Site Management Plan

Brownfield Cleanup Program
Former Griffin Technology Site
Farmington, New York

BCP Site # C835008

December 2008

S&W
REDEVELOPMENT

SITE MANAGEMENT PLAN

BCP SITE No. C835008

FORMER GRIFFIN TECHNOLOGY SITE

FARMINGTON, NEW YORK

Prepared for

New York State Department of Environmental Conservation
Division of Environmental Remediation
6274 Avon-Lima Road
Avon, NY 14414-8519

on Behalf of

SW Victor Manchester, LLC
430 East Genesee Street
Syracuse, New York 13202

Prepared by

S&W Redevelopment of North America, LLC
430 East Genesee Street
Syracuse, New York 13202

December 2008

Project No. B6003

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SITE MANAGEMENT PLAN
FORMER GRIFFIN TECHNOLOGY SITE
BCP SITE # C835008
FARMINGTON, ONTARIO COUNTY, NEW YORK

SECTION 1 - OVERVIEW AND OBJECTIVES

Remedial action has been completed under the New York State Brownfield Cleanup Program (BCP) at the former Griffin Technology property located at 6132 Victor-Manchester Road, Ontario County, Farmington, New York (Figure 1). The subject property (the *site*) is 3.64 acres, and consists of Tax Parcel 29.00-1-12 and the southern quarter of parcel 29.00-1-76-1. The site is bordered by wooded areas (north), Victor-Manchester Road (south), wooded areas (east) and an auto repair facility (west). The site is currently occupied by one (1) former manufacturing building encompassing a footprint of approximately 12,000 square feet (ft^2). The building is unoccupied and in disrepair, and plans are to have it demolished. A separate storage building of approximately 2,400 ft^2 was demolished in 2008, north of the existing building (Figure 2).

Griffin Technology operated on the site from 1975 until the mid-1990s performing photocoating (laminating) operations. Reportedly, during its operations on the property from 1975 through 1986, Griffin Technology released small quantities of trichloroethene (TCE) on the ground surface near the west side of their manufacturing facility. Over time these releases impacted groundwater, however, there has been no identifiable source at the site.

SW Victor Manchester, LLC (Volunteer) submitted a BCP application to the New York State Department of Environmental Conservation (NYSDEC) on October 12, 2006. A Brownfield Cleanup Agreement (BCA) was executed on August 24, 2007, which required that the Volunteer determine the nature and extent of contamination from historic site operations, and subsequently remediate the site to support future commercial use.

Remedial activities were completed by the Volunteer at the site in 2008 in accordance with the BCA. This Site Management Plan (SMP) has been prepared by S&W Redevelopment of North America, LLC (SWRNA) on behalf of the BCP Volunteer, to

guide the current site owner and future owners to implement and maintain the required engineering and institutional controls associated with the NYSDEC-approved remedial action.

Activities described in this SMP relate to the following elements of the selected remedy for the site:

- Imposition of an institutional control in the form of an environmental easement that will: (a) limit the use and development of the property to commercial use only; (b) require compliance with an approved *Site Management Plan* (see below); (c) restrict use of groundwater as a source of either potable or process water without necessary water quality treatment as determined by the NYSDEC/NYSDOH; (d) require either that a soil vapor investigation be conducted (with provisions for mitigating impacts identified), or that soil vapor mitigation systems be installed for any buildings developed on the site; and (e) annual submission by the property owner to NYSDEC a certification of the institutional and engineering controls.

- Development of a *Site Management Plan* (SMP), which will include the following institutional controls: (a) a soil management plan to handle the excavation of soils that may have residual contamination; (b) provisions to evaluate and/or to mitigate the potential for soil vapor intrusion for any buildings developed on the site; and (c) development of a groundwater monitoring plan to assure the effectiveness of the remedy.

- The property owner will provide annual certification of institutional and engineering controls for the site. The certification will be prepared by a NYS licensed professional engineer or a qualified environmental professional acceptable to the Department. Annual certification submitted to the Department will include a completed NYSDEC Site Management Periodic Review Report Notice Institutional and Engineering Controls Certification Form.

Failure to comply with this SMP is a violation of 6 NYCRR Part 375 and the Brownfield Cleanup Agreement for the site and is thereby subject to applicable penalties.

SECTION 2 - NATURE AND EXTENT OF SITE CONTAMINATION

Several site investigations were conducted at the site since the early 1990s by a number of consultants, and actions had already been taken to initiate remediation of contamination prior to the site's acceptance into the BCP. Following acceptance in the BCP, the Volunteer conducted additional sampling as requested by NYSDEC to supplement existing information, to characterize the nature and extent of contamination in accordance with the BCA. The Volunteer also completed a human health exposure assessment (HHEA) based on the data it collected and previous site investigation data.

The categories of contaminants that exceeded standards, criteria, or guidance (SCGs) included volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs).

2.1 - SURFACE SOIL

Soil samples collected at sixteen (16) locations across the site from the upper two inches of soil did not indicate the presence of contamination above applicable 6NYCRR Part 375-6.8(b) Restricted Commercial Soil Cleanup Objectives (SCOs), except for two (2) discrete spots immediately below asphalt in the paved area of the site. The following polycyclic aromatic hydrocarbons (PAHs) were detected above commercial SCOs in those two samples:

Benzo(a)pyrene
Benzo(a)anthracene
Benzo(b)fluoranthene
Indeno(1,2,3-cd)pyrene
Dibenzo(a,h)anthracene

It is highly probable that these compounds are derived from the asphalt pavement and therefore are not considered contaminants of concern.

2.2 – SUBSURFACE SOIL

Thirty nine (39) subsurface soil samples were collected from soil borings drilled across the site. None of the analyzed soil samples contained any contaminants above commercial SCOs.

2.3 - GROUNDWATER

Volatile organic compounds (VOCs) were detected in site groundwater above Class GA groundwater quality standards. The detected groundwater contaminants include trichloroethene (TCE); cis-1,2-dichloroethene (DCE); and vinyl chloride (VC).

2.5 – SOIL VAPOR

Groundwater contaminated with VOCs may be a potential future source of soil vapor contamination at the site. However, Interim Remedial Measures (IRMs) have been completed at the site to address groundwater contamination (see Section 2.6), which reduces the potential for soil vapor contamination to form in the future. In addition, the site owner must address the possibility that soil vapor intrusion may occur in the future as buildings are constructed at the site, or before the existing building is reoccupied, as described in Section 6 of this SMP.

2.6 - INTERIM REMEDIAL MEASURES (IRMs)

An Interim Remedial Measure (IRM) was implemented in 1997, in accordance with an IRM Work Plan (Woodward Clyde Associates, July 1996), that consisted of groundwater recovery and discharge to the local publicly owned treatment works (POTW) sanitary sewer. The IRM included collecting groundwater samples from monitoring wells located on and off-site semi-annually. Progress reports documenting the operation of the system, quantity of groundwater removed and groundwater monitoring results were submitted to the NYSDEC. In general, the system was effective at decreasing the concentrations of contaminants on and off the site, but not effective at removing the potential on-site source of contamination. Analytical data for samples collected from the existing monitoring wells indicated that the concentrations of the contaminants of concern had reached steady state levels.

