HEALTH AND SAFETY PLAN

VENUS ESTATES
90-11 31ST STREET
QUEENS, NEW YORK 11369
NYS DEC SPILL NO. 0800899

H2M Project No.
GIAM 0901

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Prepared For:

New York State
Department of Environmental Conservation
(NYS DEC)

Mr. Peter Giampilis
230 Half Hollow Road
Dix Hills, New York 11746

Prepared By:
Holzmacher, McLendon & Murrell, P.C.
119 Cherry Hill Road, Suite 200
Parsippany, New Jersey 07054

H2M architects + engineers

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Venus Estates, Inc.
90-11 31st Avenue
Jackson Heights, Queens, New York

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1.0 Introduction

The purpose of this Health and Safety Plan (HASP) is to establish the protocols for preventing incidents and protect H2M field personnel from incidents that may arise during the investigation activities that will be performed in the vicinity of the NY Dry Cleaners located at 90-11 31st Avenue, Jackson Heights, Queens, New York. Components of the health and safety plan include a site hazard and risk assessment, risk minimization and accident prevention plans, and a contingency and emergency response plan.

This Health and Safety Plan has been prepared in accordance with the Occupational Safety and Health Administration (OSHA) "Standards and Regulations, 29 CFR 1910 and 29 CFR 1926."

2.0 Scope of Health and Safety Plan

This Health and Safety Plan describes the minimum safety, health, and emergency response requirements for field activities at the site. A site investigation has been performed on-site that has identified soil and groundwater contamination. These results have been reviewed in conjunction with the planned scope of activities to be performed as the basis for assessing exposure risks in the development of this plan.

In accordance with OSHA, this Health and Safety Plan shall be made available to any other contractor, subcontractor, OSHA personnel, and to personnel of other federal, state, or local agencies with regulatory authority over the site as necessary. However, H2M is not responsible for the safety during use of non-H2M equipment nor the health and safety of non-H2M personnel. H2M is responsible only for the health and safety of H2M employees; no other responsibility is assumed or implied. Health and safety issues that may arise as a result of any unforeseen site conditions while the job is in progress may require that this

plan be re-evaluated and changed accordingly to assure that the risk to site workers is minimized.

2.1 Site Description and Identification of Potential Site Contaminants

The following sections provide a general description of the site and identification of potential individual contaminants that may be encountered as a result of site investigation field activities.

The NY Dry Cleaners site is located at 90-11 31st Avenue, Jackson Heights, Queens, New York. The property, identified as Block 1388, Lot 36, is less than one (1) acre in size and contains a storefront located in a small urban strip mall type building built in 1932. The property is rectangular in shape and is predominantly covered by the existing structure, however there is a pedestrian sidewalk to the front and a small vegetated yard to the rear. The building has a basement beneath a portion of the main level utilized for storage and location of the building's boiler. The leasehold space that is the subject of the environmental issue on-site is currently occupied by New York Dry Cleaners. The facility has not performed dry cleaning operations onsite in the past several years and operates as a drop shop where dry cleaning activities are performed onsite.

2.2 Scope of Activities

Activities that may pose potential hazards and/or a potential risk for worker exposure to site contaminants consist of the following:

1. Installation and sampling of Monitoring Wells; and
2. Installation and sampling of Soil Borings.
3. Excavation and sampling of Soil

3.0 Key Personnel and Responsibilities

A narrative describing these key individuals and their responsibilities is provided in the following sections.

3.1 Senior Level Management

Mr. Charles Martello (862-207-5900 ext. 2230) is recognized as senior level management having the authority to commit resources of the firm to the project, as required. Mr. Martello is responsible for allocating resources, ensuring the chain of command, and evaluating program outcome. Specific responsibilities include:

- Provide a commitment of the necessary facilities and equipment.
- Provide a commitment of adequate personnel and time resources to conduct activities safely.
- Support the efforts of the project manager.
- Provide appropriate disciplinary action when unsafe acts or practices occur.

3.2 Project Manager

Mr. Blair Sonzogni (862-207-5900 ext. 2249) is the project manager reporting directly to senior level management. The Project Manager has the authority to direct response operations and to assume total control over site activities. Specific responsibilities include:

- Plan and organize field activities and the field team.
- Ensure that health and safety requirements are met in conjunction with the site health and safety officer.
- Prepare the report and support files on response activities (if any).

3.3 Site Health and Safety Officer

Mr. Blair Sonzogni is the site health and safety officer. The site health and safety officer advises the field team on all aspects of health and safety on-site. Further, the site health and safety officer has the authority to stop work if any operation threatens workers or public health and safety. Specific responsibilities include:

- Being present on-site or in contact with site personnel during site operations.
- Becoming familiar with the types of materials on-site and the potential for work exposures.
- Providing for basic first aid and decontamination procedures for the specific type of exposure that may occur at the site, and obtaining special equipment or supplies necessary to treat such exposures.
- Selection of protective clothing and equipment if needed.
- Periodic inspection of protective clothing and equipment.

