TECTONIC ENGINEERING & SURVEYING CONSULTANTS P.C.

CORPORATE HEALTH AND SAFETY PROGRAM

TECTONIC ENGINEERING & SURVEYING CONSULTANTS P.C.
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PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.

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1.0 INTRODUCTION

Tectonic Engineering & Surveying Consultants P.C. (Tectonic) is a full service engineering consulting firm. We are primarily hired by owners or prime contractors to perform engineering services including construction management and construction inspection services. This Corporate Health & Safety Program (Corporate HASP) establishes minimum requirements to be implemented on all Tectonic projects to help identify, mitigate, and control hazards.

These requirements apply to all Tectonic employees, sub consultants and subcontractors performing work on all project sites.

This Health & Safety Program does not replace the requirements to comply with applicable codes, regulations and specifications. Where more stringent requirements are set forth, the more stringent standard(s) shall apply.

The following principles formulate the basis of this program:

- All incidents can be prevented.
- Management and employees together are responsible for maintaining safe working conditions and for preventing injuries.
- Working safely is as important as working efficiently and productively.
- A commitment must be made by the management of the various entities involved in the workplace and job sites to provide necessary resources, adequate job training and education to create a safe work environment.

Within this program, Tectonic has outlined requirements for the adoption of safety policies, establishment of specific safety goals and objectives, implementation of procedures, emergency response guidelines and the establishment of a recordkeeping format.

Successful implementation will require the cooperation of the Tectonic's Officers, Division Vice Presidents, Project Managers, Human Resources personnel/department, Health and Safety Officer, and employees, as well construction site personnel including the prime contractor, subcontractors and all individuals involved with construction activities. Responsibilities must be clearly established, procedural guidelines followed, potential hazards identified and remedial actions taken.

As an integral part of the workplace environment and construction team, Tectonic will oversee the safety of our employees whether in the work place or on the job at a project site, and will monitor and inspect the practices in these places to provide guidance and make recommendations to properly implement this Corporate HASP.

2.0 POLICY

2.1 POLICY STATEMENT

It is Tectonic's belief that our employees and the employees of subconsultants and subcontractors are the most important asset on the project and that the preservation of employee health and safety must remain a constant

consideration in every phase of the project. It is our intent to provide a Health and Safety Program that will create a work environment as free of hazards as possible.

The effectiveness of this program depends upon the cooperation and communication of management, supervisors, and employees. Everyone must be capable of recognizing hazards in the workplace through regular training and each employee must understand their roles and assigned responsibilities.

Each supervisor will make the safety and health of all employees an integral part of his /her regular management decisions. In addition, each employee will understand their safety is in their control especially when they are on a client's site and that adherence to established company safety policies and procedures will make them and their fellow employees safer. Participation of all employees is essential in order to ensure the effectiveness of this program.

Management will make every effort to provide adequate safety training to employees prior to allowing an employee to begin work. Employees in doubt about how to do a job or task safely are required to ask a qualified person for assistance. Employees must report all injuries and unsafe conditions to management as soon as possible. Corrective measures will be taken to prevent future accidents, and there will be no management retribution or retaliation against employees who report safety and health concerns.

2.2 GOALS

The goal of Tectonic's Corporate Health and Safety Program is to provide an injury free and safe work place. This goal can be summarized as follows: To ensure every manager and employee return home to their friends and family in the same condition as they came to work. To achieve this goal, every Tectonic employee must assume the necessary accountability and responsibility to ensure that the provisions and guidelines of the Health & Safety Program are implemented.

The direct benefits of achieving the above stated goals are:

- The minimization/prevention of all injury
- The prevention of fatalities
- Providing a safe and healthy work environment
- The prevention of loss to property and equipment

2.3 OBJECTIVES & ACCIDENT REDUCTION PLAN

The objective of Tectonic' s Corporate HASP is to outline the requirements, policies and procedures that Tectonic management and employees and subconsultants will follow to ensure workplace and job site safety. Tectonic's Accident Reduction Plan shall be implemented in conjunction with and/or supplemental to the Health and Safety Program as well as in conjunction with client approved site-specific health & safety plans. The Corporate HASP and Accident Reduction Plan, shall be reviewed periodically and will be revised, updated or changed as needed to remain current applicable regulations and to address any re-occurring type incidents. The accident and reduction plan will address the following:

- Immediate and/or short term solutions to reduce incidents
- Training
- Employee Involvement and Follow-Up
- Accountability

2.4 MANAGEMENT COMMITMENT

Tectonic is committed to providing a safe and healthy workplace and will support our employees in achieving these goals on job sites.

To ensure full compliance with the Corporate HASP, Tectonic management will take the following actions:

- Establish a Corporate Health and Safety Committee to oversee the program
- Establish a Corporate Health and Safety Officer to administer the program
- Establish annual safety goals and objectives.
- Promote and take part in employees' safety training programs.
- Establish and enforce disciplinary procedures for employees.
- Support the Corporate HASP by providing support personnel, management authority and training.
- Establish accountability and responsibilities for management and employees to follow.
- Work to correct unsafe conditions affecting Tectonic personnel in a prompt manner.

2.5 EMPLOYEE'S RESPONSIBILITIES

It is the duty of Tectonic's employees and its Subconsultant's employees to know the safety rules, and to conduct their work in compliance with this Corporate HASP. Disregard of the health and safety rules should be considered grounds for disciplinary action up to and including termination. It shall be the duty of each employee to make full use of the training and safeguards provided for their protection. Every employee shall receive a safety orientation when hired and receive a copy of this Corporate HASP.

The following is a partial list of key safety rules that apply to every employee:

- Read, understand and follow established Tectonic's corporate safety principles and procedures.
- Employees shall report unsafe working conditions to their supervisor as soon as possible.
- Employees working in areas where there is a possible danger of injury will wear proscribed Personal Protection Equipment (PPE) at all times.
- Suitable work clothes shall be worn for all field and laboratory work at all times, including hard hats, safety shoes, gloves, high visibility vests, and safety glasses.
- Employees observed working in a manner which might cause injury to either themselves or other workers shall be warned of the danger and will immediately correct their method of operation.
- Employees shall report all injuries, no matter how slight to their supervisor/manager immediately, and seek any necessary treatment promptly.
- Employees shall be aware of the location of first aid, firefighting equipment, and other safety devices.
- Employees shall attend any and all required safety and health training and meetings.
- **Until properly trained**, employees are not to perform potentially hazardous tasks, or to use any hazardous substances. Employees are to follow all required procedures when performing these tasks.

3.0 IMPLEMENTATION

3.1 INTRODUCTION

This Corporate HASP is intended as a reference for all Tectonic employees. The Program is neither static nor all-inclusive and will be updated and enhanced as appropriate. Suggestions for improvements are encouraged so that subsequent updates to this document will reflect both the input and needs of our employees engaged in the services Tectonic provides. Any form referenced in this HASP can be obtained from Corporate Human Resources and can be found on the company intranet page.

All employees will be provided safety training and are required to comply with the specific safety regulations established for each Tectonic workplace and with all appropriate Federal, State, and Local laws and regulations. Tectonic's Sub consultants are committed by contract to observe and comply with all applicable safety regulations including the Corporate HASP.

3.2 HEALTH & SAFETY COMMITTEE & CORPORATE IMPLEMENTATION

Tectonic shall maintain a safety committee to oversee the corporate health and safety program. The committee shall be chaired by a member of the senior management. The other members shall include a representative from the Human Resources department and the Corporate Health and Safety Officer and other representative members of management and staff.

The Health and Safety Committee shall meet quarterly with a set agenda to discuss, but not limited to: (1) review of incident & loss runs, (2) as needed, updates to Corporate Health and Safety Program, (3) monitoring of Safety & Training Programs. The Safety Committee shall discuss problems that have arisen or that are anticipated. Accidental injuries as well as near misses that occurred shall be discussed along with measures to be taken to prevent them from recurring. Safety concerns of employees will also be solicited so that those concerns can be assessed by management. Recommendations for changes to corporate policy from the Health and Safety Committee will be presented to the Corporate Board for consideration. Minutes from each meeting will be prepared and distributed to members following the meeting. Members of the safety committee will be listed on the internal Corporate Intranet and employees will be encouraged to discuss safety concerns with the Committee members.

3.2.1 MANAGEMENT RESPONSIBILITY

The supervisory responsibility for the Corporate HASP is assigned as follows:

<u>Health and Safety Committee</u>
The Corporate Health and Safety Committee shall review accident reports and near miss reports, solicit and evaluate safety concerns raised by employees and management, evaluate the effectiveness of the health and safety program and make recommendations for revisions to the Corporate Health and Safety Program and other corporate policies based on safety concerns to the Corporate Board of Directors.

Division Vice President's & Project Managers

Tectonic's Division Vice President's & Project Managers will have direct responsibility for the Health and Safety of employees under their supervision. At physical office locations, responsibility for health and safety will be by the office manager. The Division Vice President's & Project Managers are to oversee the monitoring and enforcement of proper Health and Safety training and compliance with the requirements of this Corporate HASP. Appropriate steps will be taken by Tectonic's Project Managers to assure that the applicable safety work standards are met. These steps shall include disciplinary action up to and including termination of employment or termination of the Subconsultant's Agreement.

Health and Safety Officer

Tectonic will have a designated Health and Safety Officer responsible for providing general information, regulatory interpretations, assistance with training requirements, updates to this Corporate HASP, source of PPE Supplies, and other technical assistance to the Technical Discipline Managers, Human Resources and Office Managers upon specific request.

Human Resources Department

Human Resources is responsible for verifying that the general workplace in the office, unrelated to job-specific tasks, are safe as described in Section 14.0 - Office Safety. Human Resources (HR) is also responsible for record keeping as described in Section 9.0 - Record Keeping, as well as monitoring of general compliance with the policies contained within this Corporate HASP, and assisting the procurement of training and any disciplinary actions.

3.3 CONSTRUCTION MANAGEMENT RESPONSIBILITIES

In order for Tectonic to effectively implement our Corporate HASP at construction and project sites, the project manager should determine whether the prime contractor/construction manager has a program that establishes the following responsibilities:

3.3.1 PRIME CONTRACTOR'S SAFETY REPRESENTATIVE

- Performs daily inspections of the work site in cooperation with the trade subcontractor's safety representative and Tectonic's Safety Coordinator.
- Meets with the supervisors of new trade subcontractors coming on site and explain safety goals, the contents of this manual, and otherwise provide site orientation, safety activities, and information. All supervisors should be required to attend this orientation after coming on site.
- Prepares and conducts appropriate orientation talks, safety talks, and safety talk outlines for the employees.
- Arranges safety publicity and coordinate the safety incentive, motivation, and recognition programs.
- Fosters and maintains good relations with government and local authority safety officers.

3.3.2 PRIME CONTRACTOR'S SITE SUPERINTENDENT

- Holds a job start safety conference with each new trade subcontractor coming on site and provide the job start project information.
- Issues special instruction to the trade subcontractors in support of their HASP, as needed.
- Notifies the Trade Subcontractor verbally if violations of safety regulations are observed. If

these are not corrected within a reasonable time, notifications should be made in writing, or other appropriate action, so that effective correction may be taken.

3.3.3 THE TRADE SUBCONTRACTOR

- Notifies the Contractor's/Construction Managers Safety Representative if the activities of other trade contractor(s) generate a hazard to the safety of his workmen.
- Notifies the Contractor's/Construction Managers Safety Representative furnishing the names of his employees who are qualified in First Aid.
- Notifies the Contractor's/Construction Managers Safety Representative as soon as possible after any injury to his employees, except First Aid cases.
- Provides the Contractor's/Construction Managers, with a copy of each report of injury to any of his employees within one working day.

4.0 SAFETY TRAINING PROGRAM

Training is a key component of an effective Health and Safety Program. It addresses the responsibilities of both management and employees in the workplace and at the job site. Our Training Program includes the following:

- Orientation Safety Training for all new employees
- Hazard Communication Training
- Job Specific Compliance Training
- Refresher Training
- Site Specific Safety Orientation Training
- When new equipment, materials, or processes are introduced
- When procedures have been updated or revised
- When experiences/operations show that employee performance must be improved

Training shall also be provided to all employees as required to perform their job duties in accordance with the requirements given in 29 CFR 1926 and 29 CFR 1910. Our training program emphasizes potential hazards, how to avoid injury, personal hygiene, and personal protective measures required. Our training program is designed so that each employee is trained in;

- The recognition and avoidance of unsafe conditions,
- Hazards or other exposure to illness or injury,
- The regulations applicable to his/her work environment.

Employees required to handle or use flammable liquids, gases, or toxic materials shall be instructed in the safe handling and use of these materials and made aware of the specific requirements contained in all applicable local, state and federal regulation including but not limited to those outline in 29 CFR 1926 Subparts D & F.

Documentation of all training is obtained through the use of acknowledgement forms or sign-in sheets. Training documentation is kept on file both in the Human Resources and Health & Safety Departments.

Tectonics training policies and procedures are located in Appendix A. Job Specific & Compliance Training requirements can be found within the applicable section(s) of this program.

5.0 MEDICAL MONITORING AND RECORDKEEPING PROGRAM

As per OSHA requirements, those employees receiving OHSA 40 hour HAZWOPER training, where exposure to job and construction site contaminant hazards may exist and those employees in the respiratory protection program are required to take part in Tectonic's medical monitoring program. All costs of the medical monitoring program are covered by Tectonic. All medical and exposure records are maintained as confidential with Human Resources, in accordance with Section 6.1 below. The Vice Presidents or Project Managers are notified by Human Resources whether employees pass the exam or not, and whether there are any limitations that shall apply to their work duties. Employee medical records and exposure records will be maintained by Tectonic in confidential files for the duration required by OSHA and/or Federal and/or State regulations. Employees can obtain copies of the records at any time by completing the medical record request form and submitting it to Human Resources. The medical monitoring program is detailed in Appendix B.

6.0 REPORTING OF UNSAFE WORK CONDITIONS POLICY

Tectonic's management believes that accident prevention is one of the best ways of keeping our employees safe. Tectonic management is committed to maintaining a safe workplace and to achieve that goal we look to all our employees to work with the management to improve the safety of our workplaces. To achieve this goal, Tectonic encourages all employees to discuss safety concerns with their supervisors and managers as soon as possible. Conditions that are immediately hazardous shall be reported immediately. Tectonic management shall evaluate any safety concerns in a timely manner. Management shall work with our employees to address and remedy safety concerns and there will be no management retribution or retaliation against employees who report safety and health concerns. Therefore Tectonic has established the following procedure for employees to report their safety concerns to upper management:

1) Complete the Report of Unsafe Condition or Hazard Form found in Appendix A. The form can be completed anonymously if the employee so desires but anonymous reporting could slow the investigation of the concern and there is no way to notify the concerned employee of the resolution of the concern.
2) Email, fax, mail or hand deliver the completed form to Corporate Human Resource Department.
3) Human Resources will review and assign a member of management to review the concern within two (2) business days.
4) Management will review and evaluate the concern and prepare a recommendation for the concern within five (5) business days. If a remedy is required, then management will implement the necessary measures.
5) The completed form will be returned to Human Resources to be included in the safety files. If the form is not anonymous, then a copy will be sent to the employee that submitted the form.

7.0 FIRST AID, CPR & BLOODBORNE PATHOGENS POLICY

Sudden injuries or illnesses, some of which may be life-threatening, can occur at work, both in our workplaces and in on client project sites. To minimize the severity of any injury to our employees, Tectonic complies with the OSHA First Aid standards (29 CFR 1910.151, 29 CFR 1926.23, 29CFR 1926.50). Tectonic will provide trained first-aid providers at all workplaces of any size if there is no "infirmary, clinic, or hospital in near proximity to the workplace which is used for the treatment of all injured employees." In addition, Tectonic will ensure that adequate first aid supplies are readily available as needed for the possible hazards and number of employees at a location. Those employees who are designated as first responders will be also trained on biological hazards associated with blood and other potentially infected materials (OPIMs). The first aid, CPR and bloodborne pathogens policy is detailed in Appendix C.

8.0 INCIDENT INVESTIGATION

All incidents and "near-misses" shall be investigated by Tectonic management with the investigation beginning as soon as possible if not immediately after the incident. Incidents causing death or serious injury shall receive a thorough investigation performed by Tectonic management independent of official investigations. Near-misses that could have resulted in death or serious injury, as well as minor injuries, also shall be investigated. Investigations shall be conducted to determine both the cause of the accident and any changes necessary to prevent similar occurrences. Procedures for accident Investigations and forms can be found in Appendix D.

If an injury or incident should occur, employees are to notify emergency responders as required to protect life and property and then report it as soon as it is safe to their project manager or vice president. All employees must report injuries however; reports of injuries and illnesses shall be free from any retaliation by Tectonic management.

9.0 RECORDKEEPING AND SAFETY INSPECTIONS

9.1 INCIDENT REPORTS

Consistent with federal regulations, due to our North American Industry Classification System (NAICS) codes, we are not required to keep OSHA injury and illness records on an OSHA 300 log or issued and post an OSHA 300A form. If an injury or accident should occur, employees are to notify emergency responders as required to protect life and property and then report it as soon as it is safe to their project manager or division vice president. The project manager or vice president will then complete an accident/incident report and submit it to Human Resources as soon as possible but no later than 36 hours after the accident/incident. An accident/incident report will also be completed for "near-miss" incidents where an employee could have been possibly injured in an incident. If a fatality, inpatient hospitalization, amputation, or loss of an eye occurs, then OSHA shall be notified by a representative of Human Resources Department within 8hr of a death and 24 hrs. for inpatient hospitalization, amputation, or loss of an eye.

The objective of Tectonic's Corporate Health & Safety Program is to eliminate injuries that occur to our employees. In order to evaluate the success of this program, Tectonic's Corporate Health and Safety Officer with support from Human Resources will quarterly calculate and compile key performance indicators (KPIs). KPIs will include the following lagging indicators:

- Number of reported incidents

- Number of reported near misses
- Number of lost work hours
- Breakdown of injury types

KPIs will also include the following leading indicators:

- Number of safety audits
- Number of safety violations identified
- Number of safety violations remedied
- Findings from equipment inspections

9.2 PERIODIC SITE SAFETY INSPECTIONS & ACCOUNTABILITY

Tectonic shall perform periodic safety inspections to verify employee compliance with the corporate health and safety program and to identify any physical safety concerns. The safety inspections shall be performed by the Corporate Health & Safety officer, appropriately trained supervisory personnel and/or management. The records of the inspections shall be maintained by the Health & Safety Department and the Human Resources Department. Inspections performed by trained supervisory personnel and/or management shall be reviewed by the Corporate Health & Safety Officer.

Employees found and/observed in violation of the safety program, policies and procedure are subject to disciplinary measures including possible termination.

Employees are evaluated on his or her safety performance during their annual employee performance evaluation. The performance evaluations consider the following:

- Follows applicable safety regulations and procedures and applies safe working practices
- Operates equipment safely and according to guidelines
- Promptly reports any defective equipment
- Recognizes, reports and addresses unsafe working conditions or practices
- Keeps abreast of current safety practices
- Promptly reports “near misses” or injuries received on the job.

Jobsite Safety Inspection Checklist form for field personnel are provided in Appendix A.

10.0 HAZARD COMMUNICATION PROGRAM

Tectonic will comply with the OSHA Hazard Communication (HAZCOM) Standard 29 CFR 1910.1200 and 29 CFR 1926.59 in the workplace and on job sites by providing employees training on the HAZCOM standard, how to read Safety Data Sheets (SDSs) and labels, and how to work safely with chemicals and other hazardous substances in the employees work environmental. Additionally Tectonic shall maintain an inventory of all chemicals in Tectonic’s workplace, keep copies of the SDSs for those chemicals in locations easily accessible by all Tectonic employees, and Tectonic will regularly check and replace missing labels on those chemicals in the inventory. The policies and procedures of the Tectonic’s HAZCOM program are detailed in Appendix E.

11.0 JOB HAZARD ANALYSIS

Tectonic's Universal Job Hazard Analyses (UJHA) is to be used as guidance for all disciplines and job functions related to field activities. The most recent version of the UJHA shall be distributed to and made available to, all affected employees. Documentation of employee receipt will be maintained in the Human Resources Department and a copy provide to the Health & Safety Offcier. All affected employees will have an opportunity to discuss the UJHA and other safety issues, during their annual evaluations and during corporate re-fresher training sessions.

All new employees shall receive a copy of the most recent version of the UJHA with their orientation safety materials and it will be discussed with new employees during orientation training.

Prior to all field activities, the JHA is to be reviewed by all affected employees and affected employees shall identify relevant activities and corresponding controls for the days' work. All controls, at a minimum, shall be adhered to at all times. Employees that do not follow our policies and procedure are subject to disciplinary measures including possible termination.

The UJHA includes the requirement for a planning & site safety briefing/meeting with all affected field personnel to include, sub consultants and client representatives familiar with the site and the day's tasks. Employees, at a minimum, shall include in their briefings discussions that include the following:

- Site orientation requirements
- Owner/Client approved health & safety plans
- Task specific procedures and/or controls
- Non-Routine Task and any specific training requirements (i.e., confined space, LOTO, etc.)

For all non-routine tasks or activities, employees shall contact the Project Manager and/or Safety Officer to discuss any additional control measures that may need to be taken and any additional training that may be required.

The Job Hazard Analysis Form (JHSF) can be used in conjunction with the UJHA. Identified tasks and controls can be imported into the JHAF and any additional site-specific controls can included in the JHAF.

Universal Job Hazard Analyses (UJHA) and Job Hazard Analysis Form (JHSF) can be found in Appendix F.

If a project involves working with hazardous substances such that it falls under OSHA's Hazardous Waste and Emergency Operations Standard (HAZWOPER), a site-specific health and safety plan will be prepared as described in Tectonic's HAZWOPER program in Appendix R.

12.0 GENERAL SAFETY RULES AND REQUIREMENTS

The following are several safety policies and rules that apply to all Tectonic employees and facilities at all times.

12.1 PERSONNEL PROTECTIVE EQUIPMENT

Tectonic will provide personnel protective equipment (PPE) required for our employees to perform their work safely in accordance with OSHA regulations and provide training on the proper use of the equipment. It is the employee's responsibility to properly use, maintain the assigned safety equipment during their job assignments, and notify their supervisor of any problems or concerns regarding their PPE. Whether in Tectonic's office or on the job site, each subconsultant retained by Tectonic is responsible for providing PPE for their employees in accordance with the Occupational Safety & Health Standards for Construction (29 CFR 1926).

12.2 CLOTHING

When working at project sites, clothing suitable for the anticipated weather and work shall be worn by employees. Clothing should not be loose or torn and should be made of durable fabrics. No shorts or tank tops are permitted on project sites or Tectonic laboratory facilities. Tectonic employees should also wear footwear that provides support and protection.

12.3 SMOKING

Smoking will only be permitted in designated areas. Smoking shall not be permitted in workplace buildings, near portable fuel tanks or storage areas for other flammable and combustible materials. Use caution when smoking, and dispose of smoking materials carefully. Signs shall be placed in areas where there is to be no smoking.

12.4 PERSONAL CONDUCT

Tectonic employees are professionals and are expected to act in a professional manner during all work assignments. Practical jokes, horseplay, scuffling, wrestling or fighting are prohibited at all Tectonic locations and whenever a Tectonic employee is performing a work assignment.

12.5 GOOD HOUSEKEEPING

Good housekeeping on the job is mandatory and every employee must do their part daily to clean up his/her work area to keep their workstation and/or job site clean for safety and efficiency. The work station job site shall be cleaned, and garbage and refuse collected on a regular basis.

12.6 EQUIPMENT & VEHICLES

Equipment and vehicles shall be inspected on a regular basis with regularly scheduled maintenance and repairs performed when required to keep the units in safe operating condition. Employees should report broken or malfunctioning vehicles and equipment to supervisors as soon as possible and employees should not use that equipment until repaired. Each manager shall assign a staff member to maintain records of inspections and repair of vehicles and equipment.

12.7 DISEASES

Employees that have a contagious disease should notify their supervisor as soon as possible to make arrangements for taking sick time or if their job responsibilities allow, work from home. Employees who are

sick are not efficient and could potentially infect their co-workers which could impact those with comprised immune systems.

13.0 DRUG AND ALCOHOL FREE WORKPLACE

It is the policy of the Corporation to maintain and abide by a workplace that is free of illegal drug and alcohol abuse. To ensure that the objectives of our policy are met, the Corporation has implemented the following substance abuse/drug free workplace program which applies to all employees.

In circumstances where an employee is subject to drug and alcohol testing regulations as set forth by the U.S. Department of Transportation (US DOT), the Corporation will comply with all applicable federal laws and regulations as required by 49 CFR Part 40 and any other applicable regulations established by an individual US DOT Agency.

When on Company premises or project work sites, conducting Company-related work, or operating a Company vehicle, employees are prohibited form:

- The use, possession, sale, purchase, manufacture, or distribution of illegal drugs and narcotics (including drug paraphernalia);
- Being under the influence of alcohol or an illegal drug as defined by this policy; and
- Possession or consumption of alcohol.

The presence of any detectable amount of illegal drug, illegal controlled substance, or alcohol in an employee's body system while on Company premises or project work sites, conducting Company-related work, or operating a Company vehicle is prohibited.

In addition, employees are prohibited from the off-premises use of alcohol and possession, use, or sale of illegal drugs when such activities adversely affect job performance, job safety, or the Corporation's reputation in the community.

The Company will not employ alcohol or drug abusers whose current use of such substances would adversely affect their ability to safely and effectively perform their job duties.

The Company will also not allow any employee to perform their duties while taking prescribed drugs that are adversely affecting the employee's ability to safely and effectively perform their job duties. Employees must consult with their doctor about the medications' effect on their fitness for duty and ability to work safely, and promptly disclose any work restrictions to their supervisor or the Human Resource Department. Employees taking prescribed medication must carry it in the container labeled by a licensed pharmacist.

Any illegal drugs or drug paraphernalia will be turned over to the appropriate law enforcement agency.

Company property, equipment and containers are subject to search and surveillance at all times.

Supervisors should report immediately to the Managing Principals or Human Resource Manager any action or behavior by an employee which demonstrates an unusual behavior pattern. Supervisors should report immediately to the Managing Principals or Human Resource Manager any action or behavior by an employee

which demonstrates an unusual behavior pattern that may constitute reasonable suspicion. Reasonable suspicion must be based on specific, contemporaneous personal observations the supervisor can articulate concerning the employee's appearance, behavior, speech, body odor, chronic effects or withdrawl effects.

The Company retains the right to require the following drug/alcohol testing at their discretion and in accordance and compliance with all applicable laws and regulations:

- Testing for Cause/Reasonable Suspicion: Employees may be tested for cause for illegal drugs, substances, and alcohol when a reasonable suspicion exists that the employee appears to be under the influence of illegal drugs, substances or alcohol.
- Follow-up/MRO Directed Testing: After a positive test, employees are subject to unannounced testing for illegal drugs, substances and alcohol as directed.
- Post-Accident/Incident Testing: Employees may be subject to testing when they cause or contribute to accidents that seriously damage a Corporation vehicle, machinery, equipment, or property and/or result in an injury to themselves or another employee, in circumstances where drug or alcohol use could have reasonably contributed to the incident as the test results will be utilized as a tool to evaluate the root cause of the incident. In any of these instances, the investifation and subsequent testing must take place within three (3) hours following the accident, if not sooner. Under no circumstances will the employee be allowed to drive themselves to the testing facility.
- Project-related Initial/Random/Periodic Testing: Employees may be required to submit to drug testing prior to assignment to certain projects at the client's request. Furthermore, employees may be required to submit to random drug testing throughout the duration of an assignment to certain prohects at the client's request.

Collection and Testing Procedures:

- Employees subject to drug and alcohol testing shall be tested at a Company designated facility and directed to provide specimens; specimens shall be collected and tested by trained technicians or certified laboratories using approved collection and testing devices. The facility shall screen all specimens and confirm all positive screens. There shall be a chain of custody from the time specimens are collected through testing and storage. For purposes of this Policy, tests generated by law enforcement or medical providers may be considered by the Company as compliant with this policy.
- Any employee who attempts to introduce a substituted or altered specimen, refuses to cooperate in a drug or alcohol test, and/or engages in any conduct to obstruct the drug test, shall be subject to disciplinary action, up to and including termination.
- Typically, testing will include an alcohol screen and a ten to fourteen-panel urine drug screen which may consist of the following: Amphetamines, Barbiturates, Benzodiazepines, Buprenorphine, Cocaine, EDDP (Methadone Metabolite), Marijuana, Methadone, Methamphetamine, Ecstasy, Methaqualone, Opioids/Opiates, Oxycodone, Phencyclidine, Propoxyphene. The Company reserves the right to change the drug screen at any time without notice.
- The Medical Review Officer "MRO" will first inform an employee with positive results with a reasonable opportunity to rebut or explain the results. After speaking with the employee, the MRO will notify the Designated Employer Representative ("DER") within the Corporation's Human Resource Department of the positive result. Employees with positive test results may also ask the MRO to have their specimen send to another certified laboratory

of their choice to be tested at the employee's own expense. Such requests must be made in writing within 5 working days of notice of test results. If the second facility fails to find any evidence of drug use in the split specimen, the employee will be treated as passing the test.

If a substance abuse test result is positive, the employee will be provided with the following options:

- Re-test: The employee may request to have their specimen sent to another certified laboratory of their choice to be tested at their own expense. Such requests must be made in writing within 5 working days of notice of test results.
- Leave of Absence: An employee may request a leave of absence to undertake rehabilitation treatment. The employee will not be permitted to return to work until certification is presented to the Human Resource Manager that the employee is capable of performing his/her job. Failure to cooperate with an agreed upon treatment plan may result in discipline, up to and including termination. Leaves of absences will be assigned in accordance with current Corporate Policy. Taking leave of absence or providing a medical certification does not insulate an employee from the imposition of discipline for violations of this or other Corporation policies.
- Medical Certification: The employee may provide a doctor's note confirming a valid medical explanation of this result. If an employee requires the lawful possession and use of prescribed medications during work, and such use may affect their ability to perform their work, they must disclose any work restrictions to the Human Resource Department so that it can be determined whether you are able to perform the essential functions of your job safely and properly.

Employees will be subject to disciplinary action, up to and including termination, for violations of this policy.

Confidentiality:

- Information and records relating to positive test results, drug and alcohol dependencies and legitimate medical explanations provided to the MRO shall be kept confidential to the extent required by law. Such records and information may be disclosed among managers and supervisors on a need-to-know basis and may also be disclosed where relevant to a grievance, charge, claim or other legal proceeding initiated by or on behalf of an employee or applicant.

14.0 OFFICE SAFETY

Although Tectonic's workplaces are mostly standard office spaces, there are still hazards associated with working in an office. The following sections details those hazards encountered in the office and how to eliminate those hazards.

14.1 TYPES OF OFFICE HAZARDS

The following are examples of typical hazards you may encounter in Tectonic's workplace:

- **Chemicals** are used in every aspect of a workplace. Chemicals that a trade worker might use can be different than chemicals an office worker uses. However, if you are not trained

on proper usage, storage and safety procedures for chemicals, then you are putting yourself in danger.

- **Electrical cords** can pose a hazard if they are damaged or frayed. This hazard can be reduced by inspecting electrical cords and removing damaged cords at once.
- **Ergonomic issues** can exist at workstations if proper adjusting has not been completed. Items like your chair, keyboard, mouse, monitor, etc. can potentially cause harm if the workstation is not fitted to the user.
- **Fire and explosion hazards** can exist at any location with storage of large amount of combustibles, flammable solids or liquids and explosive material.
- **Furniture** and the layout of furniture can pose a hazard if not properly placed or arranged in your office. Problems that furniture can cause are blocked or difficult means of exit, and tripping hazards.
- **Hand powered tools and equipment** can pose many hazards if not used properly. Always use the correct tool for the task intended. These types of tools can cause pinch hazards, lacerations, punctures, and contusions if not used correctly.
- **Heat-generating sources** can be a fire hazard if they are not properly maintained. Never store combustible or flammable material near heat generating equipment.
- **Housekeeping** is the number one accident prevention action and is everyone's responsibility in the workplace. Keeping the floors clear from tripping hazards, cleaning the break room or lunch area, not overfilling your waste basket, and reporting broken or damage equipment are all components of good housekeeping.
- **Motor vehicle accidents** not only happen on street and highways, but can happen in building parking lots and driveways. In our parking lots, this hazard can be reduced by constantly being aware of your surroundings, observing the posted or required speed limits, and always wearing your seat belt.
- **Office equipment** (copiers, paper cutters, shredders) can pose a real hazard if you are not trained on how to maintain the equipment. Examples of hazards that office equipment can pose are hot surfaces, sharp parts, and pinch points (areas were body parts can become caught).
- **Slips, trips, falls** are one of the leading causes of injuries in the workplace. The probability of them occurring can be reduced by practicing good housekeeping. If you see something on the floor that can cause a person to slip, trip or fall, pick it up. If the hazard on the floor is a substance that you need help with, block off the area to keep people from entering and contact your supervisor.
- **Workplace violence** can take place in any department or office at any time. This violence can be physical or verbal and can vary in intensity. Refer any perceived violence to your supervisor.

14.2 DRESS FOR SAFETY SUCCESS - SAFE OFFICE ATTIRE

- Wear loose, comfortable clothing that best fits the job task and working environment unless doing so would increase the potential for injury (i.e. necktie or loose sleeves around rotating parts).
- Whenever possible, avoid open-toed shoes and sandals. This type of footwear is not allowed in laboratory areas or areas where material handling and testing is conducted.
- Wear comfortable footwear with a good sole to reduce leg and back strain, and to help prevent slips and falls.

14.3 OFFICE SLIPS, TRIPS, AND FALLS

Slips, trips, and falls are the leading caused injury in any workplace, including the office. It is also one of the most avoidable injuries in a workplace. Simple steps, like good housekeeping and being aware of your surroundings, can help reduce your chances of becoming injured by a slip, trip, or fall.

- Level surfaces can cause tripping hazards if you are not aware of your surroundings. Even though the surface is generally level, other objects such as carpet edging, extension cords and other protrusions can still be present as well as liquids from spills. Transition surfaces, such as smooth surface to rough surface like carpet to tile can also be a tripping hazard.
- Elevated surfaces - standing on chairs, working on a ladder, falling up or down stairs are examples of elevated surfaces that can cause an injury.
- Parking lots with curbs, parking wheel stops, oil patches, and loose gravel or asphalt can all cause tripping and slip hazards in a parking lot.
- Electrical cords, furniture, chairs, boxes and other miscellaneous items can create tripping hazards in aisles.
- Walk with caution on wet surfaces as they may have become increasingly slippery when they are wet with any type of substance.
- Use the handrail when provided to help maintain balance while both ascending and descending stairs.
- Report unsafe conditions to your supervisor as soon as they are noticed. Don't assume that just because you saw it and did not get hurt, that someone else will not.
- Hold on to something solid when attempting to sit or while you stand from a sitting position.
- Use approved step stools and ladders in the workplace. If the ladder seems damaged or does not fit the task at hand, don’t attempt to do the task until you have located a different ladder. Report all unsafe ladders to your supervisor.
- Wear the most appropriate shoes for your work environment.
- Wipe up spills as soon as they are noticed. If you are required to leave the area to get supplies or call for additional help, attempt to block off the area to prevent others from entering the area.
- Always walk, don’t run. Awareness is the key to preventing injuries.

14.4 OFFICE LAYOUT AND LIGHTING

14.4.1 OFFICE LAYOUT

- Emergency exits and passageways must be kept clear and free of any obstruction at all times.
- Furniture and equipment should be arranged, so that

    - Chairs and equipment are not stored in walkways,
    - File and desk drawers are not left open in the walkways, and;
    - No obstructions are created that block the view around corners or partitions.

14.4.2 OFFICE LIGHTING

Lighting is one of the most important factors affecting personal comfort on the job. The best lighting system

is one in which the lighting level is geared to the task, where brightness ratios are controlled (no intensely bright or dark areas) and where ceiling, wall, and floor surfaces minimize glare. Glare is defined as a harsh, uncomfortable bright light that shines directly in the eyes. Glare may be either direct, coming from lights or sunshine, or indirect, coming from a reflective surface.

Different tasks require different levels of lighting. Areas, in which intricate work is performed, for example, require brighter illumination than other areas. Lighting needs to vary from time to time and person to person as well. One approach is to use adjustable task lighting that can provide the needed illumination without increasing general lighting. There are a number of measures that can be used to prevent and control poor lighting conditions in the work environment:

- Regular maintenance of the lighting system should be carried out by qualified personnel to clean or replace old bulbs and faulty lamp circuits.
- A light-colored matte finish on walls, ceilings, and floors should be used to reduce glare.
- Whenever possible, office workers should not face windows, unshielded lamps, or other sources of glare.
- Adjustable shades should be used if workers face a window.
- Diffused light will help reduce shadows. Indirect lighting and task lighting is recommended, especially when work spaces are separated by dividers.
- Task lamps are very effective in supplementing general office lighting for those who require or prefer additional lighting. Some task lamps permit several light levels.

14.5 OFFICE HOUSEKEEPING

All areas of employment, including outside areas, should be kept as clean as the nature of the work allows but must be kept free and clear of debris, trash, scrap, spills or other extraneous materials which could create a health hazard or cause an accident. Proper layout, spacing and arrangement of equipment, facilities, and machinery are essential to good housekeeping, allowing orderly operation and avoiding congestion. Some examples of good housekeeping include, but are not limited to:

- Every floor, work area, and passageway should be kept clear of obstructions that protrude into the walkway or have the potential to result in unsure footing, such as loose parts, boxes, packing material, or tools.
- Keep stairwells clear at all times. Do not store boxes, files, or other debris in the stairwells or landings.
- Pick up dropped pencils, paper clips, and rubber bands that can cause you or a co-worker to trip.
- Contact Human Resources if you see common areas that are cluttered with rubbish.
- Wipe up spills immediately. If a spill is too large to clean up quickly, contact your supervisor.
- Report uneven, defective flooring, worn spots in carpets, chipped tiles, and worn stair treads to Human Resources.
- In areas where wet or damp conditions are likely to routinely exist, appropriate drainage should be maintained. Grating, mats, raised platforms, or anti-slip strips should be evaluated and considered for control or prevention of slippery conditions.
- Avoid overfilling wastebaskets and dumpsters.
- Avoid dust accumulations.

- Maintain clean and organized conditions of office equipment, storage, and work areas.

14.6 OFICE ELECTRICAL SAFETY

Electricity is essential to the operations of a modern automated office as a source of power. Electrical equipment used in an office is potentially hazardous and can cause serious shock and burn injuries if improperly used or maintained.

- Turn off all electrical equipment when not in use.
- When circuit breakers are tripped, immediately notify maintenance personnel or the office manager.
- Extension cords must be properly equipped with grounding prongs.
- Electrical cords should be visually inspected on a periodic basis to identify frayed and worn cords.
- Keep all electrical cords out of walkways and passageways.
- Extension cords are not permitted for continuous use and cannot be run into another room.
- Temporary electric extension and/or communication cords placed on floors should be secured and clearly marked /signed to prevent a tripping hazard.
- Use approved surge protectors. Never plug extension cords into surge protectors or “daisy chain” surge protectors (surge protectors plugged into each other).
- Don’t overload or split outlets and surge protectors.
- Combustible material, such as paper, should not be stored on or in close proximity to electrical outlets and connections.
- Nothing should be stored within 30" of electrical panels.

15.0 AUTOMOBILE USE

As many of Tectonic assignments require travel to client locations, Tectonic maintains strict policies for the safe use of motor vehicles during work hours.

Employees who are required to drive for business as a condition of employment must pass a defensive driving (6-hour) course with 60 days of commencement of employment, and once every three years thereafter.

Employees may not drive vehicles for Corporation business without the prior approval of their supervisor and signing out the vehicle. Before approving a driver, the Corporation will check theemployee's driving record, verify the existence of a valid driver's license, and make sure the employee is eligible for coverage under any applicable Corporation insurance. It is the employee’s responsibility to notify their supervisor if their license has been suspended or revoked.

Employees who drive a vehicle on Corporation business must, in addition to meeting the approval requirements above, exercise due diligence to drive safely and to maintain the security of the vehicle and its contents. Drivers also must make sure that the vehicle meets any Corporation or legal standards for insurance, maintenance, and safety.

Employees are not permitted, under any circumstances, to operate a Corporation vehicle, or a personal vehicle for Corporation business, when any physical or mental impairment causes the employee to be unable to drive

safely. This prohibition includes, but is not limited to, circumstances in which the employee is temporarily unable to operate a vehicle safely or legally because of illness, medication, or intoxication.

Tectonic's detailed Autmobile Use policy is located in Appendix H.

16.0 CONSTRUCTION SAFETY PROGRAM

Tectonic's services require that many of our employees work at client's project sites that involve a wide variety of construction activities. These project sites are owned and/or controlled by our client or the client's contractor and the safety at these sites are the responsibility of the Project Owner and Contractor working for the Project Owner. When at a project site, Tectonic and Tectonic's subconsultant and subcontractor employees shall comply with all state, local and OSHA codes and regulations as well as any project specific safety requirements.