In Situ Groundwater Treatment (ISCO) was implemented at the site in 2008 by the Volunteer to decrease the volatile organic compounds (VOCs) contaminant mass in the upper bedrock groundwater zone. This was done to destroy the groundwater contamination that the previous groundwater recovery system was unable to capture and remove from the site. ISCO implementation was completed by SWRNA, in accordance with an NYSDEC-approved ISCO/IRM Design Document (SWRNA, Revised July 2008). Approximately 13,500 pounds of potassium permanganate was injected into seventeen (17) injection wells across the site in July and August 2008, in an aqueous solution ranging between 3 and 4 percent. Potassium permanganate ($KMnO_4$) is recognized as a presumptive/proven remedial technology (DER-15) for VOC contamination in groundwater, and is an effective oxidizing agent that destroys TCE and its degradation products. The characteristic purple color of potassium permanganate solution makes it easy to visually monitor potassium permanganate dispersion in groundwater. Based on field observations the potassium permanganate was distributed across the site and is expected to destroy organic contaminants it comes into contact with.

2.7 - SUMMARY OF HUMAN EXPOSURE PATHWAYS

Based on a Human Health Exposure Assessment, the only potentially complete exposure pathways for this site are related to contaminated groundwater, and soil vapor contamination that may potentially form from groundwater contamination. Groundwater contamination has been addressed by IRM activities completed at the site, including groundwater recovery and ISCO. The effects of ISCO over time will destroy the vast majority of remaining groundwater contamination that the potassium permanganate comes into contact with, and this in turn will reduce the future potential for soil vapor contamination to exist. The availability of a public water supply and the institutional control requiring treatment and NYSDEC/NYSDOH approval prior to using site groundwater effectively eliminates the potential for human exposure to contaminants in groundwater at the site.

SECTION 3 - INSTITUTIONAL CONTROLS

The following institutional controls are included in the Environmental Easement between the property owner and NYSDEC.

3.1 SITE USE RESTRICTIONS

The site is currently zoned commercial. The environmental easement shall prohibit the site from ever being used for purposes other than commercial (e.g. residential use is prohibited) use without the expressed written waiver of such prohibition by the Department, or if at such time the Department no longer exists, any New York State Department, Bureau, or other entity replacing the Department.

3.2 GROUNDWATER USE PROHIBITION

The environmental easement shall prohibit the use of the groundwater underlying the site without treatment rendering it safe for drinking water or industrial purposes, as appropriate, unless user first obtains permission to do so from the Department and the NYSDOH, or if at such time the Department no longer exists, any New York State Department, Bureau, or other entity replacing the Department.

3.3 - SOIL VAPOR INVESTIGATION/MITIGATION

The environmental easement shall require that either a soil vapor investigation be conducted and soil vapor mitigation systems installed as appropriate, or soil vapor mitigation systems be installed, for any buildings constructed at the site.

3.4 CERTIFICATION

The environmental easement shall require the property owner to provide a periodic certification to the NYSDEC, prepared by a professional engineer until the NYSDEC notifies the property owner in writing this certification is no longer needed. This submittal will contain certification that the engineering and institutional controls are still in place, that the NYSDEC is allowed access to the site, and that nothing has occurred that will impair the ability of the control to protect the public health or the environment,

or constitute a violation or failure to comply with the Site Management Plan (SMP). A summary of activities completed as a requirement of this SMP during the prior certification period will be provided.

SECTION 4 - SOIL MANAGEMENT PLAN

The purpose of this section is to summarize the standards for management of subsurface soils/fill during any future intrusive work. Measures outlined in the Community Air Monitoring Plan (CAMP – see Appendix A) will be implemented during periods of soil excavation, movement, handling if evidence of contamination is apparent.

4.1 - SOIL EXCAVATION ACTIVITIES

4.1.1 - GENERAL

Soil excavated at the site may be reused as backfill material on-site provided it contains no readily observable (visual, olfactory, or having PID readings of 10 ppm above background or greater) evidence of contamination.

Site soil that is excavated and is intended to be removed from the property must be managed, characterized, and properly disposed of in accordance with NYSDEC regulations and directives.

For excavated soil with evidence of contamination (i.e., visual, olfactory, and/or PID indications), one composite sample and a grab sample will be collected for each 100 cubic yards of stockpiled soil. The composite sample will be collected from five (5) locations within each stockpile. A duplicate composite sample will also be collected. Soil samples will be composited by placing equal portions of fill/soil from each of the five (5) sample locations into a pre-cleaned, stainless steel (or Pyrex glass) mixing bowl. The soil/fill will be thoroughly homogenized using a stainless steel scoop or trowel and transferred to pre-cleaned jars provided by the laboratory. The composite and duplicate samples will be analyzed by a NYSDOH ELAP-certified laboratory for pH (EPA Method 9045C), reactivity, ignitability, Target Compound List (TCL) SVOCs, PCBs, and TAL metals, and cyanide. The grab sample will be collected from whatever location has the highest PID reading, and will be analyzed for TCL VOCs.

If analytical results verify that no contaminants are present above NYS commercial soil cleanup objectives (SCOs) per 6NYCRR Part 375-6.8(b), the soil may be used as backfill on site.

Any soil transported off site will utilize licensed haulers in accordance with appropriate local, state, and federal regulations, including 6 NYCRR Part 364. For excavated soil that does not exhibit evidence of contamination but must be sent off-site, one composite sample, one duplicate composite sample, and one grab sample will be collected for every 2,000 cubic yards of stockpiled soil, and analyzed as indicated above. A minimum of one sample will be collected for volumes less than 2,000 cubic yards.

If analytical results indicate that concentrations exceed the standards for RCRA characteristics, or the soils are determined to be a listed hazardous waste per 6NYCRR Part 371, the material will be considered a hazardous waste and must be properly disposed offsite at a permitted facility within 90 days of excavations. If the analytical results indicate the soil is not a hazardous waste, the material will be properly disposed of offsite at an approved Part 360 permitted solid waste disposal facility, or at an off-site location as approved in writing by the Department.

Impacted soil that is stockpiled on site shall be placed on and covered with polyethylene sheeting to shed storm-water and control dust. Stockpiled soil will not be transported off site until analytical results are received and evaluated.

If bedrock is to be removed from the site it will be characterized and handled as approved by the Department.

Any off-site fill material brought to the site for filling and grading purposes shall be from an acceptable borrow source free of industrial and/or other potential sources of chemical or petroleum contamination. Off-site borrow sources shall be subject to collection of one representative composite sample per 500 cubic yards per source. Such sample shall be analyzed for TCL VOCs, SVOCs, pesticides, PCBs, target analyte list (TAL) metals, and cyanide. The soil will be acceptable for use as cover material provided that all parameters meet the more stringent of NYSDEC commercial SCOs, or SCOs for the protection of groundwater, per 6NYCRR Part 375-6.8(b).

If the contractor designates a source as "virgin" soil, it shall be further documented in writing to be native soil material from areas not having supported any known prior industrial or commercial development or agricultural use. Virgin soils shall be subject to

collection of one representative composite sample per source. Such sample shall be analyzed for TCL VOCs, SVOCs, pesticides, PCBs, TAL metals, and cyanide. The soil will be acceptable for use as backfill provided that all parameters meet the more stringent of NYSDEC commercial soil cleanup objectives ,or SCOs for the protection of groundwater, per 6NYCRR Part 375-6.8(b).

4.1.2 - Building Sub-Slab

In addition to the general soil management provisions described above, the following provisions will apply to the area within the existing building footprint. If the existing site building is demolished in the future and the building slab is removed, a Soil Sampling Plan will be submitted to NYSDEC/NYSDOH for written approval if any soil below the slab is to be excavated.