- Ensuring that protective clothing and equipment are properly stored and maintained.
- Monitoring the work parties for signs of stress, such as cold exposure, heat stress or fatigue.
- Monitoring on-site hazards and conditions.
- Conducting periodic inspections to determine compliance with the Health and Safety Plan is being observed.
- Enforcement of the "buddy" system, if needed.
- Knowing emergency procedures, telephone numbers of ambulance, local hospital, poison control center, fire and police departments.
- Coordination of emergency medical care.

3.4 Field Team Leader(s)

The field team leader(s) will be in the field during all operation and maintenance activities. As such, they are responsible for field team operations and safety. Specific responsibilities include:

- Management of field construction, operation and maintenance operations.
- Enforcement of safety procedures.
- Coordination with the Site Health and Safety Officer in determining protection level requirements.
- Enforcement of site control.
- Documentation of field activities and sample collection.
- Notifying emergency response personnel by telephone or radio in the event of an emergency.
- Assisting the Site Health and Safety Officer in a rescue, if necessary.
- Maintaining a log of site activities.
- Assisting other field team members in the clean areas, as needed.
- Maintaining line of sight and communication contact with the work parties via eyesight, radio, signal horns or other means, where appropriate.
- Providing basic first aid treatment procedures appropriate to the hazards on-site.

4.0 Hazard and Risk Assessment/Accident Prevention Plan and Risk Mitigation Methods

4.1 Hazard and Risk Assessment

A hazard and risk assessment has been performed for the site based on the tasks to be performed and known site characteristics. The specific risks associated with these hazards, as well as methods to prevent accidents and mitigate these risks, are described below.

- Hazards Associated with Working around Heavy Equipment:
  - All equipment must have back-up alarms.
  - Personnel must make eye contact with the operator before approaching the equipment.
  - Operators must be aware of personnel in the area and use proper hand signals before maneuvering.
  - Operators must wear hard hats when operating machines unless equipment has an enclosed cab or cage cover.
  - Operators must wear hard hats when going to and from their equipment.
  - Operators must be cautious when maneuvering equipment near overhead power lines.

- General Site Hazards:
  - Chemical Exposure: Contaminants related to chlorinated volatile organic compounds (VOCs) may be present in the soils and groundwater. Chemical exposure may pose inhalation, skin absorption/contact, or ingestion hazards. Air monitoring, dust control measures, and the correct use of personal protective equipment (PPE) can minimize risks. MSDS sheets for the potential contaminants are included as Attachment A.
  - Lighting: Work areas must have adequate lighting for employees to see to work and identify hazards (5-foot candles minimum, comparable to a single 75-100 watt bulb). Most work will be conducted in the interior of the garage. Personnel should carry flashlights in all dark areas for use in the event of a power failure. Applicable OSHA standards for electric 29 CFR 1910.120(m) shall apply. It is anticipated that all work will be conducted during daylight hours.
  - Fall Protection: Fall accidents can result in an injury or fatality. Requirements to help prevent falls will be implemented. Elevated work where a fall potential exists will be performed using appropriate ladders and/or fall protection (i.e.,

body harness or lifeline). Applicable OSHA standards for fall protection 29 CFR 1910.21 through 20 CFR 1910.32, and 29 CFR 1910.104 through 29 CFR 1910.107 shall apply.

- Drum Handling: The movement and opening of drums will be done in accordance with 29 CFR 1910.10(j).
- Eyewash Protection: All operations involving the potential for eye injury, splash, etc., must have approved eye wash units locally available as per 29 CFR 1910.151(c).
- Underground Utilities: Intrusive activities such as well installation and shallow trenching have the potential to impact underground utilities. Contacting the Utility One Call Service and knowledgeable facility personnel prior to initiating the intrusive activity to identify any public or private utility line locations can minimize risks associated with encountering underground utilities.
- Explosion and Fire: The use of power equipment (i.e., portable generator) requires a source of fuel, usually gasoline, posing a potential for explosion and/or fire hazards. Plant utilities, such as natural gas and electric, also have the potential to pose an explosion or fire hazard. Avoiding contact between fuels and ignition sources, (e.g., engine exhaust, hot surfaces, sparking equipment, etc.) can minimize risks.
- Electrical Power: All electrical power must have a ground fault circuit interrupter as part of the circuit. All equipment must be suitable and approved for the class of hazard.
- Lockout/Tagout: Operations where the unexpected energization or start-up of equipment or release of stored energy could cause injury to personnel will be protected by the implementation of a lockout/tagout program meeting the requirements or 29 CFR 1910.147.
- Confined Space: If any operation is conducted in an area classified as a confined space by OSHA, a "Confined Space" entry permit will be completed and all applicable procedures meeting the requirements of 29 CFR 1910.146 will be implemented.
- Biological Hazards: The hazards that may be encountered at this site primarily include allergic reactions related to the rodents, dogs and insects. Persons with allergies (e.g. hay fever) should carry allergy medication in the case of a reaction. Animals such rodents and dogs should not be approached or made to feel threatened. In vegetated areas be cognizant of your surroundings and pay attention to your footing. Flying insects, bugs and ticks most likely pose a hazard at the site that may be minimized by frequent body checks, wearing light colored clothing for easy identification of the presence of an insect or