The potential hazards on a project site can vary significantly between sites and our employees are expected to familiarize themselves with the project site specific hazards and how they might impact their particular job responsibilities. If there are safety concerns at a site, the employee should contact their project manager immediately so that the concern can be addressed. If an employee feels that a site is unsafe, they should not enter and contact their project manager immediately.

Descriptions of common hazards found at construction sites and information about safety requirements for these hazards are described in Tectonic's Construction Site Safety Program attached in Appendix I. The Construction Safety Program will be reviewed by all employees that may be required to visit a construction site.

17.0 PERSONAL PROTECTIVE EQUIPMENT PROGRAM

Tectonic personnel will wear appropriate Personal Protective Equipment (PPE) when and where required. Prior to the commencement of a job, the Manager will evaluate specific job hazards relating to impact, electrical, thermal, noise and chemical hazards through a job hazard analysis. Based on these hazard categories, the Manager will evaluate specific PPE requirements for specific job applications. The Manager will notify the field personnel of the PPE requirements of each project during the review of the project JHA.

Eye/Face Protection

Safety glasses with side shields shall be worn at all times when working at or visiting a construction and/or project sites. Other work may require the use of goggles, face shields or filters (welding). Lenses shall meet the latest ANSI Z87.1 standards. Where face shields are used, they must be combined with the proper safety glasses. Tectonic shall provide safety glasses for employee eye protection. Eye protection must be worn whenever the potential for an object, particulates, and/or other material to strike the eye exists. Be aware that eye protection may limit peripheral vision and extra care should be taken.

Hard Hats

Workers will be required to use the proper hard hats. Hard hats shall be worn by all Tectonic employees when working at or visiting a construction and project sites at all times. Employees will inspect their hard hats daily.

Out-of-date and damaged hard hats will not be worn and taken out of service. Employees will request a new hard hat from their manager immediately upon noting damage and it will replaced at no cost to the employee.

- Hard hats shall meet the latest ANSI Z89.1 standards.
- Hard hats will be inspected by the user.
- Defective hard hats will be removed from service.
- Hard hats will be worn as per manufacturer's requirements.

Foot Protection

All personnel shall wear durable footwear with steel or reinforced composite toes on project sites or in the corporate laboratory facilities. As per OSHA, employees shall provide suitable approved safety footwear in good condition to be used during employee's work assignments. Shoes should have a reinforced toe and shank and be made of a durable material. Shoes with soft uppers or soft covering over the toes and upper part of the foot (i.e. sneaker shoes) and sandals are not suitable for use at construction sites, performing field investigations, or working in Tectonic's laboratories.

Hearing Protection

All personnel shall wear hearing protection where and when required by Tectonic's Hearing Conservation program (Appendix N). Tectonic shall provide hearing protection for employee use. Employees will follow the following:

- Hearing protection shall be used in all areas that exceed 85 dB during an 8 hour time weighed average (TWA).
- Area designated by clients.
- The type of hearing protection that may be used will consist of the following types:
    - Aural (ear insert)
    - Circumaural (ear muffs)
- Earphones from music playback devices (i.e. iPods, mp3 players, etc.) are not permitted on job sites as they may obscure warnings and noise from heavy machinery.

Other Specific Equipment

Based on the hazard evaluation, project requirements, and/or weather requirements, other specific equipment that may be required may include, but is not limited to, the following:

- Gloves
- Chemical Protective Clothing – Tyvek, etc.
- Winter Gear – Coats, Coveralls
- Rain Gear
- Reflective Vests
- Personal Flotation Devices
- Fall Protection Equipment

18.0 RESPIRATORY PROTECTION

If a project site or job hazard analysis indicates that employees may be exposed to potentially hazardous substances in the form of gases, vapors, or airborne particulates or conditions Immediately Dangerous To

Life or Health (IDLH), then those employees affected are covered by Tectonic's Respiratory Protection Program which is detailed in Appendix J. The hazard will be identified during the job hazard analysis performed by Tectonic's management. The type of airborne hazard will determine the type of respiratory protection to be used.

1. Examples of potential health hazards or conditions that are immediately dangerous to life/health are atmospheres that contain:

    - low oxygen content
    - non-toxic dusts, mists, vapors, fumes, fibers
    - organic vapors/gases
    - toxic gases (ammonia, hydrogen sulfide)
    - heavy metals (lead, cadmium, chromium, antimony, arsenic)
    - asbestos

2. Types of Respirator Protective Equipment include:

    - dust masks (single use)
    - cartridge masks (can be full face or half mask variety)
    - powered air purifying respirators
    - air-line respirators (supplies air)
    - self-contained breathing apparatus

18.1 RESPIRATORY PROTECTION TRAINING

Employees required to wear a respirator will be trained on the proper selection and use of respirators as per the Respiratory Protection Program (Appendix J). Respirator use may be job specific. Specific selection of respirators and support training may be assisted with the help of a qualified consultant.

- Tectonic employees will be trained on the technical elements of 29 CFR 1910.134 by a qualified individual.
- All subcontractors will be required to provide training documentation and written program.

18.2 MEDICAL MONITORING

Employees that are part of the respiratory protection program will receive medical monitoring as part of the program at no cost to the employee. Medical monitoring will include initial medical clearance and at least yearly medical monitoring. Details of the respirator medical monitoring program are found in Appendix B and in Appendix J.

18.3 VOLUNTARY RESPIRATOR USE

Employees who are not required to wear a respirator but voluntarily chose to wear a respirator for personnel preference or comfort must read and understand Appendix D to Sec. 1910.134 (Mandatory***) Information for Employees Using Respirators When Not Required Under the Standard*** and must sign the form found in ATTACHMENT M of our respiratory protection program.

19.0 FALL PROTECTION PROGRAM

Tectonic field work may involve working above the ground surface such as working on scaffolding, ladders, towers, mechanical lifts, and other elevated locations. If work involves work above 6 feet above the ground surface (including work on scaffolds and man lifts) then those projects on construction job sites will receive a hazard evaluation by a competent person prior to starting the job. A competent person will review job application and potential fall hazards, and will evaluate appropriate protective systems. The project manager will then ensure that the employee has received the proper fall protection training and that the proper fall protection safety system is implemented. Tectonic's Fall Protection Program is fully detailed in Appendix K.

20.0 SCAFFOLDING SAFETY PROGRAM

Tectonic field work may involve working above the ground surface on scaffolding. Typically, these scaffolds are erected on a project site by a contractor, but Tectonic employees who use this scaffolding still need to understand the hazards and safety rules for all scaffolding. Therefore employees whose work involves performing a portion of their responsibilities on scaffolding will receive scaffold user training that complies with OSHA and local regulations. The project manager will then ensure that the employee has received the proper training prior to be being assigned to a project that involves the use of scaffolding. Tectonic's Scaffolding Safety Program is fully detailed in Appendix L.

21.0 MANUAL MATERIAL HANDLING PROGRAM

Back disorders can develop gradually or can be the result of a single traumatic event. Sprains and strains are the most common causes of lower back pain. Improper lifting or lifting loads that are too heavy for the back to support, falling, or sports activities are a few examples of back injury causes. Of these, lifting improperly or lifting loads that are too heavy for the back to support is the largest single cause of back pain and injury. Instituting proper lifting techniques and other safety measures can significantly reduce back injuries at Tectonic. It is the policy of Tectonic that all employees whose job duties involve lifting will receive proper training in lifting techniques. It is also the policy of Tectonic that employees will be provided with proper education regarding the mechanics of the back and measures that can be taken to protect the back from injury. Tectonic requires the procedures in this plan be followed to provide a safe work environment. These procedures on safe lifting practices have been implemented to ensure that employees are trained to protect themselves from the hazards of improper lifting practices. The project manager will ensure that the employee has received the proper training prior to be being assigned to a project that involves the manual handling of materials and equipment. Tectonic's Manual Material Handling Program is fully detailed in Appendix M.

22.0 HEARING CONSERVATION PROGRAM

Tectonic employees who perform inspections of construction activities could be exposed to high noise levels associated with construction activities including pile driving, hoe ramming, drilling and blasting, jackhammering, etc. Some field work could also occur in noisy environments such as airports and along busy highways. It has been conclusively shown that exposure to elevated noise levels can result in **permanent** loss of hearing. Tectonic has prepared a hearing conservation program for our employees. Its objective is to minimize hearing loss by providing hearing protection, training, and annual hearing tests to all persons working in areas or construction sites or with equipment that have noise levels equal to or exceeding an eight-hour time-weighted average (TWA) sound limit of 85 dBA (decibels measured on the A scale of a sound level meter). Tectonic's Hearing Conservation Program is fully detailed in Appendix N.

23.0 HEAT AND COLD STRESS PROGRAM

Working in extreme temperatures (hot or cold) can overwhelm the body's internal temperature control system. When the body is unable to warm or cool itself, heat or cold related stress can result. Heat and cold stress can contribute to adverse health effects which range in severity from discomfort to death.

Tectonic has developed a Heat and Cold Stress Program to minimize the effects of heat and cold stress on Tectonic employees. As many of Tectonic's employees work on construction sites or other undeveloped sites, Tectonic recognizes that heat and cold stress to be potential hazard for these employees especially in summer and winter months. This program contains the procedures and practices for safely working in temperature extremes. Tectonic's Heat and Cold Stress Program is detailed in Appendix O.

24.0 CONFINED SPACE IN CONSTUCTION ENTRY PROGRAM

All work will be performed in accordance 29 CFR 1926 Subpart AA. Before work begins at a worksite, Tectonic's project manager and field personnel will consult with the Host Employer and/or Controlling Contractor to determine if permit confined spaces are present at the site. Once Tectonic receives notice of the presence of permit space(s) at the site, Tectonic's project manager shall :

- Inform exposed employees by posting danger signs or by any other equally effective means, of the existence and location of, and the danger posed by, each permit space
- Inform, in a timely manner and in a manner other than posting, its employees' of the existence and location of, and the danger posed by, each permit space.
- Take effective measures to prevent unauthorized employees from entering permit spaces

Should it be necessary for Tectonic employees to enter a confined space, all entries will be coordinated with the Controlling Contractors. Prior to entry Tectonic's Project Manager & field personnel will obtain the following information from the Controlling Contractor.

- Information about the permit space hazards and previous entry operations
- Information regarding permit space hazards and entry operations
- Permit space entry procedures that employees will follow, including any hazards likely to be confronted or created in each permit space

- Precautions other entry employers implemented for the protection of employees in the permit spaces
- Any activities that could foreseeably result in a hazard in the permit space are performed
- Obtain any "Debriefing" obtained by the controlling contractor regarding the permit space entry procedures followed and any hazards confronted or created in the permit space(s) during entry operations;

If there is no controlling contractor present at the worksite, the above information shall be obtained from the host employer or other employer who arranges to have employees of Tectonic perform work that involves permit space entry.

All confined space entries will be coordinated with Controlling Contractor including but not limited to pre-approved site-specific entry procedures. Means, procedures, and practices necessary for safe permit space entry operations, shall, at a mimimum, consider the following:

- Acceptable atmospheric entry conditions, including pre-entry air monitoring and continuous air monitoring during entry operations.
- Isolating the permit space and physical hazard(s) within the space and any required lock-out/tag-out
- Purging, inerting, flushing, or ventilating the permit space as necessary to eliminate or control atmospheric hazards;
- Providing pedestrian, vehicle, or other barriers as necessary to protect entrants from external hazards
- Verifying that conditions in the permit space are acceptable for entry throughout the duration of an authorized entry, and ensuring that employees are not allowed to enter into, or remain in, a permit space with a hazardous atmosphere
- Determining that, in the event the ventilation system stops working, the monitoring procedures will detect an increase in atmospheric hazard levels in sufficient time for the entrants to safely exit the permit space.
- Eliminating any conditions (for example, high pressure) that could make it unsafe to remove an entrance cover
- Testing and monitoring equipment needed
- Ventilating equipment needed to obtain acceptable entry conditions;
- Communications equipment necessary including any necessary electronic communication equipment for attendants assessing entrants' status in multiple spaces;
- Personal protective equipment insofar as feasible engineering and work-practice controls do not adequately protect employees;
- Lighting equipment that meets the minimum illumination requirements that is approved for the ignitable or combustible properties of the specific gas, vapor, dust, or fiber that will be present, and that is sufficient to enable employees to see well enough to work safely and to exit the space quickly in an emergency;
- Ladders needed for safe ingress and egress
- Rescue and emergency plan and equipment needed except to the extent that the equipment is provided by rescue services

All employees required to enter a confined space will be trained to ensure they are competent to fulfill their responsibilities related to confined space entry. Training will emphasize understanding and application of regulations, hazard recognition and control. Training will ensure an understanding of the hazards in the

permit space and the methods used to isolate, control or in other ways protect employees from these hazards, and for those employees not authorized to perform entry rescues, in the dangers of attempting such rescues. Training will be provided as follows:

Entrants and Attendants
Workers authorized to fulfill the duties of an entrant or attendant shall be trained in the following:

- Hazards of confined space entry;
- Proper use of confined space equipment (e.g., air monitoring equipment, ventilation, PPE, non-entry rescue, etc.); and
- Emergency rescue procedures.

Entry Supervisors
Workers authorized to fulfill the duties of an entry supervisor shall be trained in the following:

- Proper assessment of hazards;
- Planning and supervising entry into confined spaces, including completion of an entry permit;
- Verification of permit conditions;
- Termination and permit close-out procedures; and
- All duties of an entrant and attendant.

25.0 HAZWOPER PROGRAM

Tectonic has been determined that some Tectonic employees may be exposed to safety or health hazards associated with operations and activities that may contain hazardous waste as defined by RCRA. These include employees who are involved in:

- Clean-up operations required by a governmental body, whether Federal, state, local or other involving hazardous substances that are conducted at uncontrolled hazardous waste sites (including, but not limited to, the EPA's National Priority Site List (NPL), state priority site lists, sites recommended for the EPA NPL, and initial investigations of government identified sites which are conducted before the presence or absence of hazardous substances has been ascertained).
- Corrective actions involving clean-up operations at sites covered by the Resource Conservation and Recovery Act of 1976 (RCRA) as amended (42 U.S.C. 6901 et seq.).
- Voluntary clean-up operations at sites recognized by Federal, state, local or other governmental bodies as uncontrolled hazardous waste sites.
- Operations involving hazardous wastes that are conducted at treatment, storage, and disposal (TSD) facilities regulated by 40 CFR parts 264 and 265 pursuant to RCRA; Or by agencies under agreement with U.S.E.P.A. to implement RCRA regulations.

As per 29 CFR 1910.120, Tectonic has developed a written Hazardous Waste Operations and Emergency Response Program (HAZWOPER) for employees involved in the above listed operations. The HAZWOPER program will be communicated and explained to all personnel that are affected by it prior to employees being assigned to such projects. It includes training requirements, medical monitoring requirements, and additional health and safety practices beyond what is contained in this HASP to comply with the OSHA HAZWOPER standard. The written HAZWOPER program is detailed in Appendix R.

26.0 ASBESTOS AWARENESS PROGRAM

Asbestos is a set of six naturally occurring silicate minerals used commercially for their desirable physical properties. Asbestos became increasingly popular among manufacturers and builders in the late 19th century because of its sound absorption, average tensile strength, its resistance to fire, heat, electrical and chemical damage, and affordability. It was used in such applications as electrical insulation for hotplate wiring and in building insulation. When asbestos is used for its resistance to fire or heat, the fibers are often mixed with cement (resulting in fiber cement) or woven into fabric or mats. Asbestos minerals have in common their eponymous asbestiform habit: long (roughly 1:20 aspect ratio), thin fibrous crystals. Research has found that the prolonged inhalation of asbestos fibers can cause serious illnesses including malignant lung cancer, mesothelioma, and asbestosis (a type of pneumoconiosis). Although the trade and use of asbestos have been restricted or banned in many jurisdictions, asbestos containing materials can still be found in many buildings.

Tectonic employees may encounter project sites where PACM/ACM is present and therefore those employees need to be aware of the hazards associated with asbestos and how to protect themselves. The project manager will ensure that that employees assigned to projects where ACMs/PACMs are present has received the training on Tectonic's Asbestos Awareness program prior to be being assigned to a project. Tectonic's Asbestos Awareness Program is fully detailed in Appendix R.

27.0 LEAD BASED PAINT PROTECTION PROGRAM

Lead is a soft bluish-gray metal with properties that make it a desirable building material additive for paint. Paints containing lead are resistant to corrosion and provide a durable surface which does not crack with temperature variations.

Lead can enter the body by inhalation or ingestion. When materials containing lead are heated, lead is released as a fume which can be inhaled. Poor hygiene practices can introduce lead into the body through ingestion (swallowed) when eating, drinking, and smoking.

Lead can adversely affect many parts of the body. Most common are the circulatory, nervous and reproductive systems. Lead can accumulate in the body and build up to dangerous levels over time. Too much lead in the body can damage the brain, nerves, kidneys, and blood cells. Lead can also affect the ability to conceive and bear a healthy child. If a pregnant woman is exposed to lead, it can harm her fetus. Men with lead exposure can have damaged sperm. Overexposure to lead is common. Although many people with high lead levels do not feel sick or poisoned, their health may be seriously affected. The longer people have elevated lead levels, the greater the risk of health problems. Sometimes the damage is permanent.

In order to protect our employees, Tectonic shall provide for all employees whose job duties may involve lead substances including DOT bridge inspectors training on lead hazards and protection from those hazards. If the employee is potentially exposed to lead at or above the PEL shall be included in the lead paint medical monitoring program. The project manager will ensure where there is potential exposure to

lead based paint on a project that employees assigned to those projects have received the training on Tectonic's Lead Based Paint Protection program prior to be being assigned to a project and medical monitoring if required. Tectonic's Lead Based Paint Protection Program is fully detailed in Appendix S.

28.0 CADMIUM AND HEXAVALENT CHROMIUM SAFETY PROGRAM

Cadmium and chromium are heavy metals present in some paints and in certain steel alloys. These two heavy metals can enter the body by inhalation or ingestion. When materials containing these metals are heated such as during torch cutting and welding, these metals can be released as a fume which can be inhaled. Poor hygiene practices can introduce these metals into the body through ingestion (swallowed) when eating, drinking, and smoking after touching a surface contaminated with cadmium or chromium dusts. Employees with the greatest chance of exposure to these metals are those who inspect metal cutting and welding operations. The project manager will ensure where there is potential exposure to cadmium and chromium on a project that employees assigned to those projects have received the training on Tectonic's Cadmium and Hexavalent Chromium Safety Program prior to be being assigned to a project and received medical monitoring if required. Tectonic's Cadmium and Hexavalent Chromium Safety Program is fully detailed in Appendix T.

29.0 RADIOFREQUENCY AND MICROWAVE RADIATION SAFETY PROGRAM

"Radiofrequency (or RF) Radiation" refers to electromagnetic fields with frequencies between 300 kHz and 300 MHz, while "Microwave (or MW) Radiation" covers fields from 300 MHz to 300 GHz. Since they have similar characteristics, RF and MW radiation are usually treated together. As well, the lower-frequency boundary of RF radiation is often extended to 10 kHz, or even to 3 kHz, in order to include emissions from commonly used devices.

Some Tectonic employees could be exposed to RF/MW fields that exceed the exposure limits set forth by the Federal Communications Commission (FCC). Tectonic has developed a program which is meant to minimize exposure to RF/MW radiation and to prevent overexposure and injuries from RF/MW radiation in the workplace as per the requirements OSHA General Duty Clause. Tectonic's Radiofrequency and Microwave Radiation Safety Program is fully detailed in Appendix U.

30.0 ASSURED EQUIPMENT GROUNDING CONDUCTOR PROGRAM (AEGCP)

The use of electrical cords and electrical powered equipment potentially exposes employees to an uncontrolled release of electrical energy caused when the electrical insulation on wires becomes damaged or is missing. To protect employees from electrical hazards Tectonic has implemented an assured equipment grounding conductor program (AEGCP). The program consists of training employees on electrical hazards, inspecting all electrical cords and equipment prior to use, and using Ground Fault Circuit Interrupters on all jobsites to eliminate all injuries resulting from possible malfunctions, improper grounding and/or defective electrical tools and systems. Tectonic's Assured Equipment Grounding Conductor Program (AEGCP) is fully detailed in Appendix V.

31.0 LOCKOUT/TAG OUT

All machines and power equipment shall be disconnected and de-energized and locked out from energy sources prior to inspecting, maintaining or repairing that equipment. To comply with OSHA requirements for the lockout of energy isolating devices whenever inspections or repairs are performed on machines or equipment, Tectonic employees will utilize specific lockout procedures for the specific type of equipment. Equipment procedures may be developed by Tectonic or be client specific.

Sequence of Lockout

a. Notify employees and facility personnel when an inspection is required on a machine or equipment. Inform them the machine or equipment must be shut down and locked out to perform the inspection.
b. The authorized employee shall identify the type and magnitude of the energy that the machine or equipment utilizes, understand the hazards of the energy and know the methods to control the energy.
c. If the machine or equipment is operating, shut it down by the normal stopping procedure.
d. Deactivate the energy isolating device(s) so that the machine or equipment is isolated from the energy source(s).
e. Lock out the energy isolating device(s) with assigned individual lock(s).
f. Stored or residual energy (such as capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems and air-gas-steam-water pressure, etc.) must be dissipated or restrained by methods such as rounding, repositioning, blocking, bleeding down, etc.
g. Ensure that the equipment is disconnected from the energy source(s) but first check that no personnel are exposed. Then verify the isolation of the equipment by operating the push buttons or other normal operating control(s) or by testing to make certain the machine or equipment will not operate. Return operating control(s) to neutral or the OFF position after verifying the isolation of the machine or equipment.
h. The machine or equipment is now locked out. When the inspection is completed and the machine or equipment is ready to return to normal operating condition, the following steps shall be taken:
i. Check the machine or equipment and the immediate area to ensure that nonessential items have been removed and that the machine or equipment components are operationally intact.
j. Check the work area to ensure that all employees and facility personnel have been safely positioned or removed from the area.
k. Verify that the controls are in neutral or the OFF position.
l. Remove the lockout device(s) and reenergize the machine or equipment. The removal of some forms of lockout devices may require reenergization of the machine or equipment before safe removal.
m. Notify affected employees and facility personnel that the inspection is completed and the machine or equipment is ready to use.

*** Note: any lockout/tagout operation will require the on-site supervisor and/or employee to have the host facility personnel assist with performing lockout procedures. All host facility lockout procedures and tagging requirements will be observed and no Tectonic employee or subcontractor will remove or alter any locks or tagging systems.*

Other requirements include:

- Lockout and tagout devices shall be durable, marked, colored or dyed for each facility. They should state: DO NOT START, DO NOT OPERATE or DO NOT OPEN, or a similar message.
- If a group or several employees are locked out, each employee shall have an individual keyed lock to do so.
- Tags will have the individual and company name displayed.
- Group operations may require clasps or lock boxes to allow for multiple energy source isolation(s).
- When locks are unfeasible a tag system will be utilized. Employees will be trained on the tagging system procedures and the procedure will be communicated to appropriate facility personnel.
- All tags and connections will be in accordance with 29 CFR 1910.147 requirements.
- All employees will remove their locks and/or tags at the end of their shift.
- Tectonic employees will be trained on the technical elements of 29 CFR 1910.147 by a qualified individual.
- All subcontractors will be required to provide training documentation and written program.

Full employee protection

When an energy isolating devise is capable of being locked out, the single use of a tag without a lock is not permitted.

Periodic inspection

To ensure that procedures and requirements are being followed, a designated authorized employee (other than those using the energy control procedure) will conduct period inspections at least annually.

The periodic inspection shall be conducted to correct any deviations or inadequacies identified.

Where lockout is used for energy control, the periodic inspection shall include a review, between the inspector and each authorized employee, of that employee's responsibilities under the energy control procedure being inspected.

Where tagout is used for energy control, the periodic inspection shall include a review, between the inspector and each authorized and affected employee, of that employee's responsibilities under the energy control procedure.

Documentation and certification of the periodic inspections will be maintained. The certification shall identify the machine or equipment on which the energy control procedure was being utilized, the date of the inspection, the employees included in the inspection, and the person performing the inspection.

Additional requirements.

In situations in which lockout or tagout devices must be temporarily removed from the energy isolating device and the machine or equipment energized to test or position the machine, equipment or component thereof, the following sequence of actions shall be followed:

- Clear the machine or equipment of tools and materials
- Remove employees from the machine or equipment area
- Remove the lockout & tagout devices
- Energize and proceed with testing or positioning
- Deenergize all systems and reapply energy control measures in accordance the servicing and/or maintenance LOTO procedures.

Outside personnel (contractors, etc.).

Whenever outside servicing personnel are to be engaged in the LOTO procedures, Tectonic personnel shall discuss with any contractor's and/or outside personnel, their respective lockout or tagout procedures. Tectonic shall ensure that Tectonic employees understand and comply with the restrictions and prohibitions of the Contractor's energy control program.

Group lockout or tagout

When a crew, craft, department or other group performs servicing and/or maintenance, the following requirements apply to the group LOTO procedure:

- An authorized individual will be assigned to the LOTO group and will have the primary responsibility for all employees working under the protection of a group.
- The authorized individual will ensure that the protection of each employee in a group LOTO is equal to or better than that of individual LOTO.
- When more than one crew is involved, the responsibility of the overall job-associated lockout or tagout control is assigned to the authorized individual who is responsible to coordinate affected work forces and ensure continuity of protection.
- Each authorized employee shall affix a personal lockout or tagout device to the group lockout device, group lockbox, or comparable mechanism when he or she begins work, and shall remove those devices when he or she stops working on the machine or equipment being serviced or maintained.

Shift or personnel changes.

If only one shift or individual is to work on the equipment or machine, the attached locks/tags remain in place until maintenance/servicing is complete.
If another shift continues the maintenance or service, the authorized individuals from the off going and on-coming shifts conduct a turnover of the task. The off-going shift personnel remove their locks and tags, and the on-coming shift personnel install their own locks and tags in accordance with the LOTO procedure.

32.0 FORKLIFT OPERATIONS SAFETY

Tectonic operates a forklift at its LIC office to handle samples of concrete and move testing instruments. The use of a forklift has the potential to injure the operator or people working or walking near the forklift. Those employees who work or visit the LIC office should be aware of the use of forklift and the hazards associated with forklift. The hazards include being hit by the forklift, being struck by a load that shifts or falls off the forklift, and the potential for the forklift to tip over. Those employees near the forklift should be aware of its operation and if possible stay at least 20 feet away from a working forklift. All operators of the forklift, their supervisors and those that need to work near the forklift shall read, understand and implement the forklift safety procedures described in Appendix W.

33.0 AERIAL LIFTS AND SCISSOR LIFT SAFETY

In the course of their duties, Tectonic may need to use an aerial lift or scissor lift on a project site. Tectonic does not own any aerial lifts and usually uses a lift provided by a contractor or may rarely rent a lift. If the operator is not properly trained on the safe operation and safety procedures for using the a specific type of lift, operation of aerial lift has the potential to injure the operator or people working or walking near the lift, such as by ejecting an unsecured operator, overturning the lift, or striking objects or people around the lift. Tectonic managers and supervisors, who are responsible for employees that might need to use an aerial lift, will become thoroughly familiar with Tectonic's Aerial/Scissor Lift Safety Program in Appendix X. Before any Tectonic employee operates an aerial lift, either as a passenger or as the operator, the employee will read and understand Tectonic's Aerial/Scissor Lift Safety Program and will be trained on the proper operation of each specific type of aerial lift in accordance with Tectonic's Aerial/Scissor Lift Safety Program in Appendix X.

34.0 FIRE SAFETY & EMERGENCY EVACUATION PROGRAM

A Fire Safety Plan and an Emergency Action Plan shall be developed by the office manager for each office workplace and by the project manager for each job site where Tectonic employees are present. The emergency action plan outlines those designated actions that employees must take to ensure employee safety from fire and other emergencies. The contents of Tectonic's Fire Safety and Emergency Action Plan (EAP) shall be coordinated with the Contractor's EAP at the job site to ensure that a comprehensive site specified plan is developed. The following elements shall be included:

- Emergency escape procedures and emergency escape route assignments.
- Means of reporting fires and other emergencies.
- Procedures to be followed by employees who remain to operate critical operations before they evacuate.
- Procedures to account for all employees after emergency evacuation have been completed.
- Rescue and medical duties for those employees who are to perform them.
- Names or regular job titles of persons or departments who can be contacted for further information or explanation of duties under the plan.

34.1 EVACUATION

Tectonic's Safety Coordinator, in conjunction with the Office Mangers, shall establish in the Workplace Specific Emergency Action Plan the types of evacuation to be used in emergency circumstances. An evacuation drill shall be held at least once per year at each office location.

34.2 TRAINING

As required, Tectonic's Safety coordinator shall assist the office managers who shall designate and train a sufficient number of persons to assist in the safe and orderly emergency evacuation of employees from each office location.

Tectonic's managers shall review the plan with each employee assigned to the site at the following times:

- Initially when the plan is developed.
- During the employee's orientation.
- Whenever the employee's responsibilities or designated actions under the plan change.
- Whenever the plan is changed.

The plan shall be kept at the work place and posted at several locations in each office location available for employee review.

35.0 RESPIRABLE CRYSTALLINE SILICA IN CONSTRUCTION

Exposure Control Plan
This section applies to potential exposures to respirable crystalline silica in construction work. *This section* describes Tectonics Exposure Control Plan in compliance with the respirable crystalline silica standard, 29 CFR 1926.1153.

Exposure Control Methods.
In some instances, Tectonic field personnel are required to cut concrete core samples and or drill into concrete to set rods, etc. Similar tasks are outlined in Table 1: Specified Exposure Control Methods When Working With Materials Containing Crystalline Silica as given in 29 CFR 1926.1153(c)(1), which is located in Appendix Y and is made part of this control plan.

Table 1 provides a description of the engineering controls, work practices, and respiratory protection used to limit employee exposure to respirable crystalline silica for each task. The project manager shall ensure that for each employee engaged in a task identified on Table 1 fully and properly implement the engineering controls, work practices, and respiratory protection specified for the task on Table 1. It shall be the

responsibility of the Project Manager supported by the Health & Safety Department to make frequent and regular inspections of job sites, materials, and equipment to implement the written exposure control plan. Control methods shall include but may not be limited to:

- Use saw equipped with integrated water delivery system that continuously feeds water to the blade.
- Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.
- Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.
- Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency.
- Use a HEPA-filtered vacuum when cleaning holes and controlling dust.
- Employee shall not be allowed to dry sweep or dry brush areas where such activity could contribute to employee exposure to respirable crystalline silica.
- The use of compressed air to clean clothing or surfaces is prohibited.

Where respiratory protection is required, employees shall comply with 29 CFR 1910.134, Tectonics'

respiratory Protection program and Medical Monitoring program.

Unauthorized and untrained employees will not be allowed to perform Task described in Table1 or other tasks that might create respirable crystalline silica, without proper training.

An annual review of this exposure control plan shall be performed to review and evaluate the effectiveness of the plan and update it as necessary.

Communication of Respirable Crystalline Silica Hazards to Employees-
All affected employees shall receive training. At a minimum the training, will provide knowledge and understanding of at least the following:

- The health hazards associated with exposure to respirable crystalline silica
- Specific tasks in the workplace that could result in exposure to respirable crystalline silica
- Specific measures the employer has implemented to protect employees from exposure to respirable crystalline silica, including engineering controls, work practices, and respirators to be used
- The contents of the regulation
- Description of the procedures and discussion of the project management's role in making frequent and regular inspections of job sites, materials, and equipment

36.0 POLICIES AND PROCEDURES ACKNOWLEDGEMENT

I have read and understand the Policies and Procedures contained within this corporate HASP and agree to abide by them. I have also had the duties of the position which I have accepted explained to me and I understand the requirements of the position. I acknowledge that I am qualified and capable of performing my duties in compliance with this HASP. If I believe additional training, protective equipment, or a change in my job duties is warranted for me to fulfill the intent of the corporate HASP, then I will notify my supervisor immediately. I agree not to put myself or others in a position to be exposed to or unnecessarily at risk to the workplace and jobsite hazards that are intended to be addressed by this HASP, and whether known or uncertain immediately notify my supervisor or the responsible manager. I understand that any violation of the above policies is reason for disciplinary action up to and including termination.

Employee Name (Print)	Date
Employee Signature	Supervisor's Signature

APPENDIX A

Safety Training

Program

Training Policies & Procedures:

Our training program is designed so that each employee is trained in; the recognition and avoidance of unsafe conditions, hazards or other exposure to illness or injury, and the regulations applicable to his/her work environment. Our training program emphasizes potential hazards, how to avoid injury, personal hygiene, and personal protective measures required. To supplement our program, it is our policy that all field personnel that frequent construction sites have the OSHA Construction 10-hour Outreach Training.

Orientation Training:

The Standard Orientation training shall be geared toward potential hazards (unique) associated with each of our Division/Profit centers and applicable subject matter emphasized as required. In addition, job descriptions & anticipated tasks will be considered when coordinating appropriate Orientation Training. Each Division Vice President (VP) or designee responsible for the hiring of a new employee, shall comminute to the Human Resource Department (HR) any anticipated Job Specific Compliance Training the employee might need initially to perform a given task. Human Resources will inform the Corporate Health & Safety officer/OSHA Authorized Trainer regarding any additional Job Specific & Regulatory Training that may be necessary from the on-set of employment. HR, Health & Safety Officer and Division VP or designee will then coordinate the initial (orientation) training to include any necessary Job Specific & Regulatory Training. If at the time of new hire it is not anticipated that the new employee will need Job Specific Compliance Training then HR will coordinate appropriate standard orientation training.

Typical Standard Orientation Training Includes the following:

- Hazard Communication, video & quiz
- Safety Awareness Training & Focus Four video & quiz
- Corporate Universal Job Hazard Analysis-Handout
- Company Safety Guidelines-Handout
- Corporate Health & Safety Plan -Handout
- Voluntary Reparatory User Form
- Driving Videos
- Ergonomic Power Point (as applicable)

At orientation, all field employees shall be provided with our Standard Personnel Protective (PPE) equipment and are given instruction on their use and care. Our Standard Personal Protective equipment includes:

- Hard Hat
- Safety Glasses
- Safety Vest (reflective vest)
- Hearing protection (plugs and muffs)
- Vehicle Safety Light

Note that all employees are required to use safety toe foot-wear.

Consistent with our Personnel Protective Equipment (PPE) program, task specific PPE is also provide as required. Project Managers are to determine what if any additional PPE is required.

Job Specific Compliance Training

Safety training requirements under 29 CFR 1926 are extensive and varied. Our Corporate Health and Safety officer is an OSHA Authorized Construction Trainer. This allows Tectonic to provide employees with a wider variety of in-house training. Some examples of the in-house training and certification that we can provide are:

- Fall Protection
- Confined Space
- Lockout/Tag Out
- Respiratory Protection
- DOT Hazardous Material (Haz Mat)
- Ionizing Radiation & Nuclear Density Gauges
- OSHA 40 Hour HAZWOPER
- Non Ionizing Radiation

Refresher Training

It is our policy that at least annually, each employee receive refresher training or when procedures have been updated or revised or when experiences/operations show that employee performance must be improved. The planning and development include management participation from each of the Divisions. Topic selection for each of the Division is coordinated with the Project Mangers with input from field personnel so that relevant topics are discussed. Refresher training sessions include a wide variety of topics relevant to each of our divisions. Some examples are:

- Roof Top Safety
- Non-Ionizing Radiation (RF)
- Ionizing Radiation
- Masonry & Concrete
- Crystalline Silica
- Excavations
- Noise/ Hearing Conservations
- Ladder Safety
- Personal Protective Equipment (PPE)
- Hot & Cold Stress
- Working in Remote Locations
- Walking & Working Surface (Slips Trips & Falls)

- Manual Lifting
- Non-routine Task Evaluations & Controls
- Bloodborne Pathogens /Universal Precautions

Site Specific Safety Orientation Training& Pre-Project Briefings

We are primarily hired by an owner or a prime contractor for engineering services including construction inspection services. In many cases, acting as Owner's/Contractor's agent/representative, field personnel are required to adhere to an approved site specific health & safety plan and/or procedures prepared by the owner and/or the owner's representative and we do not have primary control over the workplace.

However, it is our policy that all Tectonic employees, including those of Subconsultants, receive a briefing on hazards that may be expected during the work and their corresponding controls and any site specific requirements for the execution of their tasks. The extent of the orientation & safety briefing will be based on our scope of services and whether we are acting as "visitors" (short term short duration visits) or on-site for a longer term and longer duration. Typically, as applicable, the Project Specific Orientation & Pre-Project Briefings include:

- Review of applicable contents of the approved site-specific health & safety plan (SSHASP)
- Hazards that may be expected during the work and their controls (Job Hazard Analysis)
- Necessary Specialized Training
- Safety equipment that must be used.
- Emergency Evacuation Plan (EAP)
- Work practices to minimize the possibility of an accident, including lifting, falls, fire and housekeeping.

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Training Sign-In Sheet

Training Location: Tectonic- Mountainville Office
70 Pleasant Hill Road,
Mountainville, NY 10953

Training Subject: Standard Orientation & Hazard Communication & Safety Training

Date of Training: _____

Name	Signature	GD10914 Rev 1 & JHA & Handouts Received Signature	Office	Dept.

Instructors Name: _____

Instructors Signature: _____

Outline of subject matter presented is attached.

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Orientation Training Outline
Hazard Communication & Safety Training

Hazard Communication:

- Video:- JJ Keller –Haz Com "What you Need to Know"—Copyright 2012
- Video Quiz
- Power Point
  - ✓ Employee's Right to Report Injuries and Illnesses Free From Retaliation
  - ✓ Information-Video Overview
  - ✓ Written Hazard Communication Program Location
  - ✓ Chemical Inventory & SDS's Binder Location
  - ✓ Multi-Employer Workplaces
  - ✓ Old vs New
  - ✓ Labels and other forms of warning
  - ✓ Safety Data Sheets
  - ✓ Pyrophoric Gases
  - ✓ Simple Asphyxiants
  - ✓ Combustible Dust
  - ✓ Hazard Not Otherwise Classified
  - ✓ Non-Routine Tasks
  - ✓ Universal Job Hazard Analysis
  - ✓ Types of Chemical Hazards
  - ✓ Routes of Entry
  - ✓ Blood borne Pathogens-Universal Precautions
  - ✓ Acute vs Chronic Affects
  - ✓ Target Organs
  - ✓ Exposure Limits
  - ✓ Some Potential Health Hazards at Construction Sites
  - ✓ General Hazard Evaluation & Controls –Job Hazard Analysis
    - Engineering Controls
    - Administrative Controls
    - PPE
  - ✓ Crystalline Silica- Respirable Crystalline Silica Contents of 1926.1153 –OSHA Fact Sheet
    - The health hazards associated with exposure to respirable crystalline silica
    - Review Table 1- Specific Tasks & Engineering and Work Practice Control Methods
    - Medical Surveillance/Lung X-Ray
  - ✓ Respiratory Protection & Attachment M

Corporate Office

70 Pleasant Hill Road, PO Box 37 | Mountainville, NY 10953
845.534.5959 Tel | 845.534.5999 Fax

tectonicengineering.com
Equal Opportunity Employer

Safety Awareness:

- Video: “Construction Safety: Choice or Chance” Date: April 2000
  - ✓ Video Quiz
- Power Point
  - ✓ Standard PPE
  - ✓ Physical Agents
    - Radiation, Ionizing, Non Ionizing
    - Waves
    - Distance Time & Shielding
  - ✓ Noise Exposure & Hearing Protection
    - Sound Pressure Waves
    - Hearing Protection
  - ✓ Fall Hazards & Protection
    - Fall Protection Regulations
    - Need For Fall Protection
    - Common Types of Fall Protection
  - ✓ Situational & Site Awareness
  - ✓ Caught-in or Between Hazards
  - ✓ Struck By Hazards
  - ✓ Electrocution Hazards
  - ✓ Excavations
  - ✓ Concrete & Masonry
  - ✓ General Safety Guidelines
  - ✓ Hand-out –GD10914
  - ✓ Pre-Visit Preparation
  - ✓ Slips Trips Falls/Housekeeping
  - ✓ Manual Lifting
  - ✓ Some Lessons Learned
  - ✓ Portable Ladder Safety

Handouts:

Universal Job Hazard Analysis, Rev 0
GD10914 Guidance Document
Attachment M
OSHA Fact Sheet “*Crystalline Silica Rule: Construction”,* & Table 1 - 1926.1153(c)(1)

REPORT OF UNSAFE CONDITION OR HAZARD

(*) Optional fields: Please note that omitting this information may limit the investigation if we are unable to contact you to ask questions, and we may not be able to provide a report of our findings.

Name (*) _____ Date _____

Phone/Email (*) _____

Job Title (*) _____ Office _____

Technical Discipline Manager _____

Location of Hazard _____

Building _____ Floor _____ Room _____

Date and time the condition or hazard was observed _____

Description of unsafe condition or hazard: (Attach additional sheets if necessary)

What changes would you recommend to correct the condition or hazard?