Analytical results for soil samples collected in accordance with the approved Soil Sampling Plan will be compared to Protection of Groundwater SCOS for VOCs (6NYCRR Part 375-6.8(b)), and Commercial SCOs for SVOCs, pesticides, PCBs, and target analyte list (TAL) metals. Following this comparison a determination will be made as to whether soils excavated from below the slab may be used as site backfill, with NYSDEC/NYSDOH written concurrence. Excavation may occur after written approval by NYSDEC/NYSDOH.

4.2 - EROSION AND RUNOFF CONTROL

Surface erosion and run-off controls shall be maintained at the site at all times during construction activities that result in exposing soils or excavation of soil. This may include:

- proper maintenance of the vegetative cover established on this property;
- properly covering excavated soils staged at the site to prevent erosion, runoff, and dust;
- preventing runoff into storm sewers during soil excavation and construction activities by means of hay bales or comparable barriers to prevent inflow of contaminated water and/or sediment;

4.3 - DEWATERING

If it is necessary to dewater future soil excavations for construction-related reasons, the Department will be notified in advance of such work. Groundwater will first be visually examined for contamination and screened for the presence of VOCs with a PID. Any groundwater showing evidence of contamination (i.e. free product or sheen, and PID headspace readings > 10 ppm above background) that is removed from an excavation will be containerized. A sample will be taken and analyzed for VOCs by method 8260. If any compounds analyzed exceed groundwater standards the water will be either treated to meet NYS groundwater effluent limits (T.O.G.S. 1.1.1) and discharged on–site or removed for disposal at a permitted off-site disposal facility in accordance with a NYSDEC approved workplan. The containerized groundwater will undergo waste characterization analysis prior to off-site disposal as required by the disposal facility.

If dewatering is required in an excavation in which there is no evidence of groundwater contamination by visual examination (no evidence of free product or sheen) and PID (headspace readings < 10 ppm above background), a groundwater sample will be analyzed for VOCs by method 8260. If analytical results indicate VOC concentrations are at or below NYS groundwater effluent limits (T.O.G.S. 1.1.1), the groundwater may be discharged on site with NYSDEC approval.

4.4 - DRILLING

The Department will be notified in advance of any on-site drilling, and such work will not commence without the Department's approval.

4.5 - WORKER NOTIFICATION

Prior to any construction activities, workers are to be notified of the site conditions with clear instructions regarding how the work is to proceed. Invasive work performed at the property will be performed in accordance with all applicable local, state, and federal regulations to protect worker health and safety. It will be the responsibility of contractors engaged in future site work to provide Health and Safety Plans to their employees, that

addresses the specific work tasks to be conducted. A sample Health and Safety Plan template, used by SWRNA during investigation and remediation activities, is included as Appendix B,

4.6 - REPORTING

The Owner shall complete and submit to the Department on an annual basis a report documenting any site activities requiring excavation, import, or export of soil during the period covered by that report. The annual report will be due to the Department by January 15th of the following year. The owner of the property shall include in the report an annual certification that all work was performed in conformance with this SMP.

The annual report will address the assumptions made in the Qualitative Human Health Exposure Assessment concerning potential exposure scenarios to ascertain that they remain valid, and discuss any new information or changes in situation that may obviate changes to the exposure assessment, both on site and off site.

SECTION 5 – POST REMEDIATION GROUNDWATER MONITORING

This section summarizes the groundwater monitoring program that will be conducted as part of the approved site remedy. During the implementation of the ISCO remedy, pink/purple groundwater was observed in all of the observation wells, which indicates the permanganate solution was effectively dispersed.

Figure 3 shows the locations of groundwater monitoring wells at the site from which groundwater samples will be collected.

5.1 GROUNDWATER SAMPLE COLLECTION

The monitoring well network includes nine (9) ISCO groundwater observation wells (OW-1 through OW-9) including four (4) that were installed prior to the BCP (OW-6 through 9) and five (5) observation wells installed specifically for the post-remediation monitoring period (OW-1 through 5).

Groundwater samples will be collected from the 9 ISCO observation wells each quarter (i.e. every three months), beginning three months following the completion of the ISCO injection. The nine ISCO observation wells will be sampled for target compound list (TCL) volatile organic compounds (VOCs), pH, Eh, total organic carbon (TOC), and chemical oxygen demand (COD). In addition to the above parameters, observation wells OW-4, -5, -6, -7, -8, and -9 will also be analyzed for metals (arsenic, cadmium, chromium, lead, selenium, silver, barium). The analytical laboratory will hold NYSDOH ELAP certification, and will include third party validation with Category B deliverables.

The groundwater samples will also be visually examined for evidence of purple or pink coloration, which is characteristic of potassium permanganate solutions.

Groundwater sampling will be done with care to minimize sample turbidity, by using minimal disturbance methods such as low rate pumping and/or bailing, as appropriate.

NYSDEC will be notified each quarter at least five (5) days in advance of groundwater sample collection. Prior to collecting groundwater samples, the depth to groundwater in the nine observation wells will be measured and recorded in a site field notebook. After

the depth to groundwater is measured and recorded, each well will be purged until field parameters are stabilized, or to the satisfaction of NYSDEC. Field parameters that will be measured will include pH, Eh, turbidity, and specific conductance.

One duplicate set of samples will also be collected for analysis from one of the observation wells each quarter, and submitted as a "blind" duplicate sample to the laboratory. In addition, a trip blank will be prepared before the sample bottles are sent by the laboratory, consisting of a sample of distilled water which accompanies the other sample bottles into the field and back to the laboratory. A trip blank will be included with each shipment of samples where sampling and analysis for TCL volatiles is planned (water matrix only). The trip blank will be analyzed for TCL volatile organic compounds as a measure of the internal laboratory procedures and their effect on the results.

All groundwater samples will be shipped to the laboratory in ice-filled coolers to maintain proper preservation temperature of 4 degrees C. Chain of custody forms provided by the laboratory will be properly filled out and signed, and accompany the samples to the laboratory.

5.2 - QUARTERLY REPORTS

A quarterly monitoring report will be completed each quarter, and provided to NYSDEC within 60 days of the date of sample collection. The reports must include:

- narrative account of the sampling event, including date(s) of sampling, weather conditions, and pertinent field observations
- depth to groundwater measurements
- field parameter measurements
- site map showing the monitoring well locations
- map showing groundwater flow direction
- laboratory analytical reports
- summary table of groundwater analytical results including Class GA groundwater standards
- discussion of groundwater analytical results relative to Class GA groundwater quality standards

- discussion of groundwater analytical results relative to observed groundwater quality trends

Quarterly results will be reviewed to monitor the effectiveness of selected remedy and include recommendations for further monitoring activities.

5.3 - EFFECTIVENESS EVALUATION

After the second quarterly post-remediation monitoring event, the percent of contaminant reduction will be determined by comparing the pre-remediation data (i.e. baseline data) and post-remediation groundwater analytical data. Pre-remediation average concentrations of total VOCs and total chlorinated VOCs will be determined, respectively, for each of the observation wells at the site. In addition, an average concentration of total VOCs will be determined based on results from all of the observation wells to provide a site-wide pre-remediation estimate.

The pre-remediation averages for the individual observation wells will be compared to each round of post-remediation data for each well, to determine the apparent remediation progress, and the percent decline in groundwater concentrations at each well will be used to compute the percent reduction of contamination.

The site-wide pre-remediation averages for total VOCs will also be compared to the post-remediation site wide averages, based on data for the post-remediation monitoring event.