bug, and the use of PPE to preclude skin contact. Early recognition of the signs of a tick or insect bite (tick bite - a bullseye around the bite) and periodic blood testing for lyme and other spirochete infections will also minimize the risk of contracting an insect-carried disease. The on-site first aid kit will contain the appropriate equipment for tick removal and/or insect bites.

- Slip/Trip Safety Hazards: The hazards may include uneven terrain, sharp objects, heavy equipment, wet surfaces, holes, ditches, and glass and debris. Risks can be reduced by being cognizant of your surroundings and verifying that others, especially heavy equipment operators (if any), are aware of your presence. Walk, don't run.
- Cold and Heat Stress: Due to ambient conditions, cold and heat stress may be a hazard. Personnel monitoring procedures and risk mitigation measures are described in Section 4.0.
- Noise: The operation of equipment in the interior of a garage can often create excessive noise. The effects of noise can include workers being startled, annoyed or distracted; physical damage to the ear; and communication interference. The risk of ear damage may be mitigated by the use of hearing protection.

4.2 Risk Minimization and Accident Prevention Plan

4.2.1 Employee Training Program

Pursuant to 29 CFR 1910.120 and 29 CFR 1926.65, all H2M personnel who are involved in field operations potentially exposing themselves to hazardous substances and/or situations receive initial 40-hour training and three-day on-the-job training. These personnel also receive 8-hour annual refresher training. H2M's 40-hour and 8-hour training sessions are conducted off-premises by an experienced professional. Lastly, the on-site Health and Safety officer has been trained in how to respond to site emergencies by identifying potential emergencies and the appropriate response.

Upon commencement of field work, the site Health and Safety officer will conduct site-specific training and briefings that will provide an awareness of planned operations and their potential hazards, identify work zones and decontamination procedures, provide the location of emergency/safety equipment, describe emergency response procedures including communication, emergency facilities, signals, and evacuation procedures, identify levels of protection, and update site personnel with respect to site characteristics and

hazards. In addition, each individual must sign for, and be provided with, a copy of this Health and Safety Plan.

4.2.2 Medical Surveillance Program

H2M conducts medical surveillance of employees engaged in activities covered by the OSHA Standard. The primary purpose of the medical surveillance program is to determine whether the employee has any detected medical conditions which would place the employee at an increased risk of health impairment from work in hazardous site operations, emergency response, or from respirator use. H2M's medical surveillance program consists of baseline medical examinations and testing conducted immediately following hire, immediately prior to an individual leaving the firm, and annually in accordance with the OSHA standard. The medical program is conducted by a licensed physician knowledgeable in internal and occupational medicine and provides a report to the individual as well as H2M. The testing and examination includes but is not limited to blood pressure, spirometry, blood and urine testing for heavy metals and Lyme disease, electrocardiogram, a chest X-ray, and a general physical examination. The administering physician is identified as:

James Bellany, M.D.
St. Clare's Hospital
400 West Blackwell St # 1
Dover, NJ 07801

Based on the medical surveillance program, all H2M employees designated to engage in on-site operations are not at increased risk due to any detected medical conditions.

4.2.3 Personnel Protection

OSHA requires that engineering and work practice controls be used whenever possible to limit exposure to site hazards. The practices which will be used at this site include the removal of all non-essential personnel from work areas, location of personnel upwind from potential source release areas, the use of mechanical or remotely operated material handling equipment to minimize direct contact with potentially contaminated materials and the staging of potentially contaminated materials on and covered with plastic in an area that is out of the way of other site activities. Whenever engineering controls or

work practices are not feasible or do not reduce employee exposures to or below permissible exposure limits, the OSHA standard requires that personal protective equipment (PPE) be used. Based on the planned site activities and the results of previous site investigations, Level D has been established as the appropriate level of protection for this site.

Level A Protection

The highest available level of respiratory, skin and eye protection.

Recommended: Pressure demand, full-face piece SCBA or pressure demand supplied-air respirator with escape SCBA, approved by OSHA and NIOSH.

- Fully encapsulating, chemical resistant suit.
- Inner chemical resistant gloves.
- Chemical resistant safety boots/shoes.
- Two-way radio communications.
- Optional: Cooling unit; coveralls; long cotton underwear; hardhat; disposable gloves and boot covers.