Employee Signature (*) _____

Management / Safety Coordinator / Safety Committee Investigation

Name of person investigating unsafe condition or hazard _____

Phone/Email (*) _____

Result of investigation (What was found? Was condition unsafe or a hazard?) (Attach additional sheets if necessary.)

Proposed action to be taken to correct hazard or unsafe condition (Complete and attach a Hazard Correction Report)

Signature of Investigating Party _____ Date _____

Instructions

NOTE: Anonymous reporting, although permitted, is not encouraged because we will not be able to ask questions to assist with an investigation. Additionally, we may not be able to provide a report of our findings.

1. Report unsafe conditions and hazards promptly! Submit the form as soon as possible.
2. Complete all parts of the form clearly and completely. Incomplete reports may delay processing.
3. If you have questions while completing this form, contact HR at (845) 534-5959.

NOTE: Anonymous reporting, although permitted, is not encouraged because we will not be able to ask questions to assist with an investigation. Additionally, we may not be able to provide a report of our findings.

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Notice of Employee Performance / Disciplinary Action

Employee Name:_____ **Job Title:**_____

Office Location:_____ **Department:**_____

Employer's Explanation of Issue

Date of Discussion: _____

Supervisor Name: _____ HR Approval Name: _____

Supervisor Signature: _____ HR Signature: _____

EMPLOYEE STATEMENT

Do you generally agree with the Employer's Explanation? ☐ Yes ☐ No

Employee Comments:

_____

_____

_____

_____

I UNDERSTAND THAT IF I DISAGREE WITH ANY INFORMATION CONTAINED IN THIS PERFORMANCE/ DISCIPLINARY ACTION FORM, I MAY SUBMIT A WRITTEN STATEMENT TO THE HR DEPARTMENT EXPLAINING MY POSITION.

Employee Signature: _____ Date: _____

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Safety Document Acknowledgement

By signing below, I acknowledge that I have received a copy of each of the safety documents as indicated below, and that it is my responsibility to review and adhere to their contents. I understand that if I am in need of a hard copy of any of these documents at a later date, I may request a copy from the Human Resource Department. I also understand that I should contact the Human Resource Department and/or the Corporate Health and Safety Officer with any questions or concerns regarding these safety documents.

I, _____ acknowledge that I have received the following:

Employee Name—Please Print

Hazard Communication Video Written Information

I have received a copy of the written information associated with the "HazCom: What You Need To Know" video that I viewed during my onboarding process. I have both viewed the aforementioned video and understand the Hazard Communication information included in it. If I have any questions or require further clarification, I understand that I must contact the Corporate Health and Safety Officer. _____ (Initial)

General Safety Guidelines: All TECTONIC Employees Performing Field Work (GD 10914 Rev. 1)

I have received a copy of the document entitled "General Safety Guidelines: All TECTONIC Employees Performing Field Work," also known as document number GD10914 Rev. 1. I have reviewed the contents of this document and understand the general safety guidelines provided, including but not limited to the General Safety Precautions, Some Prohibited Activities and Prohibited Activities, Unless Trained and Authorized to Use or Perform. I have also viewed the Construction Safety video during my onboarding process. Further, if I have any questions, concerns, or feel that I require additional safety training, I understand that I must contact the Corporate Health and Safety Officer. _____ (Initial)

Universal Job Hazard Analysis

I acknowledge receipt of and have read/reviewed the Universal Job Hazard Analysis. In addition, I have been provided with the opportunity to ask questions and express concerns regarding the aforementioned Universal Job Hazard Analysis. _____ (Initial)

I understand that if I am in need of a copy of this Universal Job Hazard Analysis in the future, I may request a copy from either my supervisor and/or the Corporate Health & Safety Officer. I also understand that I should contact my supervisor and/or the Corporate Health & Safety Officer with any questions or concerns, and/or if I feel that I require further clarification and additional safety training.

Signature: _____

Name: _____

Date: _____

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Handbook Acknowledgement

By signing below, I acknowledge that I have received a copy of each of the handbooks as indicated below, and that it is my responsibility to review and adhere to their contents. I understand that nothing is these handbooks is intended to be a contract of employment, a promise of employment for a definite or indefinite period of time, or a guarantee of terms, and that nothing therein should be construed as a guarantee of continued employment. I also understand that handbooks are updated periodically and that I can obtain up to date handbooks at any time by accessing the Company Intranet (electronically), or by requesting a hard copy from the Human Resource Department and/or the office to which I am assigned. I also understand that I should contact the Human Resource Department with any questions or concerns regarding these handbooks.

I, _____ acknowledge that I have received the following:

Employee Name—Please Print

Employee Handbook

I have received a copy of the Employee Handbook. I understand that the contents of the Employee Handbook dated _____ summarize current Corporate programs and policies and are intended as guidelines only. I also understand that these programs and policies may be amended at any time and it is my responsibility to read and abide by these policies and all future changes and/or addendums to this document, and that depending upon the particular circumstances of a given situation, the Company's actions may vary from written policy. Furthermore, I understand and agree that the Employee Handbook does not create any binding obligations on behalf of the employer with regards to the terms and conditions of employment, and that employment at TECTONIC is at will, meaning that either I or the Company may end my employment at any time for any reason.

_____ (Initial)

Corporate Health & Safety Program

All employees of Tectonic Engineering & Surveying Consultants, P.C. engaged in field or lab operations must read this entire document; all office employees are required to read the applicable portions of this document. I certify that I have received the Corporate Health & Safety Program and understand that it is my responsibility to abide by the applicable portions of the Corporate Health & Safety Program dated _____. I also understand that this program may be amended at any time and it is my responsibility to read all future changes and/or addendums to this document and apply that knowledge accordingly.

_____ (Initial)

Signed: _____

Employee Signature

_____

Employee Name—Please Print

Date: _____

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Jobsite Safety Inspection Checklist

Project Name:		Date:
Client Name:		
CM and/or Contractor:		
Tectonic Site Personnel:	1. _____ 4. _____ 2. _____ 5. _____ 3. _____ 6. _____	Attach Additional List
S – Satisfactory	NS – Not Satisfactory	NA – Not Applicable

Item	S	NS	NA	Corrective Action/ Comments
1. PERSONAL PROTECTIVE EQUIPMENT				
Head protection	☐	☐	☐	
Foot protection	☐	☐	☐	
Eye protection	☐	☐	☐	
Hearing protection	☐	☐	☐	
Respiratory protection	☐	☐	☐	
Safety Vest	☐	☐	☐	
Gloves	☐	☐	☐	
Level C or >	☐	☐	☐	
Other	☐	☐	☐	
2. FALL PROTECTION				
Walking and working surfaces ≥6' -Fall Protection Program/Plan in place	☐	☐	☐	
PFA equipment properly worn	☐	☐	☐	
Guardrails in place	☐	☐	☐	
Netting in Place				
Floor Holes & Openings Protected	☐	☐	☐	
Wall Openings and edges protected	☐	☐	☐	
Scaffolds –Rails in place	☐	☐	☐	
Lifts	☐	☐	☐	
Other	☐	☐	☐	
3. LADDERS				
Secured	☐	☐	☐	
Proper angle. 4:1 (extension ladders)	☐	☐	☐	
Ladder Extends 3' above surface (extension ladders)	☐	☐	☐	
Proper size and type	☐	☐	☐	
Level footing	☐	☐	☐	
Properly used	☐	☐	☐	
Ladder inspected and in good condition	☐	☐	☐	
Non-slip bases	☐	☐	☐	

Item Inspected	S	NS	NA	Corrective Action/ Comments
4. POWER TOOLS, EQUIPMENT & GUAGES				
General condition	☐	☐	☐	
Nuclear Density Gauge(s)	☐	☐	☐	
Coring Machines	☐	☐	☐	
Proper guards, cords, PPE	☐	☐	☐	
Tagging as DEFECTIVE	☐	☐	☐	
Other	☐	☐	☐	
5. WORKING AROUND HEAVY MACHINERY/EQUIPMENT				
Boring Equipment	☐	☐	☐	
Excavators	☐	☐	☐	
Other	☐	☐	☐	
6. TRENCHES & EXCAVATIONS				
Properly sloped or shored ≥5′ depth	☐	☐	☐	
Excavated soil properly placed	☐	☐	☐	
Appropriate shoring used	☐	☐	☐	
Proper Egress ≥4′ (i.e., ladder) to access	☐	☐	☐	
Hazardous Atmosphere ≥4′ has air been tested	☐	☐	☐	
Are spoils at least 2′ from the edge	☐	☐	☐	
Other	☐	☐	☐	
7. HOUSEKEEPING/ HYGIENE				
Washroom facilities available	☐	☐	☐	
General Housekeeping	☐	☐	☐	
Pathways free from tripping hazards	☐	☐	☐	
Other Walking & Working Surfaces free from slip/ trips/ falls Hazards	☐	☐	☐	
8. OTHER				
Safety policies and procedures/ Site Specific HASP	☐	☐	☐	
Site Orientation Training	☐	☐	☐	
Temporary Traffic Control Plan (TTCP)/ Maintenance & Protection of Traffic (MPT) Plan	☐	☐	☐	
Non Routine Activities, e.g. Confined Space, LOTO, Working Above or near water, etc.	☐	☐	☐	

Additional Comments/Actions:

_____

_____

_____

Inspector or QA/QC Supervisor's

Name: _____Signature: _____

Date: _____

APPENDIX B

Medical Monitoring Program

MEDICAL SURVEILLANCE PROGRAM

Program Objectives

Tectonic Engineering will provide medical surveillance for employees as required to ensure that procedures, engineering and administrative controls as well as any applicable personal protective equipment are effective in keeping exposures below the Permissible Exposure Limits (PEL). It is the responsibility of the Division and/or Project Mangers to determine the need for their employees to participate in the Medical Surveillance Program. They may request additional information or an opinion from the Health & Safety Officer if they need assistance with making a determination.

Employee Participation Requirements

The Occupational Safety and Health Administration has outlined specific requirements for employees participating in a medical surveillance program. The requirements are as follows:

If you:

- Are exposed or may be exposed to hazardous materials above the permissible exposure limit for 30 days or more in a year
- Wear a respirator for 30 days or more in a year
- Are a member of a hazardous material team
- Are part of lead or asbestos program

Tectonic will provide a medical examination by a qualified physician, at the following times:

- Every 12 months or more frequently if necessary
- Longer than 12 months if necessary, but no longer than biannually (within two years)
- At the termination of employment
- When you are reassigned to a non-hazardous area
- Immediately upon development of signs or symptoms of overexposure
- When you've been injured or exposed above the permissible exposure limits

In addition, anyone injured or overexposed during emergency operations must be examined immediately and at additional times if the physician feels that follow-up examinations and/or consultations are necessary. The examination will be performed or supervised by a licensed physician, provided without cost or loss of pay, at a reasonable time and place.

Medical surveillance requires an entrance and exit physical at the start and termination of a specific assignment or employment. All records are maintained as confidential with Human Resources. The Technical Discipline Managers are notified whether employees pass the exam or not, and whether any limitations shall apply to their work duties.

On a project-specific basis, if relatively high contaminant levels are known or suspected to exist, then additional monitoring for contaminants of concern through blood work or other hazard specific methodologies will be established before and upon completion of the job assignment.

Medical Monitoring and Exam Protocols

Medical monitoring protocols for Tectonic Engineering employees will consist of an exam by a licensed physician, which could include various tests. The exam contents and testing could include the following depending on the employees exposure history and future potential exposures:

- Questionnaire of potential for exposure to hazardous substances above OSHA PEL's or action levels.
- Physicals and associated medical testing will be conducted at no cost to employees at designated licensed professional health care providers.
- Medical history will be obtained by the health care provider. Initial, annual and exit physicals will be performed.
- EKG at initial physical and annually determined by the medical provider.
- Spirometer for respiratory evaluation.
- Audiometry exam at initial physical, annually and exit physical.
- Chest x-ray at initial physical, annually and at exit physical, based on medical provider recommendations.
- Blood urine at initial physical.
- If employees are involved in specific operations with unique chemical exposure situations, more extensive protocols will be established.

The employer must provide to the employee the physician's written opinion regarding medical condition, any limitations placed on your work due to your condition, and results of any examination or test. To protect your privacy, any specific findings or diagnosis unrelated to occupational exposures will not be included in the physician's written opinion. As per OSHA, all medical and exposure records will be kept for 30 years. All medical information will be kept confidential in accordance with all Federal and state regulations.

Employee Exposure And Medical Records

Purpose

Tectonic will comply with OSHA regulations pertaining to access to employee medical and exposure records as prescribed in OSHA Regulation 29 CFR 1910.1020. The purpose of this policy is to preserve the employee's and their designated representative's right of access to medical and exposure records relevant to employment-related injuries and illnesses, and exposure to toxic substances or harmful physical agents as described above.

Preservation and Retention of Records

The Company's Human Resource Department will preserve and maintain employee medical records as described in OSHA Regulation 29 CFR 1910.1020 for at least the duration of employment plus thirty (30) years; exposure records shall be preserved and maintained for thirty (30) years, unless a specific OSHA standard provides for a different period of time.

Employee Access

Employee medical records and/or exposure records shall be made available to OSHA, the employee, or the employee's designated representative free of charge, provided that the requirements of 29 CFR 1910.1020 are fulfilled. The Company will provide medical and/or exposure records within fifteen (15) working days upon receipt

of a formal request. If access cannot reasonably be provided within that time frame, Tectonic shall, within those fifteen (15) working days, inform the employee or designated representative requesting the record the reason for the delay and the earliest date when the record can be made available.

APPENDIX C

First Aid and Bloodborne Pathogens Programs

TECTONIC POLICY FOR FIRST AID, CPR & BLOODBORNE PATHOGENS

Medical Services and First Aid

Policy

Sudden injuries or illnesses, some of which may be life-threatening, can occur at construction sites. To minimize the severity of any injury to our employees, Tectonic complies with the OSHA First Aid standard (29 CFR 1910.151, 29 CFR 1926.23, 29 CFR 1926.50). Tectonic will provide trained first-aid providers at all workplaces of any size if there is no "infirmary, clinic, or hospital in near proximity to the workplace which is used for the treatment of all injured employees." In addition, Tectonic will ensure that adequate first aid supplies are readily available as needed for the possible hazards and number of employees at a location.

Scope

This policy applies to all locations that are under the control of Tectonic staff. In general, employees identified as first-aid trained for the purposes of meeting this requirement do so as a collateral duty in that providing first aid or other medical assistance is not their primary job assignment.

Responsibility

It is Tectonic policy that each laboratory manger, office manager and/or department supervisor is responsible for the health and safety performance in their respective departments/location. This responsibility can neither be transferred nor delegated.

a. Department

Departments are responsible for meeting the first-aid requirements including assuring the availability of first-aid certified employees and making sure first-aid supplies appropriate to the work area are maintained and accessible to all employees. Each department shall determine the best method for meeting the first-aid requirements for their area(s) from the options and guidelines below. In addition, each department must document their first-aid plan in the appropriate department health and safety plan.

b. Human Resources

Tectonic Human Resources consults with Corporate Health and Safety to assure the appropriate first-aid supplies are stocked at all Tectonic locations and vehicles.

c. Corporate Health and Safety

Corporate Health and Safety interprets the first-aid requirements for Tectonic and serves as a liaison to, among other things, first-aid requirements. In addition, Corporate Health and Safety assures compliance with the first-aid regulations through program oversight and provision of services to assist in compliance.

General First-Aid Response Plan

a. Tectonic provides these First-Aid Plan Guidelines to accommodate the wide variety of work types, locations, and environments shared by Tectonic's employees. Employing units can consult these guidelines to determine if they are required to have first-aid certified employees and how many, and to determine what first-aid supplies they should stock and how to obtain them.
b. The majority of Tectonic employees work in typical administrative office environments with large numbers also working in laboratories or at construction work sites. While the plan addresses the differing needs of these

work environments for first-aid response, it also takes into consideration the common elements shared by Tectonic work areas. The following applies to all Tectonic work areas:

1) Tectonic office and laboratory locations are served by municipal or county enhanced 911 Emergency Medical Services.

2) First-aid trained employees are identified in each Department Health and Safety Plan, which supervisors must review with new employees. Departments are required to identify first-aid certified employees including contact information, phone number and location, on or near first-aid kits. In some locations first-aid certified employees may be shared between departments in order to provide adequate coverage during absences.

How to Obtain First-Aid Training

a. First-aid and CPR training must be acquired from a Tectonic Corporate Health and Safety approved providers.

b. First-aid training must be repeated every three years to maintain a valid first-aid certificate. CPR training must be repeated every two years or sooner as recommended by the provider.

Documentation of First-Aid Training

Each employee who completes a first-aid course shall provide a copy of their first-aid certificate, which serves as documentation. Each Department shall identify first-aid certified employees. In addition, the Human Resources Department maintains copies of all training records.

First-Aid Supplies

a. First-aid supplies must be readily available to all employees, stored in clean, clearly marked, portable containers. Each department is responsible for the purchase and distribution of any supplies needed. First aid kits will meet the latest version of ANSI Z308.1, "Minimum Requirements for Industrial Unit-Type First-aid Kits".

b. Post name, location and phone number of first-aid certified employees on first-aid kit or where first-aid supplies are stored.

c. Post a “first-aid kit/supplies” sign near the location of first-aid kits and supplies.

d. Indicate exact locations of first-aid supplies in office emergency plan.

e. Identify the individuals responsible for maintaining first-aid supplies, including stocking and checking expiration dates, in office emergency plan.

Exposure Control Plan (ECP) for Blood borne Pathogens

Purpose

Tectonic Engineering & Surveying Consultants is committed to providing a safe and healthful work environment for our entire staff. In pursuit of this endeavor, the following exposure control plan (ECP) is provided to eliminate or

minimize occupational exposure to bloodborne pathogens in accordance with OSHA Standard 29 CFR 1910.1030, "Occupational Exposure to Bloodborne Pathogens" (Standard).

The ECP is a key document to assist our firm in implementing and ensuring compliance with the standard, thereby protecting our employees. This ECP includes:

- Communication of hazards to employees and training;
- Hepatitis B vaccination;
- Determination of employee exposure;
- Implementation of various methods of exposure control, including:
    - Universal precautions,
    - Engineering and work practice controls,
    - Personal protective equipment, and
    - Housekeeping
- Post-exposure evaluation and follow-up;
- Recordkeeping; and
- Procedures for evaluating circumstances surrounding an exposure incident.

The methods of implementation of these elements of the standard are discussed in the subsequent pages of this ECP.

Administrative Duties

Tectonic Human Resources Department (HR) is responsible for the implementation of the ECP. James Upright or current Health and Safety Coordinator will maintain, review, and update the ECP at least annually, and whenever necessary to include new or modified tasks and procedures.

Contact location/phone number:

Tectonic Engineering - Main Office
70 Pleasant Hill Road
Mountainville, NY
Phone: 845-534-5959.

Those employees who are determined to have occupational exposure to blood or other potentially infectious materials (OPIM) must comply with the procedures and work practices outlined in this ECP.

Managers for each Tectonic office will maintain and provide all necessary personal protective equipment (PPE), engineering controls, labels, and red bags as required by the Standard. The Office Managers will ensure that adequate supplies of the aforementioned equipment are available in the appropriate sizes.
HR will be responsible for ensuring that all medical actions required are performed and that appropriate employee health and OSHA records are maintained. HR will also be responsible for training, documentation of training, and making the written ECP available to employees, OSHA, and NIOSH representatives.

Contact location/phone number:

Tectonic Engineering - Main Office
70 Pleasant Hill Road
Mountainville, NY
845-534-5959.

Employee Exposure Determination

The services that Tectonic provides do not typically involve exposure to blood borne pathogens. However, there is always the possibility of an accident which could result in the release of blood and/or OPIM. Full-time employees could be exposed as part of providing first aid or through incidental exposure. Therefore all full-time, part-time, temporary, contract, and per diem employees are covered by the Standard. Additionally, all designated first aid responders are covered by this plan. How the provisions of the standard will be met for these employees is described in this ECP.

Methods of Implementation and Control

Universal Precautions

All employees will utilize universal precautions to avoid or minimize contact with blood or OPIM.

Exposure Control Plan

Employees covered by the Standard receive an explanation of this ECP during their initial training session. The ECP will also be reviewed in their annual refresher training. All employees have an opportunity to review the ECP at any time during their work shifts by contacting HR. The ECP is also available to view on the Tectonic intranet website. If requested, we will provide an employee with a copy of the ECP free of charge and within 15 days of the request.

James Upright is responsible for reviewing and updating the ECP annually or more frequently if necessary to reflect any new or modified tasks and procedures that affect occupational exposure and to reflect new or revised employee positions with occupational exposure.

The review and update of such plans must also:

- Reflect changes in technology that eliminate or reduce exposure to bloodborne pathogens; and
- Document annually consideration and implementation of appropriate commercially available and effective safer medical devices designed to eliminate or minimize occupational exposure.

Engineering and Work Practice Controls

Tectonic's work does not typically involve exposure to blood borne pathogens as part of normal employment responsibilities. However, there is always the possibility of an accident which could result in the release of blood and/or OPIM. Engineering and work practice controls will be used to prevent or minimize exposure to bloodborne pathogens. The specific engineering controls and work practice controls used are listed below:

Provide easily accessible first aid kits that contain appropriate PPE. First aid kits are to be located in a central location on each floor accessible at all times. First aid kits will also be kept in each company vehicle. Each first aid kit will include supplies to collect and dispose of any blood or OPIM contaminated material generated by the first aid kit.

For large spills of blood or OPIM, Tectonic will cordone off the affected area and retain the services of cleaning contractor certified to handle blood and/or OPIM.

HR will ensure effective implementation of these recommendations.

Personal Protective Equipment (PPE)

PPE is provided to each of our employees at no cost. Training is provided by HR in the use of the appropriate PPE for the tasks or procedures employees will perform.
The types of PPE available to employees are as follows: disposable rubber gloves and CPR shields.

PPE is located in each first aid kit at each office. Additional PPE may be obtained through Office Managers or HR.

Each employee using PPE must observe the following precautions:

- Wash hands immediately or as soon as feasible after removal of gloves or other PPE. Do not wash hands in kitchen or dining areas.
- Remove PPE after it becomes contaminated, and before leaving the work area.
- Used PPE may be disposed of infectious material bags found in each first aid kit.
- Wear appropriate gloves when it can be reasonably anticipated that there may be hand contact with blood or OPIM, and when handling or touching contaminated items or surfaces; replace gloves if torn, punctured, contaminated, or if their ability to function as a barrier is compromised.
- Utility gloves may be decontaminated for reuse if their integrity is not compromised; discard utility gloves if they show signs of cracking, peeling, tearing, puncturing, or deterioration.
- Never wash or decontaminate disposable gloves for reuse.
- Wear appropriate face and eye protection when splashes, sprays, spatters, or droplets of blood or OPIM pose a hazard to the eye, nose, or mouth.
- Remove immediately or as soon as feasible any garment contaminated by blood or OPIM, in such a way as to avoid contact with the outer surface.

Housekeeping

Regulated waste is placed in containers that are closable, constructed to contain all contents and prevent leakage, appropriately labeled or color-coded (see Labels section), and closed prior to removal to prevent spillage or protrusion of contents during handling. Bins and pails (e.g., wash or emesis basins) are cleaned and decontaminated as soon as feasible after visible contamination.

Broken glassware that may be contaminated is picked up using mechanical means, such as a brush and dust pan.

Labels

All blood and OPIM contaminated wastes will be labeled with at the least the following information:

Blood borne hazardous material
Date: _____
Dispose of at a permitted facility

Hepatitis B Vaccination

HR will provide training to employees on hepatitis B vaccinations, addressing the safety, benefits, efficacy, methods of administration, and availability.

The hepatitis B vaccination series is available at no cost after training and within 10 days of initial assignment to employees identified in the exposure determination section of this plan. Vaccination is encouraged unless:

1. Documentation exists that the employee has previously received the series,

2. Antibody testing reveals that the employee is immune, or
3. Medical evaluation shows that vaccination is contraindicated.

However, if an employee chooses to decline vaccination, the employee must sign a declination form. Employees who decline may request and obtain the vaccination at a later date at no cost. Documentation of refusal of the vaccination is kept at HR.

Vaccination will be provided by a Tectonic approved medical doctor or facility licensed in the state where the employee is located.

Following hepatitis B vaccinations, the health care professional's Written Opinion will be limited to whether the employee requires the hepatitis vaccine, and whether the vaccine was administered.

Post-exposure Evaluation and Follow-Up

Should an exposure incident occur, contact their Supervisor and HR at the following telephone number 1-800-829-6531.

An immediately available confidential medical evaluation and follow-up will be conducted by a licensed medical professional. Following the initial first aid (clean the wound, flush eyes or other mucous membranes, etc.), the employee should remove any contaminated clothing and personnel effects. The employee should be performed by a licensed physician or if not feasible then the employee should go to a hospital emergency room for a medical evaluation.

Administration of Post-Exposure Evaluation and Follow-up

HR ensures that health care professional(s) responsible for employee's hepatitis B vaccination and post-exposure evaluation and follow-up are given a copy of OSHA's bloodborne pathogens standard.

HR ensures that the health care professional evaluating an employee after an exposure incident receives the following:

- A copy of 29 CFR 1910.1030,
- A description of the employee's job duties relevant to the exposure incident,
- Route(s) of exposure,
- Circumstances of exposure,
- If possible, results of the source individual's blood test, and
- Relevant employee medical records, including vaccination status.

HR provides the employee with a copy of the evaluating health care professional's written opinion within fifteen (15) days after completion of the evaluation.

Procedures for Evaluating the Circumstances Surrounding an Exposure Incident HR will review the circumstances of all exposure incidents to determine including:

- Engineering controls in use at the time,
- Work practices followed,
- Protective equipment or clothing that were used at the time of the exposure incident (gloves, eye shields, etc.),
- Location of the incident (office, project site.),

- Procedure being performed when the incident occurred, and
- Employee's training.

If it is determined that revisions need to be made, James Upright will ensure that appropriate changes are made to this ECP.

Employee Training

Each employee who has occupational exposure to bloodborne pathogens receives training conducted by HR. Each employee who has occupational exposure to bloodborne pathogens receives training on the epidemiology, symptoms, and transmission of bloodborne pathogen diseases. In addition, the training program covers, at a minimum, the location of PPE and exposure notification procedures.

Recordkeeping

- Training Records
- Training records are completed for each employee upon completion of training. These documents will be kept for at least three (3) years at the HR.
- Employee training records are provided upon request to the employee or the employee's authorized representative within fifteen (15) working days. Such requests should be addressed to HR.
- Medical Records
- Medical records are maintained for each employee with occupational exposure in accordance with 29 CFR 1910.1020, "Access to Employee Exposure and Medical Records."
- HR is responsible for maintenance of the required medical records. These confidential records are kept at

  Tectonic Engineering - Main Office
  70 Pleasant Hill Road
  Mountainville, NY
  845-534-5959.

  for at least the duration of employment plus thirty (30) years.

- Employee medical records are provided upon request of the employee or to anyone having written consent of the employee within fifteen (15) working days. Such requests should be sent to HR.
- OSHA Recordkeeping
- An exposure incident is evaluated to determine if the case meets OSHA's Recordkeeping Requirements (29 CFR 1904). This determination and the recording activities are done by HR.

Tectonic Employee _____
Employee Office Location: _____

Hepatitis B Vaccine Declination (Mandatory)

I understand that due to my occupational exposure to blood or other potentially infectious materials, I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself. However, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me.

Signed: _____ *(employee signature)*
Date: _____

Tectonic
PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.

EMERGENCY PHONE NUMBERS FORM

PROJECT NAME: _____

PROJECT ADDRESS: _____

_____

HOSPITAL: _____

AMBULANCE: _____

FIRE DEPARTMENT: _____

POLICE: _____

POISON CONTROL: _____

TECTONIC CORPORATE OFFICE: 1-800-829-6531

DATE _____

To be posted by a telephone or in a conspicuous location at each job site

APPENDIX D

Accident Investigation

ACCIDENT INVESTIGATION

All accidents and near-accidents shall be investigated by Tectonic management. Accidents causing death or serious injury shall receive a thorough investigation performed by Tectonic management independent of official investigations. Near-accidents that could have resulted in death or serious injury, as well as minor injuries, also shall be investigated. Investigations shall be conducted to determine both the cause of the accident and the changes necessary to prevent a similar occurrence. The accident investigation also will assist the employer in determining the facts useful in legal proceedings and will serve to publicize the hazard to employees.

Objective

A thorough investigation should yield at least the following information:

- Part of the body injured and the type of injury sustained (i.e., fracture, burn).
- Type of accident (i.e., hit by falling object, inhalation of chemical fumes).
- Condition or act that caused or permitted the accident to occur (i.e. poor design, defect, adjusting machinery while in operation).
- Equipment, machinery, substance, or structure directly involved in the accident (i.e. backhoe, conveyor belt, chemical).
- Factors contributing to the accident (i.e. lack of training, improper or no maintenance of equipment, unsafe work environment, etc.).
- Measures that can be implemented to prevent another similar accident including different PPE, additional training, replacing equipment, etc.

Procedure

The investigation of any accident is to be performed by the supervising Technical Discipline Manager with support from Human Resources in accordance with the procedures described below.

1. Begin investigating the accident immediately after the injured person has been treated, before the scene can be changed and important evidence removed or destroyed.
2. Secure area, equipment and personnel from injury and further damage.
3. Photograph site of accident making sure to document from all angles possible existing conditions.
4. Discuss the accident with the injured person, if possible, after first aid or medical treatment has been administered.
5. Talk with witnesses and those familiar with conditions immediately before or after the accident, preferably away from the distractions of the work area.

6. Complete an **Injury/Accident Investigation Report Form** (see Appendix D) and report to Human Resources as soon as possible but no later than 36 hours of injury.

7. If the injury warrants time away from work, insure that the absence is authorized by a physician and that the employer maintains contact with the employee while he/she remains off work.

8. Discuss incident, where appropriate, in safety and other employee meetings with the intent to prevent a recurrence. Discuss with other supervisors and other management. Develop a corrective action to be taken to prevent a similar accident.

9. Implement the developed corrective action as soon as possible to prevent a recurrence.

10. Monitor status of employee(s) if unable to work and maintain contact with employee. Tectonic management will encourage and support the employee to return to work when permitted by the employee's physician.

11. Injured employee(s) may return to work when they are given "return to work" release forms from the physician. Review the release carefully and insure that the employee follows the restrictions indicated by the physician.

Tectonic
PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.

Injury/Accident Investigation Report

This is a CONFIDENTIAL REPORT for use by employees of Tectonic Engineering & Surveying Consultants, P.C. This report must be completed within 24 hours of an accident involving and injury to employees or visitors. Forward completed reports to the Human Resource Department. Attach additional pages if necessary.

Name of Office or Location Reporting this Injury: _____
Department: _____
Name of Supervisor Completing this Form: _____
Phone: _____ **E-Mail:** _____ Date: _____

1. WHO WAS INJURED?

A separate Injury/Accident Investigation Report must be completed for each injured person. All employees who sustain injuries requiring more than first aid must also complete the applicable Workers Compensation Employee Claim Form.

Check One: ☐ Employee Injury Illness ☐ Visitor Injury/Illness
Name of Injured Person: _____
Home Address: _____ City: _____ State: _____ Zip: _____
Home Phone: _____ Sex: ☐ Male ☐ Female Date of Birth: _____
Employee Job Title/Occupation: _____ Employee #: _____

---

2. WHEN AND WHERE DID THIS HAPPEN?

Date of Injury: _____ Time Injury Occurred: _____ Date Reported: _____ Time Reported: _____
Time of Day Employee Began Work on Date of Injury: _____
Name of Emergency Contact Person Notified *(if applicable)*: _____
Did the Injury Occur on Company Property? ☐ Yes ☐ No
If the Accident Occurred at an Off-Site Location, Such as a Job Site, Indicate the Location, Address, City, and Zip Code of the Accident: _____
_____
Project Name and Number associated with the Offsite Location: _____
Describe the exact location where the injury occurred: _____
_____

---

3. HOW DID THIS HAPPEN?

What was the injured person doing at the time of the injury? Describe the events immediately preceding the injury. Identify any Tectonic Employees involved in the accident and any tools, machinery, equipment, or vehicles involved. Attach photos if necessary.

_____
_____
_____
_____
_____
_____
_____

4. WHAT INJURIES RESULTED?

Types of Injuries and Body Parts Injured. Example: "Sprained left wrist."

_____

_____

_____

_____

5. DID ANYONE SEE THE INJURY HAPPEN?

Name(s) and Phone Numbers of Witness(es), If Any. Attach statement of each witness.

_____

_____

_____

_____

6. DID ANYONE ELSE CAUSE THIS INJURY?

Other Person(s) That Caused Or Contributed to the Injury, If Any.

Name:_____

Home Address: _____ City: _____ State: _____ Zip: _____

Home Phone: _____ Date of Birth: _____

7. WAS MEDICAL TREATMENT NEEDED?

Was First Aid Administered? ☐ Yes ☐ No If so, who administered the first aid? _____

Where Did the Employee Receive First Medical Treatment for this Injury/Illness?

☐ On Site ☐ Doctor's Office ☐ Emergency Room ☐ Clinic/Urgent Care ☐ Unknown

Describe medical treatment received: _____

Doctor's recommendation: ☐ Unknown ☐ Temporary Disability ☐ Return to Full Duty ☐ Restricted Duty

Doctor's Name: _____ Name of Medical Facility: _____

8. HOW COULD THIS ACCIDENT HAVE BEEN PREVENTED?

Key Findings:

Factor(s) contributing to the injury. For example, "Employee stood on a chair instead of using a ladder." _____

_____

Was the employee trained to perform this task safely? If yes, describe training provided.

_____

_____

Did the employee violate a safety rule? What rule?

_____

_____

Conclusions:

Reasons the Key Findings occurred/existed. For example, "There is no safety rule prohibiting standing on chairs," or "The employee was not trained on this safety procedure."

_____

_____

_____

Actions you took to prevent a recurrence of this injury/accident:

_____

_____

_____

9. SUMMARY

Was this a "serious injury"[1] to employee?	☐	Yes	☐	No	☐	Unknown
Was a Workers' Comp. Form provided to employee?	☐	Yes	☐	No	☐	Unknown
Does this employee have temporary work restrictions?	☐	Yes	☐	No	☐	Unknown
Were injured parties hospitalized?	☐	Yes	☐	No	☐	Unknown
Is employee discipline under consideration?	☐	Yes	☐	No	☐	Unknown
Did an unsafe condition contribute to this accident?	☐	Yes	☐	No	☐	Unknown
Did the accident involve hazardous substance release?	☐	Yes	☐	No	☐	Unknown
Does this appear to be a fraudulent claim?	☐	Yes	☐	No	☐	Unknown

[1]A "serious injury" is defined as a death, amputation, permanent disfigurement, hospitalization for more than 24 hours for other than observation, or an incident resulting in multiple injuries requiring hospitalization.

10. CERTIFICATION

By signing below, the Supervisor agrees to protect this document against unlawful distribution, and certifies that they have thoroughly investigated this accident or injury.

_____

Supervisor's Signature

_____

Supervisor's Name

_____

Date

APPENDIX E

Hazard Communication

Program

WRITTEN HAZARD COMMUNICATION (HAZCOM) PROGRAM

Introduction

The purpose of this program is to inform interested persons, including employees, that Tectonic Engineering and Surveying Consultants, PC (Tectonic) is complying with the OSHA Hazard Communication Standard, Title 29 Code of Federal Regulations 1910.1200, by compiling a hazardous chemicals list, using safety data sheets (SDSs), ensuring that containers are labeled or provided other forms of warning, and training our employees.

This program applies to all work operations in our company where employees may be exposed to hazardous chemicals under normal working conditions or during an emergency situation. Under this program, our employees will be informed of the contents of the Hazard Communication (HAZCOM) Standard, the hazards of chemicals with which they work, safe handling procedures, and measures to take to protect themselves from these chemicals, among other training elements.

The Corporate Health and Safety Officer has overall responsibility for the program, including to review and update the program, as necessary. Copies of this written program may be obtained from the Human Resources Department who keeps the program in the Mountainville Office. Moreover, all employees, or their designated representatives, may obtain further information about this written program, the Hazard Communication Standard, applicable SDSs, and our chemical list from Corporate Health and Safety Officer.

Finally, if after reading this program, you find that improvements can be made, please contact the Corporate Health and Safety Officer. We encourage all suggestions because we are committed to the success of our written Hazard Communication Program. We strive for clear understanding, safe behavior, and involvement in the program from every level of the company.

List of Hazardous Chemicals

Our "chemical inventory" is a list of product identifiers of hazardous chemicals known to be present at our workplace. Anyone who comes in contact with the hazardous chemicals on the list needs to know what those chemicals are and how to protect themselves. That is why it is so important that hazardous chemicals are identified, whether they are found in a container or generated in work operations (for example, welding fumes, dusts and exhaust fumes). The hazardous chemicals on the chemical inventory can cover a variety of physical forms including liquids, solids, gases, vapors, fumes, and mists. Sometimes hazardous chemicals can be identified using purchase orders. Identification of other chemicals may require an actual survey of the workplace.

The Corporate Health and Safety Officer updates the hazardous chemical inventory as necessary. New chemicals or new suppliers are added to the inventory and the SDS is added to the master SDS database. The Program Coordinator will also schedule a training session for employees as soon as possible for the new chemical.

However, the Program Coordinator also keeps a Copies of the chemical inventory list and corresponding SDS are located in each office where they are accessible during work hours.

Safety Data Sheets (SDSs)

SDSs are basically fact sheets for chemicals that pose a physical or health hazard in the workplace. These sheets provide our employees with specific information on the chemicals in their work areas.

The Corporate Health and Safety Officer is ultimately responsible for obtaining and maintaining the SDSs at our workplace and will contact the chemical manufacturer or vendor if additional research is necessary. All new procurements for the company must be cleared by James Upright, Corporate Health and Safety Officer.

SDSs are kept readily accessible to all employees during each work shift at the following location(s):

1) Entry area of each laboratory in a three ring binder.
2) Master SDS File at the Mountainville Front Desk
3) SDS Database found on Tectonic's corporate intranet.

Employees may access these files at any time during as well as before and after their normal working hours.
The procedure followed if the SDS is not received with the first shipment is as follows:

1) Employee receiving the chemicals checks for an SDS
2) If no SDS is present, the receiving employee will immediately notify their supervisor who will contact the purchasing agent
3) The purchasing agent will contact seller and request SDS
4) If SDS is not provided, then purchasing agent shall notify the Program Coordinator, who shall contact the manufacturer.

Labels and Other Forms of Warning

In most cases, hazardous chemical containers at the workplace must be clearly labeled, tagged, or marked in accordance with the Hazard Communication Standard, either with:

- The product identifier, signal word, hazard statement(s), pictogram(s), and precautionary statement(s); or
- The product identifier and words, pictures, symbols, or combination thereof, which provide at least "general" information regarding the hazards of the chemicals, and which, in conjunction with the other information immediately available to employees under the Hazard Communication Program, will provide employees with the "specific" information regarding the physical and health hazards of the hazardous chemical.

While not required for in-house labeling, the name and address of the manufacturer, importer, or other responsible party may also be found on the label, tag, or marking. Hazards not otherwise classified do not have to be addressed on a container.

Because the product identifier is found on the label, the SDS, and our chemical inventory, the product identifier links these three sources of information, permitting cross-referencing. The product identifier used by the supplier may be a common or trade name, a chemical name, or a number. Employees should be aware that label information can be verified by referring to the corresponding SDS.

Each laboratory manager and/or office manager is responsible for ensuring that all hazardous chemicals in containers at their workplace have proper labels or other forms of warning that are legible, in English (although other languages may also be included), and displayed clearly on the container or readily available in the work area throughout each work shift, as required. This person will update labels, as necessary. Each laboratory manager and/or office manager also ensures that newly purchased chemicals are checked for labels when containers are received.

Each laboratory manager and/or office manager is responsible for ensuring the proper labeling, tagging, or marking of any shipped containers leaving the workplace. These labels, tags, or marks must provide not only the product

identifier, signal word, hazard statement(s), pictogram(s), and precautionary statement(s) but also the name, address, and telephone number of the chemical manufacturer, importer, or other responsible party.

If employees transfer chemicals from a labeled container to a portable, secondary container that is intended only for their IMMEDIATE use, no labels, tags, or markings are required on the portable container.

Finally, when labels that fall off or become unreadable are immediately replaced, using a GHS compliant label.

Training

Everyone who works with or is potentially "exposed" to hazardous chemicals on the job will receive initial training on the Hazard Communication Standard and the safe use of those hazardous chemicals before starting work. "Exposure" means that "an employee is subjected in the course of employment to a chemical that is a physical or health hazard, and includes potential (e.g., accidental or possible) exposure." Whenever a new chemical hazard is introduced or an old hazard changes, additional training is provided. All training is conducted by or under the direction of the Corporate Health and Safety Officer.

