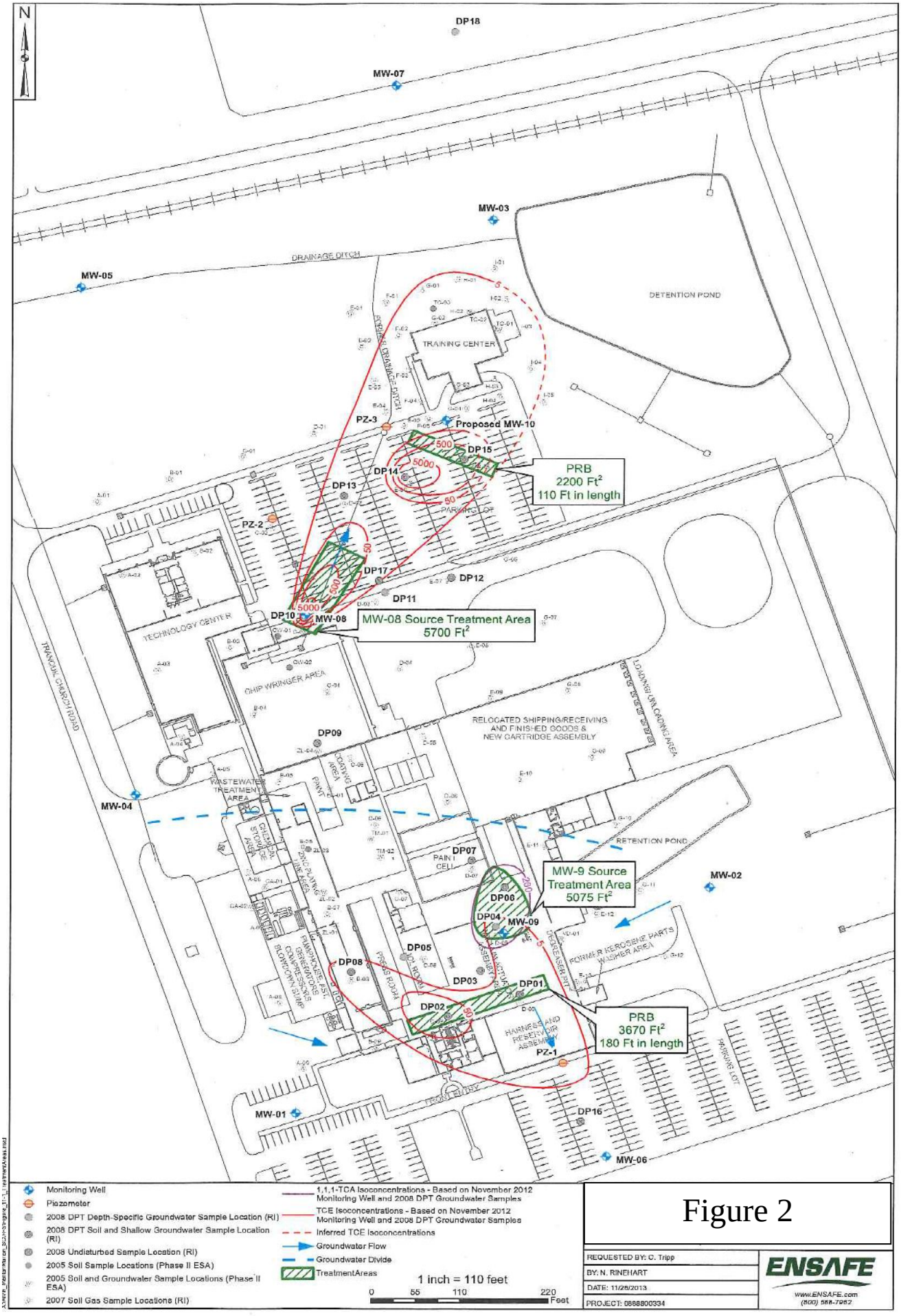

Figure 2

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