Criteria for Selection

Meeting any of the criteria below warrants the use of Level A protection.

- The chemical substance has been identified and requires the highest level of protection for skin, eyes and the respiratory system based on either: measured (or potential for) high concentration of atmospheric vapors, gases or particulates; or site operations and work functions involve a high potential for splash, immersion or exposure to unexpected vapors, gases or particulates of materials that are harmful to skin or capable of being absorbed through the intact skin.

- Substances with a high degree of hazard to the skin are known or suspected to be present, and skin contact is possible.

- Total atmospheric readings on a flame ionization detector (FID), photoionization detector (PID), or similar instruments indicate greater than 500 ppm above ambient background concentrations of unidentified substances in the breathing zone.

- Operations must be conducted in confined, poorly ventilated areas until the absence of these conditions, requiring Level A protection, is determined.

Limiting Criteria

Fully encapsulating suit material must be compatible with the substances involved.

Minimum Decontamination Procedure

Station 1: Segregated equipment drop
Station 2: Outer garment/boot/glove wash and rinse
Station 3: Outer boot and glove removal
Station 4: Tank change
Station 5: Boot/glove/outer garment removal
Station 6: SCBA removal
Station 7: Field wash

Level B Protection

The same level of respiratory protection, but less skin protection than Level A. It is the minimum level recommended for initial site entries until the hazards have been identified.

Recommended: Pressure demand, full-face piece SCBA or pressure demand supplied-air respirator with escape SCBA.

- Chemical resistant clothing (overalls and long sleeved jacket; hooded, one or two-piece chemical splash suit; disposable chemical resistant one-piece suit).
- Inner and outer chemical resistant gloves.
- Chemical resistant safety boots/shoes.
- Hardhat.
- Two-way radio communications.
- Optional: Coveralls; disposable boot covers; face shield; long cotton underwear.

Criteria for Selection

Meeting any of the criteria below warrants use of Level B protection:

- The type of atmospheric concentration of substances have been identified and require a high level of respiratory protection, but less skin protection. This

involves atmospheres: with IDLH concentrations of specific substances that do not represent a severe skin hazard; or that do not meet the criteria for use of air-purifying respirators.

- Atmosphere contains less than 19.5 percent oxygen.

- Presence of incompletely identified vapors or gases is indicated by direct reading organic vapor detection instrument, but vapors and gases are not suspected of containing high levels of chemicals harmful to skin or capable of being absorbed through the intact skin.

- Total atmospheric readings on an FID, PID or similar instrument indicates 10 to 500 ppm above ambient background concentrations of unidentified substances in the breathing zone.

Limiting Criteria

- Use only when the vapor or gases present are not suspected of containing high concentrations of chemicals that are harmful to skin or capable of being absorbed through the intact skin.

- Use only when it is highly unlikely that the work being done will generate high concentrations of vapors, gases, or particulates or splashes of material that will affect exposed skin.

Minimum Decontamination Procedure

Station 1: Equipment drop
Station 2: Outer garment/boot/glove wash and rinse
Station 3: Outer boot and glove removal
Station 4: Tank change
Station 5: Boot/glove/outer glove removal
Station 6: SCBA removal
Station 7: Field wash

Level C Protection

The same level of skin protection as Level B, but a lower level of respiratory protection.

Recommended: Full-face piece, air purifying, and canister-equipped respirator.

- Chemical resistant clothing (overalls and long sleeved jacket; hooded, one or two-piece chemical splash suit; disposable chemical resistant one-piece suit).
- Inner and outer chemical resistant gloves.
- Chemical resistant safety boots/shoes.
- Hardhat.
- Two-way radio communication
- Optional: Coveralls; disposable boot covers; face shield; escape mask; long cotton underwear.
- Criteria for Selection

  Meeting any of the criteria below warrants use of Level C protection:

  • The atmospheric contaminants, liquid splashes or other direct contact will not adversely affect any exposed skin.
  • All criteria for the use of air purifying respirators are met.
  • Total atmospheric readings on a PID, FID or similar instrument indicates background to 10 ppm above background of unidentified substances in the breathing zone.

Limiting Criteria

Atmospheric concentration of chemicals must not exceed IDLH levels. The atmosphere must contain at least 19.5 percent oxygen.

Minimum Decontamination Procedure

Station 1:	Equipment drop
Station 2:	Outer boot and glove removal
Station 3:	Canister or mask change
Station 4:	Boot/glove/outer garment removal
Station 5:	Face piece removal
Station 6:	Face wash

Level D Protection

No respiratory protection. Minimal skin protection. PPE may include:

- Long Pants (no shorts).
- Safety boots/shoes.

Optional: Hard hats, safety glasses, dust mask, coveralls, gloves, escape mask, face shield.