Effective information and training is a critical part of the Hazard Communication Program. We train our employees to read and understand the information on labels and SDSs, determine how the information can be obtained and used in their own work areas, and understand the risks of exposure to the chemicals in their work areas, as well as ways to protect themselves. Our goal is to ensure employees know that they are exposed to hazardous chemicals, have the skills to read and use labels and SDSs, and understand how to appropriately follow the protective measures we have established. We urge our employees to ask the Corporate Health and Safety Officer questions for greater comprehension.

As part of the assessment of the training program, the Corporate Health and Safety Officer asks for input from employees regarding the training they have received and their suggestions for improving it. In this way, we hope to reduce any incidence of chemical-related illness or injury.

Training Content

Training shall begin with an overview of the HAZCOM standard including SDS's and Labeling. Depending on the job responsibities of the employee training will consist of either training on the known chemicals and their hazards that they will be working with. For those employees who might encounter a variety of chemicals in the field, they will be trained on the various types of chemical hazards and typical ways of how to protect themselves against unknowns. The format of the training program used starts with a training video on the HAZCOM standard followed by direct training from their supervisors either one on one or in small groups on the chemical hazards they might encounter.

The training program emphasizes these elements:

- Summary of the Hazard Communication Standard.
- What hazardous chemicals are present in operations in employee work areas.
- Chemical and physical properties of hazardous chemicals (e.g., flash point, reactivity, etc.) and how to detect the presence or release of these chemicals (including chemicals in unlabeled pipes).
- Physical hazards of chemicals (e.g., potential for fire, explosion, etc.)
- Health hazards, including signs and symptoms of overexposure, associated with exposure to chemicals and any medical condition known to be aggravated by exposure to them.

- Any simple asphyxiation, combustible dust, and pyrophoric hazards, as well as hazards not otherwise classified, of chemicals in work areas.
- Any steps the company has taken to reduce or prevent exposure to hazardous chemicals, such as engineering controls.
- Procedures to protect against hazards and exposure (e.g., work practices or methods to assure proper use and handling of chemicals and any required personal protective equipment and its proper use and maintenance).
- Procedures for reporting and responding to chemical emergencies.
- How to read and use both the workplace labeling system and labels received on shipped containers.
- The order of information found on SDSs and how to read the information and what it means.
- How to access SDSs and the written Hazard Communication Program, including the chemical inventory.

The procedure to train new employees at the time of their initial assignment is provide training on SDS's and labeling of chemicals followed by job and workplace specific training on the specific chemical hazards they might encounter. We train employees when a new hazard is introduced by holding a training session with the employees who might be exposed to the chemical to review the SDS and safe work practices.

Training logs are signed by employees upon completion of their training and are kept by the Human Resources Department and the Laboratory or Office Manager.

Hazards of Non-routine Tasks or Project Sites

Periodically, employees are required to perform non-routine tasks that involve hazardous chemicals. When employees will be required to perform hazardous non-routine tasks, such as performing site investigations, surveying at client facilities, etc. that have the potential to expose employees to hazardous chemicals, we inform them of these hazards by preparing a site specific safety plan that includes SDS or other availbale chemical hazard data for hazard's anticipated.

Multi-Employer Site

When contractors or any other employers' workers will be working at this workplace, the Corporate Health and Safety Officer will:

- Provide the other employer(s) with SDSs for any of our hazardous chemicals to which their employees may be exposed.
- Relay to other employer(s) as follows all necessary in-house labeling system and precautionary information for normal operations and foreseeable emergencies.

Moreover, it is the responsibility of manager who retains the contractor to obtain from each contractor or other employer the appropriate hazard information on chemicals they bring onsite, including SDSs, the labeling system used, and the precautionary measures to be taken in working with or near these chemicals.

When Tectonic employees work at multi-employer project site, it is the responsibility of the responsible project manager to contact the contractor in charge of site safety to obtain information and SDS anticipated to be encountered on the project site and to review the information and train the assigned field staff on the possible hazards at the project site. The project manager shall also provide to the responsible contractor the appropriate hazard information on

chemicals Tectonic employees may be bringing onsite, including SDSs, the labeling system used, and the precautionary measures to be taken in working with or near these chemicals.

Additional Information

As stated earlier, all employees, or their designated representatives, may obtain further information on this written program, the Hazard Communication Standard, applicable SDSs, and the chemical inventory from the Corporate Health and Safety Officer or their supervisor.

Appendix

We have attached to this written program our chemical inventory and other information to ensure better understanding of our program.

APPENDIX F

Job Hazard Analysis

Tectonic

PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.

RE: Job Hazard Analysis (JHA)

All:

Attached, find the Universal JHA Rev.0 to be used for guidance in the field.

Some of the given "activities" may not apply to your assigned project tasks. However, prior to all field activities the JHA is to be reviewed and you should identify all of relevant activities for the days' work. Controls are not limited to what are given and there may be other activities (tasks) not listed. Therefore, prior to the start of the day's field activities always conduct a planning & site safety meeting with all team members to discuss the tasks, hazards, and controls. Include in your discussions approved health & safety plans, procedures and/or controls for the site and given task(s). For all non-routine tasks or activities, contact the Project Manager and/or Safety Officer to discuss any additional control measures that might need to be taken.

As always, BE ALERT and be aware of your surroundings at all times. DO NOT remain in any environment that you believe may be unsafe. Immediately notify your site contact and/or the project's site safety representative and your Project Manager of any workplace area you believe to be unsafe.

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Job Hazard Analysis

Title of Job/Operation: All Field Personnel /Field Activities

Task (s)— All Field Personnel /Field Activities		
Activity	**Significant Hazards**	**Procedures & Controls**
Pre-Work Site Meeting	ALL	Conduct a planning & site safety meeting with all Team members including client representative (escort) and sub-consultant prior to the start of the day's field activities. The site job planning and safety meeting should include but should not be limited to, the following: • Emergency procedures including evacuation routes, muster points and attendance taking • Task Specific hazards & controls • Review of the JHA & Safe Work procedures • HASP Section 12.0 General Safety Rules And Requirements
Use of Standard PPE	ALL	Standard PPE shall include the following unless otherwise specified within a given Activity: • Safety-toe Footwear (Work Shoes) • Hard hats • Reflective Traffic safety vest • Eye protection (safety glasses with side shields) • Wear USCG approved personal floatation devices (PFDs) when working on or near water. • Hearing protection (ear plugs) with a minimum NRR of 31 when working in high noise areas exceeding 85 dbA for exposure duration of 15 minutes or greater. Use the following "rule of thumb" to determine a "high noise area". If you have difficulty hearing or understanding a "normal" tone of voice at a distance of about three feet. • HASP Section 17.0 Personal Protective Equipment Program
Working Around Excavations	Caught-in excavation collapse Atmospheric Hazards Water Accumulation Limited Egress Hazardous	• Do not work in excavations 5' or greater in depth unless they are either properly: "sloped", "benched" or "shored" according to OSHA requirements and under the direction of a Qualified Person • Do not work in excavation 4' or greater in depth without proper egress (i.e., ladder) • Do not work in an excavation 4' or greater that may contain a hazardous atmosphere unless the atmosphere has been tested and determined to be safe for entry. • Do not work in excavations with water accumulation. If water is or has accumulated do not enter the excavation unless the integrity of the excavation has been determined to be safe by a Qualified Person. • Areas surrounding the excavation/test-pit shall be evaluated by a Qualified Person to determine acceptable loading of employees, equipment, spoils, etc. • Areas that are not capable of supporting potential loadings shall be clearly identified and appropriately demarcated to prevent unsafe loading. • Precautions shall be taken to prevent surface water from entering an excavation and to provide good drainage of the areas adjacent to an excavation. • Fall protection shall be provided around test-pit/excavations greater than 6 feet in depth to protect employees from falling into the excavation. • Protection shall be provided to prevent employees, vehicles, and equipment from falling into excavations. When vehicles or mobile

Task (s)— All Field Personnel /Field Activities		
Activity	**Significant Hazards**	**Procedures & Controls**
		equipment are used near or allowed adjacent to an excavation/test-pit, substantial stop logs or barricades shall be installed. • Non-operating personnel shall stand clear from vehicles and equipment to avoid being struck by spillage or falling materials. • Determine anticipated soil type and procure resources accordingly (i.e., shoring, trench box, etc.) Excavations shall be protected from cave-ins by a protective system unless the excavation is less than 5 feet in depth and a Competent Person determine there is no potential for cave-in, or the excavation is made entirely in stable rock. Determine anticipated soil type and procure resources accordingly (i.e., shoring, trench box, etc.) • Employees shall be protected from potential falling objects (e.g., loose rock, soil). • Excavated material shall be placed at least 2 feet from the edge of an excavation, or shall be retained by protective systems designed to support the weight of the excavated material and prevent the materials from falling into the excavation. • Atmospheric monitoring shall be performed in excavations greater than 4 feet in depth where there is potential for an oxygen deficiency or hazardous atmosphere. This includes where fossil fuel-powered equipment is utilized within or near an excavation.
Working with Nuclear Density Gauges	Physical Exposures Ionizing Radiation Lifting > 50 pounds Stains & Body Injury Hand Tools cuts, sprains, lacerations	• Training & Required Certifications • Control Exposure via Distance , Time & Shielding techniques • Use proper lifting and handling techniques. • Follow manufactures operations & safety procedures when handling the instrument • Visibly check equipment prior to use including but not limited to the shutter operations. • Adhere to all Tectonic Safety and Emergency procedures as given and approved as part of the NYS Radioactive Material lic. • Radiation monitoring badges are required to be worn by all personnel that use the nuclear density gauges. Radiation badge monitoring is performed in accordance with NRC and as required by New York State DOL Part 38. • Follow all DOT requirements when transporting the instrument <u>Manual Lifting</u> • Follow procedures for safe lifting practices • Plan your lift and your route • “Size Up” the load. Weight, package size, handles, etc. should be considered. • Consider mechanical methods first- Use a hand truck or other mechanical means. • Know your own personal limitations (don’t try to lift “too much”) • Use a balanced stance • Get a secure grip. • Use both hands whenever possible. • Avoid jerking by using smooth, even motions. • Alternate heavy lifting or forceful exertion tasks with less physically demanding tasks. • Take rest breaks. • When carrying a load, keep the load close to the center of your body to take full advantage of the mechanical leverage of your body • Avoid twisting at the waist • Bend with your knees • Lift with your legs, keep your back straight • Avoid lifting above shoulder height • Don’t rush, make sure that you can clearly see your path • Turn /pivot with your feet ; don’t twist your back

Task (s)— All Field Personnel /Field Activities		
Activity	**Significant Hazards**	**Procedures & Controls**
		• Wear gloves and/or sleeves as necessary when handling sharp or rough edges • Squat lifting should be done for a majority of all lifts • Team lifts should be used when objects are too heavy, too large or too awkward for one person to lift. Hand Tools • Use the proper tool for the job • Proper guarding • Grounding/GFCI • Inspect equipment, power/extension cords • Be aware of hazards and your hand positioning relative to hazards • Minimize repetitive motion by switching tasks and using properly designed tools • Use work gloves as necessary to prevent and cuts, etc.
Working around Heavy Machinery/Equipment Drill Rigs, Excavators, etc.	Struck by Caught –In Noise	• Only trained individuals shall operate heavy machinery and/or equipment • Stay alert! Pay attention to back up signals • Know the areas of operation • All personnel shall wear proper PPE hard hat, safety glasses, hearing, protection and safety shoes • Obey all signage. • All non-essential personnel shall remain out of the "No Access Zone" during operations. Do not work within 'No Access Zone" without authorization and training. • Essential personnel in Work Zone shall remain a safe distance past the radius of any boom/ bucket, etc. Be alert and pay attention to potential flying fragments/particles, etc. and when practical possible stay out of their reach. • Do not stand directly under loads • Do not wear loose fit clothing or jewelry around rotating or moving parts. • Do not approach and unprotected (not guarded) piece of machinery • Hearing protection (ear plugs) with a minimum NRR of 31 when working in high noise areas exceeding 85 dbA for exposure duration of 15 minutes or greater. Use the following "rule of thumb" to determine a "high noise area". If you have difficulty hearing or understanding a "normal" tone of voice at a distance of about three feet. • HASP Section 16.0 Construction Safety Program • HASP Section 22.0 Hearing Conservation Program
Working around Vehicular Traffic	Struck by Caught –In Noise	• Training • Visibility –wear reflective traffic vest and other standard PPE. • Pay attention and observe the Maintenance & Protection of Traffic (MPT) plan and/or Temporary Traffic Control Plan. (TTCP). Note and follow the direction of flagmen & signage. Take note of cone and other temporary barriers. • Pay attention and listen for back up signals. • When possible make visual observations from locations outside of the shoulder 15 feet or more from the edge of the traveled way. • Use Vehicle Warning Lights • Vehicles parked on the shoulder of a road should be pulled off as far as possible and hazard lights and flashing warning light will remain on. Exit the vehicle from the passenger side if there is less than 8' from the traveled way. • Do not attempt to cross any roadways that are not designed for pedestrian crossing. • When crossing a roadway use designated crosswalks and obeys all traffic signs and signals.

Task (s)— All Field Personnel /Field Activities		
Activity	**Significant Hazards**	**Procedures & Controls**
		• Hearing protection (ear plugs) with a minimum NRR of 31 when working in high noise areas exceeding 85 dbA for exposure duration of 15 minutes or greater. Use the following "rule of thumb" to determine a "high noise area". If you have difficulty hearing or understanding a "normal" tone of voice at a distance of about three feet. • HASP Section 16.0 Construction Safety Program • HASP Section 22.0 Hearing Conservation Program
Working At Heights – Using Scaffolds, &Aerial Lift Devices	Falls	• Training & Required Certification • Fall protection is required when working at a height of 6' or more • All walking and working surfaces ≥6' require that a Fall Protection Program/Plan be in place. At a minimum plans should consider the following: ✓ Guardrails in place and approved by Qualified Person. **DO NOT** climb and/or lean on guardrails, handrails, mid-rails, etc. ✓ Properly wear Personal fall arrest equipment PFA equipment if it is to be used. Know the fall distance to be sure equipment is suitable for the plan. ✓ Tie off point identified by a qualified person ✓ Life Lines approved by Qualified Person ✓ Netting in Place if applicable ✓ Floor Holes & Openings Protected ✓ Wall Openings and edges protected ✓ Rescue Plan in place • Personal fall arrest equipment (PFA) is required for work on all lifts & Aerial Lift Devices. • Fall protection must be in place prior to the use of all scaffolds. • In NYC the use of scaffolds requires, at a minimum, the 4hr DOB Scaffold Training course. • HASP Section 19.0 Fall Protection Program • HASP Section 20.0 Scaffolding Safety Program • HASP Section 33.0 Aerial Lifts And Scissor Lift Safety
Use of Ladders		• Ladders must be Secured • For extension ladders - maintain a 4:1 for every 4' in height the bottom of the ladder should d be 1' away from the structure. (proper angle) • Ladder Extends 3' above surface (extension ladders) • Proper size and type • Level footing • Properly use ladders for its intended use. • Be sure the ladder has been inspected and in good condition. • Non-slip bases • Face the ladder when ascending or descending. • Maintain three points of contact at all times. • Keep your body centered on the ladder. • Never let your belt buckle pass either siderail. • Ladders must be kept free of oil, grease, and other slipping hazards. • Consider using a rope to raise/lower materials instead of carrying items while climbing a ladder. • Do NOT use metal or aluminum ladders near exposed energized electrical equipment.

Task (s)— All Field Personnel /Field Activities		
Activity	**Significant Hazards**	**Procedures & Controls**
		• Select a ladder with the proper duty rating for your weight and the materials you are handling. • Ladders shall not be loaded beyond the maximum intended load for which they were built nor beyond their manufacturer's rated capacity. • Do not use a stepladder that is folded or in a leaning position • Ladders should be inspected before each use. • Broken or weak ladders or ladders that are not stable must be marked or tagged as defective and taken out of service. • The top or top step of a stepladder shall not be used as a step. Cross-bracing on the rear section of stepladders shall not be used for climbing unless the ladders are designed for and provided with steps for climbing on both front and rear sections. • Ladders shall not be climbed by more than one person at a time, unless designed by the manufacturer for such use.
Scaffold Use Scaffold Use		• Training- • For projects located within NYC, individuals using scaffolding shall have this training specifically documented by possession of the appropriate current NYC DOB scaffold user card. 4 hr User or 16 hr suspended • All Scaffold must be constructed by and approved by a Qualified Individual. • Do not use unless a Qualified Individual has "tagged" and/or has indicated the scaffold is ready for use. <u>Fall Protection Requirements</u> • Fall protection includes guardrail systems and personal fall arrest systems. • When working from an aerial lift, attach the fall arrest system to the boom or basket. • Crossbracing is acceptable in place of a midrail when the crossing point of two braces is between 20 inches (0.5 m) and 30 inches (0.8 m) above the work platform or as a toprail when the crossing point of two braces is between 38 inches (0.97 m) and 48 inches (1.3 m) above the work platform. The end points at each upright shall be no more than 48 inches (1.3 m) apart. <u>Collapse</u> • Footings—Support scaffold footings shall be level and capable of supporting the loaded scaffold. The legs, poles, frames, and uprights shall bear on base plates and mud sills. • Platforms—Supported scaffold platforms shall be fully planked or decked. • Guying ties, and braces—Supported scaffolds with a height-to-base of more than 4:1 shall be restrained from tipping by guying, tying, bracing, or the equivalent. • Capacity—Scaffolds and scaffold components must support at least 4 times the maximum intended load. Suspension scaffold rigging must at least 6 times the intended load. <u>Struck by --Falling Object Protection</u> • <u>Barricades</u>-The area below the scaffold to which objects can fall shall be barricaded, and employees shall not be permitted to enter the hazard a • To protect employees from falling hand tools, debris, and other small objects, install toeboards, screens, guardrail systems, debris nets, catch platforms, canopy structures • Wear Your Hardhats! • Don't work underneath! <u>Electrocution</u> Scaffolds shall not be erected, used, dismantled, altered, or moved such that they or any conductive material handled on them might come closer to exposed and energized power lines. <u>General</u>

Task (s)— All Field Personnel /Field Activities		
Activity	**Significant Hazards**	**Procedures & Controls**
Scaffold Use		• Scaffolds shall be erected, moved, dismantled, or altered only under the supervision and direction of a competent person qualified in scaffold erection, moving, dismantling or alteration. Such activities shall be performed only by experienced and trained employees selected for such work by the competent person. • Scaffolds and scaffold components shall be inspected for visible defects by a competent person before each work shift, and after any occurrence which could affect a scaffold's structural integrity. • Shore and lean-to scaffolds are strictly prohibited. • Scaffolds and scaffold components shall not be loaded in excess of their maximum intended loads or rated capacities, whichever is less. • Any part of a scaffold damaged or weakened such that its strength is less than that required by paragraph (a) of this section shall be immediately repaired or replaced, braced to meet those provisions, or removed from service until repaired. • Scaffolds shall not be moved horizontally while employees are on them, unless they have been designed by a registered professional engineer specifically for such movement or, for mobile scaffolds, where the provisions of 1926.452 (w) are followed. • Scaffolds shall be erected, moved, dismantled, or altered only under the supervision and direction of a competent person qualified in scaffold erection, moving, dismantling or alteration. • Employees shall be prohibited from working on scaffolds covered with snow, ice, or other slippery material. • Work on or from scaffolds is prohibited during storms or high winds. • Do not access platforms if excess debris has been allowed to accumulate on platforms. • Makeshift devices, such as but not limited to boxes and barrels, shall not be used on top of scaffold platforms to increase the working level height of employees. • Ladders shall not be used on scaffolds to increase the working level height of employees except on large area scaffolds where employers have satisfied the following criteria: ➢ When the ladder is placed against a structure which is not a part of the scaffold, the scaffold shall be secured against the sideways thrust exerted by the ladder ➢ The platform units shall be secured to the scaffold to prevent their movement; ➢ The ladder legs shall be on the same platform or other means shall be provided to stabilize the ladder against unequal platform deflection, and ➢ The ladder legs shall be secured to prevent them from slipping or being pushed off the platform. • Platforms shall not deflect more than 1/60 of the span when loaded. <u>Scaffold Access</u> • Proper access must be provided when the scaffold platforms are more than 2 feet (0.6 meters) above or below a point of access. • Crossbraces as a means of access is prohibited.
Working with and around Portland Cement/ Concrete Concrete Coring Handheld and stand-mounted drills	Chemical Exposures- Silica Dust Skin Burns & Rash	• Training • Control exposures by using dust control procedures including but not limited to wet methods and dust collection methods (i.e., local HEPA exhaust) • Use proper PPE and avoid skin contact • Use Work Gloves/Hand Protection

Task (s)— All Field Personnel /Field Activities		
Activity	**Significant Hazards**	**Procedures & Controls**
		• Use tool equipped with integrated water delivery system that supplies water to cutting surface. • Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. • Use a HEPA-filtered vacuum when cleaning holes • HASP Section 8.0 Respiratory Protection • HASP Section 5.0 Medical Monitoring And Recordkeeping Program • HASP Section 12.0 General Safety Rules And Requirements

Working on Wet and Uneven Surfaces
 	
Snow & Ice Covers surfaces
	Slip/Trip/Fall	• Face the direction you are moving & look ahead.
		• Establish and utilize a pathway, which is most free of slip and trip hazards.
		• Carry only loads that you can see over and around
		• Wear proper work shoes
		• Use Yak Trak as required
		• Where possible, avoid working in wet or slippery (oily) areas
		• Where work in these areas cannot be avoided:
		  ○ Adjust your stride to a pace that is suitable for the walking surface and the tasks at hand
		  ○ Walk with the feet pointed slightly outward
		• Make wide turns at corners
		• DO NOT approach unprotect edges, cliffs, bluffs etc.
		• DO NOT take risks by walking in unsafe areas.
		• HASP Section 12.0 General Safety Rules And Requirements

Environmental Sampling	Biological & Chemical Exposures
	
	Lead
	Asbestos
	VOC
	SVOC
	Metals
	PCB's
		• Proper training and Certification
		• Additional PPE as required
		  • Gloves (i.e., Nitrile and/or Neoprene)
		  • Coveralls (Tyvek)
		  • Googles (if splashing may occur)
		  • Respirator (if PEL may be exceeded)
		• Participate in the Medical Monitoring Program as required
		• Use the right tool for the job. Properly use hand tools & instruments. Follow manufactures instruction for proper handling and use of filed instrumentation.
		• For now and/or potential contaminants have the SDS sheets available.
		• Follow recognized sampling protocol (s)
		• Practice Good Hygiene. Wash hands after sampling prior to eating or drinking
		• Notify Project Manager if contamination is identified by smell, visually or with direct read instrument.
		• Hazardous Waste Site –Follow Site Specific Health & Safety Plan-- HASP
		• Training & Certification. Do not sample asbestos or lead based coating without training and required certification.
		• Do not enter a regulated work area without training and certification.

Working in Remote Locations		• Determine if there is cell phone service in the area • If feasible utilize 2-way radios where feasible to increase overall communication capabilities. • When working in remote locations the best approach and 1st consideration should be to use a buddy system. If there is no phone service or radio contact available we must use a buddy system. That is either another Tectonic employee or an owner /property escort. • If there is cell phone service in the area and the buddy systems is not practical, use a "Call in- check in" procedure. Establish a reasonable time interval for the employee to "check-in" via phone, text, email etc. (e.g., upon arrival, every 2 hours, upon departure)

Task (s)— All Field Personnel /Field Activities		
Activity	**Significant Hazards**	**Procedures & Controls**
		• If one must hike to the location (i.e. park on road side and hike 1 mile to tower, etc.) ✓ Notify local police and/or emergency services ✓ Be able to Identify where you will be parking and entering the trail ✓ Identify make & model of vehicle so emergency response knows exactly where you entered. Other Considerations • Working in a hot & Cold environment Temperature Stress • Working on Wet and Uneven Surfaces • Work conducted in vegetated areas • Snow & Ice Covers surfaces • Working around Wildlife • Working in inclement weather
Work conducted in vegetated areas	Insects and Ticks- Poisonous Plants Snakes and Small Animals Rodents	• Wear long sleeve shirt and pants • Use insect repellant with DEET • Complete tick inspection after leaving vegetated area • Keep out of vegetated areas, when possible. • Proceed cautiously when moving branches if passing through vegetation is necessary. • If bitten, seek medical attention promptly. • Wash hands and face upon leaving vegetated work area • Use barrier cream if poisonous plants are identified. Use a poisonous plant cleaner such after direct contact with poison ivy, oak, or sumac
Working around Wildlife	Attack -Bites	• The site visit is not expected to harm wildlife or wildlife habitat. • Personnel will stay away from any wild or domestic animal and report immediately to their supervisor if an animal is acting strangely or appears rabid. • Holes, nests, or anything else on the property that resembles an animal dwelling should be avoided. • Employees will use caution if residential pets are seen near or on a site • Carry first aid and snake bite kits as required
Working around Blood borne pathogens:	Cuts & Body fluids	• Use Universal Precautions. • Avoid all contact with blood or other bodily fluids (i.e., vomit, saliva). • Warn employees in surrounding area of potential hazard • Report all BBP exposure incidents to your supervisor. • 7.0 Bloodborne Pathogens Policy
Working in inclement weather	Slips, Trips and Falls Visibility	• Do not work in inclement weather or during heavy fog conditions and/or when visibility is low. • Do not work when severe weather is predicted. Check forecasts prior to scheduling the site visit.
Working Above or Near Water	Falls & Drowning	• Wear USCG approved personal floatation devices (PFDs) when working on or near water. • Fall protection and use PFP as required • Have 90’ Ring Buoys available • Water rescue plan • Change of clothing • Freezing Water Rescue Program
Heavy lifting	Back Strains Bodily Injury	• Follow procedures for safe lifting practices • Plan your lift and your route • “Size Up” the load. Weight, package size, handles, etc. should be considered.

Task (s)— All Field Personnel /Field Activities		
Activity	**Significant Hazards**	**Procedures & Controls**
		• Consider mechanical methods first- Use a hand truck or other mechanical means. • Know your own personal limitations (don't try to lift "too much") • Break load into parts • Use a balanced stance • Get a secure grip. • Use both hands whenever possible. • When practically possible, attach handles or holders to loads. • Avoid jerking by using smooth, even motions. • Alternate heavy lifting or forceful exertion tasks with less physically demanding tasks. • Take rest breaks. • When carrying a load, keep the load close to the center of your body to take full advantage of the mechanical leverage of your body • Avoid twisting at the waist • Bend with your knees • Lift with your legs, keep your back straight • Avoid lifting above shoulder height • Don't rush, make sure that you can clearly see your path • Turn /pivot with your feet ; don't twist your back • Wear gloves and/or sleeves as necessary when handling sharp or rough edges • Squat lifting should be done for a majority of all lifts • Team lifts should be used when objects are too heavy, too large or too awkward for one person to lift. • HASP Section 21.0 Manual Material Handling Program
Working in High Noise Areas		• Hearing protection (ear plugs) with a minimum NRR of 31 when working in high noise areas exceeding 85 dbA for exposure duration of 15 minutes or greater. Use the following "rule of to determine a "high noise area". If you have difficulty hearing or understanding a "normal" tone of voice at a distance of about three feet. • Control Exposure via Distance & Time of exposure.
Electrical Safety	Electrocution	• Training & Certifications • Only Electrically Qualified Person shall work on or near energized electrical system • Lock-out/ Tag-out as required. • Testing for de-energization of identified equipment/machinery after lockout • Proper removal of locks • Grounding/GFCI • Routinely test GFCI • Inspect equipment and power cords/extension cords • Use according to manufacturer's instructions • Training in proper tool use • Inspect tools before use • Proper guarding • No conductive clothing or jewelry • HASP Section 16.0 Construction Safety Program • HASP Section 30.0 Assured Equipment Grounding Conductor Program (Aegcp) • HASP Section 31.0 Lockout/Tag Out
Working Near (Energized) Power Lines	Electrocution	• Training • Shut-Down Utilities if possible • Do not work within 15' of an energized line • Notification to affected employee • HASP Section 16.0 Construction Safety Program

Task (s)— All Field Personnel /Field Activities		
Activity	**Significant Hazards**	**Procedures & Controls**
		• HASP Section 30.0 Assured Equipment Grounding Conductor Program (Aegcp) • HASP Section 31.0 Lockout/Tag Out
Asphalt/Asphalt Fumes	Fumes Burns	• Training • Stay up wind of paving activities • Use proper PPE • HASP 12.0 General Safety Rules and Requirements • HASP Section 16.0 Construction Safety Program
Handling glues & epoxies Smoke Testing	Chemical Exposure	• Follow manufactures instruction for handling & safety for tool use • Secure & review SDS Review and follow work practice procedures and controls outlined in applicable Safety Data Sheets (SDS) • Affected Project personnel should receive Orientation, HASP and Haz Com training • Consider the following: ✓ First Aid requirements ✓ Eye Contact ✓ Ingestion ✓ Inhalation ✓ Skin Contact-Required Additional PPE, Gloves, Overalls, etc.
Confined Space Entry Culvert/Subsurface Structure Entry Pits, Vaults, Tanks, etc.	Atmosphere Caught in	• Do not enter a confined space without training and certification. • Review permit procedures before entering a permit required confined space. The procedures, at a minimum, should consider the following: ✓ Atmospheric Monitoring & Atmospheric Controls ✓ Control of Energy Sources /Lockout/ tag-out ✓ Egress ✓ Recognized & Potential Hazards (e.g., Engulfment, Physical Hazards, Entrapment) ✓ Job Functions ✓ Rescue Plan ✓ Communication • HASP Section 24.0 Confined Space Entry Program
Hand Tools Use of Hand & Power Tools	cuts, sprains, lacerations Electrocution Hand, Wrist and Finger Safety	• Use the proper tool for the job • Proper guarding • Grounding/GFCI • Inspect equipment, power/extension cords • Be aware of hazards and your hand positioning relative to hazards • Minimize repetitive motion by switching tasks and using properly designed tools • Use work gloves as necessary to prevent and cuts, etc. • HASP Section 16.0 Construction Safety Program • HASP Section 30.0 Assured Equipment Grounding Conductor
Roof Top Safety		• RF Safety ➢ LockOut/TagOut ➢ Distance & Time • Noise ➢ Mechanical Equipment (MER) ➢ Fans, Blowers, Cooling Towers etc. ➢ Elevator Machine Rooms ➢ Distance & Time • Falls From Heights--- ➢ Unprotect Edges ➢ Ladders ➢ Fall Protection Plan • Slips Trips Falls—Struck -by ➢ Housekeeping

Task (s)— All Field Personnel /Field Activities		
Activity	**Significant Hazards**	**Procedures & Controls**
		➢ Conduit ➢ Pavers ➢ Etc. • Caught-In— ➢ MER's, Machine Rooms, Machinery, Rotating Parts,, etc.
RF Safety		• Training • Prepare by getting site details about the types of transmitters on towers including power levels, frequencies, and types of antenna prior to the site visit. • Determine where potential hazards exist. (Use Direct Field Instrumentation as required) • Before beginning a job where RF exposure is known to be a possibility, develop a safety plan to include methods of ensuring employees are not subjected to RF in excess of established limits. • Consider and practice Distance, Time & Shielding • Obey all signage • When possible distance yourselves from the source. (stay outside the recognized boundary) • Implement administrative controls, such as limiting the time within an RF boundary. • Wear personnel protective equipment (PPE) as required. • Fencing and other barriers to keep unauthorized personnel at a safe distance. • Deactivate RF energy sources when workers are working nearby. Lock/out Tag Out
Using Survey Instrumentation	Non Ionizing Radiation Low level Class 1 lasers	• Training –Do not use the instrument without operational training from a qualified person. • Standard SOP-Follow Manufactures instruction on the proper use of the instrumentation including all prescribes safety procedures. • Stop using the instrument and notify the Project Manager of any instrument malfunction.
Underground Construction	Hazardous Atmospheres Fire & Explosion Caught in Struck by	• At all times there must be safe means of access and egress to all work stations. • Prior to permanent environmental controls being effective, all employees shall maintain a check-in/check-out procedure that will ensure that above-ground personnel. • Determine the mode of communication and maintain communications at all times. • At all times wear you standard Personal Protective Equipment: <u>Air monitoring & Hazardous & Explosive Atmospheres:</u> • Prior to Entry a competent person must perform air sampling at a minimum to determine the following: ✓ Oxygen Levels -19.5 percent oxygen and no more than 22 percent oxygen. ✓ <10 % of the Lower Explosion Limit (LEL) ✓ Known or suspected Gases, vapors, fumes, dusts, and mists are within permissible exposure limits <u>Ventilation:</u> • Do not enter unless a competent person has determined that Fresh air shall be supplied to all underground work areas in sufficient quantities to prevent dangerous or harmful accumulation of dusts, fumes, mists, vapors or gases. • Mechanical ventilation shall be in place except when it can be demonstrated that natural ventilation provides the necessary air quality through sufficient air volume and air flow. • A minimum of 200 cubic feet (5.7 m(3)) of fresh air per minute shall be supplied for each employee underground. • The linear velocity of air flow in the tunnel bore, in shafts, and in all other underground work areas shall be at least 30 feet (9.15 m) per minute where blasting or rock drilling is conducted, or where other conditions likely to

Task (s)— All Field Personnel /Field Activities		
Activity	**Significant Hazards**	**Procedures & Controls**
		produce dust, fumes, mists, vapors, or gases in harmful or explosive quantities are present. Illumination: • Minimum illumination intensities of 5 foot candles in foot-candles Mechanical equipment: • Stay alert know and understand working around Heavy Machinery/Equipment including but not limited to the use of or any hoists and/or haulage equipment. Fire prevention and protection and Emergency Procedures: • Prior to entering, know and understand the fire prevention and emergency procedures including but not limited to evacuation plans, check- in/check-out systems and muster points. • No smoking • Use in intrinsically save equipment as required
Driving to and From a Job Site		• Drivers of vehicles should maintain a valid driver's license. • Drivers should drive defensively, keep both hands on the wheel, avoid distracted driving, and adhere to site traffic requirements. • Drivers of vehicles should not drive when tired. • Suspend travel during conditions that impact controlled operation of the vehicle. • Do not under any circumstances, operate a Corporation vehicle, or a personal vehicle for Corporation business, when any physical or mental impairment causes you to be unable to drive safely. This prohibition includes, but is not limited to, circumstances in which the employee is temporarily unable to operate a vehicle safely or legally because of illness, medication, or intoxication. • Adhere to all policies and procedures as given in the Company's Employee Handbook section 205.10 Automobile Use
Non Routine Tasks	All Identified Hazards	• BE ALERT and be aware of your surroundings at all times. DO NOT remain in any environment that you believe may be unsafe. Immediately notify your site contact/site supervisor and/or the project's site safety representative and your Project Manager of any workplace area you believe to be unsafe. • If there are non-routine task associated with a given site, then field personnel must contact their PM and/or Safety Officer to discuss any additional measures that must be taken.

JOB HAZARD ANALYSIS FORM

Activity:	**Date:**
	Project:
Description of the Services:	**Site Supervisor:**
	Site Safety Officer:

Work Activity Sequence (Identify the principal steps involved and the sequence of work activities)	**Potential Health and Safety Hazards** (Analyze each principal step for potential hazards)	**Hazard Controls (Develop specific controls for each potential hazard)**

APPENDIX G

Drug and Alcohol

Free Workplace

Drug and Alcohol Free Workplace

It is the policy of the Corporation to maintain and abide by a workplace that is free of illegal drug and alcohol abuse. To ensure that the objectives of our policy are met, the Corporation has implemented the following substance abuse/drug free workplace program which applies to all employees.

In circumstances where an employee is subject to drug and alcohol testing regulations as set forth by the U.S. Department of Transportation (US DOT), the Corporation will comply with all applicable federal laws and regulations as required by 49 CFR Part 40 and any other applicable regulations established by an individual US DOT Agency.

1. When on Company premises or project work sites, conducting Company-related work, or operating a Company vehicle, employees are prohibited from:

    a. the use, possession, sale, purchase manufacture, or distribution of illegal drugs and narcotics (including drug paraphernalia);

    b. being under the influence of alcohol or an illegal drug as defined by this policy; and

    c. possession or consumption of alcohol.

2. The presence of any detectable amount of any illegal drug, illegal controlled substance, or alcohol in an employee's body system while on Company premises or project work sites, conducting Company-related work, or operating a Company vehicle is prohibited.

3. In addition, employees are prohibited from the off-premises use of alcohol and possession, use, or sale of illegal drugs when such activities adversely affect job performance, job safety, or the Corporation's reputation in the community.

4. The Company will not employ alcohol or drug abusers whose current use of such substances would adversely affect their ability to safely and effectively perform their job duties.

5. The Company will also not allow any employee to perform their duties while taking prescribed drugs that are adversely affecting the employee's ability to safely and effectively perform their job duties. Employees must consult with their doctor about the medications' effect on their fitness for duty and ability to work safely, and promptly disclose any work restrictions to their supervisor or the Human Resource Department. Employees taking a prescribed medication must carry it in the container labeled by a licensed pharmacist.

6. Any illegal drugs or drug paraphernalia will be turned over to an appropriate law enforcement agency.

7. Company property, equipment and containers are subject to search and surveillance at all times.

8. Supervisors should report immediately to the Managing Principals or Human Resource Manager any action or behavior by an employee which demonstrates an unusual behavior pattern. Supervisors should report immediately to the Managing Principals or Human Resource Manager any action or behavior by an employee which demonstrates an unusual behavior pattern that may constitute reasonable suspicion. Reasonable suspicion must be based on specific, contemporaneous personal observations the supervisor can articulate concerning the employee's appearance, behavior, speech, body odor, chronic effects or withdrawal effects.

9. The Company retains the right to require the following drug/alcohol testing at their discretion and in accordance and compliance with all applicable laws and regulations:

a. Testing for Cause/Reasonable Suspicion: Employees may be tested for cause for illegal drugs, substances, and alcohol when a reasonable suspicion exists that the employee appears to be under the influence of illegal drugs, substances, or alcohol.

b. Follow-up/MRO Directed Testing: After a positive test, employees are subject to unannounced testing for illegal drugs, substances and alcohol as directed.

c. Post-Accident/Incident Testing: Employees may be subject to testing when they cause or contribute to accidents that seriously damage a Corporation vehicle, machinery, equipment, or property and/or result in an injury to themselves or another employee, in circumstances where drug or alcohol use could have reasonably contributed to the incident, as the test results will be utilized as a tool to evaluate the root cause of the incident. In any of these instances, the investigation and subsequent testing must take place within three (3) hours following the accident, if not sooner. *Under no circumstances will the employee be allowed to drive themselves to the testing facility.*

d. Project-related Initial/Random/Periodic Testing: Employees may be required to submit to drug testing prior to assignment to certain projects at the client's request. Furthermore, employees may be required to submit to random drug testing throughout the duration of an assignment to certain projects at the client's request.

10. Collection and Testing Procedures

a. Employees subject to drug and alcohol testing shall be tested at a Company designated facility and directed to provide specimens; specimens shall be collected and tested by trained technicians or certified laboratories using approved collection and testing devices. The facility shall screen all specimens and confirm all positive screens. There shall be a chain of custody from the time specimens are collected through testing and storage. For purposes of this Policy, tests generated by law enforcement or medical providers may be considered by the Company as compliant with this policy.

b. Any employee who attempts to introduce a substituted or altered specimen, refuses to cooperate in a drug or alcohol test, and/or engages in any conduct to obstruct the drug test, shall be subject to disciplinary action, up to and including termination.

c. Typically, testing will include an alcohol screen and a ten to fourteen-panel urine drug screen which may consist of the following: Amphetamines, Barbiturates, Benzodiazepines, Buprenorphine, Cocaine, EDDP (Methadone Metabolite), Marijuana, Methadone, Methamphetamine, Ecstasy, Methaqualone, Opioids/Opiates, Oxycodone, Phencyclidine, Propoxyphene. The company reserves the right to change the drug screen at any time without notice.

d. The Medical Review Officer "MRO" will first inform an employee with positive results with a reasonable opportunity to rebut or explain the results. After speaking with the employee, the MRO will notify the Designated Employer Representative ("DER") within the Corporation's Human Resource Department of the positive result. Employees with positive test results may also ask the MRO to have their specimen sent to another certified laboratory of their choice to be tested at the employee's own expense. Such requests must be made in writing within 5 working days of notice of test results. If the second facility fails to find any evidence of drug use in the split specimen, the employee will be treated as passing the test.

11. If a substance abuse test result is positive, the employee will be provided with the following options:

a. Re-test: The employee may request to have their specimen sent to another certified laboratory of their choice to be tested at their own expense. Such requests must be made in writing within 5 working days of notice of test results.

b. Leave of Absence: An employee may request a leave of absence to undertake rehabilitation treatment. The employee will not be permitted to return to work until certification is presented to the Human Resource Manager that the employee is capable of performing his job. Failure to cooperate with an agreed upon treatment plan may result in discipline, up to and including termination. Leaves of absences will be assigned in accordance with current Corporate Policy. Taking a leave of absence or providing a medical certification does not insulate an employee from the imposition of discipline for violations of this or other Corporation policies.

c. Medical Certification: The employee may provide a doctor's note confirming a valid medical explanation of this result. If an employee requires the lawful possession and use of prescribed medications during work, and such use may affect their ability to perform their work, they must disclose any work restrictions to the Human Resource Department so that it can be determined whether you are able to perform the essential functions of your job safely and properly.