After the second quarterly post-implementation sampling event, a summary report of results will be presented to NYSDEC for review. The need for and duration/frequency of additional monitoring will be addressed in the summary report. Because dispersion was observed in site observation wells, the injection well array has succeeded in delivering the permanganate solution across the site as intended. It is anticipated that future quarterly monitoring will indicate one of the following two scenarios:

Scenario No. 1: The analytical data for the two (2) post-implementation sampling events demonstrate that groundwater standards have been reached, or has reached conditions and trends indicating it is likely to be achieved. In this case, no further action would be recommended, and quarterly monitoring would continue.

Scenario No. 2: The analytical data indicate that groundwater contaminant levels have not reached groundwater standards or reached conditions and trends indicating it is likely to be achieved, and/or there is indication that the potassium permanganate solution still resides in the injection and/or monitoring wells. In that case, it would be recommended that two additional quarterly monitoring event(s) be conducted to determine whether, given enough time, the permanganate injection may produce satisfactory results. If after the subsequent quarterly monitoring event(s), groundwater standards are not reached or trends indicate it is likely not to be achieved a subsequent injection episode could be conducted, including a repeat of the effectiveness monitoring program. The additional injection episode would focus on those wells or the areas where groundwater standards were not achieved or likely to be achieved.

Subsequent remedial actions may be necessary, potentially including additional injections and injection points, if appropriate to meet treatment objectives. Post-implementation injection episodes may utilize the entire injection well array, or specific injection wells where data indicates additional permanganate is needed. The need and approach for subsequent injections will be determined following the post-remediation monitoring after the initial injection and reviewed with the NYSDEC for their concurrence.

5.4 - OBSERVATION/INJECTION WELL REPAIR, REPLACEMENT, AND ABANDONMENT

The network of observation wells will be maintained for use in the post-implementation groundwater monitoring program. Any visible damage to the protective well cover or PVC well casing must be reported to the owner and NYSDEC, and repairs must be made by a qualified well installation contractor as needed. In the event that a damaged well cannot be repaired and can no longer produce representative groundwater samples, NYSDEC must be notified, and if determined necessary by NYSDEC the well must be decommissioned and replaced with a new well at a location acceptable to NYSDEC.

ISCO injection wells will also be maintained. The Department must be notified by the site owner in advance of any site activities that may potentially impact an injection well, and such activities will proceed after Department approval is obtained.

NYSDEC will be notified in advance of any well decommissioning or replacement so that they may be present to observe. Well decommissioning will follow NYSDEC's *Groundwater Monitoring Well Decommissioning Procedures* (October 1996). For overburden wells, either casing pulling or overdrilling methods may be used to decommission wells as conditions warrant. For bedrock wells, casing drilling or grouting in place may be used.

Documentation for any well that is decommissioned, and for any new replacement well will be provided to NYSDEC upon completion.

When NYSDEC has determined that the post-implementation groundwater monitoring program is no longer necessary, NYSDEC may direct the owner to abandon some or all of the site's observation and injection wells. Any such wells would be abandoned in accordance with NYSDEC's October 1996 *Groundwater Monitoring Well Decommissioning Procedures.*

SECTION 6 – SOIL VAPOR INTRUSION

This section describes actions that will be taken to investigate and/or mitigate soil vapor intrusion. As previously noted, the RI data did not indicate the presence of contamination that is likely to cause exposure to soil vapor. However, the owner must address the possibility that soil vapor intrusion may occur in the future as buildings are constructed at the site.

Prior to constructing any new buildings at the site, and prior to re-occupying the existing vacant building that currently exists, the owner must either conduct a soil vapor investigation (Section 6.1) to evaluate the potential for soil vapor intrusion (SVI), with provisions to mitigate impacts identified; or must submit designs to NYSDEC/NYSDOH for engineering controls in the new buildings to prevent SVI (Section 6.2).

In the event that a building is proposed that is not intended for occupancy, the owner may request from NYSDEC/NYSDOH that soil vapor investigation and/or mitigation be deferred until occupancy of the building is expected. The building must remain unoccupied until investigation and/or mitigation acceptable to NYSDEC/NYSDOH is completed.

6.1 - SOIL VAPOR INVESTIGATION

A *Soil Vapor Investigation Work Plan* must be provided to NYSDEC/NYSDOH by the owner for review and acceptance. The scope of work must include an acceptable number of indoor air, outdoor (ambient) air, soil vapor samples, and sub-slab samples collected in accordance with NYSDOH guidance (October 2006). The soil vapor investigation will not be conducted without NYSDEC/NYSDOH approval of the Work Plan.

A *Soil Vapor Investigation Report* will be prepared by the owner following completion of the investigation to determine if further investigation or soil vapor mitigation for future buildings is necessary. The report must be provided to NYSDEC/NYSDOH for acceptance prior to conducting any further investigation or construction.

6.2 - SOIL VAPOR INTRUSION MITIGATION

Any new buildings constructed at the site must be designed with engineering controls to preclude soil vapor intrusion (SVI), unless a soil vapor investigation was conducted which indicated SVI mitigation is not necessary, with written concurrence of NYSDEC/NYSDOH. The owner may elect to implement engineering controls in new buildings without first conducting a soil vapor investigation, as a proven/presumptive remedy.

Engineering controls to mitigate SVI should be designed and implemented in accordance with the NYSDOH *Guidance for Evaluating Soil Vapor Intrusion in the State of New York* (October 2006), and may include:

- sub-slab depressurization systems
- positive pressure air exchange
- vapor barriers (synthetic membranes, sealants)
- ventilation systems

NYSDOH guidance (October 2006) provides recommendations for selecting an appropriate mitigation approach based on building design. For undeveloped sites, NYSDOH guidance recommends new buildings with basements or slab-on-grade foundations be constructed with sub-slab depressurization systems (SSDSs) with sealing of slab penetrations.

For new buildings at the site where it is determined that SVI mitigation is required or desired, the owner will provide a *Design Document* to NYSDEC/NYSDOH for review and acceptance describing the control measures to preclude SVI in each new building, and the means for testing the effectiveness of those measures.