- Criteria for Selection
  The atmosphere contains no known hazards. Work functions preclude splashes, immersion or the potential for unexpected inhalation of or contact with hazardous levels of site contaminants.

- Limiting Criteria
  - Atmosphere must contain at least 19.5 percent oxygen.

- Minimum Decontamination Procedures
  Station 1: Equipment drop
  Station 2: Boot/glove/outer garment removal - discard if disposable.

In the event that dust becomes a nuisance, PPE such as dust masks, goggles and/or coveralls will be used. If dust remains a nuisance, an upgrade to Level B will be required.

4.2.4 Personnel Exposure/Heat and Cold Stress Monitoring

Based on present knowledge of the site, personnel exposure monitoring for known site contaminants is not warranted. Monitoring requirements may be revised as necessary based on the initial results of the air surveillance program. However, as dictated by seasonal conditions, heat and cold stress monitoring may be warranted, especially if a level of protection higher than Level D is used at the site. The procedures for heat and cold stress prevention and monitoring are provided in the following paragraphs.

Adverse weather conditions are important considerations in planning and conducting site operations. Hot or cold weather can cause physical discomfort, loss of efficiency, and personal injury. Of particular importance is heat stress resulting when protective clothing decreases natural body ventilation. Heat stroke is the most severe form of heat stress. The body must be cooled immediately to prevent severe injury and/or death. Signs and symptoms are: red, hot dry skin; no perspiration; nausea; dizziness and confusion; strong rapid pulse; and coma. One or more of the following will help reduce heat stress:

- Provide plenty of liquids. To replace body fluids (water and electrolytes) lost because of sweating, use a 0.1 percent saltwater solution and more heavily salted foods or commercial mixes such as Gatorade®.

- Wear the proper clothing to aid natural body ventilation. Loose fitting cotton clothing or cotton/synthetic blends are generally best.
- Install mobile showers and/or hose down facilities to reduce body temperature and cool protective clothing.
- In extremely hot weather, conduct non-emergency response operations in the early morning or evening.
- In hot weather, rotate shifts of workers wearing impervious clothing.

For monitoring the body's recuperative ability to excess heat, one or more of the following techniques should be used as a general screening mechanism, recognizing that individual tolerance to heat will vary. Monitoring of personnel wearing impervious clothing should commence when the ambient temperature is 70°F or above. Frequency of monitoring should increase as the ambient temperature increases. When temperatures exceed 80°F to 85°F and humidity is high, workers, regardless of their level of protection, should be monitored for heat stress hourly during a ten-minute rest period in which workers should drink liquids, regardless of thirst. Monitoring for heat stress should be performed as follows:

- Heart rate should be measured by the radial pulse for 30 seconds as early as possible in the resting period. If the heart rate exceeds 110 beats per minute at the beginning of the rest period, shorten the next work cycle by one-third and keep the rest period the same. If the heart rate still exceeds 110 beats per minute at the next rest period, shorten the following work cycle by one third.

Persons working outdoors in temperatures at or below freezing may be subject to frostbite. Exposed areas of the body that have a high surface area, such as fingers, toes, the nose, and ears, are the most susceptible. Signs of frostbite include skin color turning white to grayish yellow, and numbness in the affected area. The affected area needs to be warmed quickly by immersion in warm, not hot, water.

Hypothermia is a condition by which the body is robbed of heat with a subsequent drop in the inner-core body temperature. Initial signs of hypothermia include shivering, followed by numbness, drowsiness, and muscular weakness. This is followed by unconsciousness and death as body temperature drops. Although hypothermia typically occurs in cold temperatures below freezing, it can occur in moderate temperatures in the

mid-50s in windy, rainy conditions. The affected individual needs to be dry and warmed quickly using blankets or the body heat of other site workers.

One or more of the following will help prevent cold related stresses:

- Provide plenty of food and liquids. This will add fuel to the body's internal fire. Avoid diuretics such as caffeine (i.e. caffeinated cola, coffee, tea, hot chocolate).
- Wear the proper clothing in layers to aid natural body ventilation of moisture. Cotton retains moisture and will cause a drop in body temperature as the moisture retained in the cotton absorbs your body heat. Loose fitting synthetic underwear and socks, such as polypropylene, should be the first layer next to the skin so that moisture is wicked away from the skin. The next layer should be composed of wool, synthetic fleece, or other synthetic material. Wool is still generally warm when wet. Some work pants and shirts are composed of a cotton/polyester blend, and may be adequate, as long as the cotton content is 50 percent or less. No cotton socks! Outer layers should be composed of wool or synthetic fleece.

4.2.5 Site Control

When present, H2M field personnel will meet with site operator/owner representatives to discuss the day's activities both prior to and at the completion of the day's activities, as warranted.