12. Employees will be subject to disciplinary action, up to and including termination, for violations of this policy.

13. Confidentiality

a. Information and records relating to positive test results, drug and alcohol dependencies and legitimate medical explanations provided to the MRO shall be kept confidential to the extent required by law. Such records and information may be disclosed among managers and supervisors on a need-to-know basis and may also be disclosed where relevant to a grievance, charge, claim or other legal proceeding initiated by or on behalf of an employee or applicant.

APPENDIX H

Automobile Safety Policy

Tectonic
PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.

Automobile Use

It is the policy of the Corporation to provide some vehicles for business use, to allow employees to drive only on Corporation business, and to reimburse employees for business use of personal vehicles according to the guidelines below. However, use of Corporation vehicles in no way relieves the employees of the condition of employment requiring employees to have their own vehicle to perform their work.

1. Employees may not drive vehicles for Corporation business without the prior approval of their supervisor and signing out the vehicle. Before approving a driver, the Corporation will check the employee's driving record, verify the existence of a valid driver's license, and make sure the employee is eligible for coverage under any applicable Corporation insurance. It is the employee's responsibility to notify their supervisor if their license has been suspended or revoked.

2. Employees holding jobs designated as requiring regular driving for business as a condition of employment must be able to meet the driver approval standards of this policy at all times. In addition, such employees must inform their supervisors of any changes that may affect their ability to meet the standards of this policy. For all other jobs, driving is considered only an incidental function of the position.

3. Employees who are required to drive for business as a condition of employment must pass a defensive driving (6-hour) course with 60 days of commencement of employment, and once every three years thereafter.

4. Corporation vehicles will be assigned to those departments which have demonstrated a continuing need for them. Additional vehicles are maintained as needed. Rental cars also may be used by employees traveling out-of-town on Corporation business, subject to approval as previously discussed.

5. Employees who need continued daily transportation in the course of their normal work may be assigned a Corporation vehicle for their use. All other employees needing transportation for Corporation business if available may use vehicles assigned to their department or those drawn from the motor pool. As a last alternative, when no Corporation vehicles are available, employees shall use their own vehicles for business purposes.

6. Employees who drive a vehicle on Corporation business must, in addition to meeting the approval requirements above, exercise due diligence to drive safely and to maintain the security of the vehicle and its contents. Drivers also must make sure that the vehicle meets any Corporation or legal standards for insurance, maintenance, and safety. Employees are also responsible for all driving infractions, tickets fines, claims, litigation, and settlements as a result of their driving.

7. Employees are not permitted, under any circumstances, to operate a Corporation vehicle, or a personal vehicle for Corporation business, when any physical or mental impairment causes the employee to be unable to drive safely. This prohibition includes, but is not limited to, circumstances in which the employee is temporarily unable to operate a vehicle safely or legally because of illness, medication, or intoxication.

8. Employees cannot use Corporation vehicles for non-business purposes. Corporation's vehicles are not loaned to employees for personal use.

9. Employees driving on Corporation business may claim reimbursement for parking fees and tolls actually incurred. In addition, employees driving Corporation vehicles may claim reimbursement for gasoline and other expenses directly incurred for business purposes. Employees using a Corporation-supplied car phone must keep a log to substantiate its business usage. All requests for reimbursement must be submitted on an expense statement.
10. Employees who use their personal vehicle for approved business purposes will receive a per mile allowance. This allowance is to compensate for the cost of gasoline, oil, depreciation, and insurance.

11. All Corporation vehicles shall be signed out on a daily basis and returned to the engineering office every night, unless vehicle is specifically assigned to a project. There are no vehicles assigned to any employee on a long-term basis, with the exception of supervisors. There may be isolated occasions as determined by the employee's supervisor on a

case-by-case basis in which a vehicle may be taken home due to the location of the field assignment. However, vehicles shall not be driven for any personal use. However, all vehicles shall be returned to the designated office on the weekends.

12. A log must be maintained of mileage driven by each project, both for Corporation vehicles and employee vehicles in which reimbursement for mileage is requested.

13. All corporation vehicles have their own Mobile credit card. Each employee will need a 4 digit pin number which can be obtained by individually calling the accounting department to obtain their pin number. You can only fill up corporation vehicles at Mobile stations and along with the credit card you will be required to enter at the pump, or at the cashier; your pin number and the vehicles odometer reading. Each vehicle will be monitored for gas usage and mileage driven. The vehicle card is kept with the individual vehicle clipboard and each user is responsible to maintain pin number records.

14. The Corporation's insurance company requires that we submit a copy of all employees' drivers' license number, in order for them to perform a review of their driving record. Your driving records can impact our insurance rates, and could affect your ability to utilize company vehicles. This review will be updated by the insurance company on a yearly basis, so the employee shall drive with caution, and exercise good judgement not only when driving company vehicles. These good driving skills should be followed at all times, as your overall driving records are used as a basis for the insurance companies risk evaluation. Anyone that has been identified by the insurance company as a potential risk will be individually notified as to the findings, and may be restricted from using the Corporation vehicles. Therefore, we require all employees to drive with caution, adhering to all driving rules and regulations.

15. Employees must report any accident, theft, or damage involving a Corporation vehicle or a personal vehicle used on Corporation business to their supervisor and Human Resource Manager, regardless of the extent of damage or lack of injuries. Employees are expected to cooperate fully with authorities in the event of an accident. However, they should not make any statements other than direct reply to questions of investigating officers.

16. The following are the requirements for reporting an accident involving any company vehicle.

    a. Get all details of other driver(s) involved (if applicable) - drivers name and license number, insurance company, type, make and model of vehicle, etc.

    b. Determine in which police district and municipality the accident occurred, obtain the officers name and arrange to get a copy of the police report.

    c. All accidents shall be reported the day it occurs or if not possible the morning of the proceeding work day, to either your supervisor or Human Resource Manager.

    d. The information requested in Items A and B, and a written and graphic description of the accident shall be provided no later than the next day after the accident occurred. This employee accident report shall be dated and signed by the employee.

<u>Corporate Fleet Management</u>

Tectonic recognizes that the safe and economical operation of assigned company vehicles can only be achieved by developing within each driver a personal acceptance for the responsibility of safe vehicle operations.

The vehicle purchase price, operating expenses and insurance costs are a substantial investment on the part of the Corporation. It is the objective of this policy to ensure the safe and efficient operation of Corporate vehicles.

A driver's license investigation will be performed by Tectonic as part of any position offer and prior to the hiring of any employee. The applicant shall provide written authorization allowing Tectonic to check their driving record. If the applicant does not allow this review or does not meet the criteria below, they will not be permitted to drive any corporate vehicle while employed by Tectonic.

A. General Policies

1. The use of any Corporate vehicle is a privilege, not a right, which will be permitted to employees who demonstrate:

   a. A valid U.S. driver's license and a driving history meeting corporate and insurance company requirements;

   b. An ability to operate and maintain the vehicle in a neat, clean and safe fashion;

2. All occupants of any Corporate vehicle shall wear safety belts.

3. Only hands free cellular phones shall be used while driving any company vehicle.

4. It is recommended that all drivers of company vehicles attend a defensive driving class.

5. Employees using personal vehicles in lieu of a company vehicle to perform company assignments shall possess at least the minimum state liability insurance coverage.

6. Vehicles shall be in a safe mechanical condition. Any mechanical problems shall be immediately reported to the employee's supervisor. Any vehicle requiring service/repair that could impact the safety of the vehicle and its occupants shall not be used.

7. No vehicle shall be operated by anyone in a mentally or physically impaired condition.

8. All traffic laws and signals shall be obeyed.

B. Employee Driving Record

1. In conjunction with being offered a position with the Corporation, every person shall be subject to a review of their Motor Vehicle record, employment history and personal references.
2. Any person showing a serious violation in their record such as "Driving While Intoxicated", "Driving While Impaired", a history of accidents, speeding, or two or more moving violations within three years will be prohibited from using a company vehicle until such time that the driver's record meets Corporate approval.

3. The driving performance evaluation criteria are as follows:

	Points
a. Major Moving Violations (within last 3 years)	
○ Hit and Run; leaving the scene of an accident	7 each
○ Any felony, homicide or manslaughter involving use of motor vehicles	7 each
○ Driving under the influence of alcohol or drugs	6 each
○ License suspension or revocation	6 each
○ Racing or excessive speeds (20 mph over limits)	4 each
○ Reckless, negligent or careless driving	4 each
○ Implied consent refusal (refusal to take blood Alcohol test)	3 each
○ Speeding	2 each
b. Number of Accidents (within last 3 years)	
○ None	0 each
○ 1	1 each
○ 2	2 each

- 3 — 3 each

c. Other Moving Violations (within last 3 years)

- None — 0
- Seatbelt Violation — 2 each
- Others — 1 each

d. Grading

Best	0-2	Safe Driver
Average	3-4	Continued driving privileges
Questionable	5-6	1-year probationary period
Poor	>6	Loss of driving privileges

4. Any person convicted of such violations while employed by the Corporation shall immediately be prohibited from using any Corporate vehicle and subject to further disciplinary action.

5. As a condition of employment, the Corporation will perform review of each employee's Motor Vehicle Records at least annually. Changes in driving privileges may be made at that time.

6. Any employee less than 21 years of age shall not be allowed to drive Corporation vehicles.

7. Unless otherwise provided with written authorization, only a qualified employee is authorized to operate a Corporation vehicle. The Corporate vehicles shall only be used for work related tasks. The Corporate vehicles are not to be used for non-work related tasks or personal business for any reason without approval by Corporate Management.

8. All employees shall provide a copy of a current, valid driver's license from the state of their permanent assignment prior to use of a Corporate vehicle.

C. Accident Policy

The prevention of accidents is important for numerous reasons. There is the potential for serious injury to employees and the general public. There is often significant loss of use of the vehicle during repairs. Injury may result in lost work time. Repair costs and increased insurance costs are significant.

If an accident should occur, the following procedures shall be followed:

1. If an employee is involved in an accident with a Corporate vehicle, after determining if any injured people require assistance, notify emergency services (911), move to the side of the road, tend to the injured. Before departing the accident scene, complete the accident information packet in the glove box of the vehicle to the greatest degree possible.

2. As soon as practicable and not more than 12 hours after the time of the accident, the employee shall call their supervisor and the Corporate office to inform the Human Resource Dept. of the event.

3. Each employee involved in an accident shall submit a written version of the event to his supervisor within one workday of the accident. The supervisor shall review, sign and forward the report to Human Resources within 3 workdays. Failure to comply may result in disciplinary action.

4. Within 30 days of the event, a three member Corporate panel will review all available information pertaining to the accident. The panel shall determine if the event was a preventable accident based on the current "National Safety Council Guidelines". The panel shall consist of 3 randomly selected from a pool of volunteer employees covering a range of titles, departments and offices.

5. As a first occurrence, if an accident is deemed to have been preventable, the employee will be required to attend an approved defensive driving class. This shall be one condition weighed in the resumption of corporate driving privileges.

6. Subsequent accidents deemed preventable and/or excessive moving violations may result in loss of driving privileges, disciplinary action and/or financial penalty where feasible.

D. Vehicle Maintenance

1. The Corporation delegates the responsibility of performing a regular and not to exceed monthly review of vehicle conditions and maintenance to the supervisor of the department and/or office to which the vehicle has been assigned. The supervisor must take appropriate action to maintain the vehicles in a safe and reliable condition.

2. Any problem discovered while using a company vehicle should be immediately reported in writing to the employee's Supervisor.

3. A vehicle with any safety and/or significant operational problems shall be taken out of service and repaired prior to further use.

4. Insurance certificates, registration, and accident information packets shall be kept in the glove box of all vehicles.

5. The employee that uses the vehicle is responsible for removing trash, loose materials, excessive mud, etc. The loss of driving privileges may result, if the vehicle is not returned in a clean and maintained condition on a daily basis.

APPENDIX I

Construction Site Safety Program

TECTONIC
CONSTRUCTION SITE SAFETY PROGRAM

Tectonic Engineering and Surveying Consultants, PC provides engineering services, surveying services, and inspection services for construction activities. Although Tectonic does not perform actual construction activities, Tectonic employees do observe active construction activities and are therefore exposed to the hazards associated with those tasks. Tectonic employees are typically considered a visitor to the site and therefore Tectonic does not control the site or site safety. Site safety is the responsibility of the Project Owner and Contractor working for the Project Owner, to ensure that their employees and the employees of their Subcontractors comply with state, local and OSHA codes and regulations. The Project owner or its contractors shall provide all necessary competent persons to perform the required inspections of site hazards including scaffolding, excavations and cranes prior to Tectonic employees exposing themselves to site hazards. In order to stay safe on construction sites, Tectonic employees and Tectonic's subconsultant and subcontractor employees shall be trained on the potential hazards at a site including contractor safety and personal safety responsibilities. Tectonic employees shall comply with all state, local and OSHA codes and regulations as well as any project site specific safety requirements.

Tectonic personnel working at construction sites shall receive OSHA 10-hour construction site safety training as well as task specific safety and on-site training prior to being assigned to construction inspection activities. Employees with questions or concerns regarding construction site safety should contact their Tectonic supervisor as soon as possible. Employees are expected to follow all safety OSHA regulations and site-specific safety rules and procedures when on sites not controlled by Tectonic.

Information within this Construction Site Safety Program is provided as general information for employee awareness of typical hazards encountered on construction sites. Determination of full compliance with state, local & OSHA regulations requires the review of said regulations, including (29 CFR 1926) promulgated by the Occupational Safety and Health Administration, along with the texts of the Standards for General Industry that have been identified by OSHA. Copies of these applicable Safety Codes & Regulations are available for reference upon request to your project manager, corporate Safety Officer, and/or Human Resources Department.

1.0 General Project Site Safety & Health Provisions

The following general Health and Safety requirements shall apply:

- No employee shall undertake a job until that person has received adequate training.
- All employees shall be trained on every potential hazard that they could be exposed to and how to protect themselves.
- No employee shall work under conditions which are unsanitary, dangerous or hazardous to their health.
- Only qualified trained personnel are permitted to operate machinery or equipment. Tectonic employees are prohibited from operating contractors equipment.

- Emergency procedures and numbers shall be posted and reviewed with employees.
- Employees working in areas where there is a possible danger of head injury, excessive noise exposure, or potential eye and face injury shall be protected by Personal Protection Equipment (PPE).
- Tectonic employees will be aware of all activities and site conditions around them for potential hazards.

2.0 Maintenance and Protection of Traffic (MPT)

If assigned to a project requiring a Maintenance & Protection of Traffic (MPT) plan, all employees assigned to the project shall become familiarized with the contractor's MPT plan for the project. At least one individual from Tectonic or its Subconsultants shall have formal training in MPT for projects involving work on public highways. Tectonic shall verify that the contractor's MPT plan complies with the requirements of the contract documents and the Manual for Uniform Control of Traffic Devices (MUCTD). Tectonic's designated MPT representative shall verify that the contractor implements the MPT operation in accordance with his approved plan.

3.0 Fire Prevention and Control

Each employee shall comply with the fire prevention procedures. All work shall be done in accordance with the Occupational Safety and Health Standards for Construction, (29 CFR 1926) Subpart "F". Specifically, appropriate firefighting equipment must be maintained on site by the contractor and be in operating condition and accessible at all times. Sites shall be kept free from accumulation of unnecessary combustible materials, flammables conspicuously labeled, exits unobstructed, and areas properly ventilated. There shall be no unauthorized open fires and smoking is prohibited on site except at those location designated by the contractor.

4.0 Materials Handling, Storage, Use & Disposal

All materials on a construction site shall be stored, used, and disposed of in accordance with the Occupational Safety & Health Standards for Construction (29 CFR 1926) Subpart "H". Specifically, all materials must be secured to prevent sliding, falling or collapse. Maximum load limits of storage unit/shelves must be conspicuously posted. Non-compatible materials shall be segregated, work areas will be kept free from accumulation of materials that constitute hazards, waste material will be removed as work progresses, and waste and excess material shall be disposed of according to local regulations. Tectonic employees should be aware of stored materials and should not disturb those materials.

5.0 Tools - Hand & Power

In order to perform our services, Tectonic employees will sometimes need to use hand tools, power tools, and

measuring devices to perform its services including hammers, wrenches and drills. All tools used by Tectonic and its Subconsultants and subcontractors shall be handled, operated and maintained in accordance with the Occupational Safety & Health Standards for Construction (29 CFR 1926) Subpart "I". Specifically, project managers shall not issue or permit the use of unsafe hand or power tools. All hand and power tools shall be maintained in a safe condition. Manufacturer's safe operating procedures and guarding regulations must be followed. Power tools must be equipped with a momentary "on-off" control or a constant pressure switch that will shut off when pressure is released, with the exception of tools listed in 1926.300(d) (a). All corded electric power tools will be properly grounded and protected by a ground fault circuit interrupter (GFCI) device as per Tectonic's Assured Grounding Protection Program.

6.0 Welding & Cutting

Tectonic does not perform welding and cutting services, but Tectonic does have construction welding inspectors who are required to observe welding operations. Prior to and during the inspection of any welding or cutting activities by Tectonic employees, the Contractor and its Subcontractors shall ensure that all welding and cutting operations are conducted in accordance with Occupational Safety & Health Standards for Construction (29 CFR 1926) Subpart "J". Specifically, no welding or cutting in the presence of flammable compounds will be conducted, welding and cutting cables shall be insulated, ground connections will be electrically adequate for required current, and the area will be sufficiently ventilated. Suitable fire extinguishing equipment is to be immediately available and a fire watch should be established. When required, hot work permits will be utilized by the contractor. Additionally, Tectonic employees performing welding inspection should be trained on Tectonic's Cadmium and Hexavalent Chromium Safety Program.

7.0 Floor & Wall Openings

Fall hazards are the most dangerous hazard on most job sites. Unless a contractor requires full fall protection on a site, the Contractor and their Subcontractors are required to ensure that all floor and wall openings are identified and protective measures are implemented in accordance with Occupational Safety & Health Standards for Construction (29 CFR 1926) Subpart "M". Specifically, every floor or wall opening shall be guarded or covered as per 1910.23(a) and (b). An area into which objects could fall or a person could accidentally walk shall be barricaded, and employees will be prohibited from entering the area. Contractor shall determine if the walking/working surfaces on which employees are to work have the strength and structural integrity to support employees safely. Employees working on, at, above, or near floor or wall openings shall be protected from falling by the use of a guardrail system, a safety net system, or a personal fall arrest system. Tectonic employees should look for and be aware of floor and wall openings that are not covered or protected as required and avoid those areas on a site.

8.0 Cranes, Derricks, Hoists, Elevators & Conveyors

Tectonic does not use cranes, derricks, hoists, elevators or conveyors however Tectonic employees can encounter these hazardous pieces of equipment on project sites. The site Contractor and their Subcontractors shall ensure that

the erection, operation, maintenance & inspection of all drill rigs, cranes, derricks, hoists, elevators and conveyors is in accordance with Occupational Safety & Health Standards for Construction (29 CFR 1926) Subpart "N". Specifically, the contractor shall comply with the manufacturer's specifications and limitations, or limitations shall be based on the determinations of a qualified engineer and such determinations shall be documented and recorded. Machinery and equipment must be inspected prior to use to make sure that it is in a safe operating condition. Rated load capacities, operating speeds, hazard warnings and use instructions shall be conspicuously posted. An accessible fire extinguisher shall be available at all operator stations, and personal protective equipment shall be worn. Hand signals to operators shall be those prescribed by the applicable ANSI standard for the type of equipment in use. The use of drill rigs, cranes, derricks, etc. shall not be allowed within 10 feet of energized overhead power lines or within a distance as required by an agency having jurisdiction if more stringent.

Tectonic employees should be aware of these pieces of equipment on project sites. If possible Tectonic employees should stay as far away as possible from these pieces of equipment in case they drop all or portions of their load or the machine partially or totally collapses. If employees cannot stay out of the swing radius of these machines, Tectonic employees need to be aware of hoisted and elevated loads and listen for warning signals and alerts.

9.0 Excavations

Tectonic does not perform excavations or trenching however it may be necessary for Tectonic employees to inspect various multiemployer construction activities in an open excavation. Prior to Tectonic and Subconsultant employees entering any excavations, the site General Contractor and it's Subcontractors responsible for the excavation shall provide a competent person who shall inspect and verify that all excavation activities are conducted safely and open excavations maintained and protected in accordance with Occupational Safety & Health Standards for Construction (29 CFR 1926) Subpart "P". While open, excavations shall be protected, supported or removed as necessary to safeguard employees. Tectonic employees shall verify with the Site General Contractor that a competent person is present on site and verify with the contractor's competent person that the excavation is safe to enter. If no competent person is present, Tectonic employees shall not enter or approach a site excavation.

Tectonic employees shall be aware that the Contractor shall ensure excavation walls are sloped at safe geometrics in accordance with OSHA regulations for the soil type being excavated or the excavation shall be braced and shored in accordance with the requirements specified by the contractor's licensed professional engineers. Surface encumbrances located so as to create a hazard shall be removed or supported, as necessary. Structural ramps used as a means of access or egress shall be designed by a competent person, and constructed in accordance with the design. Where the stability of adjoining buildings, walls, or other structures is endangered, support systems shall be provided to ensure the stability of such structures. Protective systems shall be in place to protect employees from the hazard of cave-ins. Depending on depth, the atmosphere in an excavation shall be tested by the contractor's competent person before employees enter to determine if hazards exists. Tectonic and Subconsultant personnel shall be properly trained for confined space entry when working within excavations that fall under the classification "confined space, " and follow all site procedures and permit requirements for entering a confined space.

Additionally, contractors shall contact utility companies prior to excavating work in order to obtain mark-outs of existing utilities. The location of underground utility installations shall be determined prior to opening an

excavation.

10.0 Concrete & Masonry Construction

Prior to and during the inspection of concrete and masonry work by Tectonic and Subconsultant employees, the Contractors and Subcontractors shall ensure that all concrete and masonry construction activities are conducted in accordance with Occupational Safety & Health Standards for Construction (29 CFR 1926) Subpart "Q". Specifically, no construction loads shall be placed on a concrete structure or portion of a concrete structure unless the contractor determines that the structure or portion of the structure is capable of supporting the loads. Cast-in-place concrete formwork shall be designed, fabricated, erected and supported so that it is capable of supporting without failure all vertical and lateral loads that may reasonably be anticipated to be applied. Forms and shores shall not be removed until the contractor determines that the concrete has gained sufficient strength to support its weight. Pre-cast concrete shall be adequately supported to prevent overturning and collapse. Lift slab operations shall be designed and planned by the contractor's licensed Professional Engineer and should include provisions for ensuring stability. A limited access zone shall be established whenever a masonry wall is being constructed, and shall be restricted to entry by employees actively engaged in construction. The limited access zone shall remain in place until the wall is adequately supported to prevent overturning and collapse. Personal protective equipment shall be worn accordingly.

11.0 Steel Erection

Prior to and during the inspection of steel erection activities by Tectonic and Subconsultant employees, the Contractors and Subcontractors shall ensure that all structural steel assemblies be conducted in accordance with Occupational Safety & Health Standards for Construction (29 CFR 1926) Subpart "R". Tectonic and Subconsultant personnel shall be trained on Fall Protection as per Tectonic's Fall Protection Program and use OSHA approved safety harnesses and tie offs when working at elevated locations. Specifically, structural stability shall be maintained at all times during the erection process. Commencement of steel erection shall not begin unless written notice is received that the concrete in the footings, piers and walls, or the mortar in the masonry walls, has attained the sufficient compressive design strength, on the basis of an appropriate ASTM standard test method. Adequate access roads into and through the site for the safe delivery and movement of equipment and material must be provided. Steel erection equipment shall be visually inspected prior to each shift for deficiencies. If any deficiency is identified, an immediate determination shall be made as to whether the deficiency constitutes a hazard. If determined to constitute a hazard, equipment shall be removed from service. The contractor shall ensure that workers are using required safety harnesses and that safety equipment is maintained in good working condition. The contractor shall be responsible for providing a rigging plan prior to construction, indicating equipment type and capacity, placement of equipment, and communication procedures between operator and workers.

12.0 Underground Construction, Tunnels, Caissons, Cofferdams & Compressed Air

Prior to Tectonic and Subconsultant employees accessing underground construction openings, the Contractors and

Subcontractors shall ensure that all underground activities, including the investigation and installation of tunnels, caissons, cofferdams and compressed air, are constructed in accordance with Occupational Safety & Health Standards for Construction (29 CFR 1926) Subpart "S". Specifically, all employees shall be instructed in the recognition and avoidance of hazards associated with underground construction activities. A safe means of access and egress to all work stations shall be provided and maintained. Access to all openings shall be controlled to prevent unauthorized entry underground, and completed or unused sections of underground facilities shall be barricaded and warning signs posted. The atmosphere in work areas shall be tested and ventilation requirements adhered to. Ground stability shall be ensured and inspected frequently. Means of direct communication shall be established and maintained, and each employee shall have emergency lighting for escape. Warning signs for evacuation of employees shall be developed and posted. Any code of signals used shall be conspicuously posted. A designated person shall be on duty above ground whenever an employee is working underground, with rescue service arrangements made in advance. Firefighting equipment should be available at all times. Contractor shall ensure all workers have received required training and certification relevant to confined space entry. Tectonic and Subconsultant personnel shall be properly trained for confined space entry when working within areas that fall under the classification “confined space”.

13.0 Demolition

Prior to and during the inspection of demolition work by Tectonic and Subconsultant employees, the Contractors and Subcontractors shall ensure that all preparatory operations, removal of materials and protective measures for demolition activities are conducted in accordance with Occupational Safety & Health Standards for Construction (29 CFR 1926) Subpart "T". Specifically, prior to permitting the start of demolition operations, an engineering survey shall be made of the structure and any adjacent structures to determine the condition of the framing, floors and walls, and the possibility of unplanned collapse of any portion of the structures. It should be determined if any type of hazardous materials or dangerous substances are present. If the presence of such materials or substances is found, purging shall be performed and the hazard eliminated before demolition is started.

Only those stairways, passageways, and ladders designated as means of access to the structure of a building shall be used. Other access ways shall be entirely closed at all times. Only those workers necessary for the performance of the operation shall be permitted in the area.

14.0 Blasting & Use of Explosives

Prior to and during the inspection of blasting operations by Tectonic and Subconsultant employees, the Contractors and Subcontractors shall ensure that all handling, use and storage of explosives, involving blasting procedures, is conducted in accordance with Occupational Safety & Health Standards for Construction (29 CFR 1926) Subpart "U". Specifically, only authorized and qualified persons shall be permitted to handle and use explosives. Explosives shall be accounted for at all times and explosives not being used shall be kept in a locked magazine, unavailable to unauthorized personnel. An inventory and use record of all explosives shall be maintained.

Employees conducting blasting operations shall use every reasonable precaution including, but not limited to, visual and audible warning signals, flags, and/or barricades to ensure safety. Fires, flame, or heat producing

devices shall be prohibited in or near explosives. When possible, blasting operation above ground shall be conducted between sun-up and sun-down. Blasting in the proximity of utility services or other services shall not be carried out until respective owners have been notified and measures for safe control have been taken. When blasting in congested areas, the blaster shall take special precautions to control the throw of fragments. Adequate warning signs shall be prominently displayed and maintained at all approaches to the blast area.

15.0 Rollover Protective Structures; Overhead Protection

Prior to Tectonic and Subconsultant employees accessing or entering any work area, the Contractors and Subcontractors shall ensure that all required equipment is operated with proper rollover and overhead protective structures demonstrating minimum performance criteria in accordance with Occupational Safety & Health Standards for Construction (29 CFR 1926) Subpart "W". Specifically, rollover protective structures and supporting attachments shall meet the minimum performance criteria detailed in 1926.1001 and 1926.1002, as applicable, or shall be designed, fabricated, and installed in a manner which will minimize the likelihood of a complete overturn.

APPENDIX J

Respiratory Protection Program

Tectonic Engineering and Surveying Consultants, P.C.

Written Program

For

Respiratory Protection

PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.

OSHA 1910.134

Respiratory Protection Plan

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Respiratory Protection Program

I. POLICY

It is the policy of Tectonic Engineering & Surveying Consultants, P.C. (*Tectonic*) to protect its employees from hazardous atmosphere through a comprehensive program of recognition; evaluation; engineering, administrative and work practice controls; and personal protective equipment, including respirators. Hazard elimination and engineering and work practice controls shall be employed to control employee exposure to within allowable exposure limits as much as possible. Respirators and other personal protective equipment shall be provided to affected employees under this program. The company is committed to full compliance with applicable federal and state regulations pertaining to employee respiratory protection.

II. OBJECTIVE

This document is Tectonic's Respiratory Protection Program and is designed to protect employees by establishing accepted practices for respirator use, providing guidelines for training and respirator selection, and explaining proper storage, use and care of respirators. This program also serves to help the company and its employees comply with Occupational Safety and Health Administration (OSHA) respiratory protection requirements as found in 29 CFR 1910.134.

III. SCOPE

This program applies to all Tectonic employees who need to wear a respirator to perform assigned duties. Examples of chemicals or operations that pose potential respiratory hazards and potentially involve respirator use are:

Potential Respiratory Hazards

1. Fugitive dust emissions at an environmental remediation site.
2. Organic vapors (petroleum compounds) encountered during a site investigation or environmental remediation site.
3. Handling petroleum impacted soil samples.
4. Inspection of Lead based paint removal operations
5. Asbestos inspections and air monitoring

Voluntary Use of Respirators

Employees may use disposable filtering facepiece (dust mask) respirators on a Voluntary basis. However, all using them must read and understand Appendix D to Sec. 1910.134 (Mandatory) Information for Employees Using Respirators When Not Required Under the Standard and must sign the form found in ATTACHMENT M of our respiratory protection program.

The Program Administrator will provide all employees who voluntarily choose to wear the above respirators with a copy of Appendix D of the OSHA Respiratory Protection Standard 1910.134. (Appendix D details the requirements for voluntary use of respirators by employees.) Employees who choose to wear a half face piece, negative pressure APR voluntarily must comply with the procedures for medical evaluation, respirator use, fit testing, cleaning, and maintenance and Storage portions of this program.

IV. ASSIGNMENT OF RESPONSIBILITY

A. Employer

Tectonic is responsible for providing respirators to employees when they are necessary for health protection. *Tectonic* will provide respirators that are applicable and suitable for the intended purpose at no charge to affected employees. Any expense associated with training, medical evaluations and respiratory protection equipment will be borne by the company.

B. Program Administrator

The Program Administrator for Tectonic Engineering & Surveying is the Corporate Health and Safety Officer, James Armstrong. The Program Administrator is responsible for administering the respiratory protection program. Duties of the program administrator include:

1. Keeping up with knowledge about respiratory protection and maintaining an awareness of current regulatory requirements and good practices.
2. Identifying work areas, process or tasks that require workers to wear respirators.
3. Evaluating hazards.
4. Selecting respiratory protection options.
5. Monitoring respirator use to ensure that respirators are used in accordance with their specifications.
6. Arranging for and/or conducting training.
7. Ensuring proper storage and maintenance of respiratory protection equipment.
8. Conducting qualitative fit testing with Bitrex.
9. Administering the medical surveillance program.
10. Maintaining records required by the program.
11. Evaluating the program.
12. Updating written program, as needed.

C. Division Vice Presidents & Project Mangers

Division Vice Presidents and Project Managers are responsible for ensuring that the respiratory protection program is implemented in their particular areas. In addition to being knowledgeable about the program requirements for their own protection, project managers must also ensure that the program is understood and followed by the employees under their charge. Duties of the project manager include:

1. Ensuring that employees under their supervision (including new hires) receive appropriate training, fit testing, and annual medical evaluation.
2. Ensuring the availability of appropriate respirators and accessories.
3. Being aware of tasks requiring the use of respiratory protection.
4. Enforcing the proper use of respiratory protection when necessary.
5. Ensuring that respirators are properly cleaned, maintained, and stored according to this program.
6. Ensuring that respirators fit well and do not cause discomfort.
7. Continually monitoring work areas and operations to identify respiratory hazards.
8. Coordinating with the Program Administrator on how to address respiratory hazards or other concerns regarding this program.

D. Employees

Each employee is responsible for wearing his or her respirator when and where required and in the manner in which they are trained. Employees must also:

1. Use the respiratory protection in accordance with the manufacturer's instructions and the training received.
2. Care for and maintain their respirators as instructed, guard them against damage, and store them in a clean, sanitary location.
3. Immediately report any defects in the respiratory protection equipment and whenever there is a respirator malfunction, immediately evacuate to a safe area and report malfunction.
4. Promptly report to the supervisor any symptoms of illness that may be related to respirator usage or exposure to hazardous atmospheres.
5. Report any health concerns related to respirator use or changes in health status to occupational physician.
6. Inform their supervisor or the Program Administrator of any respiratory hazards that they feel are not adequately addressed in the workplace and of any other concerns that they have regarding this program.

V. PROGRAM

A. Hazard Assessment and Respirator Selection

The Program Administrator will select respirators to be used on site, based on the hazards to which workers are exposed and in accordance with the OSHA Respiratory Protection Standard. The Program Administrator will conduct a hazard evaluation for each operation, process, or work area where airborne contaminants may be present in routine operations or during an emergency.

The hazard evaluations shall include:

1. Identification and development of a list of hazardous substances used in the workplace by department or work process.
2. Review of work processes to determine where potential exposures to hazardous substances may occur. This review shall be conducted by surveying the workplace, reviewing the process records, and talking with employees and supervisors.
3. Exposure monitoring to quantify potential hazardous exposures.

The proper type of respirator for the specific hazard involved will be selected in accordance with the manufacturer's instructions (See Attachment D for more additional information on respirators). Selection of the employees and appropriate respiratory protection shall be documented by the Program Administrator (See Attachment E).

B. Updating the Hazard Assessment

The Program Administrator must revise and update the hazard assessment as needed (i.e., any time work process changes may potentially affect exposure). If an employee feels that respiratory protection is needed during a particular activity, s/he is to contact his/her supervisor or the Program Administrator. The Program Administrator will evaluate the potential hazard, and arrange for outside assessment if necessary. The Program Administrator will then communicate the results of that assessment to the employees. If it is determined that respiratory protection is necessary, all other elements of the respiratory protection program will be in effect for those tasks, and the respiratory program will be updated accordingly.

C. Training

The Program Administrator will provide training to respirator users and their supervisors on the contents of the *Tectonic* Respiratory Protection Program and their responsibilities under it, and on the OSHA Respiratory Protection Standard. All affected employees and their supervisors will be trained prior to using a respirator in the workplace. Supervisors will also be trained prior to supervising employees that must wear respirators.

The training course will cover the following topics:

1. The *Tectonic* Respiratory Protection Program;
2. The OSHA Respiratory Protection Standard (29 CFR 1910.134);
3. Respiratory hazards encountered at *Tectonic and Tectonic projects* and their health affects;
4. Proper selection and use of respirators;
5. Limitations of respirators;
6. Respirator donning and user seal (fit) checks;
7. Fit testing;
8. Emergency use procedures;
9. Maintenance and storage; and
10. Medical signs and symptoms limiting the effective use of respirators.

Employees will be retrained annually or as needed (e.g., if they change departments or work processes and need to use a different respirator). Employees must demonstrate their understanding of the topics covered in the training through hands-on exercises and a written test. The Program Administrator will document respirator training and the documentation will include the type, model, and size of respirator for which each employee has been trained and fit tested.

D. NIOSH Certification

All respirators must be certified by the National Institute for Occupational Safety and Health (NIOSH) and shall be used in accordance with the terms of that certification. Also, all filters, cartridges, and canisters must be labeled with the appropriate NIOSH approval label. The label must not be removed or defaced while the respirator is in use.

E. Voluntary Respirator Use

Employees may use disposable filtering facepiece (dust mask) respirators on a Voluntary basis. However, all using them must read and understand Appendix D to Sec. 1910.134 (Mandatory) Information for Employees Using Respirators When Not Required Under the Standard and must sign the form found in ATTACHMENT M of our respiratory protection program.

F. Medical Evaluation

Employees who are either required to wear respirators, or who choose to wear a half face piece, negative pressure APR voluntarily, must pass a medical exam provided by Tectonic before being permitted to wear a respirator on the job. Employees are not permitted to wear respirators until a physician has determined that they are medically able to do so. Any employee refusing the medical evaluation will not be allowed to work in an area requiring respirator use.

A licensed physician at ***OMNI*** Medical Services of Newburgh, New York, where all company medical services are provided, will provide the medical evaluations. Medical evaluation procedures are as follows:

1. The medical evaluation will be conducted using the questionnaire provided in Appendix C of the OSHA Respiratory Protection Standard 1910.134. The Program Administrator will provide a copy of this questionnaire to all employees requiring medical evaluations (See Attachment F for a copy of Appendix C of the OSHA Respiratory Protection Standard. Appendix C is the OSHA Respirator Medical Evaluation Questionnaire).

2. To the extent feasible, the company will provide assistance to employees who are unable to read the questionnaire. When this is not possible, the employee will be sent directly to the physician for medical evaluation.

3. All affected employees will be given a copy of the medical questionnaire to complete, along with a stamped and addressed envelope for mailing the questionnaire to the company physician. Employees will be permitted to complete the questionnaire on company time.

4. Follow-up medical exams will be granted to employees as required by the Standard, and/or as deemed necessary by the evaluating physician.

5. All employees will be granted the opportunity to speak with the physician about their medical evaluation, if they so request.

6. The Program Administrator shall provide the evaluating physician with a copy of this Program, a copy of the OSHA Respiratory Protection Standard, the list of hazardous substances by work area, and the following information about each employee requiring evaluation:

   a. his or her work area or job title;
   b. proposed respirator type and weight;
   c. length of time required to wear respirator;
   d. expected physical work load (light, moderate or heavy);
   e. potential temperature and humidity extremes; and
   f. any additional protective clothing required.

7. Positive pressure air purifying respirators will be provided to employees as required by medical necessity.

8. After an employee has received clearance to wear his or her respirator, additional medical evaluations will be provided under the following circumstances:

   a. The employee reports signs and/or symptoms related to their ability to use the respirator, such as shortness of breath, dizziness, chest pains or wheezing.
   b. The evaluating physician or supervisor informs the Program Administrator that the employee needs to be reevaluated.
   c. Information found during the implementation of this program, including observations made during the fit testing and program evaluation, indicates a need for reevaluation.
   d. A change occurs in workplace conditions that may result in an increased physiological burden on the employee.

A list of *Tectonic* employees currently involved in the Respiratory Protection Program is provided in Attachment E of this program.

All examinations and questionnaires are to remain confidential between the employee and the physician. The Program Administrator will only retain the physician's written recommendations regarding each employee's ability to wear a respirator.

G. Fit Testing

Employees who are required to or who voluntarily wear half-face piece APRs will be fit tested:

1. prior to being allowed to wear any respirator with a tight-fitting face piece;
2. annually; or
3. when there are changes in the employee's physical condition that could affect respiratory fit (e.g., obvious change in body weight, facial scarring, etc.).

Employees will be fit tested with the make, model, and size of respirator that they will actually wear. Employees will be provided with several models and sizes of respirators so that they may find an optimal fit. Fit testing of powered air purifying respirators will be conducted in the negative pressure mode.

The Program Administrator will conduct fit tests in accordance with Appendix A of the OSHA Respiratory Protection Standard 1910.134.

H. General Respirator Use Procedures

Employees will use their respirators under conditions specified in this program, and in accordance with the training they receive on the use of each particular model. In addition, the respirator shall not be used in a manner for which it is not certified by NIOSH or by its manufacturer.

All employees shall conduct user seal checks each time they wear their respirators. Employees shall use either the positive or negative pressure check (depending on which test works best for them) as specified in the OSHA Respiratory Protection Standard.

Positive Pressure Test: This test is performed by closing off the exhalation valve with your hand. Breathe air into the mask. The face fit is satisfactory if some pressure can be built up inside the mask without any air leaking out between the mask and the face of the wearer.

Negative Pressure Test: This test is performed by closing of the inlet openings of the cartridge with the palm of you hand. Some masks may require that the filter holder be removed to seal off the intake valve. Inhale gently so that a vacuum occurs within the face piece. Hold your breath for ten (10) seconds. If the vacuum remains, and no inward leakage is detected, the respirator is fit properly.

All employees shall be permitted to leave the work area to go to the locker room to maintain their respirator for the following reasons:

a. to clean their respirator if it is impeding their ability to work;
b. to change filters or cartridges;
c. to replace parts; or
d. to inspect respirator if it stops functioning as intended.

Employees should notify their supervisor before leaving the area.

Employees are not permitted to wear tight-fitting respirators if they have any condition, such as facial scars, facial hair, or missing dentures that would prevent a proper seal. Employees are not permitted to wear headphones, jewelry, or other items that may interfere with the seal between the face and the face piece.