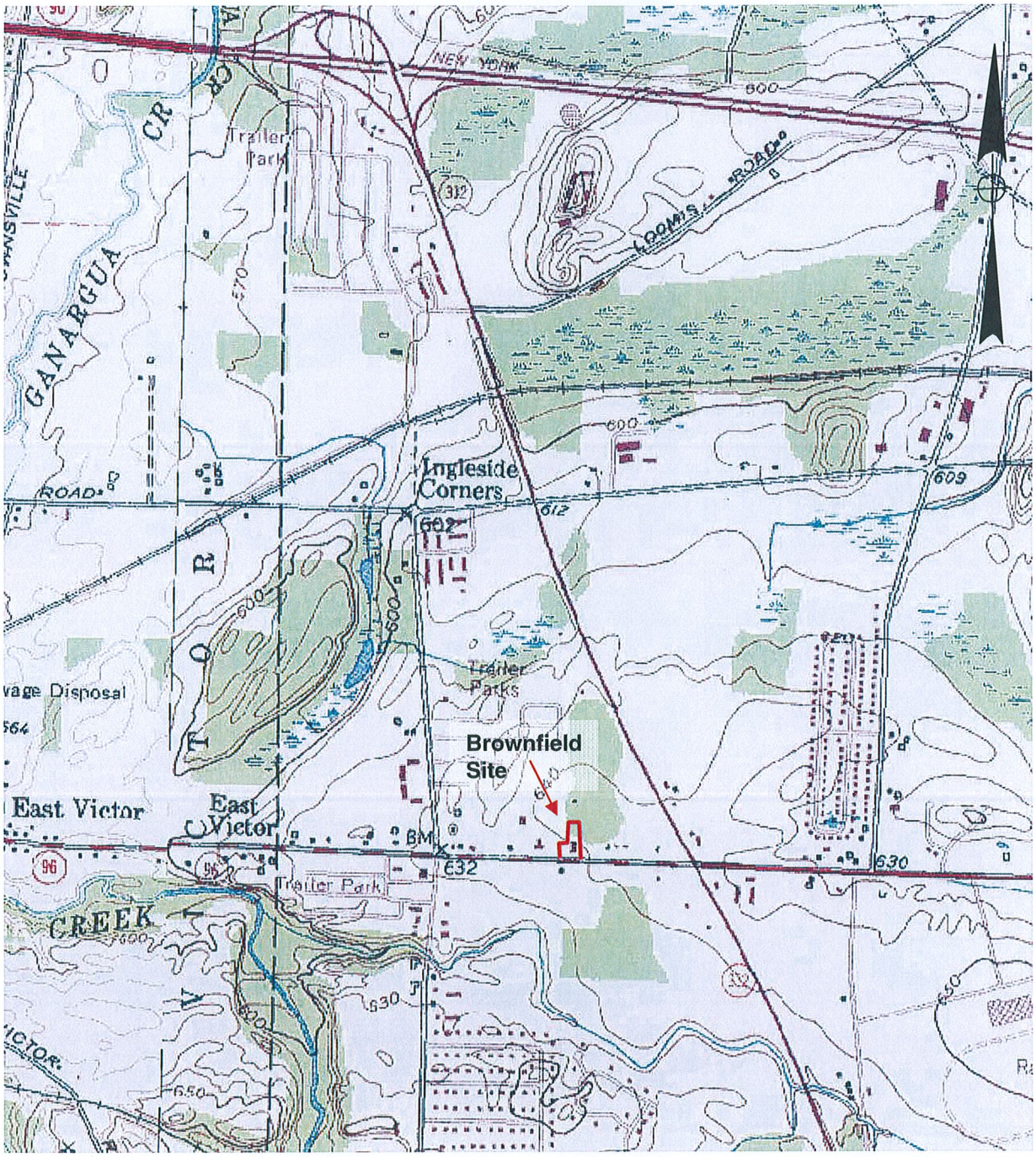
Construction and post-construction testing requirements will follow NYSDOH guidance (October 2006). Following construction, a Site-Specific Management Plan (SSMP) will be prepared by the owner that describes the soil vapor mitigation system(s) and operation, monitoring, maintenance, and reporting requirements per NYSDOH guidance. The SSMP will be submitted by the owner to NYSDEC/NYSDOH for review and acceptance.

SECTION 7 - ENVIRONMENTAL EASEMENT

An Environmental Easement will be approved by the NYSDEC. The Environmental Easement will run with the land in favor of the State and complies with the requirements of ECL Article 71, Title 36. The Environmental Easement will be recorded with the land records of the Ontario County Clerk's Office. A notice of the filing with the County Clerk's Office will be provided to the appropriate local municipal officials and to the Department.

The owner of the Site can petition NYSDEC to modify or extinguish the Environmental Easement at such time as it can certify that the Site is protective of human health and the environment without reliance upon the restrictions set forth in the Environmental Easement. Such certification must be made by a Professional Engineer, or other qualified environmental professional that has been approved by NYSDEC.