If activities warrant, three work zones will be established at each daily work area. The work zones are defined as the exclusion zone, contamination reduction zone, and support zone.

Exclusion Zone

The exclusion zone is the active work area where exposure to contamination does or could occur. The outer boundary of the exclusion zone shall encompass the physical area necessary for the specific work operations. Only qualified field personnel with proper protective equipment involved in field activities will be permitted in the exclusion zone. The level of personnel protection in the exclusion zone will be Level D, unless subsequent changes warrant an upgrading in the level of protection

Contamination Reduction Zone

This zone is a transition area between the exclusion zone and the support zone. Personnel and field equipment will undergo decontamination within this zone only. The level of protection in the decontamination zone is Level D.

Support Zone

The support zone will be a defined location where first aid equipment and PPE will be readily accessible. The support zone will be located adjacent to the decontamination zone.

4.2.6 Decontamination

All personnel and equipment exiting the exclusion zone must be decontaminated prior to entering the support zone. Personnel and PPE decontamination procedures based on level of protection are described in Section 4.2.3 of this Plan. Field equipment shall be decontaminated in accordance with the Field Sampling Plan for this project.

4.2.7 Site Standard Operating Procedures

The practical implementation of the Health and Safety Program consists of a thorough knowledge of this Plan and the commitment by individuals and the firm to implement all elements of the Plan. This Plan constitutes the standard operating procedures for safe and healthful site operations.

5.0 Emergency Response and Contingency Plan

This Emergency Response Plan and Contingency Plan have been developed to identify precautionary measures, possible emergency conditions, and appropriate emergency procedures, for incidents that might occur on each site during site work. Emergency telephone numbers and a map to the local hospital are provided in Attachment B.

5.1 Precautionary Measures

Precautionary measures to minimize potential risks are described in the following paragraphs.

- Chemical Exposure: Risks can be minimized by air monitoring, correct use of personal protective equipment (PPE), and the use of remote materials handling equipment and covering excavated material piles with plastic.

- Ventilation: For work spaces that have been identified as having ambient air concentrations above the indoor air quality standards, ventilation is necessary and required. This will be conducted by opening doors and windows and setting up portable fans to increase air circulation within the work space. In addition, ambient air monitoring will be conducted prior to, during and following field activities.
- Underground Utilities: Risks associated with impacting underground utilities can be minimized by contacting Dig Safely New York (1-800-962-7962) and knowledgeable facility personnel prior to initiating the intrusive activity to identify any public or private utility line locations.
- Explosion and Fire: Risks can be minimized by avoiding contact between fuel and hot surfaces (i.e., engine exhaust, etc.).
- Biological Hazards: Risks posed by snakes, rodents, and dogs can be minimized by not approaching these animals when seen or causing them to feel threatened. Wearing light colored clothing and frequent body checks can minimize risks posed by flying insects, bugs and ticks. The on-site first aid kit will contain the appropriate equipment for tick removal in the event of a tick bite.
- Slip/Trip Safety Hazards: Risks can be reduced by being cognizant of your surroundings and verifying that others, especially heavy equipment operators, are aware of your presence. Walk, don't run. Lastly, if you are in an area in close proximity to heavy equipment, be there only if you need to be there, and then only as close as you need to be.
- Cold and Heat Stress: Personnel monitoring and appropriate dress can minimize these risks. These measures are described in Section 4.0.
- Noise: The risk of ear damage may be mitigated by the use of earplugs.
- Radiation: The risk of radiation exposure can be minimized by ensuring that the instrument is always placed in the testing platform or directly on the soil when a sample is to be measured. Minimizing contract with the instrument to the body by not resting or placing the instrument on any body part. Maintaining that the safety shutter is not opened unless a sample reading is being collected. Preventing any person from opening the sealed source containing radioactive material.

5.2 Personnel Roles and Lines of Authority

In the event of a serious and/or life threatening emergency, any person has the authority to stop all site activities. The signal for cessation of work shall be an agreed verbal and/or hand signal. The Project Manager, Site Health and Safety Officer and field team leaders are responsible for implementing this Plan. Roles of personnel and the manner by which specific emergencies are handled are described below.

Specific Emergencies

- **Personnel Accidents**

  Bodily injuries that occur as a result of an accident during the operations at the site will be handled in the following manner:

  - First aid equipment will be available on-site for minor injuries. If the injuries are not considered minor, proceed to the next step.
  - The local first aid squad rescue unit, a paramedic unit, the local hospital, the Site Health and Safety Officer and appropriate property operator/owner representatives shall be notified of the nature of the emergency.
  - If injury is serious, do not move the employee unless absolutely necessary. The injured employee shall be transported by the local emergency vehicle to the local hospital, accompanied by a person who has the responsibility to answer pertinent questions and provide information regarding the type and magnitude of injury and/or exposure, and any known effects of exposure. This person must bring a copy of this Plan, which includes MSDSs (provided in Attachment A), to the hospital.
  - A written report by the Site Health and Safety Officer shall be submitted to the H2M Project Manager detailing the events and actions taken during the emergency, within 24 hours of the accident.