Before and after each use of a respirator, an employee or immediate supervisor must make an inspection of tightness or connections and the condition of the face piece, headbands, valves, filter holders and filters. Questionable items must be addressed immediately by the supervisor and/or Program Administrator.

I. Air Quality

For supplied-air respirators, only Grade D breathing air shall be used in the cylinders. The Program Administrator will coordinate deliveries of compressed air with the company's vendor and will require the vendor to certify that the air in the cylinders meets the specifications of Grade D breathing air.

The Program Administrator will maintain a minimum air supply of one fully charged replacement cylinder for each SAR unit. In addition, cylinders may be recharged as necessary from the breathing air cascade system located near the respirator storage area.

J. Change Schedules

Respirator cartridges shall be replaced as determined by the Program Administrator, supervisor(s), and manufacturers' recommendations.

K. Cleaning

Respirators are to be regularly cleaned and disinfected at the designated respirator cleaning station. Respirators issued for the exclusive use of an employee shall be cleaned as often as necessary. Atmosphere-supplying and emergency use respirators are to be cleaned and disinfected after each use.

The following procedure is to be used when cleaning and disinfecting reusable respirators:

1. Disassemble respirator, removing any filters, canisters, or cartridges.
2. Wash the face piece and all associated parts (except cartridges and elastic headbands) in an approved cleaner-disinfectant solution in warm water (about 120 degrees Fahrenheit). Do not use organic solvents. Use a hand brush to remove dirt.
3. Rinse completely in clean, warm water.
4. Disinfect all facial contact areas by spraying the respirator with an approved disinfectant.
5. Air dry in a clean area.
6. Reassemble the respirator and replace any defective parts. Insert new filters or cartridges and make sure the seal is tight.
7. Place respirator in a clean, dry plastic bag or other airtight container.

The Program Administrator will ensure an adequate supply of appropriate cleaning and disinfection materials at the cleaning station. If supplies are low, employees should notify their supervisor, who will inform the Program Administrator.

L. Maintenance

Respirators are to be properly maintained at all times in order to ensure that they function properly and protect employees adequately. Maintenance involves a thorough visual inspection for cleanliness and defects. Worn or deteriorated parts will be replaced prior to use. No components will be replaced or repairs made beyond those recommended by the manufacturer. Repairs to regulators or alarms of atmosphere-supplying respirators will be conducted by the manufacturer.

1. All respirators shall be inspected routinely before and after each use. Before each use, employees should check to see if there is any deterioration or damage to the mask. This includes a check for
   a. Excessive dirt
   b. Cracks, tears, or holes
   c. Distortion from improper storage
   d. Cracked, scratched or loose lens (for full face-type)
   e. Broken or missing mounting clips
   f. Deterioration of rubber straps, hoses, nose clips, etc.
   g. Inhalation/exhalation valve damage
   h. Filter/canister and housing damage: gaskets, worn threads,
   i. housing, dents, corrosion, expired or spent.

2. Employees should never alter or repair a respirator. Only replacement parts from the manufacturer of the equipment can be used.

3. Respirators kept for emergency use shall be inspected after each use, and at least monthly by the Program Administrator to assure that they are in satisfactory working order

4. A record shall be kept of inspection dates and findings for respirators maintained for emergency use.

5. Employees are permitted to leave their work area to perform limited maintenance on their respirator in a designated area that is free of respiratory hazards. Situations when this is permitted include:

   a. washing face and respirator face piece to prevent any eye or skin irritation;
   b. replacing the filter, cartridge or canister;
   c. detection of vapor or gas breakthrough or leakage in the face piece; or
   d. detection of any other damage to the respirator or its components.

M. Storage

After inspection, cleaning, and necessary repairs, respirators shall be stored appropriately to protect against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals.

1. Respirators must be stored in a clean, dry area, and in accordance with the manufacturer's recommendations. Each employee will clean and inspect their own air-purifying respirator in accordance with the provisions of this program, and will store their respirator in a plastic bag in the designated area. Each employee will have his/her name on the bag and that bag will only be used to store that employee's respirator.

2. Respirators shall be packed or stored so that the face piece and exhalation valve will rest in a near normal position.

3. Respirators shall not be placed in places such as lockers or toolboxes unless they are in carrying cartons.

4. Respirators maintained at stations and work areas for emergency use shall be stored in compartments built specifically for that purpose, be quickly accessible at all times, and be clearly marked.

5. The Program Administrator will store *Tectonic's* supply of respirators and respirator components in their original manufacturer's packaging in the *Environmental Equipment Locker*.

N. Respirator Malfunctions and Defects

1. For any malfunction of an ASR (atmosphere-supplying respirator), such as breakthrough, face piece leakage, or improperly working valve, the respirator wearer should inform his/her supervisor that the respirator no longer functions as intended, and go to the designated safe area to maintain the respirator. The supervisor must ensure that the employee either receives the needed parts to repair the respirator or is provided with a new respirator.

   All workers wearing atmosphere-supplying respirators will work with a buddy. The Program Administrator shall develop and inform employees of the procedures to be used when a buddy is required to assist a coworker who experiences an ASR malfunction.

2. Respirators that are defective or have defective parts shall be taken out of service immediately. If, during an inspection, an employee discovers a defect in a respirator, he/she is to bring the defect to the attention of his/her supervisor. Supervisors will give all defective respirators to the Program Administrator. The Program Administrator will decide whether to:

   a. temporarily take the respirator out of service until it can be repaired;
   b. perform a simple fix on the spot, such as replacing a head strap; or
   c. dispose of the respirator due to an irreparable problem or defect.

When a respirator is taken out of service for an extended period of time, the respirator will be tagged out of service, and the employee will be given a replacement of a similar make, model, and size. All tagged out respirators will be kept in the *Environmental Equipemnt Locker*.

O. Emergency Procedures

In emergency situations where an atmosphere exists in which the wearer of the respirator could be overcome by a toxic or oxygen-deficient atmosphere, the following procedure should be followed. The locations in *Tectonic* where the potential for dangerous atmosphere exists are listed in Attachment H of this document. The locations in the company where the potential for IDLH (Immediately Dangerous to Life and Health) exist are listed in Attachment I of this document. Locations of emergency respirators are also listed in Attachment H.

1. When the alarm sounds, employees in the affected area must immediately don their emergency escape respirator, shut down their process equipment, and exit the work area.

2. All other employees must immediately evacuate the building. *Tectonic's* Emergency Action Plan describes these procedures (including proper evacuation routes and rally points) in greater detail.

3. Employees who must remain in a dangerous atmosphere must take the following precautions:

    a. Employees must never enter a dangerous atmosphere without first obtaining the proper protective equipment and permission to enter from the Program Administrator or supervisor.
    b. Employees must never enter a dangerous atmosphere without at least one additional person present. The additional person must remain in the safe atmosphere.
    c. Communications (voice, visual or signal line) must be maintained between both individuals or all present.
    d. Respiratory protection in these instances is for escape purposes only. *Tectonic* employees are not trained as emergency responders, and are not authorized to act in such a manner.

P. Program Evaluation

The Program Administrator will conduct periodic evaluations of the workplace to ensure that the provisions of this program are being implemented. The evaluations will include regular consultations with employees who use respirators and their supervisors, site inspections, air monitoring and a review of records. Items to be considered will include:

1. comfort;
2. ability to breathe without objectionable effort;
3. adequate visibility under all conditions
4. provisions for wearing prescription glasses;
5. ability to perform all tasks without undue interference; and
6. confidence in the face piece fit.

Identified problems will be noted in an inspection log and addressed by the Program Administrator. These findings will be reported to ***(Tectonic)*** management, and the report will list plans to correct deficiencies in the respirator program and target dates for the implementation of those corrections.

Q. Documentation and Recordkeeping

A written copy of this program and the OSHA Respiratory Protection Standard shall be kept in the Program Administrator's office and made available to all employees who wish to review it.

Copies of training and fit test records shall be maintained by the Program Administrator & Human Resources Department. These records will be updated as new employees are trained, as existing employees receive refresher training, and as new fit tests are conducted

For employees covered under the Respiratory Protection Program, the Human Resources Department shall maintain copies of the physician's written recommendation regarding each employee's ability to wear a respirator. The completed medical questionnaires and evaluating physician's documented findings will remain confidential in the employee's medical records at the location of the evaluating physician's practice.

ATTACHMENT B

Sample Record of Respirator Use

Required and Voluntary Respirator Use at *Tectonic*	
Type of Respirator	**Department/Process**
Filtering face piece (dust mask)	Voluntary use for construction inspectors
Half-face piece APR or PAPR with P100 filter	Asbestos and lead based paint abatement projects
SAR, pressure demand, with auxiliary SCBA	None except possible confined space entries
Continuous flow SAR with hood	None
Half-face piece APR with organic vapor cartridge	Petroleum contaminated remediation sites including manufactured gas plant sites
Escape SCBA	None – except as required by at a client's site

ATTACHMENT D

RESPIRATOR SELECTION INFORMATION

Types of Respirators:

Respirators are classified into two main classes according to the type of hazardous environment in which the respirator is to be used and the degree of danger to life and health, which that environment presents.

I. **Supplied-Air Respirators:**

This type of respirator supplies uncontaminated breathing air to the user from an external source of air connected by a high-pressure hose to the face piece, hood or helmet. They offer certain advantages over other types of respirators and may be the preferred form of respiratory protection in some applications. Some models are equipped with an air cylinder for emergency escape from an Immediately Dangerous to Life or Health (IDLH) atmosphere. An IDLH atmosphere poses an immediate hazard to life or produces irreversible debilitating effects on health.

Supplied-air respirators are approved for use under the following conditions where the use of air-purifying respirators is precluded:

- In atmospheres where contaminants do not emit a detectable odor or taste or cause irritation at safe concentrations.
- To protect against substances that would generate a high heat reaction with the absorbent in an air-purifying respirator.
- Where chemicals in the atmosphere are absorbed very poorly by the absorbents used in air-purifying respirators, causing very short service life, or where the chemicals are not absorbed at all.
- Where there are two or more contaminants in the atmosphere for which different air-purifying elements are recommended, such as ammonia and benzene, and a combination element is not available.
- When the concentration of a substance is greater than the approved limit for an air-purifying respirator.

Self-Contained Breathing Apparatus (SCBA):

The Self-Contained Breathing Apparatus (SCBA) is a special type of supplied-air respirator that gives the user an independent air supply from a pressurized tank on the wearer's back. Generally, the air supply lasts for 30 to 60 minutes, but is dependent upon the wearer's size and the type of work performed. SCBAs are used under the following conditions:

- In oxygen-deficient atmospheres where the oxygen level is below 19.5%.
- In poorly ventilated areas and/or in confined spaces such as tanks, tunnels, or vessels. **Note:** SCBAs are not required if the confined space is well ventilated and the concentration of toxic contaminants is known to be below the upper protection limit recommended for the respirator.
- In atmospheres where the concentration of contaminants is Immediately Dangerous to Life or Health (IDLH).

- In atmospheres where the concentration of toxic contaminants is unknown. Any unknown concentration must be treated as IDLH.

- For firefighting.

II. **Air-Purifying Respirators:**

This type of respirator usually consists of a facepiece fitted with appropriate mechanical filters or chemical cartridges or canisters to remove dusts, mists and specific fumes, gases and vapors from the breathing air. The filters and cartridges are color-coded to help the user match the right respirator, filter and/or cartridge to the hazard(s) present in the work area. They are the lightest and the easiest to use type of respiratory protection. The vast majority of work environments fall within their protection limits. Air-purifying respirators include:

- **Powered Air-Purifying Respirators** (PAPRs) have air blowers to pull air through the cartridges and filters. Some PAPRs are available with hoods or other protective headgear for use in specific types of environments. A PAPR equipped with a hood may be used instead of a tight-fitting face piece by wearers with facial hair, scars, or spectacles. PAPRs are available with chemical cartridges or with High Efficiency Particulate Air-Purifying (HEPA) filters.

- **Full-Face piece Air-Purifying Respirators** are equipped with a with chemical cartridges and/or filters and a face shield to protect the wearer's face and eyes from liquid splashes or flying particles. Some devices include a speaking diaphragm for easier communication.

- **Half-Mask Air-Purifying Respirators** cover only the nose and mouth. They often use the same cartridges and filters as full-face piece models. Most manufacturers offer two or three sizes to fit nearly all workers. They usually come with a rubber or silicone face piece and can be worn with prescription or non-prescription glasses or goggles.

- **Mouthpiece Respirators** are for emergency escape from known concentrations of contaminants. They are lightweight and easily worn around the neck or clipped to a belt. Mouthpiece respirators however are <u>not</u> designed for extended or routine use.

- **Disposable Respirators** protect the wearer from low (nuisance) concentrations of fumes, mists and/or dust. Some models include an exhalation channel that exhausts air directly for less hot air and moisture buildup in the mask.

Respirator Approval:

The National Institute for Occupational Safety and Health (NIOSH) is responsible for the testing and certification of respiratory protective devices. If approval is given, the items certified are given a TC number, signifying it has been tested and certified. Respiratory protective devices <u>must</u> bear the TC number to be approved for use.

Selection Process:

1. **Identify the airborne contaminant(s):**

   An important source of information on airborne contaminants is the Material Safety Data Sheet (MSDS) for each product. The MSDS identifies the ingredients in each product that have been determined to be a health hazard and the physical and chemical characteristics of the product such as vapor pressure and flash point.

The physical form of the hazard will also help you determine the type of respiratory protection you will need.

Dusts are tiny suspended particles resulting from a mechanical process such as grinding.

Mists are tiny liquid droplets usually created by spraying operations.

Fumes are small particles formed by a condensing gas or vapor such as in welding.

Vapors are substances that evaporate from a liquid or solid.

Gases are formless fluids that occupy the space in which they are enclosed. Examples include nitrogen and carbon monoxide.

Smoke is a mixture of suspended particles and gases which are the result of combustion. Smoke can contain toxic contaminants.

2. **Determine the concentration level of the contaminant:**

Sensitive monitoring instruments will give you a precise reading of the airborne concentration level of the contaminant. If testing indicates that you are exposed to an airborne concentration level at or above the Permissible Exposure Level (PEL) established for that substance, you must use respiratory protection.* This testing should be done by an industrial hygienist or other qualified staff.

3. **Evaluate the conditions of exposure:**

There are many variables that can affect your choice of respiratory protection. Always keep these factors in mind:

The nature of the task. How long will you be exposed to each hazard? Is the work strenuous, which makes breathing more difficult?

The characteristics of the work area. Is the work area a confined space and/or poorly ventilated? Will air temperatures be hot or cold? Could more than one contaminant be present?

The type of work process. Does the way chemicals are combined, heated or applied create an additional or new health hazard? An example of this could be a paint spraying or welding operation.

4. **Match the hazard, concentration level and the conditions of exposure to the proper type of respirator:**

A wide range of supplied-air and air-purifying respirators are available from various manufactures. Contact your supervisor and/or your agency/institution safety coordinator for help in selecting the proper respirator for your specific work area.

*** Note:** The OSHA Respiratory Protection Standard (29 CFR 1910.134) requires the employer to prevent occupational diseases caused by breathing contaminated air by the use of engineering control measures such as the enclosure of the operation or the substitution of less toxic materials. When effective engineering controls are not feasible, or while these controls are being instituted, appropriate respirators must be used in accordance with the requirements of the standard.

ATTACHMENT H

Emergency Potential Log

The following work areas at _ *Tectonic* Facilties _ have been identified as having foreseeable emergencies:

Area	Type of Emergency	Location of Emergency Respirator(s)
No Areas identified	NA	NA

_____ _____

Program Administrator **Date**

ATTACHMENT J

Record of Respiratory Protection Training

This form should be filled out in the employee's hand writing.

Employee _____ Date:_____

Employee Job Title/Description:_____

I have received training on the proper use and care of the following respirator:

Respirator model selected:_____

Manufacturer:_____

The training has included an explanation of the Tectonic Respiratory Protection Plan and the Occupational Safety and Health Administration (OSHA) respiratory protection requirements as found in 29 CFR 1910.134. I have been shown and demonstrated the proper storage and care of respirator; the proper fit and adjustment of the respirator, and the limitations of this respirator. I understand that it is my responsibility to inspect it daily and to immediately report to my supervisor any problems with the respirator and report any signs or symptoms of health concerns associated with the use of my respirator.

Employee Signature:_____Date:_____

Training Conducted By:

_____Date:_____

ATTCHMENT K

Fit-Test Procedure

The purpose of the fit test is to insure that the mask seals to the face and does not allow air contaminants to enter the mask between the skin and the respirator. An improperly fitting respirator does not protect the wearer.

The fit test must be performed by a qualified person. Respirator distributors and manufacturers sell fit-testing equipment and usually have programs for training workers to do fit tests.

There are three basic types of fit tests:

1. amyl acetate (for respirators with organic vapor cartridges)

2. saccharine (for dust and fume masks or cartridges)

3. irritant smoke (for dust and fume masks or cartridges)

4. Bittrex (for dust and fume masks or cartridges)

The fit test will be conducted in the following manner:

A Sensitivity Test should be conducted to insure that the test subject can detect the test solution. The test subject should not eat, drink or chew gum for at least 15 minutes before the test. The subject should enter the test hood or test tent without a respirator. A very diluted amount of the test vapor should be injected into the booth or hood. Ask the test subject if he or she can smell the odor. If not, inject a comparable amount again. If the subject can smell the odor, the fit-test can proceed. If the subject cannot smell the odor, another method of fit-test such as irritant smoke or saccharine should be used.

Once the test subject has successfully completed the Sensitivity Test, he or she can go on to be fit-tested. If the test subject does not already know which respirator is most likely to fit their face, three different sizes of respirator should be provided from which to choose. The selected respirator then will be fitted with an particulate/organic vapor combination cartridge. The test subject should put on the respirator and adjust the straps until an adequate fit is achieved. The negative and positive pressure fit-tests should be performed. A mirror should be provided so that the subject can visually check the fit.

The subject should enter the test tent or put on the test hood. The test solution should be injected into the tent or hood. The test subject should then perform the following six functions, each for 60 seconds:

1. Normal breathing.

2. Deep breathing- breaths should be deep and regular.

3. Turning head side to side, about one turn every second. Do not hit respirator cartridges against shoulders or chest.

4. Nodding head up and down, about one movement every second. Do not bump respirator against chest.

5. Performing deep knee bends or try to touch your toes. Do not bump respirator against chest.

6. Reading the Rainbow Passage (this passage was designed to incorporate all common facial movements made during speech):

> *When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long round arch, with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man looks for something beyond his reach, his friends say he is looking for the pot of gold at the end of the rainbow.*

7. Normal breathing.

> (There are additional requirements when fit testing for asbestos, benzene and formaldehyde.)

If at any time during any of these activities the test subject detects the odor of the amyl acetate solution, the fit is inadequate. A subject may begin the test again only after a fifteen minute interval. A second failure of the test indicates serious fit problems. Another fit-test with another mask may be undertaken, but there must be at least a 24 hour interval between the twice failed test and a subsequent test.

In the event the banana oil test, in the opinion of the person conducting the test, is for any reason untrustworthy, the irritant smoke test will be conducted.

A record of the fit-test will be kept on the form below.

ATTACHMENT L

Respirator Fit Test Record

Employee _____ Date:_____

Employee Job Title/Description:_____

Date of medical exam:_____

Respirator model selected:_____

Manufacturer:_____

Type of fit test:

____Irritant smoke _____Bittrex _____Amyl acetate

Fit Testing Results: Pass_____ Fail_____

Comments: (Note here all factors affecting fit results, including presence of facial hair, dentures, glasses, etc.).

_____

_____

_____

Employee Signature:_____Date:_____

Test Conducted By:_____Date:_____

Please complete one form for each respirator model chosen.

ATTACHMENT M

Employee Voluntary Respirator Usage

Employee: _____ Date:_____

Employee Office Location: _____

Employee Job Title: _____

Regulations (Standards - 29 CFR) - Table of Contents

• **Part Number:**	1910
• **Part Title:**	Occupational Safety and Health Standards
• **Subpart:**	I
• **Subpart Title:**	Personal Protective Equipment
• **Standard Number:**	1910.134 App D
• **Title:**	(Mandatory) Information for Employees Using Respirators When not Required Under Standard.

Appendix D to Sec. 1910.134 (Mandatory) Information for Employees Using Respirators When Not Required Under the Standard

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.

2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.

3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.

4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

[63 FR 1152, Jan. 8, 1998; 63 FR 20098, April 23, 1998]

I have received a copy of OSHA's Appendix D of CFR 190.134 (above). I have read the Appendix and had an opportunity to ask questions to my supervisor. I understand the information provided regarding voluntary use of a respirator.

Employee Signature:_____ Date:_____

Supervisor Signature: _____ Date: _____

ATTACHMENT N

REFERENCES

Regulations/standards complied with in each section:

Sec. I. Scope.

General provisions regarding respirators are in the OSHA General Industry Standards at 29 CFR 1910.134. and in the OSHA Construction Standards at 29 CFR 1926.103.

Sec. II. Determining respiratory risk.

29 CFR 1910.1200 contains hazard communication standard,

29 CFR 1910.1200(g)(8) and (h)(1) info to employees

Sec. III. Types of Respirators.

NIOSH Certification of Respiratory Equipment

Sec. IV. Supervision.

29 CFR 1910.134(b)(8) supervision

29 CFR 1910.134(e)(4) supervision and inspection

V. Training.

29 CFR 1910.134(a)(3) and (b)(3), (e)(5)

29 CFR 1910.1200(h)(2)

VI. Medical

29 CFR 1910.134(b)(10)

29 CFR 1910.20 (access to records)

VII. Fit testing requirement

29 CFR 1910.134(e)(5)

29 CFR 1910.1001 (asbestos)

1910.1028, App. E (benzene)

1910.1048, App. E (formaldehyde)

VIII. Shaving requirement

29 CFR 1910.134(e)(5)(i)

IX. Maintenance, cleaning and storage

29 CFR 1910.132(a) & 1910.134(f) Maintenance and cleaning

29 CFR 1910. 134(b)(6) & (f)(5) storage

X. Evaluation of Respirator Program

29 CFR 1910.134(a)(9)

APPENDIX K

Fall Protection Program

FALL PROTECTION PROGRAM

1.1 Fall Protection Overview

When working in elevated situations, approved fall protection systems shall be used.

Fall Protection Systems consist of the following:

- Full Body Harness
- Fall Arresters and shock absorbers
- Harnesses
- Lifelines
- Guardrails
- Warning line systems

One of the above systems shall be used when the work being performed requires the worker to be more than six (6) feet above the ground or permanent platform.

All projects on construction job sites will receive a hazard evaluation by a competent person prior to starting the job. A competent person will review job application and potential fall hazards, and will evaluate appropriate protective systems. The competent person will then order the proper fall protection equipment needed at no cost to the employee and train the employee on the proper use of the equipment. Training shall be documented and kept in the employee's records.

The competent person shall inspect all fall protection equipment every six (6) months of use. Records of all equipment inspections will be kept. Users are required to visually inspect their equipment before and after each use. Equipment that is damaged or has been used to arrest a fall will be taken out of service immediately and destroyed and replacement equipment issued.

If necessary, the services of a registered professional engineer may be required to evaluate anchorage points and feasibility of selected fall protection systems. All anchorage points must meet at a minimum 5000 lb load capacity. All equipment must meet the technical parameters and load requirements of 29 CFR 1926 sub part M.

1.1.1 Training

Tectonic employees will be trained on the technical elements of 29 CFR 1926 Subpart M by a qualified trainer before being assigned to a task in an elevated situation. All training will be documented and copies in the employee' records.

Fall protection training is essential for the safety of employees working at elevated positions. 29 CFR 1926 Subpart M requires very specific training elements. Such topics include, but are not limited to:

- Harness application
- Lanyard application
- Rope grab systems application
- Anchorage points

- Equipment inspection
- Limitations of warning lines
- The role of the safety monitor
- Hazards associated with roof openings and skylights
- Working on elevated platforms such as lifts
- Equipment inspection procedures
- Emergency procedures

Subcontractors must provide their written climbing safety program and documentation of employee training in climbing.

1.2 Tower Climbing

Introduction

This section is intended as a reference for all Tectonic employees that are engaged in tower inspection work that requires climbing. The section is neither static nor all-inclusive and will be updated and enhanced as appropriate. Suggestions for improvements are encouraged so that subsequent updates to this document will reflect both the input and needs of a climber engaged in this type of work.

Policy/Procedure

When a job requires climbing towers over six (6) feet, the company policy requires that the Tectonic employee utilizes 100% fall protection. All such employees are required to have received and successfully completed a tower climbing training program.

Managerial Responsibilities

The Technical Discipline Manager is responsible for verifying the following:

a. Applicable provisions of OSHA and the guidelines in this policy are followed in an effective manner.

b. Employees required to work on towers that require climbing receive the proper training required in the use, care, and inspection of fall protection equipment and ensure the climbing proficiency of workers required to perform climbing activities.

c. Training is received through a reputed organization such as National Association of Tower Erectors (NATE), or qualified training provider.

d. A copy of the training certificate is retained in the employee's personnel file.

e. No one other than trained Tectonic employees are allowed to perform climbing inspections.

f. A minimum of two (2) employees with tower climbing certification are on a given site.

g. Only inspected and approved safety equipment is being used at tower sites.

Employee Responsibilities

Employee engaged in tower climbing work will ensure the following:

1. Pre-climb safety

   a. Survey the job site to determine the personal protective equipment (PPE) that will be required.

   b. Identify all fall protection elements.

   c. Identify anchorage points and use equipment for the type of anchorage present.

   d. Determine any special equipment needed.

   e. Ensure that all personnel are familiar with equipment and/or procedures that will be used for a given site.

   f. Ensure that a first aid kit is available on the site.

   g. All climbers shall be aware of environmental conditions (weather, terrain, etc).

   h. Ensure that a safety meeting has been performed with all personnel who will be working on the tower.

2. Rescue Planning

   a. Always have a minimum of two (2) people certified in tower climbing present when a climb is performed.

   b. Always have the location and contact of nearest emergency services available on the site.

   c. Always carry a rescue kit that can be used in case a rescue operation is needed.

3. Equipment

   a. Always use the proper equipment for the job.

   b. Never alter or use an incorrect body harness. Safety belts are not acceptable fall protection equipment.

   c. Tool bags should be attached to a belt incorporated within the harness.

   d. PPE such as hard hats, gloves, safety glasses and shoes (steel toe preferred) should be wore at all times during the inspection.

   e. When using tools (tape measures, etc), the employee should always have a safety line attached to the tool to prevent it from falling.

   f. Any lanyard or body harness that has been exposed to loading shall be taken out of service until the manufacturer can recertify it for use.

g. With no exception, all climbers will use approved equipment to maintain a 100% tie-off while on tower.

4. Visual Inspection

a. Check the general condition of the structure before climbing.

b. Check all components of the tower before climbing such as Guy wires, ladders, safety cable, step bolts, etc.

c. Inspect all PPE and climbing equipment prior to each use. Inspect lanyards for wear, cuts, stitches and burns.

d. Inspect all body harnesses, slings, lines and connectors before each climb.

Tectonic's policy should prevail on all work sites unless specifically contracted by a client to use the client organization's policy. In the later case, an approval from the discipline manager will be required.

1.2 Aerial Lifts

Aerial lifts (manlifts) used for construction and maintenance projects will typically be supplied from a rental equipment company. Lifts will be provided in good working order from the vendor. The vendor will provide Tectonic with documentation of recent inspection and maintenance. All employees will be secured in the aerial lift with a lanyard and harness tied to the pre-approved anchorage point.

All employees will receive full aerial lift operation training from the vendor. Employees will be instructed on all controls, safety mechanisms and inspection requirements. Only trained employees will operate aerial lifts.

1.3 Ladders

Ladders will conform to the provisions of the applicable state, provincial or local codes, whichever are more restrictive. Workers should observe the following practices when placing ladders:

- Place the ladder so that the horizontal distance from the base to the vertical plane of support is approximately one-fourth (1/4) the ladder's length between supports. For example, for an 8 feet ladder, the base shall not be greater than 2 feet away from the object it is leaning against.

- Do not use ladders in horizontal positions for runways or scaffolds. Single and extension ladders are designed for use in a nearly vertical position and cannot be used in a horizontal position, or with the base of the ladder at a greater distance from the support as indicated in the preceding paragraph.

- Never place a ladder in front of a door that opens toward the ladder unless the door is locked, blocked or guarded.

- Do not place a ladder against a window pane or sash. If necessary, securely fasten a board across the top of the ladder to give a bearing on each side of the window. On wide windows, the bearing may be across the mullions or between the window jambs.

- Place the ladder so that both side rails have secure footing. Provide solid footings on soft ground to prevent the ladder from sinking.
- Place the ladder's feet on a level, unmovable base.

- Never lean a ladder against an unsecured backing, such as boxes and barrels.

- When using a ladder for access to high places, securely fasten the ladder top and bottom to prevent it from slipping.

- Secure both the top and bottom of the ladder to prevent displacement when using a ladder for access to scaffolding.

- Extend the ladder's side rails at least 3 feet above the top of a landing.

- Do not place a ladder close to electrical wiring or against any operational piping where damage may be done. In this case, use nonconductive plastic ladders.

- One (1) person at a time on a ladder, unless an emergency occurs and it is necessary for more than one person to be on the ladder.

- Do not overload or hit the ladder.

- Use ladders of sufficient length so that workers do not have to stretch or reach to access inspection areas.

- Tectonic employees should observe the following practices when ascending or descending ladders:

  - Hold on to ladder with both hands. If material must be handled, raise or lower it with a rope prior to climbing to the desired level or descending.

  - Always face the ladder.

  - Never slide down a ladder.

  - Be sure shoes are not greasy, muddy or slippery prior to climbing.

  - Do not climb higher than the third rung from the top or second tread from the top on step ladders.

  - Carry tools on a tool belt or in pockets, not in your hand.

Other recommended practices:

- Inspect ladders prior to use for defects. Never use defective ladders.
- Do not splice ladders together or use makeshift ladders.
- Make sure ladder is fully open and locked.
- Perform proper maintenance on ladders to keep clean and in proper working order.
- Do not use ladders during a strong wind, except during an emergency.
- Make sure the ladder is securely fastened at the top.
- Never adjust a ladder when a worker is standing on it.

1.4 Scaffolds

Scaffolding and staging structures comprise an elevated working platform for supporting both personnel and materials. It is a temporary structure to access inspection areas. Scaffolds are provided for all work, except that which can be done safely from the ground, permanent platforms or similar footing. All scaffolding used shall be erected following the manufacturer's guidelines for safety. Scaffolding from different manufacturers shall not be interchanged.

Before using a scaffold erected by a contractor, Tectonic's employee should verify with the contractor that the scaffolds are designed, constructed and maintained in accordance with the manufacturer's instructions and the applicable industry standards. Tectonic employees should not use a scaffold that is not supported on firm smooth foundations and level. Scaffolds should also be braced against a solid structure and have guardrails. Tectonic employees should be aware of work being performed on scaffolds above them.

For all work in New York City, Tectonic employees who responsibilities might include work on scaffolding, will complete a NYC DOB approved scaffold training course.

Tectonic subcontractors using scaffolding will be required to provide training documentation for their employees on the technical elements of 29 CFR 1926.450 by a qualified individual and provide a written scaffold safety program.

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TOWER SAFETY INSPECTION CHECKLIST/SURVEY

A copy of this form and a map showing the estimated location of the tower should be left with your Supervisor and/or office administrator. Complete before beginning any work on the tower.

(1) JOB INFORMATION				
Date:	Job Name:	Job Number:		
Physical Address:		Longitude:	Latitude:	Supervisor/Crew Lead:

(2) PROJECT PERSONNEL	
Name	*Company/Office*

(3) EMERGENCY PROCEDURES (**LIST TELEPHONE NUMBERS AND ATTACH DIRECTIONS TO THE SITE.**)			
Are 911 systems functional with cell phone use?	☐Yes ☐No		
Tower Rescue Procedures to be used:	☐ Fire Department	☐ In-House Crew (Crew must be properly trained in rescue)	☐ Other: *Please describe*.

Ambulance Phone:	Fire: Phone:	Police: Phone:
Local Hospital: Phone:	Telephone Co:	Utility Co:

(4) JOB / TASKS FOR TODAY		
Job / Tasks: (List Jobs in sequential steps)	**Potential hazards:** (List hazards for each step)	**Preventative measures:** (List each control for each hazard)

(5) JOBSITE EXPOSURES	
Hazard Identification: Items checked below relate to existing conditions or may be a result of site operations	
Physical Hazards	**Health Hazards**

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TOWER SAFETY INSPECTION CHECKLIST/SURVEY

☐ Confined Space	☐ Intrusive activity	☐ Chemical Exposure	☐ Lifting Hazards
☐ Electrical	☐ Overhead utilities	☐ Cold Stress	☐ Other:
☐ Elevation / Site Terrain	☐ Slips, Trip, or falls	☐ EME / RF	
☐ Falls from elevations	☐ Vehicle Traffic	☐ Heat Stress	
☐ Heavy Equipment	☐ Other:	☐ High Noise (>85 dBA)	

(6) HAZARD CONTROL MEASURES

Personal Protective and Monitoring Equipment	**Inspections** (Complete All Prior to Use)	**Safety Systems / Training**
☐ Fall Protection	☐ Tools/Equipment	☐ Tailgate Meeting
☐ Gloves	☐ Rigging	☐ Pre-Approved Plans (Critical Lifts, Controlled Descent, etc).
☐ Hard Hat	☐ Housekeeping	
☐ Hearing	☐ Tag Lines	
☐ RF Monitors	☐ Ground Fault Protection	
☐ RF Suits		
☐ Safety Glasses		

(7) COMPLETE FOR TOWER WORK (FALL PROTECTION & USING SUSPENDED PERSONNEL PLATFORM)

Type of Tower:

Fall protection to be used:

☐ Full Body Harness	☐ Double Leg or Two Lanyards	☐ Rope Grab	☐ Cable Grab
☐ Retractable Lifeline	☐ Anchorage Straps	☐ Ropes	☐ Descenders

Has each employee inspected his or her fall protection equipment? ☐ Yes ☐ No

Describe the fall protection system to be used when accessing antenna booms or performing tower erection:

(9) REVIEWS AND SIGNATURES

Name	Signature	Name	Signature

Rooftop Fall Protection Plan

This Fall Protection Plan has been created in accordance with 29 CFR 1926.501(b)(2) because it has been determined that, for rooftop locations and for this project, the use of fall protection is either not feasible or the use of conventional fall protection; e.g., guard rails, personal fall arrest systems, or a safety net system; creates a greater hazard. It is suggested that any unconventional fall protection plans be reviewed with the Corporate Health and Safety Officer.

This plan pertains to work performed at (place, location) and was prepared by (insert name and title) on (date) and has been reviewed and approved by (name of safety officer/supervisor or qualified person).

1. **Policy**

Tectonic Engineering and Surveying Consultants, PC (Tectonic) is committed to protecting its workers from on-the-job injuries. All employees are responsible for on-the-job safety; i.e., following safety rules and established procedures. This plan is a local supplement to Tectonic's fall protection policy and any written fall protection programs that exist for this department. It is designed to provide specific awareness and training for the location where the work will be conducted and addresses the use of non-conventional methods for fall protection on specific parts of a project which include:

(List the areas and tasks where alternative procedures for fall protection will be used; e.g., taking measurements of the rooftop.)

This plan is designed to enable supervisors and employees to recognize fall hazards on this job and to establish the procedures that are to be followed in order to prevent falls to lower levels or through holes in walking and working surfaces. Each employee will be trained in these procedures and must strictly adhere to them except when doing so would expose them to a greater hazard. If, in an employee's opinion, the procedure exposes them to a greater danger, they must notify their supervisor prior to proceeding. All employees must understand the seriousness of the situation and act when unsafe conditions persist.

It is the responsibility of (name of competent person) to implement this fall protection plan. (Name of competent person) will constantly observe work operation to ensure that safety policy and procedures are being followed. Any changes that are made to this plan must be approved by (name of qualified person).

2. **Fall Protection Systems to be used on this Project**

Where conventional fall protection systems are infeasible or create a greater hazard, we plan to use the following system:

Example:

We plan to use a safety monitoring system in addition to limiting the number of employees involved for the time necessary to complete the job. The (#) of employees will be observed and monitored by one safety monitor.

The safety monitor is (Name of person) and will be identified by (orange hat, orange vest, etc.).

The designated workers are: (list workers)

Only employees with appropriate experience, skills, and training will be allowed to perform work in the area designated by this fall plan. All employees that will be working in this area under the safety monitoring system shall be trained and instructed in the following areas:

(1) Recognition of fall hazards. (list)

(2) Avoidance of fall hazards using the following established work practices. (list)

(3) The function, use, and operation of any fall protection systems in use. (describe)

(4) The correct procedure for constructing, maintaining, disassembling, and inspecting any fall protection system that will be used.

There will be a pre-work meeting in which all members of the work crew are present to discuss the procedures to be used for this work. Personnel will be made aware of any controlled access or off-limits areas during this meeting.

3. **Safety Monitoring System**

A safety monitoring system is a fall protection system in which a competent person is responsible for recognizing and warning employees of fall hazards. The duties of a safety monitor are to:

(1) The safety monitor must warn by voice when an employee approaches an open edge in an unsafe manner.

(2) The safety monitor warns by voice if a dangerous situation developing which cannot be seen by other employees involved in the task.

(3) The safety monitor ensures that the employees aware that they are in an area in which they could potentially fall.

(4) The safety monitor must be competent in recognizing fall hazards.

(5) The safety monitor must warn employees that appear to be unaware of a fall hazard or are acting in an unsafe manner.

(6) The safety monitor must be on the same walking/working surface as the monitored employees and within visual sighting distance of these employees.

(7) The safety monitor must be close enough to communicate orally with employees.

(8) The safety monitoring is not allowed to perform any other responsibilities while monitoring. If the safety monitor need to perform other responsibilities, the work must be stopped or the monitoring responsibility turned over to another competent individual.

(9) The Safety Monitoring System must not be used when weather conditions increase the likelihood of a fall such as high winds or slippery (wet or icy) conditions or on roofs with a slope of more than 2:12.

4. **Control Zone System**

A controlled access zone or warning line system is an area, which is designated and clearly marked by a warning line, where work may take place without the use of a guardrail, safety net, or personal fall arrest systems to protect employees in the area. A combined warning line system and safety monitoring system provides practical, effective fall protection for rooftop work and many low-sloped roofs (roof slope must be less than 2:12).

Warning line systems consist of ropes, wires or chains, and supporting stanchions that warn workers they are near an unprotected roof side or edge. Warning line systems mark off an area within which a person may do work without using guardrails, body belts, or safety nets. Warning line systems are also effective on low-slope roofs for protecting workers who do not need to go near and unprotected edge.

The warning line must be:

- Stretched or erected around work area, not less than 6 feet from the edge.
- Visibly flagged every 6 feet with red/orange material.
- Supported so that it stays between 34-39 inches from the walking surface.
- The safety line must have a minimal tensile strength of 500 lbs.
- Attached to the stanchion so that pulling on it does not pull up slack in other sections.
- Constructed so that points of access, hoisting areas and storage areas are connected to work area by designing the warning line system to include a safe access path.
- Erected so that the stanchions are capable of resisting, without tipping over, a force of at least 16 pounds applied horizontally against the stanchion, 30 inches above the walking work surface, perpendicular to the warning line and in the direction of the surface edge.

Any holes in the roof surface greater than 12 inches by 12 inches, including skylights and hatches, will either have perimeter guarding or will be covered.

5. **Personal Fall Protection Considered**

(In this section, review the options for the types of personal fall protection including fall arrest systems, safety nets, and guardrails, and explain why each of them is not feasible or would create a greater hazard.)

Plan Prepared By:_____

Plan reviewed By:_____

APPENDIX L

Scaffolding Safety Program

Scaffold Safety Program

Purpose

Tectonic Engineering & Surveying Consultants, P.C. (Tectonic) has developed a program for scaffold safety to ensure a safe work environment and to protect the health and safety of Tectonic staff. This program is written in accordance with the requirements of Occupational Safety and Health Administration (OSHA) 29 CFR 1926 Subpart L.

Scope

This policy pertains to all TECTONIC staff and establishes safety requirements for the proper construction, inspection, maintenance, operation, and use of scaffolds on Tectonic property and for when employees use scaffolding at project sites not controlled by Tectonic.

Policy

All scaffolds used in construction, renovation, repair (including painting and decorating), and demolition shall be erected, dismantled and maintained in accordance with this program.

Authority and Responsibility

Tectonic's Corporate Health and Safety Officer is responsible for:

1. Reviewing this program to ensure compliance with current regulations;
2. Reporting any questionable conditions that are discovered to the responsible department; and
3. Ensuring all affected employees are trained in accordance with this program.

Each department is responsible for:

1. Ensuring all affected employees follow the prescribed practices within this program;
2. Designating a competent person;
3. Designating a qualified person to design and supervise during the erection, use and disassembling of scaffolding; and
4. Ensuring all inspection.