Figures

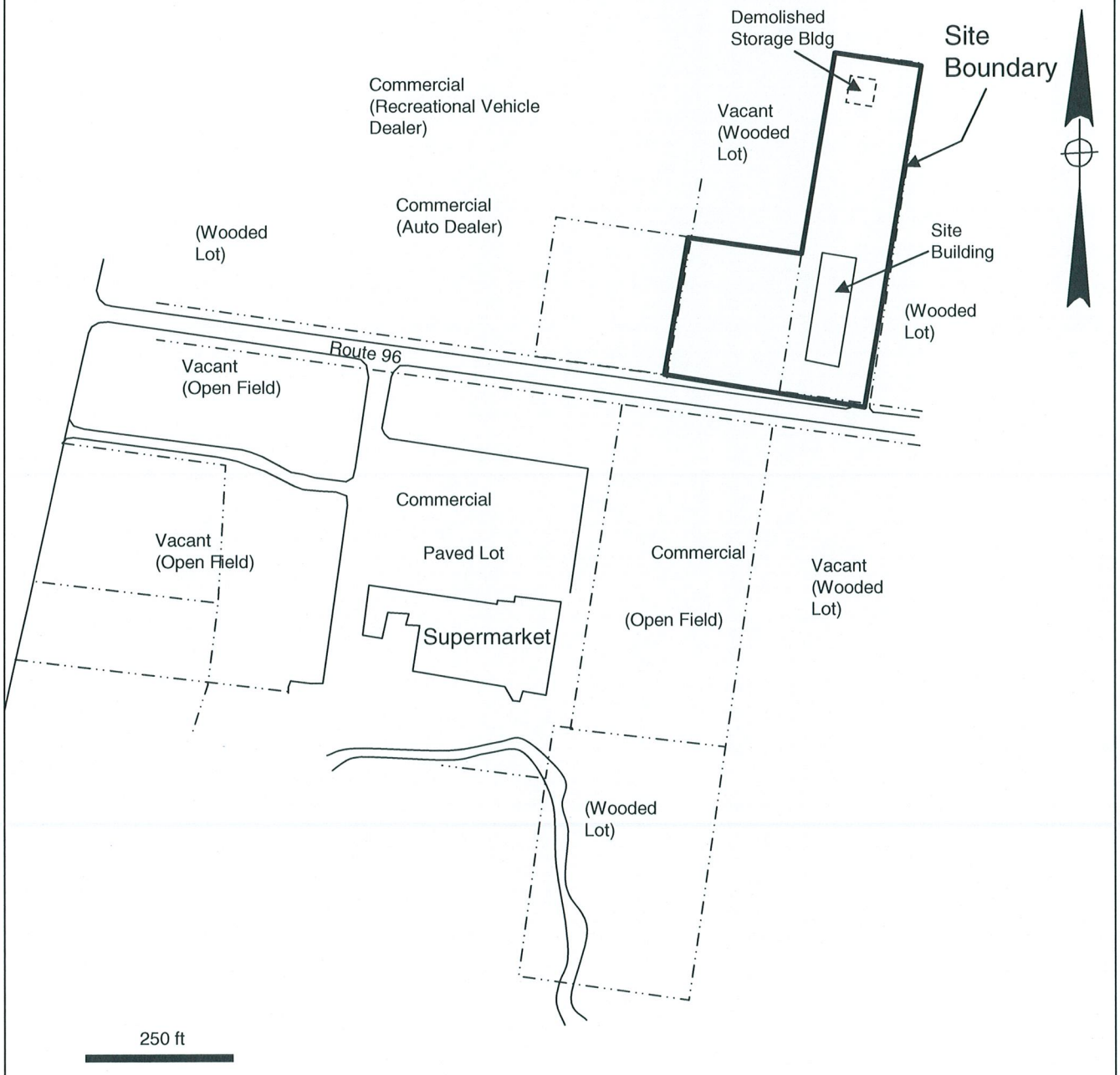


S&W REDEVELOPMENT

FORMER GRIFFIN TECHNOLOGY SITE
FARMINGTON
ONTARIO COUNTY, NEW YORK

Aug 2008 Proj No. B6003

FIGURE 1
SITE LOCATION

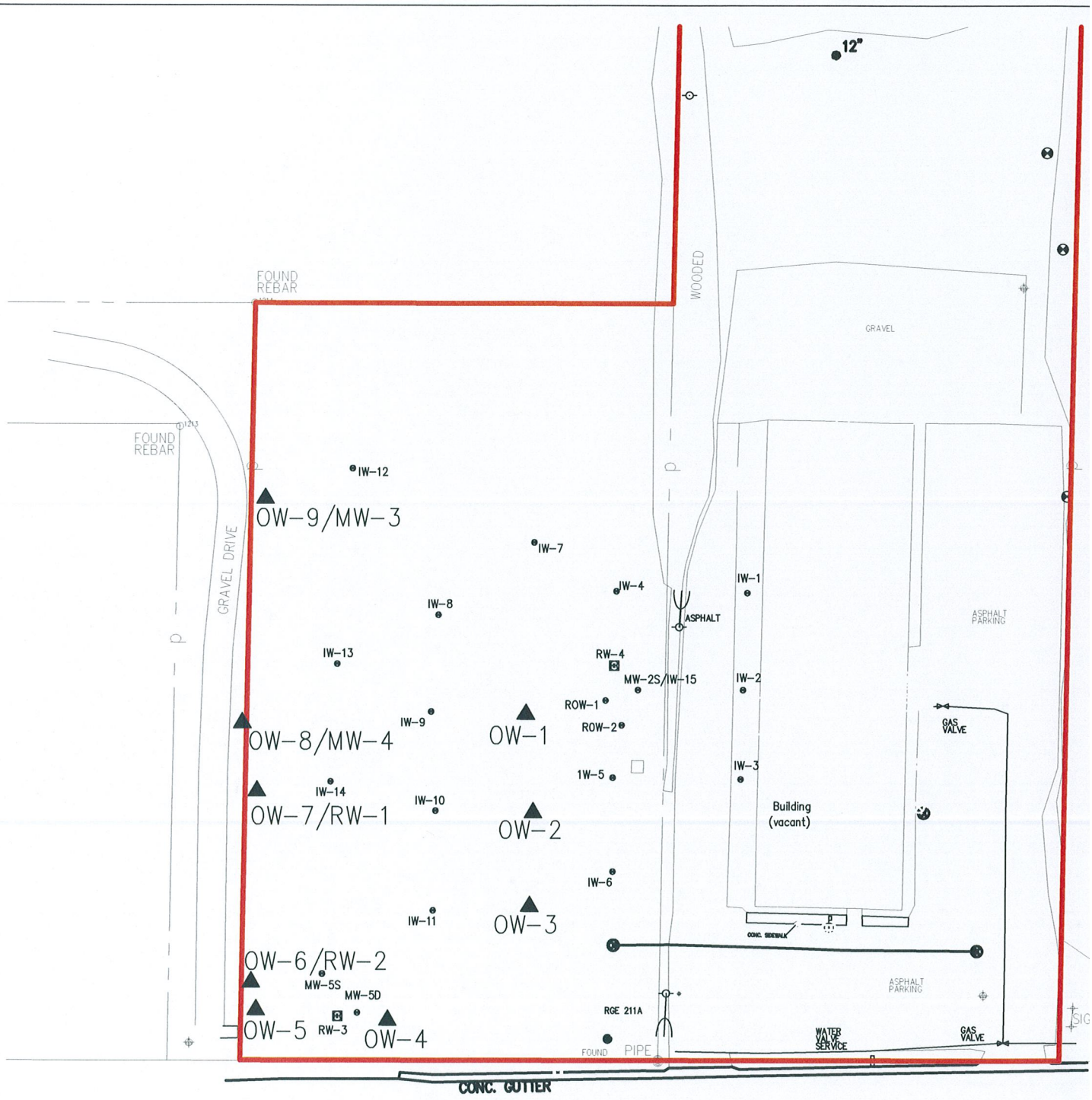


S&W REDEVELOPMENT

FORMER GRIFFIN TECHNOLOGY SITE
FARMINGTON
ONTARIO COUNTY, NEW YORK

FIGURE 2
SITE AND SURROUNDING AREA

Aug 2008 Proj No. B6003



VICTOR – MANCHESTER ROAD N.Y.S. ROUTE 96

SCALE in FEET

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APPENDICES

Appendix A
Community Air Monitoring Plan

APPENDIX A

COMMUNITY AIR MONITORING PLAN

A.1 - INTRODUCTION

As part of a Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC) (BCA No. C835008), S W Victor Manchester, LLC (the Applicant and Owner) has remediated the former Griffin Technology property located at 6132 Victor-Manchester Road, Ontario County, Farmington, New York. The remediation was completed in a manner that will support the site's contemplated future commercial use.

Under the terms of the BCP, a Site Management Plan (SMP) has been prepared to guide the current site owner and future owners to implement and maintain the required engineering and institutional controls associated with the NYSDEC-approved remedial action. This Community Air Monitoring Plan (CAMP) describes the measures that will be undertaken during periods of future soil excavation, movement, handling if evidence of contamination is apparent.

A.2 - OBJECTIVES

The objective of this CAMP is to provide a measure of protection for the downwind community from potential airborne contaminant releases that might arise as a result of future soil excavation that may potentially disturb contaminated soil.

A.3 - METHODS

The CAMP will include monitoring for volatile organic compounds (VOCs) and particulate matter (e.g. airborne "dust"). Readings will be recorded and will be available for State (DEC and DOH) personnel to review, as requested. Site condition will be noted and recorded in a daily log. Temperature, weather, precipitation, wind direction, and surface moisture conditions will be noted.

A. VOC MONITORING

A MiniRAE photoionization detector (PID) will be used to measure volatile organic compounds (VOCs) in air. VOCs will be monitored at the downwind perimeter of the site,

based on the prevailing wind direction as determined at the beginning of each workday. The site perimeter is defined as the existing BCA site boundary.

Upwind concentrations of VOCs will be measured at the beginning of every workday to establish background conditions. VOC concentrations will be measured continuously at the property boundary directly downwind of the work area. Downwind data will be checked as needed to provide a measure of assurance that contaminants are not being spread off site through the air. The PID will continuously record and store VOC measurements.

- If the ambient air concentration for total organic vapors at the downwind property boundary exceeds 5 parts per million (ppm) above background for a 15-minute average, work activity will be halted and monitoring will continue until levels decline to below 5 ppm over background. At this point, work will resume and monitoring will continue.

- If total organic vapor levels at the downwind property boundary persist at levels above 5 ppm over background but less than 25 ppm, work activities will be halted, the source of the vapors will be identified, and corrective actions will be taken to abate emissions. Work will resume after organic vapor levels fall to below 5 ppm over background at the downwind property boundary.

- If organic vapor levels exceed 25 ppm at the downwind property boundary activities will be shut down. An appropriate course of action to abate emissions in order to resume work will be discussed with NYSDEC personnel.

B. PARTICULATE MONITORING

Particulate (e.g. "dust") emissions will be measured continuously at the upwind and downwind property boundaries. Real time monitoring equipment (e.g. MiniRAM or equivalent), with audible alarms and capable of measuring particulate matter less than 10 micrometers in size, will be used.

- If the downwind particulate level is 100 micrograms per cubic meter (ug/m^3) greater than background (upwind) for a 15-minute period, then dust suppression techniques will be employed. Work will continue with dust suppression provided that downwind particulate levels do not exceed 150 ug/m^3 above upwind levels and provided that no visible dust is migrating from the work area.