- **Personnel Exposure**

  In the event that any personnel are splashed or otherwise excessively contaminated by chemicals, the following procedure will be undertaken:

  - Disposable clothing contaminated with observable amounts of chemical residue is to be removed and replaced immediately.
  - In the event of direct skin contact in Level D, the affected area is to be washed immediately with soap and water. For Level B, the person will also be taken to the hospital, assuming that this level of protection would warrant this action.

- If injury is serious, do not move the employee unless absolutely necessary. The injured employee shall be transported by the local emergency vehicle to the local hospital, accompanied by a person who has the responsibility to answer pertinent questions and provide information regarding the type and magnitude of injury and/or exposure, and any known effects of exposure. This person must bring a copy of this Plan, which includes MSDSs, to the hospital.
- The Site and Health and Safety Officer, or other individuals who hold a current first aid certificate, will determine the immediate course of action to be undertaken. This may involve using the first aid kit and/or eyewash.

– Fire

In the event of an uncontrolled fire occurring on-site, the following actions will be undertaken:

- Evacuate all unnecessary personnel from the site, if necessary.
- Contact the local fire and police departments (see Attachment B).
- Contact the local hospital concerning the possibility of fire victims.
- Contact the H2M Project Manager and Site Health and Safety Officer.

– Personnel 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 exclusion zone. Re-entry shall not be permitted until the equipment has been repaired or replaced.

5.3 Spill Containment

The spill containment program includes the steps taken to prevent and/or mitigate contamination to site soils or groundwater by a spill of hazardous materials. At this site, such a spill can potentially occur resultant from materials being used on-site (such as fuel used for field equipment or hydraulic fluid contained within heavy machinery), or an accidental release of hazardous materials contained within transport or utility lines. The risk of releasing materials in transport or utility lines will be minimized through the presence of facility personnel that are knowledgeable of transport and utility line locations.

Spill prevention measures of materials used on-site such as fuel will include keeping all fuel and other hazardous materials in an area away from intrusive work, in appropriate

containers, and using appropriate, safe work habits when handling these materials. Contamination to the ground, should it occur by any mechanism, shall be promptly cleaned up and containerized. Equipment that will be maintained on-site for this purpose will include shovels, containers, and a spill kit (including sorbent pads, etc.). All H2M field personnel are qualified to perform such actions. Air monitoring and preliminary identification of materials in an unknown release will be attempted to ascertain whether special safety precautions are warranted. Should any spill be of sufficient quantity to warrant concern with respect to cleanup or the spread of contamination, or if the spilled material requires special safety precautions, the site operation and maintenance manager and appropriate operator/owner representative will be contacted and informed.

6.0 Summary

This Health and Safety Plan establishes policies and procedures to protect H2M workers from potential or known hazards that exist at a site. The following summarizes the rules that must be observed:

1. The Health and Safety Plan shall be made available to all H2M personnel conducting fieldwork on-site. All H2M personnel must sign for this plan acknowledging that they are fully familiar with its contents.
2. All H2M personnel will be familiar with standard operating procedures and additional instruction contained in the Health and Safety Plan.
3. All on-site H2M personnel will be adequately trained and thoroughly briefed on anticipated hazards, equipment to be worn, safety practices to be followed, emergency procedures and communications.

APPENDIX A
EMERGENCY RESPONSE TELEPHONE NUMBERS, HOSPITAL ROUTE

EMERGENCY CONTACTS

FIRE DEPARTMENT:	911
POLICE DEPARTMENT:	911
AMBULANCE SERVICE:	911
HOSPITAL:	
Hospital (Mt. Sinai Hospital of Queens)-primary	(718) 932-1000
(Metropolitan Hospital)-alternate	(212) 423-6262
HEALTH DEPARTMENT:	
(New York City Department of Health and Mental Hygiene)	(212) 639-9675
POISON CONTROL CENTER:	
NYC Poison Control Center	(212) POISONS or 1-800-222-1222
NYDEC:	
DEC 24-hr Spill Hotline	1-800-457-7362
H2M ASSOCIATES, INC. CONTACTS:	
Blair Sonzogni, Project Manager	(862) 207-5900
Gary Miller, Corporate Health and Safety Officer	(516) 756-8000

Driving directions to Hospital

Begin southwest on 31st Street. Turn right on 30th Avenue. Mount Sinai Hospital of Queens is 2510 30th Avenue

An alternate hospital is Metropolitan Hospital, located at 1901 First Avenue, New York, 10024.

APPENDIX B
MATERIAL SAFETY DATA SHEETS

MATERIAL SAFETY DATA SHEET (MSDS)
PRODUCT NAME: P.C.E.