Employees affected by this program are responsible for complying with the practices within the Scaffolding Program.

The competent person shall be trained in accordance with the Occupational Safety and Health Administration and responsible for:

1. Directing employees who erect, dismantle, move or alter scaffolding;
2. Determining if it is safe for employees to work from a scaffold during storms or high winds, and ensure that a personal fall arrest system is in place;
3. Training employees involved in erecting, disassembling, moving, operating, repairing, maintaining, or inspecting scaffolding to recognize associated work hazards;
4. Inspecting scaffolds and scaffold components for visible defects before each work shift, and after any occurrence which could affect the structural integrity, and to authorize prompt corrective action;
5. Inspecting ropes on suspended scaffolds prior to each workshift and after every occurrence which could

affect the structural integrity, and to authorize prompt corrective actions;
6. For suspension scaffolds, evaluating direct connections to support the load to be imposed;
7. For erectors and dismantler's, determining the feasibility and safety of providing fall protection and access; and
8. For scaffold components:

    a. Determining if a scaffold will be structurally sound when intermixing components from different manufacturer's; and
    b. Determining if galvanic action has affected the capacity when using components of dissimilar metals.

Qualified persons shall be responsible for:

1. Designing and loading scaffolds in accordance with design specifications;
2. Training employees working on the scaffolds to recognize the associated hazards and understand procedures to control or minimize those hazards; and
3. For suspension scaffolds:

    a. Designing platforms on two-point adjustable suspension types that are less than 36 inches wide to prevent instability;
    b. Making swaged attachments and spliced eyes on wire suspension ropes;and
    c. Designing components in accordance with design specifications.

General Requirements for Scaffolds

Competent Person

University departments who require employees to use scaffolds must designate a "competent person" to oversee erecting, securing, and dismantling of scaffolds. The competent person must understand the rules, and regulations as they pertain to the scaffold he/she oversees, as well as conduct scaffold inspections and manage daily activities involving scaffold use.

Capacity/Loads

Each scaffold and scaffold component shall be capable of supporting, without failure, its own weight and at least four times the maximum intended load applied or transmitted to it.

Scaffolds shall be designed by a qualified person and shall be constructed and loaded in accordance the Occupational Safety and Health Administration (OSHA) 29 CFR
1926.451 "General Requirements for Scaffolds" and 29 CFR 1926.452 "Additional
Requirements Applicable to Specific Types of Scaffolds".

Stationary scaffolds over 125 feet in height and rolling scaffolds over 60 feet in height shall be designed by a professional engineer. All equipment shall be inspected to see that it is in good condition and is serviceable. Damaged or deteriorated equipment shall not be used.

Platforms

Each platform on all working levels of scaffolds shall be fully planked or decked between the front uprights and the guardrail supports as follows;

- Platforms shall be entirely planked and decked with space not more than one inch wide between the platforms and uprights;
- The platform shall not deflect more than 1/60 of the span when loaded;
- All platforms shall be kept clear of debris or other obstructions that may hinder the working clearance on the platform;
- Wood planks shall be inspected to see that there are graded for scaffold use, are sound and in good condition, straight grained, free from saw cuts, splits and holes;
- Platforms and walkways shall be at least 18 inches in width. When the work area is less than 18 inches wide, guardrails and/or personal fall arrest systems shall be used;
- Where platforms are overlapped to create a long platform, the overlap shall occur only over supports, and shall not be less than 12 inches unless the platforms are nailed;
- The front edge of all platforms shall not be more than fourteen inches from the face of the work, unless guardrail systems are erected along the front edge and/or personal fall arrest systems are used;
- A platform greater than 10 feet in length shall not extend over its support more then 18 inches, unless it is designed and installed so that the cantilevered portion of the platform is able to support employees without tipping, or has guardrails which block employee access to the cantilevered end;
- Wood surface shall not be covered with opaque finishes, other than the edges for making identification;
- Platforms may be coated periodically with wood preservatives, fire-retardant finishes, and slip-resistant finishes; however, the coating shall not obscure the top or bottom wood surfaces; and
- Each end of the platform, unless cleated or otherwise restrained by hooks or equivalent means, shall extend over the centerline of its support at least six inches.

Scaffold components manufactured by different manufacturers shall not be intermixed unless the components fit together without force and the scaffold's structural integrity is maintained. Scaffold components made of dissimilar metals shall not be used together unless a competent person has determined that galvanic action will not reduce the strength of any component.

Criteria for Support Scaffolds

Supported scaffolds are platforms supported by legs, outriggers beams, brackets, poles, uprights, posts, frames, or similar rigid support. The structural members, poles, legs. posts, frames, and uprights, must be plumb and braced to prevent swaying and displacement.

Supported scaffolds with a height to base width ratio of more than 4:1 must be restrained by guying, tying, bracing or an equivalent means.

The following placements must be used for guys, ties, and braces;

- Install guys, ties, or braces at the closest horizontal member to the 4:1 height and repeat vertically with the top restraint no further than 4:1 height from the top;

- Vertically – every 20 feet or less for scaffolds less than three feet wide and every twenty-six feet or less for scaffolds more than three feet wide; and

- Horizontally – at each end; at intervals not to exceed 30 feet from one end.

Supported scaffold poles, legs, posts, frames, and uprights shall bear on base plates and mud sills or other adequate firm foundation and shall include the following;

- Footings shall be level, sound, rigid, and capable of supporting the loaded scaffold without settling or displacement;
- Unstable objects shall not be used to support working platforms;
- Front-end loaders and similar pieces of equipment shall not be used to support scaffold platforms unless they have been specifically designed by the manufacturer for such use; and
- Fork-lifts shall not be used to support scaffold platforms unless the entire platform is attached to the fork and the fork-lift is not moved horizontally while the platform is occupied.

Supported scaffold poles, legs, posts, frames, and uprights shall be plumb and braced to prevent swaying and displacement.

Access Requirements

Access shall be provided when scaffold platforms are more than 24 inches above or below the point of access. Direct access is acceptable when the scaffold is not more than 14 inches horizontally and not more than 24 inches vertically from the other surfaces. Crossbraces shall not be used as a means of access.

Type of accesses which are permitted:

- Portable ladders tied off to the structure;
- Hook-on ladders;
- Attachable ladders
- Stairways;
- Stair towers;
- Ramps and walkways; or
- Integral prefabricated frames.

When erecting or dismantling supported scaffolds, a safe means of access shall be provided when a competent person has determined the feasibility and analyzed the site conditions.
Use Requirements

The use of shore scaffolds and lean-to-scaffolds is strictly prohibited. All employees are prohibited from working on scaffolds covered with snow, ice or other slippery materials. Work on or from scaffolds is prohibited during storms or high winds unless a competent person has determined that it is safe for employees to be on the scaffold and those employees are protected by a personal fall arrest system or a wind screen.

Scaffold and scaffold components shall be inspected for visible defects by a competent person before each work shift, and after any occurrence with could affect a scaffold's structural integrity. Any part of a scaffold damaged or weakened such that its strength is less than that required in the section 1926.451(a) shall be immediately repaired or replaced, braced to meet those provisions, or removed from service until repaired.

Scaffolds shall not be moved horizontally while employees are on them, unless they have been designed by a registered professional engineer specifically for such movement, or for mobile scaffolds

Clearance Distances between Scaffolds and Power lines

The following table provides the clearance distances between scaffolds and powerlines, or any other conductive material, while being erected, used, dismantled, altered or moved.

Table 1

Insulated Lines Voltage	Minimum Distance	Alternatives
Less than 300 volts 300 to 50 kv More than 50 kv	3 feet 10 feet 10 feet General Rule: 0.4 inches for each 1 kv over 50 kv	Two times the length of the line insulator, but never less than 10 feet
Uninsulated Lines Voltage	**Minimum Distance**	**Alternatives**
Less than 50 kv More than 50 kv	10 feet 10 feet plus General Rule: 0.4 inches for each 1 kv over 50 kv	Two times the length of the line insulator, but never less than 10 feet

EXCEPTION: Scaffolds and materials may be closer to power lines than specified where such clearance is necessary for performance of work and only after the utility company or electrical system operator has de-energized or relocated the lines.

Fall Protection and Guardrails

Fall protection includes guardrail systems and personal fall arrest systems.

Fall Protection

Personal fall arrest systems include harnesses, components of the harness/belt such as Dee-rings, and snap hooks, lifelines, and anchorage point. Employees working on scaffolds ten (10) feet or more above ground/floor level shall use fall protection in accordance with TECTONIC's Fall Protection Program.

Guardrails

All scaffolds more than six feet above the lower level shall protect employees with guardrails on each open side of the scaffold. Guardrails shall be installed along the open sides and ends before releasing the scaffold for use by the employees, other than erection or dismantling crews. Refer to Appendix A of the OSHA Standard 1925.451 for specific requirements for the construction of guardrails. Guardrails are not required when:

- The front end of all platforms are less than 14 inches from the face of the work; and
- When employees are plastering and lathing 18 inches or less from the front edge. Materials such as steel or plastic banding shall not be used for toprails or midrails.

The following chart illustrates the type of fall protection required for specific scaffolds;

Table 2

Types of Scaffold	Fall Protection Required
Aerial Lifts	Personal fall arrest system
Boatswain's chair	Personal fall arrest system
Catenary scaffold	Personal fall arrest system
Crawling board	Personal fall arrest system, or a guardrail system, or by a ¾ inch diameter grabline or equivalent handhold securely fastened beside each crawling board
Float scaffold	Personal fall arrest system
Ladder jack scaffold	Personal fall arrest system
Needle beam scaffold	Personal fall arrest system
Self-contained scaffold	Both a personal adjustable scaffold arrest system and guardrail system
Single-point and two-point suspension scaffolds	Both a personal fall arrest system and guardrail system
Supported scaffolds	Personal fall arrest system or guardrail system
All other scaffolds not specific above	Personal fall arrest system or guardrail systems that meet the required criteria

Falling Objects

To protect employees from falling hand tools, debris, and other small objects, install toeboards, screens, guardrail systems, debris nets, catch platforms, canopy structures, or barricades. In addition, each employee must wear a hard hat.

Training

All employees who perform work on a scaffold shall be trained annually by a person qualified to recognize the hazards associated with the type of scaffold being used and the procedures to control or minimize those hazards.

Employees who work, erect, dismantle, move, operate, repair, maintain, or inspect scaffolds shall be trained in the following;

- Nature of electrical, fall hazards and falling object hazards in the work area;
- The correct procedures for dealing with electrical hazards;
- Proper use of scaffolds;

- Proper handling of materials on scaffolds;
- Proper erecting, maintaining and disassembling of fall protection systems;
- Proper construction, use, placement and care in handling of scaffolds; and
- Maximum intended load and load-carrying capacities of scaffolds used.

Employees who are involved in erecting, disassembling, moving, operating, repairing, maintaining, or inspecting a scaffold shall be trained by a competent person to recognize any hazards associated with the work in question. The training shall include the following topics, as applicable;

- The nature of scaffold hazards;
- The correct procedures for erecting, disassembling, moving, operating, repairing, inspecting, and maintaining the type of scaffold in question; and
- The design criteria, maximum intended load-carrying capacity and intended use of the scaffold.

Retraining

Retraining shall be conducted when there is reason to believe that the employee lacks the skill or understanding needed for safe work involving the erection, use or dismantling of scaffolds.

Retraining is required in at least the following situations;

- Where changes at the worksite present a hazard about which an employee has not been previously trained; or
- Where changes in the types of scaffolds, fall protection, falling object protection, or other equipment present a hazard about which an employee has not been previously trained; or
- Where inadequacies in an affected employee's work involving scaffolds indicate that the employee has not retained the requisite proficiency.
-

APPENDIX M

Manual Material Handling Program

MANUAL MATERIAL HANDLING PROGRAM

INTRODUCTION

Back disorders can develop gradually or can be the result of a single traumatic event. Sprains and strains are the most common causes of lower back pain. Improper lifting or lifting loads that are too heavy for the back to support, falling, or sports activities are a few examples of back injury causes. Of these, lifting improperly or lifting loads that are too heavy for the back to support is the largest single cause of back pain and injury. Instituting proper lifting techniques and other safety measures can significantly reduce back injuries at Tectonic Engineering & Surveying Consultants, P.C. (Tectonic).

As part of Tectonic's ongoing commitment to safety in the workplace and in compliance with OSHA standards, Tectonic has developed this Manual Material Handling Program as another opportunity to enhance the safety and health of Tectonic's employees.

Purpose

Back safety awareness is extremely important due to the prevalence and potential severity of back injuries. This program is a key document for assisting in increasing employee awareness of the importance of back safety. Tectonic is dedicated to protecting its employees from on-the-job injuries including the hazards of improper lifting techniques and overexertion during lifting. All employees of Tectonic have the responsibility to work safely on the job by following this and all company policies and procedures when lifting or handling materials.

Policy Statement

It is the policy of Tectonic that all employees whose job duties involve lifting will receive proper training in lifting techniques. It is also the policy of Tectonic that employees will be provided with proper education regarding the mechanics of the back and measures that can be taken to protect the back from injury. Tectonic requires the procedures in this plan be followed to provide a safe work environment. These procedures on safe lifting practices have been implemented to ensure that employees are trained to protect themselves from the hazards of improper lifting practices.

This program has the following objectives:

1. Assist in identifying, assessing, and controlling risks associated with manual handling tasks;
2. Reducing the incidence of manual handling injuries; and
3. Establishing an effective system for manual handling

Program Administration

Tectonic's Corporate Health and Safety Officer is responsible for the implementation and management of Tectonic's Manual Material Handling Program. The program will be maintained, reviewed, and updated at least annually and whenever necessary to reflect new or modified procedures that affect issues related to back safety and lifting procedures within this hospitality facility.

Responsibilities

Corporate Health and Safety Officer/Program Administrator

The duties of the Program Administrator are as follows:

1. Conduct a hazard assessment. Identify affected employees/departments.
2. Review workers' compensation claims and OSHA 300 logs for back related loss trends.
3. Become familiar with the facility's Personal Protective Equipment (PPE) Program.
4. Identify need of Personal Protective Equipment (PPE).
5. Identify alternative materials handling equipment.
6. Conduct and/or organize training sessions.
7. Evaluate the written program.
8. Know the rules for record keeping.
9. Update the Accident Investigation & Reporting Program at least annually or as needed.
10. With Supervisors and Management, identify job duties that include heavy lifting.
11. Instill general safety awareness as it relates to back safety.
12. With Supervisors and Management, identify and eliminate, when possible, job hazards.
13. With Supervisors and Management, train new employees, whose job responsibilities include lifting, on proper lifting techniques. Periodically (at least annually) conduct refresher training.
14. Provide an overview on back safety to all employees (even if their job duties normally do not include heavy lifting) to assist in protecting employees from spur-of-the-moment unsafe lifting.
15. With Supervisors and Management, ensure that all employees understand that if an item is too heavy, they should ask for help.
16. Provide appropriate Personal Protective Equipment (PPE), as needed.
17. Provide alternative materials handling equipment, as needed.
18. With Supervisors and Management, initiate appropriate disciplinary action when an employee fails to follow the safety requirements of Tectonic.

Employee

1. Comply with the Back Safety/Proper Lifting Safety Program procedures.
2. Using proper lifting and material handling techniques;
3. Ask for help in lifting or pushing heavy items.
4. Report any accident or injury to the supervisor.
5. Immediately report unsafe conditions, equipment, or observed practices to the supervisor.
6. Use Personal Protective Equipment (PPE), as required.
7. Use alternative materials handling equipment, as needed.
8. Keep the body healthy (e.g., stretching)

Hazard Assessment

A hazard assessment will be conducted to determine the job duties that require lifting or material handling. Employees will be identified and documented (see **Appendix A**) and then trained on proper lifting techniques and alternative handling equipment that is available.

Back Safety Techniques

Whether it is during leisure activities or as a part of paid work, everyone lifts, holds, carries, pushes and pulls on a daily basis. Manual material handling involves lifting light, heavy and awkward objects. Safe lifting is a critical aspect of daily activities and should be the focus of any manual material handling. Before you lift, remember the following:

- Wear supportive shoes;
- Use lift assist devices (hand dollies, carts, lift tables, forklifts);
- Carry all movements out horizontally (e.g., push and pull rather than lift and lower);

- Always use your body weight and not your feet when pushing;
- Try to have most workplace deliveries placed at hip height;
- Always keep objects in the comfort zone (between hip and shoulder height);
- Keep all loads close to and in front of the body;
- Keep the back aligned while lifting;
- Maintain the center of balance;
- Let the legs do the actual lifting; and
- Reduce the size of the material to keep it light, compact and safe to grasp

PLAN THE LIFT prior to lifting as follows:

- Size up the load, its weight, shape and position;
- Determine if the load is too large, too heavy or too awkward to move alone;
- Get help from a coworker or use a mechanical aid device to help with the lift when necessary;
- Decide on the route to take;
- Check for any problems or obstacles such as slippery or cluttered floors;
- Investigate the location where the load is going to be placed in order to anticipate any difficulties; and
- Always exercise or warm-up the back prior to lifting.

SQUAT LIFTING should be done for a majority of all lifts. Squat lifting should be performed as follows:

- Stand as close to the load as possible;
- Move your feet shoulder width apart;
- Tighten your stomach muscles so you can tuck your pelvis;
- Bend at the knees, keeping your back straight and stomach tucked;
- Get a good firm grip on the load;
- Hug the load close to the center of your body;
- Lift smoothly with your legs gradually straightening the knees and hips into a standing position; and
- Avoid twisting your body as you lift.

CARRYING LOADS should be done as follows:

- Keep the load close to the center of your body to take full advantage of the mechanical leverage of your body;
- Do not change your grip on the load unless it is weight supported;
- Avoid twisting your body without pivoting your feet at the same time;
- If you must change direction, move your feet in that direction instead of twisting your trunk in that direction;
- Make sure you can see over the load;
- Move carefully toward your destination; and
- If a heavier load is carried for some distance, consider storing it closer.

UNLOADING OBJECTS should be done the same way as lifting objects, but in the reverse order as follows:

- Slowly bend your knees to lower the load;
- Keep your back straight and the weight close to the center of your body;
- Allow enough room for fingers and toes when the load is set down;
- Place the load on a bench or table by resting it on the edge and pushing it forward with your arms and body; and
- Secure the load to ensure that it will not fall, tip over, roll or block someone's way.

ONE-ARM LOADS are used when carrying items such as pails or buckets. Lifting and carrying one-arm loads should be performed as follows:

- Bend the knees and at the waist keeping your back straight;
- Reach for the load;
- Grasp the handle of the load firmly;
- Lift with your legs not your shoulders and upper back; and
- Keep your shoulders level while switching hands regularly to reduce overexertion on one side of the body while carrying the load.

TEAM LIFTS are used when objects are too heavy, too large or too awkward for one person to lift. Team lifts should be performed as follows:

- Work with someone of similar build and height, if possible;
- Choose one person to direct the lift (e.g., "lift on the count of three");
- Lift with your legs and raise the load to the desired level at the same time;
- Always keep the load at the same level while carrying;
- Move smoothly and in unison; and
- Set the load down together.

OVERHEAD LIFTS should be conducted as follows:

- When lifting or lowering objects from above the shoulders, lighten the load whenever possible;
- Stand on something sturdy such as a step stool or platform to decrease the vertical distance; and
- When you are lowering objects from above the shoulders, slide the load close to your body, grasp the object firmly, slide it down your body and proceed with your move.

Mechanical Aids

Alternative material-handling techniques for carrying or moving loads are to be used whenever possible to minimize lifting and bending requirements. These alternate techniques include the use of: hand trucks, carts, dollies, forklifts, hoists and wheelbarrows. Although mechanical aids are used, safe lifting procedures should still be followed by maintaining the natural curvature of the back, using the legs for any lifting that is encountered and avoid twisting the back.

Push – Do Not Pull

Pulling large objects can be as hard on the back as lifting. Instead, push the load. Some back safety techniques to use are:

- Stay close to the load, without leaning forward.
- Tighten your stomach muscles as you push.
- Push with both arms, keeping your elbows bent.
- Turn – Do Not Twist the Back

For some tasks, such as turning a large valve, you may be tempted to twist. Some back safety techniques to use are:

- Get close to the object. Kneel down on one knee, if necessary.
- Position yourself so you are stable.

- Use arms and legs to do the work – not just the back.

Back Belts

After a review of the scientific literature, the National Institute for Occupational Safety and Health (NIOSH) has concluded that, because of limitations of the studies that have analyzed workplace use of back belts, the results cannot be used to either support or refute the effectiveness of back belts in injury reduction. Although back belts are being bought and sold under the premise that they reduce the risk of back injury, there is insufficient scientific evidence that they actually deliver what is promised. NIOSH does not recommend the use of back belts to prevent injuries among workers who have been injured because the Institutes primary focus is on the prevention of injury.

Claims have been made that back belts reduce forces on the spine, increase intra-abdominal pressure (IAP), remind workers to lift properly, stiffen the spine, and reduce bending motions.

While all of these claims have been put forth as support for the use of back belts, they remain unproven. There is currently inadequate scientific evidence or theory to suggest that back belts can reduce the risk of injury.

Due to information that is currently available, Tectonic does not advocate the use of back belts. It is recommended that back belts be provided to Tectonic employees only by and under the direction of a physician. The procurement of back belts will not be the responsibility of Tectonic.

Proper conditioning and training for required work activities are the primary means for prevention of musculoskeletal illnesses and injuries in the workplace. Questions regarding back safety and proper lifting techniques should be directed to the Corporate Health and Safety Officer or Human.

Training

Department managers and supervisors are responsible for ensuring that training is conducted. Training may be conducted by the Corporate Health and Safety Officer or approved trainer. Initial training at new employee orientation shall consist of:

1. An overview of Tectonic's Manual Material Handling Program.
2. Proper lifting techniques.
3. An opportunity to ask questions.

In addition, departmental training shall include the following:

1. Specific job related duties that involve lifting.
2. Proper lifting techniques to perform the assigned duties.
3. Any Personal Protective Equipment (PPE) that is available.
4. Alternative materials handling equipment that is available.
5. An opportunity to ask questions.

The training will establish employee proficiency in back and lifting safety duties and will introduce new or revised procedures as necessary.

Department managers and supervisors shall certify that the training has been accomplished. The certification will contain each employee's name, the signatures of the trainers, and the dates of the training. The certification will be available for inspections by employees or their authorized representatives and copies kept in the employee's permanent records.

Employees who experience back-related workers' compensation injuries shall receive re-training on proper lifting techniques and alternative materials handling equipment prior to returning to duty.

Record keeping

Tectonic's Human Resources Department is responsible for maintaining the training records of employees. Training records will be filled out for each employee upon completion of training. These documents will be kept for at least 3 years and will include:

1. The date of the training session,
2. The contents or summary of the training session,
3. The names and qualifications of the person(s) conducting the training,
4. The names and job titles of all persons attending the training session.
5. Training records will be provided upon request to the employee or the employee's authorized representative within 15 working days of the request.

Employee Acknowledgement

I acknowledge that I have been informed of the Tectonic's Manual Material Handling Program and have knowledge of where the written program is maintained. I have been provided initial training and understand that my supervisor will conduct additional job-related training. I understand my responsibilities as they relate to Back Safety/Proper Lifting Safety, and I accept this plan and procedures as working documents that I will support and follow in my daily work at Tectonic. I further understand that failure to follow these procedures or instructions from management may result in disciplinary action.

_____

(Facility Name)

_____ _____

Employee Name (print and sign) Date

_____ _____

Supervisor's Name (print and sign) Date

Appendix A Hazard Assessment

Employees in the following departments have job duties that require lifting or materials handling. These employees are to be trained on proper lifting techniques and alternative materials handling equipment that is available.

[Sample]

Department	Job Title
Materials Testing	Concrete Inspector
Geotechnical	Engineering Geologist
Environmental	Geologist

APPENDIX N

Hearing Conservation Program

TECTONIC ENGINEERING

Written Program

For

Hearing Conservation

Revised 09/11/13

Prepared by

James Upright, P.E.
Tectonic Corporate Health and Safety Officer

Tectonic

PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.

1910.95

Hearing Conservation Program

The following hearing conservation program has been prepared to comply with the requirements of OSHA's Hearing Conservation Standard, 29 CFR 1910.95, as well as to provide other helpful information. This program is reviewed and modified on a yearly basis to ensure that all changes in Federal or State regulations are incorporated as well as changes in Tectonic operations that would require changes to this program.

1910.95
Hearing Conservation Program
Table of Contents

Hearing Conservation Program
For
Tectonic Engineering

I. OBJECTIVE

The objective of the Tectonic Engineering & Surveying Consultants (Tectonic) Hearing Conservation Program is to minimize occupational hearing loss by providing hearing protection, training, and annual hearing tests to all persons working in areas or construction sites or with equipment that have noise levels equal to or exceeding an eight-hour time-weighted average (TWA) sound limit of 85 dBA (decibels measured on the A scale of a sound level meter). A copy of this program will be maintained by all affected departments. A copy of OSHA's Hearing Conservation Standard, 29 CFR 1910.95, can be obtained from Tectonic's Corporate Health and Safety Officer, James Upright or Human Resources Department. A copy of the standard will also be posted in areas with affected employees.

II. ASSIGNMENT OF RESPONSIBILITY

A. Management

1. Use engineering and administrative controls to limit employee exposure.
2. Provide adequate hearing protection for employees.
3. Post signs and warnings in all high noise areas.
4. Conduct noise surveys annually or when new equipment is needed.
5. Conduct annual hearing test for all employees.
6. Conduct hearing conservation training for all new employees.
7. Conduct annual hearing conservation training for all employees.

B. Employees

1. Use company-issue approved hearing protection in designated high noise areas.
2. Request new hearing protection when needed.
3. Exercise proper care of issued hearing protection.

III. PROCEDURES

A. Noise Monitoring

1. Monitoring for noise exposure levels will be conducted by Corporate Health Safety Officer or his appropriately trained representative. It is the responsibility of the individual departments to notify Corporate Health and Safety Officer when there is a possible need for monitoring. Monitoring will be performed with the use of sound level meters and personal dosimeters at the discretion of Corporate Health and Safety Officer in accordance with the requirements of the OSHA standard.

2. Monitoring will also be conducted whenever there is a change in equipment, process or controls that affect the noise levels. This includes the addition or removal of machinery, alteration in building structure, or substitution of new equipment in place of that previously used. The responsible supervisor must inform the Corporate Health and Safety Officer when these types of changes are instituted to arrange for monitoring.

3. Noise monitoring will be first performed by measuring noise levels in the work area. If there is a large variability in noise levels in the work area, personal noise dosimeters will be used. Area monitoring will be conducted first using sound meter that can measure sound levels using an A-weight curve and a slow response curve at various locations in the work area. Data from the noise

meters will be retained for at least two years by the Corporate Health and Safety Officer and Department Manager. All noise monitoring data records are available for employees to review.

B. Employee Training

1. Affected employees will be required to attend training concerning the proper usage and wearing of hearing protection. The training will be conducted by Corporate Health and Safety Officer, or a designated representative, within a month of hire and annually thereafter.

2. Training shall consist of the following components:

a. how noise affects hearing and hearing loss;
b. review of the OSHA hearing protection standard;
c. explanation of audiometric testing;
d. rules and procedures;
e. locations within company property where hearing protection is required; and
f. how to use and care for hearing protectors.

3. Training records will be maintained by Corporate Health and Safety Officer and Human Resources Department (see Attachment A).

C. Hearing Protection

Management, supervisors, and employees shall properly wear the prescribed hearing protection while working or traveling through any area that is designated as a high noise area.

1. Hearing protection will be provided at no cost to employees who perform tasks designated as having a high noise exposure and replaced as necessary. It is the supervisor's responsibility to require employees to wear hearing protection when noise levels reach or exceed 85 dBA. Those employees will have the opportunity to choose from at least two different types of hearing protection. Employees should select the style that is comfortable to wear and easy to use. Employees may select and use alternative hearing protection as long as it is approved by the Corporate Health and Safety Officer.

2. Personal stereo headsets, ear buds, Bluetooth headsets, or any other type of headphones that play music or radio broadcasts are not approved for hearing protection and are not permitted in any operating area of company property or when on client jobsites.
3. Signage is required in areas that necessitate hearing protection. It is the responsibility of Corporate Health and Safety Officer to provide signage to the appropriate areas.

4. Preformed earplugs and earmuffs should be washed periodically and stored in a clean area. Foam inserts should be discarded after each use. Hands should be washed before handling preformed earplugs and foam inserts to prevent contaminants from being placed in the ear.

5. Corporate Health and Safety Officer will keep a log of the areas or job tasks designated as requiring hearing protection, as well as the personnel affected by this Hearing Conservation Program (see Attachment B).

D. Audiograms/Hearing Tests

1. Employees subject to the Hearing Conservation Program who have time-weighted average (TWA) noise exposures of 85 dBA or greater for an eight (8) hour work shift will be required to have both a baseline and annual audiogram. The audiograms will be provided by Tectonic at no cost to the employee and conducted by OMNI Medical Care of Newburgh, NY for Tectonic employees located in New York with no cost to the employee. Audiograms may be performed at Omni's

Newburgh facility or at Omni's mobile facility as arranged by Tectonic. If audiograms are required for those employees not assigned to a New York State office, then a local medical provider located near the employee's office will be selected by Tectonic to conduct the audiogram.

2. The baseline audiogram will be given to an employee within one (1) month of employment with Tectonic and before any exposure to high noise levels. Annual audiograms will be performed within one year from the date of the previous audiogram. It is the responsibility of the individual and Tectonic's Human Resource Department to schedule the annual audiogram. It is the responsibility of the employee to go to the audiogram appointment and cooperate with the medical staff to the best of their ability.

3. If an annual audiogram shows that an employee has suffered a standard threshold shift, the employee will be retested within thirty (30) days of the annual audiogram. If the retest confirms the occurrence of a standard threshold shift, the employee will be notified in writing within twenty-one (21) days of the confirmation. Employees who do experience a standard threshold shift will be refitted with hearing protection and provided more training on the effects of noise.

Attachment A

Hearing Conservation Training Log

Training Date:_____

Topic:_____

Training Conducted by:_____

Employee Name (printed)	Employee Signature	Job Title

Attachment B

Record of Hearing Protection Needs

Tectonic Engineering **Personnel in Hearing Conservation Program** **As of_____**				
Hearing protection is required for and has been issued to the following personnel:				
Employee Name	**Department**	**Job Description/ Equipment Being Used**	**Type of Hearing Protection Issued**	**Date Issued**

HEAT & COLD STRESS PROGRAM

1.0 INTRODUCTION

1.1 Working in extreme temperatures (hot or cold) can overwhelm the body's internal temperature control system. When the body is unable to warm or cool itself, heat or cold related stress can result. Heat and cold stress can contribute to adverse health effects which range in severity from discomfort to death.

1.2 Tectonic Engineering & Surveying Consultants, PC (Tectonic) has developed this Heat and Cold Stress Program to minimize the effects of heat and cold stress on Tectonic employees. As many of Tectonic's employees work on construction sites or other undeveloped sites, Tectonic recognizes that heat and cold stress to be potential hazard for these employees. This program contains the procedures and practices for safely working in temperature extremes.

1.3 The Occupational Safety and Health Administration (OSHA) does not currently have specific standards for heat or cold stress. However, the Occupational Safety and Health Act of 1970 General Duty Clause (Section 5(a)(1)) states that "Each employer shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees." The OSHA website contains Fact Sheets and Guidance Documents that relate to heat and cold stress that have been incorporated into this program.

2.0 RESPONSIBILITIES

2.1 Tectonic shall:

2.1.1 Maintain, review and update the Heat and Cold Stress Program as needed.

2.1.2 Provide monitoring (upon request) and assist employees with the development of procedures to minimize the adverse effects of heat and cold stress in the workplace.

2.2 Department Managers and Supervisors shall:

2.2.1 Review and comply with the provisions outlined in this program.

2.2.2 Ensure all employees are properly trained before working in extreme temperature conditions.

2.2.3 Assess the day-to-day heat or cold stresses on employees.

2.2.4 Assess employees work load and assigning work and rest schedules as needed.

2.2.5 Ensure all employees have the appropriate personal protective equipment (PPE) prior to working in extreme temperature conditions.

2.2.6 Ensure employees are familiar with this safety program.

2.3 Employees shall:

2.3.1 Review and comply with the provisions outlined in this program.

2.3.2 Complete training before working in extreme temperature conditions.

2.3.3 Wear the appropriate PPE.

2.3.4 Report heat and cold stress concerns to their supervisor.

3.0 Heat Related Illnesses; Signs, Treatment and Prevention

3.1 While working in hot weather conditions, an employee's body may not be able to maintain a normal

temperature just by sweating. If this happens, heat-related illnesses may occur. The most common health problems caused by hot work environments include:

3.1.1 Heat stroke – This is the most serious heat related effect. Heat stroke occurs when the body temperature increases above 104□F. Signs and symptoms of heat stroke are confusion, loss of consciousness and lack of perspiration. This condition must be treated as a medical emergency and the employee must receive immediate medical attention.

3.1.2 Heat exhaustion – Signs and symptoms of heat exhaustion include headache, nausea, dizziness, weakness, irritability, confusion, thirst, heavy perspiration and a body temperature greater than 100.4□F. Employees experiencing heat exhaustion should be moved to a cool area, given fluids to drink and given cold compresses for their head, face and neck. Employees should also be taken to a clinic or emergency room to be monitored by medical personnel.

3.1.3 Heat cramps – Signs and symptoms of heat cramps include muscle pains usually caused by the loss of body salts/fluids. Employees should replace fluid loss by drinking water and/or carbohydrate-electrolyte replacement liquids (e.g. Gatorade) every 15 to 20 minutes.

3.1.4 Heat rash – Heat rash is caused by excessive perspiration and looks like a red cluster of pimples or small blisters. Heat rash usually appears on the neck, upper chest, in the groin, under the breasts and in elbow creases. Treatment for heat rash is to provide a cooler, less humid environment.

3.1.5 Dehydration – Dehydration is a major factor in most heat disorders. Signs and symptoms of dehydration include increasing thirst, dry mouth, weakness or light-headedness (particularly if worse upon standing), and a darkening of the urine or a decrease in urination. Dehydration can be reversed or put back in balance by drinking cool water or alternatively fluids that contain electrolytes (i.e. Gatorade) that are lost during work related activities. Avoid caffeinated drinks as they worsen dehydration.

3.2 While heat related illness are dangerous and potentially life threating, they can be prevented. Prevention methods include:

3.2.1 Acclimation – Acclimation is a process by which the physical processes of an employee's body adjusts to the environment over a period of time. Based on data obtained from OSHA, this process usually takes five to seven days. This process could take up to three weeks depending on the individual and their work environment. According to the American Industrial Hygiene Association, the process requires a consistent work level for at least two hours each day during the acclimation period in order for an employee to become acclimatized. Mere exposure to heat does not confer acclimatization, nor does acclimatization at one heat stress level confer resistance to heat stress at a higher temperature or more vigorous work load.

Employees who are not adequately acclimatized to the heat may experience temporary heat fatigue resulting in a decline in performance, coordination or alertness. They may also become irritable or depressed. This can be prevented through gradual adjustment to the hot environment. People in good physical condition tend to acclimatize better because their cardiovascular systems respond better.

3.2.2 Engineering Controls – For employees working indoors, the best way to prevent heat-related illness is to make the work environment cooler. Where and if possible, use air conditioning to cool the work area. Alternatively, increase the general ventilation as much as possible by opening windows or doors. When available, use cooling fans to aid in increasing ventilation.

3.2.3 Safe Work Practices – For employees working outdoors or working indoors without air conditioning or ventilation, take scheduled breaks in cool areas. Ensure there is plenty of cool water to drink and take water breaks as needed. Immediately report any problems to a supervisor. Supervisors should

consider scheduling the hottest work for the coolest part of day, assigning extra employees to high demand tasks, and using work-saving devices (e.g. power tools, hoists or lifting aids) to reduce the body's work load. All employees should watch out for the safety of their coworkers.

3.2.4 Heat Index – The Heat Index is a single numeric value that uses both temperature and humidity to inform the public on how the weather outdoors "feels". The higher the Heat Index, the hotter the weather feels. OSHA has used the Heat Index to assign protective measures for workers as the Heat Index increases. These protective measures may reduce the likelihood of heat related illnesses. The Heat Index and related protective measures are contained in Appendix A of this program.

3.3 Wet Bulb Globe Temperature (WBGT) Monitoring.

3.3.1 Upon request, Tectonic Health and Safety personnel can provide WBGT monitoring using a QuesTemp 32Heat Stress Monitor. With this instrument, Tectonic health and safety personnel can provide supervisors and employees with the following information:

3.3.1.1 Natural Wet Bulb Thermometer – Gives an indication of the effects of humidity on an individual.

3.3.1.2 Globe Thermometer – Gives an indication of the radiant heat exposure on an individual due to either direct light or hot objects in the environment.

3.3.1.3 Dry Bulb Thermometer – A measurement of the ambient air temperature.

3.3.1.4 Relative Humidity – A measurement of water vapor in the air.

3.3.2 After collecting the aforementioned information, Tectonic health and safety personnel can compare the results to published charts that show the allowable work-rest regimens for given workloads.

4.0 Cold Related Illnesses and Injuries; Signs, Treatment and Prevention

4.1 During cold weather, an employee's body will use energy to maintain a normal internal body temperature. This will result in a shift of blood flow from employee's extremities (hands, feet and legs) and outer skin to the employee's core (chest and abdomen). If this happens, cold-related illnesses and injuries may occur if exposed to cold conditions for an extended period of time. The most common health problems caused by cold work environments include:

4.1.1 Hypothermia – Hypothermia is a potentially serious health condition. Hypothermia occurs when body heat is lost faster than it can be replaced. When the core body temperature drops to approximately 95°F, the onset of symptoms normally begins. The employee may begin to shiver, lose coordination, have slurred speech, and fumble with items in the hand. The employee's skin will likely be pale and cold. As the body temperature continues to fall these symptoms will worsen and shivering will stop. Once the body temperature falls to around 85°F severe hypothermia will develop and the person may become unconscious, and at 78°F, vital organs may begin to fail.

Treatment depends on the severity of the hypothermia. For cases of mild hypothermia move to warm area and stay active. Remove wet clothes and replace with dry clothes or blankets, cover the head. To promote metabolism and assist in raising internal core temperature drink a warm (not hot) sugary drink. Avoid drinks with caffeine. For more severe cases do all the above, plus contact emergency medical personnel (Call 911 for an ambulance), cover all extremities completely, place very warm objects, such as hot packs or water bottles on the victim's head, neck, chest and groin. Arms and legs should be warmed last. In cases of severe hypothermia, treat the employee very gently and do not apply external heat to re-warm. Hospital treatment is required.

4.1.2 Frostbite – Frostbite occurs when the skin actually freezes and loses water. In severe cases, amputation of the frostbitten area may be required. While frostbite usually occurs when the temperatures are 30° F or lower, wind chill factors can allow frostbite to occur in above freezing

temperatures. Frostbite typically affects the extremities, particularly the feet and hands. The affected body part will be cold, tingling, stinging or aching followed by numbness. Skin color turns red, then purple, then white, and is cold to the touch. There may be blisters in severe cases.

Do not rub the area to warm it. Wrap the area in a soft cloth, move the employee to a warm area, and contact medical personnel. Do not leave the employee alone. If help is delayed, immerse in warm (maximum 105 °F), not hot, water. Do not pour water directly on affected part. If there is a chance that the affected part will get cold again do not warm. Repeated heating and cooling of the skin may cause severe tissue damage.

4.1.3 Trench Foot – Trench Foot is caused by having feet exposed to damp, unsanitary and cold conditions including water at temperatures above freezing for long periods of time. It is similar to frostbite, but considered less severe. Symptoms usually consist of tingling, itching or burning sensation. Blisters may be present.

For treatment, soak feet in warm water, then wrap with dry cloth bandages. Drink a warm, sugary drink. Seek medical attention if necessary.

4.1.4 Dehydration – It is easy to become dehydrated during cold weather. Signs of dehydration include increasing thirst, dry mouth, weakness or light- headedness (particularly if worse upon standing), and a darkening of the urine or a decrease in urination. Dehydration can be reversed or put back in balance by drinking cool water or fluids that contain electrolytes (i.e. Gatorade) that are lost during work related activities. Avoid caffeinated drinks.

4.2 Just as with heat related illness, cold related illnesses and injuries are dangerous and potentially life threating, however, they can be prevented. Prevention methods include:

4.2.1 Acclimation – Employees exposed to the cold should be physically fit, without any circulatory, metabolic, or neurologic diseases that may place them at increased risk for hypothermia. A new employee should not be required to work in the cold full time during the first days of employment until they become adjusted to the working conditions and required protective clothing. New employees should be introduced to the work schedule slowly and be trained accordingly.

4.2.2 Engineering Controls – For employees working indoors, the best way to prevent cold-related illness is to make the work environment warmer. Where and if possible, use heaters to warm the work area. Alternatively, decrease the general ventilation as much as possible by closing windows or doors.