- If, after dust suppression techniques, downwind particulate levels are greater than 150 ug/m^3 above upwind levels, work will be stopped and a re-evaluation of activities will be initiated. Work will resume provided that dust suppression measures and other controls are successful in reducing downwind particulate concentrations to within 150 ug/m^3 of the upwind level and in preventing visible dust migration.

Appendix B
Health & Safety Plan

APPENDIX B
HEALTH AND SAFETY PLAN
BCP Site No. C835008
Former Griffin Technology Site, Farmington, New York

Note: This Plan template is provided as an example and is not intended to govern future site work. It is the responsibility of contractors engaged in future site work to develop health and safety plans specific to the tasks being performed.

1.0 SITE DESCRIPTION

Date ..... October 2007
Location ..... 6132 Victor Manchester Road
Farmington, Ontario County, NY
Possible Hazards ..... Volatile organic compounds in groundwater. Physical hazards relating to remedial action work. Exposure to potassium permanganate.
Potential Area Affected ..... Subsurface, groundwater.
Surrounding Population ..... Mixed residential/commercial
Topography ..... flat
Weather Conditions ..... Usually partly sunny to overcast, south winds

The site consists of approximately one 3.74 acres of land. The three lots comprising the site are zoned industrial, and a mix of commercial businesses and residences occupies neighboring parcels. Site topography is flat, with a ground elevation of approximately 630 feet above mean sea level (amsl).

2.0 - ENTRY OBJECTIVES

The objective of site project is to install an in-situ groundwater remediation system.

A truck mounted drilling rig will be used to install in-situ injection and monitoring points. Some trenching, by backhoe, may also be required. Potassium permanganate solution will be stored, and injected into groundwater on-site.

3.0 - TRAINING AND MEDICAL SURVEILLANCE REQUIREMENTS

All personnel conducting work at this site with a potential for exposure to site contaminants shall have completed the appropriate health and safety training commensurate to their job tasks/duties.

Work Crews conducting site work shall be qualified and trained to perform such work. Such training should include, but not necessarily be limited to, the following:

- Hazard communication;
- 40-hour OSHA HAZWOPER Training and 8-hour refresher training (as necessary) in accordance with 29 CFR 1926.65;
- Construction safety training;
- Personal protective equipment and decontamination; and
- Site-specific training on equipment to be used and the safety precautions.

4.0 – ON-SITE ORGANIZATION AND COORDINATION

S&W Redevelopment of North America, LLC (SWRNA), SW Victor-Manchester, LLC, and subcontractors employed to conduct site work shall each designate personnel on their respective Work Crews, who shall be responsible for maintaining proper accident prevention and hazard communication measures for their respective Crews. At a minimum, each respective Work Crew should designate a Project Leader, a Field Leader, and a Site Safety Officer.

The following SWRNA personnel are designated to carry out the stated job functions on site for the SWRNA Work Crew. (Note: One person may carry out more than one job function.)

Project Leader:	Jeffrey Kiggins, or designee	(315)422-4949
Site Safety Officer:	Daniel Ours, or designee	(315)422-4949
Field Leader:	Jeffrey Kiggins, or designee	(315)422-4949
Field Members:	as designated	(315)422-4949

5.0 - ON-SITE CONTROL

The owner (SW Victor Manchester, LLC) of the property is designated to coordinate access control and security on site. Control boundaries have been established as necessary. These boundaries will be identified as the BCA site perimeter.

6.0 - HAZARD EVALUATION

The following contaminants may be found on site, primarily in site soils and groundwater. The primary hazards of each are identified.

SUBSTANCE	PRIMARY HAZARDS
Volatile Organics	
Trichlorethene	Eye & skin irritation, nausea, vomiting, headache
cis 1,2-dichloroethene vinyl chloride	Eye, skin, and respiratory irritation, muscle fatigue, abdominal irritation, nervousness

The above contaminants are similar with respect to the potential routes of exposure. The principal exposure route is via direct contact or inhalation of dust/particulate matter.

There are also potential chemical hazards associated with the handling and application of chemical oxidant – potassium permanganate – that will be used in the groundwater remediation system. A material safety data sheet for potassium permanganate is attached to this plan. The main exposure routes for potassium permanganate are direct contact with skin/eyes, and inhalation of dry permanganate as dust. There are also risks associated with accidental ingestion.

Because it is a reactive chemical oxidant, potassium permanganate may burn skin and eyes on contact. If inhaled in dust form, it may damage the respiratory tract. If ingested, it may cause severe burns to mucous membranes of the mouth, throat, esophagus, and stomach.

The main physical hazards associated with the project scope are close proximity to backing/moving heavy equipment and haul trucks, vehicle traffic, noise, excavation hazards, lifting, heat stress, and potential adverse weather conditions. SWRNA, and other subcontractors conducting site work will each be responsible for maintaining proper accident prevention and hazard communication measures appropriate for their respective Work Crews, based on the Crew's specific assignment, in relation to these potential hazards. In addition, each will be

responsible for determining whether there are other ancillary physical hazards to which their respective Work Crews may be exposed, based on the Crew's specific assignment, and will communicate those risks, if any, to their respective Work Crews.

Basic safety guidelines for the above noted main physical hazards are included below.

A. **Utility Clearances.** Prior to any intrusive activities (e.g. drilling, excavating, probing) New York State Dig Safe shall be contacted to mark underground lines before any work is started.

   Personnel directly involved in intrusive work shall determine the minimum distance from marked utilities which work can be conducted with the assistance of the locator line service.

B. **Heavy Lifting Method.** Personnel conducting work that may require lifting of heavy objects should use the following proper lifting techniques:

   - Feet must be parted, with one foot alongside the object being lifted and one foot behind. When the feet are comfortably spread a more stable lift can occur and the rear foot is in a better position for the upward thrust of the lift.
   - Use the squat position and keep the back straight. A straight back means the spine, back muscles, and organs of the body in correct alignment.
   - To grip the item being lifted, the fingers and the hand are extended around the object being lifted, using the full palm. Fingers have very little power – use the strength of the entire hand.
   - The load must be drawn close, and the arms and elbows must be tucked into the side of the body. Holding the arms away from the body increases the strain on the arms and elbows. Keeping the arms tucked in helps keep the body weight centered.

   The body must be positioned so that the weight of the body is centered over the feet. This provides a more powerful line of thrust and also ensures better balance. Start the lift with a thrust of the rear foot. Do not twist.

D. **Slip/Trip/Hit/Fall.** These injuries are the most frequent of all injuries to workers. They occur for a wide variety of reasons, but can be minimized by the following practices:

- Spot-check the work area to identify hazards;
- Establish and utilize pathways that are most free of slip and trip hazards. Avoid pathways that are more hazardous;
- Beware of trip hazards such as wet floors, slippery floors, and uneven terrain;
- Carry only loads you can see over;
- Keep work areas clean and free of clutter, especially in storage areas and walkways;
- Communicate observed hazards to site personnel.

E. **Heat Stress.** All field personnel engaged in site work shall have completed training to recognize and avoid heat related illness. Proper training and preventive measures will aid in averting loss of worker productivity and serious illness. Heat stress prevention is particularly important because once a person suffers from heat stroke or heat exhaustion, that person may be predisposed to additional heat-related illness. To avoid heat stress, the following steps may be taken:

- Adjust work schedules.

  Modify work/rest schedules according to monitoring requirements.

  Mandate work slowdowns as needed.

  Perform work during cooler hours of the day if possible or at night if adequate lighting can be provided.

- Provide shelter (air conditioned, if possible) or shaded areas to protect personnel during rest periods.