Team, Inc.
Team Industrial Services, Inc.
TECO Manufacturing, Inc.
200 Hermann Drive
Alvin, Texas 77511

Prepared By: James H. Varner
Revision Date: July 1, 2006
Team Main: 281-331-6154
8 - 5 CDT: 281-388-5618
Answering Service: 281-482-3530
CHEMTREC: 800-424-9300

1. General Notes

This formulation is a trade secret and considered confidential and proprietary information of Team, Inc.

UND = Undetermined
NA = Not Applicable

2. Product Information

Product Part Number / Name:	804-0008 / P.C.E.
Chemical Family:	Tetrachloroethylene
Product Use:	Industrial Leak Sealant
Product Description:	Solvent

3. Hazardous Ingredients

Compound	CAS Number	Percent	OSHA PEL (mg/m3)	ACGIH TLV (mg/m3)	OSHA PEL (ppm)	ACGIH TLV (ppm)	Possible Carcinogen
tetrachloroethylene	127-18-4	50 +			100	25	yes

Notes

4. Physical Data

Boiling Point (F):	250 F.	Specific Gravity (H20 = 1):	1.619 @ 25 / 25 C.
Vapor Pressure (mm Hg):	13 mmHg @ 20 C.	Melting Point (F):	UND.
Solubility in H20:	0.015 g / 100g 25	Evaporation Rate (Butyl Acetate = 1):	UND.
Appearance and Odor:	Colorless liquid, Irritating odor.		

5. Fire and Explosion Hazard Information

Flash Point (Closed Cup) (F):	No Flash		
Flammability Limits in Air (%):	Low: UND.	High:	UND.
Extinguishing Media:	N / A		
Special Fire Fighting Procedures:	SCBA with full faceshield and do not use direct water stream.		
Unusual Fire and Explosion	Hazardous combustion products include Hydrogen chloride and Phosgene.		

6. Reactivity Data

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Stability:	Stable.
Conditions to Avoid:	Direct sunlight or UV light, and open flames.
Materials to Avoid:	Avoid contact with metals such as aluminum, magnesium, and potassium powders.
Hazardous Decomposition Products:	hazardous combustion products include hydrogen chloride, and phosgene.
Hazardous Polymerization:	Will not occur.

7. Health Hazards

Routes of Entry:

Inhalation:	Yes
Skin:	Yes
Eyes:	Yes
Ingestion:	Yes

Acute Symtoms:

Inhalation:	In confined or poorly ventilated areas vapors can readily accumulate and can cause dizziness, unconsciousness and death. Can cause irritation to
Skin:	Repeated or prolonged exposure may cause irritation.
Eyes:	May cause irritation and in extreme cases, possibly blindness.
Ingestion:	May cause dizziness, unconsciousness, CNS disorder (headache, nausea, vomiting) and if ingested in large quantities, possibly death.

Carcinogenicity:

National Toxicology	Yes
IARC Monographs:	Yes
OSHA Regulated:	Yes

Chronic Symptoms:	Repeated or prolonged exposures may result in shorting the time of onset or worsens the liver and kidney damage induced by other chemicals and can attack the central nervous system.
Medical Conditions Aggravated:	None Known.

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1st Aid Procedures:

Inhalation:	Immediately remove from contaminated area to fresh air. Keep individual quiet. In case of respiratory distress, give oxygen or give artificial respiration. Obtain medical attention.
Skin:	Thoroughly wash affected area with soap and water. Flush area with water for 15 minutes. If irritation develops, obtain medical attention.
Eyes:	Flush with water for at least 15 minutes. If irritation develops, obtain medical attention.
Ingestion:	Do not induce vomiting. Obtain medical attention.

8. Safe Handling / Disposal / Use

Releases or Spills:	Soak up with absorbent material. Place in container for disposal. If needed, on small spills flush with large quantities of water and detergent.
Disposal:	Dispose of in accordance with all applicable local, state and federal regulations.
Ventilation:	Use adequate ventilation.
Other Storage Precautions:	Keep away from open flames. Avoid prolonged contact with skin.

9. Control Measures

Respiratory Protection:	If ventilation is poor, an organic vapor respirator is recommended.
Ventilation:	Local exhaust is usually adequate. If necessary use mechanical exhaust.
Hand Protection:	Hydrocarbon resistant gloves recommended.
Eye Protection:	Safety goggles or glasses.
Other:	Other equipment as necessary.
Hygienic Practices:	Wash hands with soap and water.

10. Hazard Ratings

Team, Inc.
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	NFPA
Health:	2
Flammability:	0
Reactivity:	0

11. Additional Information

This data is offered in good faith as typical values and not as a product specification. No warranty, is either expressed or implied. The recommended handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use.

End of Document