- Maintain worker's body fluids at normal levels. This is necessary to ensure that the cardiovascular system functions adequately. Daily fluid intake must approximately equal the amount of water lost in sweat, i.e., eight fluid ounces (0.23 liters) of water must be ingested for approximately every eight ounces (0.23 kg) of weight lost. The normal thirst mechanism is not sensitive enough to ensure that enough water will be drunk to replace lost sweat. When heavy sweating occurs, encourage the worker to drink more. The following strategies may be useful:

- Members of each Work Crew shall be properly trained by each Crew's respective employer to recognize the symptoms of heat-related illnesses.

F. **Adverse Weather Conditions.** The Field Leader for each Work Crew will be responsible for deciding on the continuation or discontinuation of work for his/her Crew based on current and pending weather conditions. Electrical storms, tornado warnings, and strong winds are examples of conditions that would call for the discontinuation of work and evacuation of the site. Site operations should not be permitted during an electrical storm.

G. **Vehicle Traffic.** As the scope of work includes the transport and disposal of material, there is a potential to encounter a temporarily high volume of vehicular traffic. Project Work Crews that have the potential to be exposed to vehicle traffic should wear a high visibility safety vest. The excavation Work Crew will provide proper signage, flagging, and barricades to maintain a safe flow of traffic.

The following table summarizes potential physical hazards associated with the proposed site work, and basic preventative measures and controls.

POTENTIAL HAZARD	PREVENTATIVE MEASURES
Slip/Trip/Falls	Use three points of contact to mount and dismount equipment. Continuously inspect work areas for slip, trip,

POTENTIAL HAZARD	PREVENTATIVE MEASURES
	& fall hazards. Be aware of surroundings. Practice good housekeeping.
Noise	Wear appropriate hearing protection.
Pinch Points	Keep hands, feet, & clothing away from moving parts/devices.
Utilities	Maintain proper utility clearances. All utilities should be properly located and marked out prior to start of work.
Heavy Lifting	Follow safe lifting practices. Lift items within your capabilities and assigned project role. Ask for assistance if necessary.
Proximity to Heavy Equipment and Vehicles	Maintain adequate distance from trucks/equipment. Obey barriers and/or signage
Heat/Cold Stress	Dress appropriately and follow HASP guidelines
Dangerous Weather Conditions	Consult local weather reports daily, watch for signs of severe weather, etc. Suspend or reduce work during severe weather.
Chemical hazards	Use PID as indicated in HASP. Wear specified PPE. No smoking.
Biological Hazards – Insects, Snakes, Poison Plants, etc.	Wear appropriate PPE and keep necessary first aid supplies readily available. Use insect repellant and snake chaps as needed. Learn to identify poisonous plants.

7.0 - PERSONAL PROTECTIVE EQUIPMENT

Based on evaluation of potential hazards, the following levels of personal protection have been designated for the applicable work areas or tasks:

LOCATION	JOB FUNCTION	LEVEL OF PROTECTION
Work zone	Site investigation	A B C **D** Other

Specific protective equipment for each level of protection is as follows:

Level A	Fully-encapsulating suit SCBA (disposable coveralls)
Level B	Splash gear (saranax-coated Tyvek suit) SCBA or airline respirators
Level C	Splash gear (Tyvek suit) Full-face canister respirator Boots Gloves Hard hat
Level D	Coveralls Safety glasses Boots Gloves (rubber or plastic) Hard hat

Action Levels. The following criteria shall be used to determine appropriate action:

VOLATILE ORGANICS IN BREATHING ZONE*	LEVEL OF RESPIRATORY PROTECTION
Less than 10 ppm	Level D
10 - 50 ppm	Upgrade to Level C
> 50 ppm	Stop work and evacuate

* sustained readings of 15 minutes or more above background levels within worker breathing zone, based on photoionization detector (PID) measurement.

The following protective clothing materials are required for the involved substances:

SUBSTANCE	PPE
cis 1, 2 dichloroethene	Level D
vinyl chloride	Level D
Trichlroethene	Level D
Potassium permanganate	Level D **

** Level D for potassium permanganate will be upgraded to also include a dust mask, to be worn when handling/mixing in solid (powdered) form, and a plastic or rubber apron.

8.0 - COMMUNICATION PROCEDURES

The Field Leader for each Work Crew should remain in communication with his/her respective Project Leader. Cellular phones should be used in the field for this purpose.

Continuous horn blast is the emergency signal to indicate that all personnel should leave the Work Zone.

In the event that radio communications are used, the following standard hand signals will be used in case of failure of radio communications:

Hand gripping throat	Out of air; can't breathe
Grip partner's wrist or both hands around waist	Leave area immediately
Hands on top of head	Need assistance
Thumbs up	OK; I'm all right; I understand
Thumbs down	No; negative

9.0 - SITE HEALTH AND SAFETY

A. **Emergency Medical Care. FF Thompson Hospital** is located approximately 9 miles from this location, at 350 Parrish Street in Canandaigua, New York. A map of the route to this facility is available at the field vehicle (attached).

First aid equipment is available on site at the following locations:

First aid kit Field vehicle

List of emergency phone numbers:

AGENCY/FACILITY	PHONE NUMBER
Police	911

Fire	911
Ambulance	911
FF Thompson Hospital	(585) 396-6000

B. **Environmental Monitoring.** The following environmental monitoring instruments shall be used on site at the specified intervals:

- MiniRAE photoionization detector (PID). Continuous during installation of soil borings and soil gas monitoring probes.
- Dust (particulate) monitor. Continuous during installation of soil borings per Community Air Monitoring Plan (CAMP)

C. **Emergency Procedures.** The designated Site Safety Officer for each respective Work Crew shall inform his/her respective Crew members of proper emergency procedures. The following standard procedures will be used by SWRNA on-site personnel:

a. **Personnel Injury in the Work Zone.** Upon notification of an injury in the Work Zone, the designated emergency signal, a continuous horn blast, shall be sounded. A rescue team will enter the Work Zone (if required) to remove the injured person to safety. Appropriate first aid shall be initiated and contact should be made for an ambulance and with the designated medical facility (if required). No persons shall re-enter the Work Zone until the cause of the injury or symptoms is determined.

b. **Fire/Explosion.** Upon notification of a fire or explosion on site, the designated emergency signal, a continuous horn blast, shall be sounded and all site personnel assembled at the decontamination line. The fire department shall be alerted and all personnel moved to a safe distance from the involved area.

c. **Personal Protective Equipment Failure.** If any site worker experiences a failure or alteration of protective equipment that affects the protection factor,

that person and his/her buddy shall immediately leave the Work Zone. Re-entry shall not be permitted until the equipment has been repaired or replaced.

d. **Other Equipment Failure.** If any other equipment on site fails to operate properly, the designated equipment operator will notify his/her respective Project Leader and Site Safety Officer, who shall then determine the effect of this failure on continuing operations on site. If the failure affects the safety of personnel or prevents completion of the Work Plan tasks, all personnel shall leave the Work Zone until the situation is evaluated and appropriate actions taken.

In all situations, when an on-site emergency results in evacuation of the Work Zone, personnel shall not re-enter until:

- The conditions resulting in the emergency have been corrected.
- The hazards have been reassessed.
- The Site Health and Safety Plan has been reviewed.
- Site personnel have been briefed on any changes in the Site Health and Safety Plan.

D. **Personal Monitoring.** The following personal monitoring will be in effect on site:

- Personal exposure sampling: MiniRAE PID screening or organic vapor monitors.
- MiniRAM air particulate monitor to determine the presence of dust.

Appendix C
Environmental Easement & ALTA Survey Documents