4.2.3 Safe Work Practices – For employees working outdoors or working indoors without heat, take scheduled breaks in warm areas. If available, use wind barricades to block the wind from the employees. Ensure there is plenty of water to drink and take water breaks as needed. Immediately report any problems to a supervisor. Supervisors should consider scheduling the most work for the warmest part of day, assigning extra employees to high demand tasks that will require longer periods in cold areas. All employees should watch out for the safety of their coworkers.

4.2.4 Personal Protective Equipment (PPE) – PPE is an important factor in preventing cold stress related illnesses and injuries. Employees should adhere to the following recommendations when dressing for work in a cold environment:

- Wear at least three layers of clothing; an inner layer of wool, silk or synthetic to wick moisture away from the body; a middle layer of wool or synthetic to provide insulation even when wet; an outer wind and rain protection layer that allows some ventilation to prevent overheating.
- Wear a hat or hood; up to 40% of body heat can be lost when the head is left exposed.
- Wear insulated boots or other footwear.
- Do not wear tight clothing; loose clothing provides better ventilation.

- Keep a change of clothing available in case work clothes become wet.

4.2.5 The Cold Stress Equation – OSHA has incorporated information obtained from the American Conference of Governmental Industrial Hygienists (ACGIH) threshold limit values into the Cold Stress Equation. As the temperature decreases and/or the wind speed increases, the potential for cold stress related illnesses and injuries increases. The Cold Stress Equation is contained in Appendix B of this program.

5.0 Training

5.1 Supervisors shall ensure all employees have received Heat and/or Cold Stress training prior to working in such conditions.

5.2 Tectonic Health and Safety personnel can provide heat or cold stress training upon request.

6.0 Recordkeeping

6.1 All training records should be maintained in the employees personnel file and maintained by the supervisor. Training records are also maintained by Tectonic's Health and Safety officer for training programs provided by Tectonic.

Appendix A Heat Index

The heat index is a simple tool and a useful guide for employers/employees making decisions about protecting employees in hot weather. It does not account for certain conditions that contribute additional risk, such as physical exertion. Consider taking the steps at the next highest risk level to protect employees from the added risks posed by:

- Working in the direct sun (can add up to 15°F to the heat index value)
- Wearing heavy clothing or protective gear

Under most circumstances, fluid intake should not exceed 6 cups per hour or 12 quarts per day. This makes it particularly important to reduce work rates, reschedule work, or enforce work/rest schedules.

The heat index follows on the next two pages.

Heat Index	Risk Level	Protective Measures
<91°F	Lower (Caution)	• Provide plenty of drinking water • Ensure that adequate medical services are available • Plan ahead for times when heat index is higher, including worker heat safety training • Encourage workers to wear sunscreen • If workers must wear heavy protective clothing, perform strenuous activity or work in the direct sun, addition precautions are recommended to protect workers from heat related illness
91°F to 103°F	Moderate	In addition to the steps listed above: • Remind workers to drink water often (about 4 cups per hour) • Review heat related illness topics with workers such as recognition, prevention and first-aid • Schedule frequent breaks in cool, shaded areas • Acclimatize workers • Set up a buddy system and instruct workers and supervisors to watch for signs of heat related illnesses • Schedule strenuous activities at a time when the heat index is lower • Develop work rest schedules • Monitor workers closely • If workers must wear heavy protective clothing, perform strenuous activity or work in the direct sun, addition precautions are recommended to protect workers from heat related illness

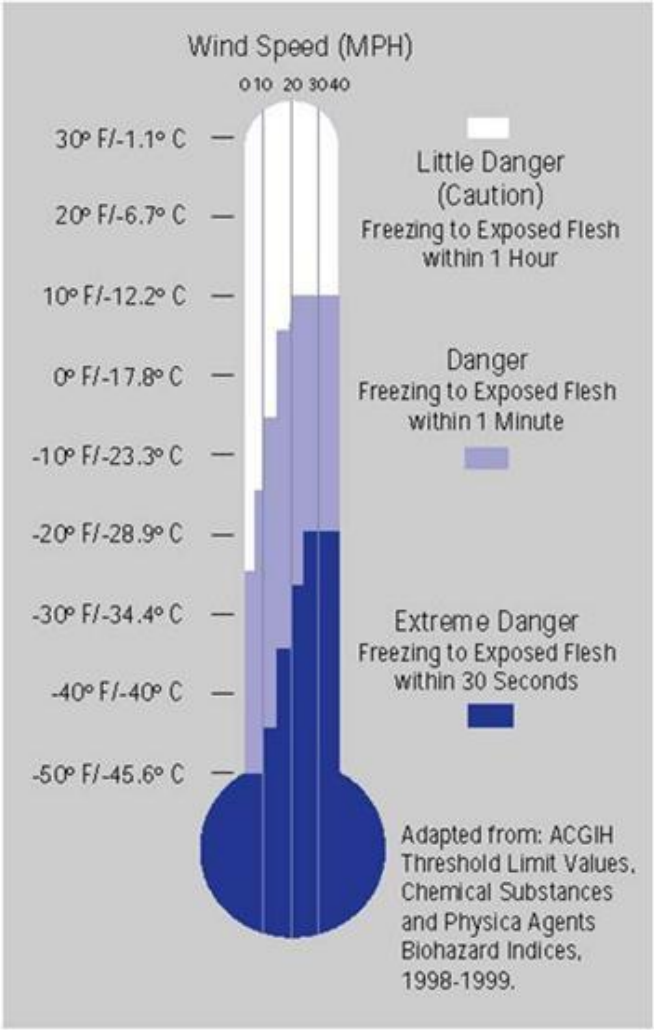
Heat Index	Risk Level	Protective Measures
103°F to 115°F	High	In addition to the steps listed above: • Alert workers of high risk conditions • Actively encourage workers to drink plenty of water (about 4 cups per hour) • Limit physical exertion • have a knowledgeable person at the work site who is well informed about heat related illness and able to determine appropriate work/rest schedules • Establish and enforce work/rest schedules • Adjust work activities (e.g. reschedule work, pace/rotate jobs) • Use cooling techniques • Watch/communicate with workers at all times • When possible, reschedule activities to a time when the heat index is lower
115°F	Very High to Extreme	If essential work must be done, in addition to the steps listed above: • Alert workers of extreme heat hazards • Establish water drinking schedule (about 4 cups per hour) • Develop and enforce protective work/rest schedules • Conduct physiological monitoring (e.g. pulse, temperature, etc.) • Stop work if essential control methods are inadequate or unavailable • Reschedule non-essential activities for days with a reduced heat index or to a time when the heat index is lower • Move essential work tasks to the coolest part of the work shift • Consider earlier start times, split shifts or evening/night shifts • Strenuous work tasks and those requiring the use of heavy or non-breathable clothing or impermeable chemical protective clothing should not be conducted when the heat index is at or above 115°

Appendix B

The Cold Stress Equation

THE COLD STRESS EQUATION

LOW TEMPERATURE + WIND SPEED + WETNESS = INJURIES & ILLNESS



APPENDIX P

Confined Space Entry Program

TECTONIC
CONFINED SPACE ENTRY PROGRAM

Purpose:

The purpose of this section is to assist Tectonic in complying with the Occupational Safety and Health (OSHA) regulation entitled Permit Required Confined Spaces, 29 CFR 1910.146 and .
CFR 1926 Subpart AA.

Confined Space in Construction

All work will be performed in accordance with 29 CFR 1926 Subpart AA. Before work begins at a worksite, Tectonic's project manager and field personnel will consult with the Host Employer and/or Controlling Contractor to determine if permit confined spaces are present at the site. Once Tectonic receives notice of the presence of permit space(s) at the site, Tectonic's project manager shall :

- Inform exposed employees by posting danger signs or by any other equally effective means, of the existence and location of, and the danger posed by, each permit space

- Inform, in a timely manner and in a manner other than posting, its employees' of the existence and location of, and the danger posed by, each permit space.

- Take effective measures to prevent unauthorized employees from entering permit spaces

Should it be necessary for Tectonic employees to enter a confined space, all entries will be coordinated with the Controlling Contractors. Prior to entry Tectonic's Project Manager & field personnel will obtain the following information from the Controlling Contractor.

- Information about the permit space hazards and previous entry operations
- Information regarding permit space hazards and entry operations
- Permit space entry procedures that employees will follow, including any hazards likely to be confronted or created in each permit space
- Precautions other entry employers implemented for the protection of employees in the permit spaces
- Any activities that could foreseeably result in a hazard in the permit space are performed
- Obtain any "Debriefing" obtained by the controlling contractor regarding the permit space entry procedures followed and any hazards confronted or created in the permit space(s) during entry operations;

If there is no controlling contractor present at the worksite, the above in formation shall be obtained from the the host employer or other employer who arranges to have employees of Tectonic perform work that involves permit space entry.

All confined space entries will be coordinated with Controlling Contractor including but not limited to pre-approved site-specific entry procedures. Means, procedures, and practices necessary for safe permit space entry operations, including, but not limited to, the following:

- Acceptable atmospheric entry conditions, including pre-entry air monitoring and continuous air monitoring during entry operations.

- Isolating the permit space and physical hazard(s) within the space and any required lock-out/tag-out

- Purging, inerting, flushing, or ventilating the permit space as necessary to eliminate or control atmospheric hazards;
- Providing pedestrian, vehicle, or other barriers as necessary to protect entrants from external hazards
- Verifying that conditions in the permit space are acceptable for entry throughout the duration of an authorized entry, and ensuring that employees are not allowed to enter into, or remain in, a permit space with a hazardous atmosphere
- Determining that, in the event the ventilation system stops working, the monitoring procedures will detect an increase in atmospheric hazard levels in sufficient time for the entrants to safely exit the permit space.
- Eliminating any conditions (for example, high pressure) that could make it unsafe to remove an entrance cover
- Testing and monitoring equipment needed
- Ventilating equipment needed to obtain acceptable entry conditions;
- Communications equipment necessary including any necessary electronic communication equipment for attendants assessing entrants' status in multiple spaces;
- Personal protective equipment insofar as feasible engineering and work-practice controls do not adequately protect employees;
- Lighting equipment that meets the minimum illumination requirements that is approved for the ignitable or combustible properties of the specific gas, vapor, dust, or fiber that will be present, and that is sufficient to enable employees to see well enough to work safely and to exit the space quickly in an emergency;
- Ladders needed for safe ingress and egress
- Rescue and emergency plan and equipment needed except to the extent that the equipment is provided by rescue services

All employees required to enter a confined space will be trained to ensure they are competent to fulfill their responsibilities related to confined space entry. Training will emphasize understanding and application of regulations, hazard recognition and control. Training will ensure an understanding of the hazards in the permit space and the methods used to isolate, control or in other ways protect employees from these hazards, and for those employees not authorized to perform entry rescues, in the dangers of attempting such rescues. Training will be provided as follows:

Entrants and Attendants

Workers authorized to fulfill the duties of an entrant or attendant shall be trained in the following:

- Hazards of confined space entry;
- Proper use of confined space equipment (e.g., air monitoring equipment, ventilation, PPE, non-entry rescue, etc.); and
- Emergency rescue procedures.

Entry Supervisors

Workers authorized to fulfill the duties of an entry supervisor shall be trained in the following:

- Proper assessment of hazards;
- Planning and supervising entry into confined spaces, including completion of an entry permit;
- Verification of permit conditions;
- Termination and permit close-out procedures; and
- All duties of an entrant and attendant.

Training will emphasize understanding and application of regulations, hazard recognition and control. Training will

ensure an understanding of the hazards in the permit space and the methods used to isolate, control or in other ways protect employees from these hazards, and for those employees not authorized to perform entry rescues, in the dangers of attempting such rescues.

Confined Space General Approach

Spaces are considered a "confined space" if they meet any one of the following OSHA specific definitions:

- Their size and shape will allow a person to enter them
- They have small or obstructed ways of getting in and out which require the use of hands for entry or exit
- They are not designed to be occupied continuously

A confined space is considered to be "permit required confined space" if the space has one or more of the following hazards:

- Contain, or have a known potential to contain, a hazardous atmosphere
- Contain a material (including water, grain, sediment) with the potential for engulfing an entrant
- Have an internal configuration shaped in a way which could trap or asphyxiate an entrant
- Contain any other recognized serious safety or health hazard such as moving machinery

Confined spaces may include vaults, crawl spaces, storage tanks, ventilation ducts, sewers, storm drains, tunnels, ovens, furnaces or other similar structures.

Potential Hazards

Working in confined spaces presents many hazards to Tectonic's employees. A confined space could have a hazardous atmosphere which would be caused from not containing enough oxygen or the air being flammable or toxic. Engulfment by liquid or solid materials is also a potential hazard, as is electrocution, heat stress, becoming wedged in small spaces or by tripping and falling from ladders.

Program Requirements

In order to protect its employees and comply with the OSHA regulations, Tectonic shall initiate a confined space entry procedure in accordance with the following:

- Confined Space Survey Form - Establish a written procedure for evaluating potential confined spaces prior to entry
- Confined Space Entry Permit - Establish a written permit system for the proper preparation, issuance and implementation of entry permits.
- Employee training - Train employees, as provided by this program, so that attendants, authorized entrants and personnel authorizing or in charge of entry can work safely in and around the permit space.
- Equipment - Provide, maintain and ensure the proper use of the equipment necessary for safe entry, testing, monitoring, communication and personal protective equipment.
- Hazard identification - Identify and evaluate each hazard of the confined permit space, including determination of severity.
- Hazard control - Establish and implement the means, procedures and practices by which the permit spaces can be entered safely.
- Atmospheric Testing
- Confined Space Entry Team Duties
- Entrants
- Rescue Team shall verify that the procedure and equipment necessary to rescue entrants from permit spaces

are implemented and provided.

- Low Hazard Permit Spaces
- Minor Maintenance Work
- Hot Work Areas

Confined Space Entry Permit

Tectonic has developed a "Confined Space Entry Permit" and a "Confined Space Entry" to document the procedures used during the entry of a confined space.

Employee Training
Tectonic shall ensure that employees receive the proper training, as required in 29 CFR 1910.146 (e), (f) and (g), prior to any confined space entry.

Equipment
Specialized equipment must be available to ensure a safe confined space entry.

Atmospheric Testing Equipment:
Prior to entry into a confined space, it is required that the quality of air be ascertained. A four gas monitor is designed to detect the common hazards of combustible gas, oxygen deficiency, Hydrogen Sulfide (2S) and Carbon Monoxide (CO). If other contaminants are of concern (i.e., Sulfur Dioxide (SO2), Chlorine (CL2), Toxic Gas), additional equipment will be required.

1. Retrieval Equipment:

2. Ventilation Equipment:

3. Communications Equipment: If continuous voice communications between the attendant and entrant will be difficult or impossible, two-way radios shall be provided.

Self-Contained Breathing Apparatus (SCBA):
During the course of work, it may be necessary to enter an atmosphere which is deficient in Oxygen or contains some contaminant. In those cases, SCBAs will be provided either by the client or rented for the project. Appropriate training must be provided prior to issuance of the SCBAs.

Personal Protective Equipment (PPE):
Proper PPE, such as hard hats, face shields and encapsulated suits, must be made available at the site and listed.

Respiratory Protection:
Respiratory protection should be provided in accordance with Tectonic's Respiratory Protection Program. Determination of necessary respiratory protection should be made by the Entry Supervisor.

Electrical tools and lighting: All electrical equipment shall be intrinsically safe. Ground fault circuit interrupters shall be used with all electrical equipment.

Tools: All tools shall be spark-proof.

1.1.4 Hazard Identification

Prior to entry into a confined space, the space shall be evaluated to determine if it is a confined space and whether it is permit required confined space. The evaluation shall be performed by an experienced project manager who has received training for confined space entry. The evaluation shall be documented on the Confined Space Survey Form (a copy is attached to this appendix), which shall be saved in the project files and a copy shall be sent to the Corporate Health and Safety Coordinator. Hazards that shall be evaluated include the following:

Oxygen-Deficient Atmospheres: An oxygen-deficient atmosphere has less than 19.5% available oxygen (O2). Any atmosphere with less than 19.5% oxygen should not be entered without an approved self-contained breathing apparatus (SCBA). Atmospheres with an oxygen content of greater than 23.5% then there is considered to be a flammable atmosphere.

Flammable Atmospheres: Two things make an atmosphere flammable: (1) the oxygen in the air and (2) a flammable gas, vapor or dust in proper mixture. Different gases have different flammable ranges. If a source of ignition (i.e., sparking or electrical tool) is introduced into a space containing a flammable atmosphere, an explosion will result.

Toxic Atmospheres: Most substances (liquids, vapors, gases, mists, solid materials and dusts) should be considered hazardous in a confined space. Toxic substances can come from the following:

- Product stored in the space: a product can be absorbed into the walls and give off toxic gases when removed or when cleaning out the residue of a stored product.

- Work being performed in a confined space: examples of such include welding, brazing, painting, scraping, sanding, degreasing, etc. Toxic atmospheres are generated in various processes. For example, cleaning solvents are used in many industries for cleaning/degreasing. The vapors from these solvents are very toxic in a confined space.

1.1.5 Confined Space Entry Permit

The confined space entry supervisor shall prepare the confined space entry permit form which is at the end of this appendix. The permit is a Tectonic internal permit required to be completed by OSHA prior to each entry into a confined space. The permit shall address the hazards identified in the previously completed confined space survey form and shall be signed off by the project manager and all personnel involved with entry into the confined space. The original permit shall be kept by the entrance to the confined space during the entire entry. Each permit is good for one shift only and must be completed daily.

1.1.6 Hazard Control

Site Control

The area immediately outside of the permit space shall be cordoned off with high visibility barrier tape or other barriers.

Signs warning against unauthorized entrance shall be conspicuously posted around the work area. Signs shall be visible from all sides.

Ensure that all pedestrian, vehicles or other barriers necessary to protect entrants from external barriers are provided.

Area Isolation

All electrical energy shall be locked and/or tagged out.

All mechanical equipment shall be physically isolated by stops, pins or chocks.

All lines leading to or from tanks shall be physically isolated to prevent the inflow of material. This may be accomplished by inserting blanks, locking valves or physically disconnecting the lines.

Hazardous substances shall be removed from the space by vacuuming, draining or other effective means.

Ventilation shall be provided as necessary prior to the entry of personnel.

Lighting shall be provided as necessary

1.1.7 Atmospheric Testing

Test the air in all areas and levels of the confined space before entry for atmospheric conditions that are hazardous. Monitor the air continuously or retest periodically for as long as the space is occupied and as is appropriate for the hazard involved. Testing would be performed in the following sequence:

- Oxygen concentration
- Combustible gas or vapor concentration
- Potential toxic contaminants

For most items, allowable contaminant concentrations should be given on the permit. After tests are conducted, results are entered on the permit.

First, test the oxygen content of the space. The oxygen content must be between 19.5 and 23.5 percent.

Test the concentration of flammable gases which must be less than 10 percent of the lower flammable limit (LFL). If the space must be entered to determine air quality, the tester is required to wear respiratory protection.

Toxicity: List any toxic materials that could be present and their permissible exposure limits (PEL). Test to make sure none of these materials has a concentration greater than its PEL.

If the air is unsafe according to any of these tests, the hazard must be controlled before entry is allowed. Controls could include forced mechanical ventilation of the space, inerting the atmosphere, and/or providing supplied air. If the air becomes hazardous during entry, the permit must be canceled and everyone must vacate the space and controls be put into place.

Evaluate the space for heat stress potential: When testing is required, enter the degree reading according to the Wet Bulb Glove Thermometer. Note “F” for Fahrenheit or “C” for Centigrade.

The person performing the atmospheric tests shall sign or initial the permit after each test result.

1.1.8 Confined Space Entry Team Duties

A confined space entry team shall consist of a minimum of two members, the entrant and attendant/entry supervisor.

Responsibilities:

Attendant/Entry Supervisor: The attendant stays at his/her post to observe conditions and support the entrant.

As an Attendant, he/she must know the hazards of the confined space and the signs of exposure. The Attendant’s responsibilities include.

- Verifies all permit conditions are met.
- Keep an exact count of the workers within the space.
- Stay in continuous contact with the entrants.
- Be sure only authorized people enter the space or the area surrounding the space.

- Order all workers out of the space in any of these situations:
  - ➢ They see a condition not allowed by the entry permit
  - ➢ They notice signs of exposure in any Entrant
  - ➢ They see something outside the confined space that could cause danger inside
- In case of emergency, do not enter the confined space unless you are trained in confined space rescue, have proper emergency equipment and another Attendant is there to replace you.

1.1.9 Entrants

The permit space Entrants must do their part to control the hazards of confined space entry. The Entrant's responsibilities include:

- As an Entrant, know the hazards of the space and the signs of exposure.

  For example, lack of oxygen can cause:

  - Loss of muscle control
  - Mental confusion
  - Breathing difficulty
  - Misguided feeling of well-being
  - Ringing in the ears
  - Death
- Follow the Personal Protective Equipment training carefully.
- Keep in contact with the Attendant and leave the space at once if ordered to evacuate.
- Always be ready to evacuate quickly and, if possible, without help.
- If you see that you are in danger, leave the space and tell the Attendant.

1.1.10 Rescue Team

Tectonic shall employ outside rescue teams from either the local communities in which the job is located or by utilizing the clients' rescue team available at the job site. The telephone numbers of local fire, police and rescue personnel, or the client's rescue team's notification procedures, shall be conspicuously posted and visible at all times.

The rescue team shall be briefed prior to project and upon arrival at the scene, when needed, of all hazards present within the space.

Emergency and Rescue Procedures
The safest ways of leaving a space when conditions deteriorate are:

Self-rescue: when an entrant evacuates the space with no help at the first sign of trouble.

Non-Entry Rescue: Only workers trained in rescue can enter the space for the purpose of rescue.
The rescue service must be notified in advance of the entry, to ensure they are available for an emergency.

List necessary equipment or devices, such as rescue equipment, whistles, telephones and radios. The

rescue equipment which may be required should be on the job site. Make sure it is in working order before entry begins.

It is a safe practice to ensure that all affected employees review the company's written Emergency Response Plan before entry.

Positive-pressure, self-contained breathing apparatuses must be available on the site for rescuers if a respiratory hazard is potentially present.

It is a safe practice to wear an emergency escape breathing system, sometimes called an egress bottle, into a confined space whenever supplied air is required for entry. Should the supplied air fail, your emergency breathing apparatus must provide enough air to allow you to escape to breathable air.

1.1.11 Non Permit Required Confined Spaces

In certain instances, Tectonic may require employees to enter confined spaces where there are no atmospheric or other hazards as listed above. The absence of any hazards shall be documented on the Confined Space Survey form. Entrants into the non-permit required confined space shall have received confined space entry training.

Examples of low hazard spaces include routine entry to inspect or check meters or equipment and to perform minor maintenance work. Conditions for working in a non-permit required confined space include the following:

- The permit space will be tested for atmospheric condition.
- The space will be either mechanically ventilated during the work activities, mechanically ventilated and tested, and/or continuously tested for atmospheric conditions.

1.1.12 Hot Work

Hot-work areas are those areas where possible fires may be started by flame or electrical work (welding, grinding, burning, sparks) being performed in a hazardous area. A previous inspection of the facility should be performed to establish designated areas. As per specific facility requirements, hot work permits may be required prior to performing hot work. Such areas should be prominently marked before hot-work is done within any such area. Permit tags must be secured in order to help ensure that the area will be as free as possible from fire hazards and that proper precautions will be taken.

Tectonic employees will be trained on the technical elements of 29 CFR 1910.146 by a qualified individual. All subconsultants will be required to provide training documentation and written program.

Confined Space Entry Permit

DATE:	TIME:	EXPIRATION DATE AND TIME:	COMPLETION DATE AND TIME:

LOCATION AND DESCRIPTION OF SPACE:

PERMIT SPACE HAZARDS (Indicate Specific Hazards With Initials):

Initial		Initial	
	Oxygen deficiency (Less than 19.5%)		Toxic gases or vapors (greater than PEL)
	Oxygen enrichment (greater than 23.5%)		Mechanical hazards
	Flammable gases or vapors (greater than 10% of LEL)		Electrical shock
	Airborne combustible dust (meets or exceeds LEL)		Engulfment
	Other: (Explain) Slippery floor due to leaves and standing water		

PURPOSE OF ENTRY:

NAME OF ENTRANT(S):

NAME OF ATTENDANT:

SPECIAL REQUIREMENTS	YES	NO		YES	NO
Lockout/Tagout			Tripod/Harness		
Lines Blanked			Additional Lighting		
Additional Ventilation			(Explosion Proof?)		
Secure Area			Protective Clothing		
SCBA			Hot Work Permit		
Respirator			Other		

Rubber waterproof boots, leather gloves, hard hats, safety glasses, GFCI protected electrical connections

Extraction harness with tripod

Communications: ☐erbal ☐sual R☐o Othe☐

ATMOSPHERIC TESTING Required Every Continuously	ACCEPTABLE LEVELS	BEFORE ENTRY :	TIME:	TIME:	TIME:	TIME:
Oxygen	19.5-23%					
% Lower Explosive Limit	<10%					
Carbon Monoxide	<20 PPM					
Hydrogen Sulfide	<5PPM					
Other						

Instrument Used:	Serial Number:	Date of Last Calibration:

NAME OF PERSON CONDUCTING TESTS:

Print: Sign:

Tectonic SUPERVISOR AUTHORIZING ENTRY:

Print: Sign:

CORPORATE NOTIFIED:	YES ☐	NO ☐
RESCUE SERVICE NOTIFIED:	YES ☐	NO ☐
EMERGENCY NUMBER:		

Original - Post at site, then to supervisor and project folder after entry is completed

APPENDIX Q

Hazardous Waste Operations and Emergency Response Program (HAZWOPER)

TECTONIC
HAZWOPER PROGRAM

1. **Written program.** Tectonic Engineering and Surveying Consultants, PC will review and evaluate this Hazardous Waste Operations and Emergency Response Program (HAZWOPER) on an annual basis, or when changes occur to 29 CFR 1910.120 that prompt revision of this document, or when project or site operational changes occur that require a revision of this document. Effective implementation of this program requires support from all levels of management within this company. This written program will be communicated to all personnel that are affected by it. It encompasses the total workplace, regardless of number of workers employed or the number of work shifts. It is designed to establish clear goals, and objectives.

2. **RESPONSIBILITY:** The Division Managers and Project Managers are responsible for all facets of this program and have authority to make necessary decisions to ensure success of the program. Division Managers and Project Managers shall consult with the Corporate Health & Safety Officer to develop written detailed plans covering each of the basic elements in this program. Once approved only the Corporate Health & Safety Officer may modify the plan. The Safety Officer has authority to halt any operation where there is danger of serious personal injury. This policy includes respiratory hazards.

3. **Purpose**. Tectonic will maintain a HAZWOPER program because it has been determined that there is a reasonable possibility for some Tectonic employees to be exposed to safety or health hazards associated with hazardous waste. This standard practice instruction will provide an operational framework for

   – Clean-up operations required by a governmental body, whether Federal, state, local or other involving hazardous substances that are conducted at uncontrolled hazardous waste sites (including, but not limited to, the EPA's National Priority Site List (NPL), state priority site lists, sites recommended for the EPA NPL, and initial investigations of government identified sites which are conducted before the presence or absence of hazardous substances has been ascertained).

   – Corrective actions involving clean-up operations at sites covered by the Resource Conservation and Recovery Act of 1976 (RCRA) as amended (42 U.S.C. 6901 et seq.).

   – Voluntary clean-up operations at sites recognized by Federal, state, local or other governmental bodies as uncontrolled hazardous waste sites.

   – Operations involving hazardous wastes that are conducted at treatment, storage, and disposal (TSD) facilities regulated by 40 CFR parts 264 and 265 pursuant to RCRA; or by agencies under agreement with U.S.E.P.A. to implement RCRA regulations.

3. **Safety and health program**. Tectonic shall develop and implement a written safety and health program for employees involved in hazardous waste operations. The program shall be designed to identify, evaluate, and control safety and health hazards, and provide for emergency response for hazardous waste operations. The written safety and health program shall incorporate as a minimum the following:

   3.1 An organizational structure.

   3.2 A comprehensive work plan.

3.3 A site-specific safety and health plan, which need not repeat standard practice instructions developed elsewhere.

3.4 A safety and health training program.

3.5 A medical surveillance program.

3.6 Tectonic's standard practice instructions for safety and health.

3.7 Any necessary interface between general program and site specific activities.

4. **Site excavation**. Site excavations created during initial site preparation or during hazardous waste operations shall be shored or sloped as appropriate to prevent accidental collapse in accordance with subpart P of 29 CFR part 1926.

5. **Contractors and sub-contractors**. Should Tectonic retain contractor or sub-contractor services for work in hazardous waste operations this company shall inform those contractors, sub- contractors, or their representatives of the site emergency response procedures and any potential fire, explosion, health, safety or other hazards of the hazardous waste operation that have been identified by Tectonic, including those identified in Tectonic's information program.

6. **Program availability**. The company written safety and health program shall be made available to:

6.1 Contractor or subcontractor or their representative who will be involved with the hazardous waste operation.

6.2 All associated employees and their designated representatives.

6.3 OSHA personnel.

6.4 Authorized personnel of other Federal, state, or local agencies with regulatory authority over the site.

7. **Organizational structure part of a site program**.

7.1 The organizational structure part of the program shall establish the specific chain of command and specify the overall responsibilities of supervisors and employees. It shall include, at a minimum, the following elements:

7.1.1 Peter Sutherland, P.E. as Manager of Environmental Services will have responsibility and authority to direct all hazardous waste operations.

7.1.2 Tectonic's corporate Health and Safety Officer will have the responsibility and authority to develop and implement the site safety and health plan and verify compliance.

7.1.3 All other personnel needed for hazardous waste site operations and emergency response and their general functions and responsibilities.

7.1.4 The lines of authority, responsibility, and communication.

7.2 The organizational structure shall be reviewed and updated as necessary to reflect the current status of waste site operations.

8. Comprehensive work plan part of a site program. Tectonic will develop a comprehensive workplan that shall address the tasks and objectives of the site operations and the logistics and resources required to reach those tasks and objectives. The workplan shall:m

8.1 Address anticipated clean-up activities as well as normal operating procedures which need not repeat Tectonic's procedures available elsewhere.

8.2 Define work tasks and objectives and identify the methods for accomplishing those tasks and objectives.

8.3 Establish personnel requirements for implementing the plan.

8.4 The workplan shall provide for the implementation of the training required by worker involved in site activities.

8.5 The workplan shall provide for the implementation of the required informational programs required workers involved in site activities.

8.6 The work plan shall provide for the implementation of a medical surveillance program required workers involved in site activities.

9. Site-specific safety and health plan. Tectonic will develop a site specific safety and health plan, which will be kept on site. The plan will address the safety and health hazards of each phase of site operation and include the requirements and procedures for employee protection. The site safety and health plan, as a minimum, shall address the following:

9.1 A safety and health risk or hazard analysis for each site task and operation found in the work plan.

9.2 Employee training assignments to assure compliance with the training section of this instruction.

9.3 Personal protective equipment to be used by employees for each of the site tasks and operations being conducted as required by the personal protective equipment program.

9.4 Medical surveillance requirements.

9.5 Frequency and types of air monitoring, personnel monitoring, and environmental sampling techniques and instrumentation to be used, including methods of maintenance and calibration of monitoring and sampling equipment to be used.

9.6 Site control measures.

9.7 Decontamination procedures.

9.8 Emergency response plan meeting the requirements for safe and effective responses to emergencies, including the necessary PPE and other equipment.

9.9 Confined space entry procedures.

9.10 Spill containment requirements.

9.11 Pre-entry briefing. The site specific safety and health plan will provide for pre-entry briefings to be held prior to initiating any site activity, and at such other times as necessary to ensure that employees are apprised of the site safety and health plan and that this plan is being followed. The information and data obtained from site characterization and analysis will be used to prepare and update the site safety and health plan.

9.12 Effectiveness of site safety and health plan. Inspections shall be conducted by the Tectonic corporate health and safety officer or, in his/her absence, site safety supervisor who is knowledgeable in occupational safety and health, acting on behalf of Tectonic as necessary to determine the effectiveness of the site safety and health plan. Any deficiencies in the effectiveness of the site safety and health plan shall be corrected by Tectonic.

10. Site characterization and analysis. The site shall be evaluated in accordance with this standard practice instruction to identify specific site hazards and to determine the appropriate safety and health control procedures needed to protect employees from the identified hazards. The following requirements apply:

10.1 Preliminary evaluation. A preliminary evaluation of a site's characteristics shall be performed prior to site entry in order to aid in the selection of appropriate employee protection methods prior to site entry. Immediately after initial site entry, a more detailed evaluation of the site's specific characteristics shall be performed in order to further identify existing site hazards and to further aid in the selection of the appropriate engineering controls and personal protective equipment for the tasks to be performed.

10.2 Hazard identification. All suspected conditions that may pose inhalation or skin absorption hazards that are immediately dangerous to life or health (IDLH), or other conditions that may cause death or serious harm, shall be identified during the preliminary survey and evaluated during the detailed survey. Examples of such hazards include, but are not limited to:

10.2.1 Confined space entry.

10.2.2 Explosive or flammable situations

10.2.3 Visible vapor clouds.

10.2.4 Areas where biological or environmental indicators such as dead animals or vegetation are located.

10.3 Required information. The following information to the extent available shall be obtained by Tectonic prior to allowing employees to enter a site:

10.3.1 Location and approximate size of the site.

10.3.2 Description of the response activity and/or the job task to be performed.

10.3.3 Duration of the planned employee activity.

10.3.4 Site topography and how accessible.

10.3.5 Safety/health hazards expected at the site.

10.3.6 Pathways for hazardous substance dispersion.

10.3.7 Present status and capabilities of emergency response teams that would provide assistance to hazardous waste clean-up site employees at the time of an emergency.

10.3.8 Hazardous substances and health hazards involved or expected at the site, and their chemical and physical properties.

10.4 Personal protective equipment. Personal protective equipment (PPE) shall be provided and used during initial site entry in accordance with the following requirements:

10.4.1 Based upon the results of the preliminary site evaluation, an ensemble of PPE shall be selected and used during initial site entry which will provide protection to a level of exposure below permissible exposure limits and published exposure levels for known or suspected hazardous substances and health hazards, and which will provide protection against other known and suspected hazards identified during the preliminary site evaluation. If there is no permissible exposure limit or published exposure level, Tectonic may use other published studies and information as a guide to appropriate personal protective equipment.

10.4.2 If positive pressure self-contained breathing apparatus is not used as part of the entry ensemble, and if respiratory protection is warranted by the potential hazards identified during the preliminary site evaluation, an escape self-contained breathing apparatus of at least five minute's duration shall be carried by employees during initial site entry.

10.4.3 If the preliminary site evaluation does not produce sufficient information to identify the hazards or suspected hazards of the site, an ensemble providing protection equivalent to Level B PPE shall be provided as minimum protection, and direct reading instruments shall be used as appropriate for identifying IDLH conditions.

10.4.4 Once the hazards of the site have been identified, the appropriate PPE shall be selected and used in accordance with the engineering controls, work practices, and PPE for employee protection section of this instruction.

10.5 Monitoring. The following monitoring shall be conducted during initial site entry when the site evaluation produces information that shows the potential for ionizing radiation or IDLH conditions, or when the site information is not sufficient reasonably to eliminate these possible conditions:

10.5.1 Monitoring with direct reading instruments for hazardous levels of ionizing radiation.

10.5.2 Monitoring the air with appropriate direct reading test equipment (i.e., combustible gas meters, detector tubes) for IDLH and other conditions that may cause death or serious harm (combustible or explosive atmospheres, oxygen deficiency, toxic substances).

10.5.3 Visually observing for signs of actual or potential IDLH or other dangerous conditions.

10.6 Air monitoring program. An ongoing air monitoring program will be implemented after site characterization has determined the site is safe for the start-up of operations.

10.7 Risk identification. Once the presence and concentrations of specific hazardous substances and health hazards have been established, the risks associated with these substances shall be identified. Employees who will be working on the site shall be informed of any risks that have been identified. In situations covered by the Hazard Communication Standard, 29 CFR 1910.1200, training required by that standard will not be duplicated. Risks to be considered include, but are not limited to:

10.7.1 Exposures exceeding the permissible exposure limits and published exposure levels.

10.7.2 IDLH concentrations.

10.7.3 Potential skin absorption and irritation sources.

10.7.4 Potential eye irritation sources.

10.7.5 Explosion sensitivity and flammability ranges.

10.7.6 Oxygen deficiency.

10.8 Employee notification. Any information concerning the chemical, physical, and toxicological properties of each substance known or expected to be present on site that is available to Tectonic and relevant to the duties an employee is expected to perform shall be made available to the affected employees prior to the commencement of their work activities. Tectonic may elect to utilize information developed for the hazard communication standard for this purpose.

10.9 Site control. Appropriate site control procedures will be implemented to control employee exposure to hazardous substances before clean-up work begins.

10.10 Site control program. A site control program for protecting employees which is part of Tectonic's site safety and health program will be developed during the planning stages of a hazardous waste clean-up operation and modified as necessary as new information becomes available.

10.11 Elements of the site control program. Where these requirements are covered elsewhere they will not be repeated with just cause. The site control program will, as a minimum, include:

10.11.1 A site map.

10.11.2 Site work zones.

10.11.3 The use of a "buddy system".

10.11.4 Site communications including alerting means for emergencies.

10.11.5 The standard practice instructions or safe work practices.

10.11.6 Identification of the nearest medical assistance.

11. Training. All employees working on site (such as but not limited to equipment operators, general laborers and others) exposed to hazardous substances, health hazards, or safety hazards and their supervisors and management responsible for the site shall receive training before they are permitted to engage in hazardous waste operations that could expose them to hazardous substances, safety, or health hazards, and they shall receive review training as specified in this paragraph. Employees shall not be permitted to participate in or supervise field activities until they have been trained to a level required by their job function and responsibility. Elements to be covered include the following:

11.1 Names of personnel and alternates responsible for site safety and health.

11.2 Safety, health and other hazards present on the site.

11.3 Use of personal protective equipment.

11.4 Work practices by which the employee can minimize risks from hazards.

11.5 Safe use of engineering controls and equipment on the site.

11.6 Medical surveillance requirements, including recognition of symptoms and signs which might indicate overexposure to hazards.

11.7 The contents of the site safety and health plan.

11.8 Initial training requirements for hazardous waste clean-up sites.

Staff

Routine site employees	40 hours initial 24 hours field 8 hours annual refresher
Routine site employees (Minimal exposure)	24 hours initial 8 hours field 8 hours annual refresher
Non-routine site employees	24 hours initial

	8 hours field 8 hours annual refresher
Supervisors/Managers of Routine site employees	40 hours initial 24 hours field 8 hours HAZWOPER Site Supervisor
Routine site employees (minimal exposure)	24 hours initial 8 hours field 8 hours annual refresher
Non-routine site employees	24 hours initial 8 hours field 8 hours annual refresher

11.9 Initial training requirements for emergency response staff.

Level 1 - First responder (Awareness level)	Sufficient training or proven experience in specific competencies, annual refresher
Level 2 - First responder (Operations level)	Level 1 competency and 8 hours initial or proven experience in specific competencies annual refresher
Level 3 - HAZMAT technician	24 hours of level 2 and proven experience in specific competencies, annual refresher
Level 4 - HAZMAT specialist	24 hours of level 3 and proven experience in specific competencies, annual refresher
Level 5 - on scene commander	24 hours of level 2 and additional competencies, annual refresher

Definitions

Level 1 - First responder. Witnesses or discovers a release of hazardous materials and who are trained to notify the proper authorities.

Level 2 - First responder. Responds to releases of hazardous substances in a defensive manner, without trying to stop the releases.

Level 3 - HAZMAT Technician. Responds aggressively to stop releases of hazardous substances.

Level 4 - HAZMAT Specialist. Responds with and in support of HAZMAT technicians, but who have specific

knowledge of various hazardous substances.

Level 5 - On scene Commander. Assumes control of the incident scene beyond the first responder awareness level.

11.10 Qualifications for trainers. Trainers used by this company shall be qualified to instruct employees about the subject matter that is being presented in training. Such trainers shall have satisfactorily completed a training program for teaching the subjects they are expected to teach, or they shall have the academic credentials and instructional experience necessary for teaching the subjects. Instructors shall demonstrate competent instructional skills and knowledge of the applicable subject matter.

11.11 Training certification. Employees and supervisors that have received and successfully completed the training and field experience shall be certified by their instructor or the head instructor and trained supervisor as having successfully completed the necessary training. A written certificate shall be given to each person so certified. Any person who has not been so certified or who does not meet the requirements for entering the site shall be prohibited from engaging in hazardous waste operations.

11.12 Emergency response. Employees who are engaged in responding to hazardous emergency situations at hazardous waste clean-up sites that may expose them to hazardous substances shall be trained in how to respond to such expected emergencies.

11.13 Refresher training. Employees, managers and supervisors will receive eight hours of refresher training annually (any critique of incidents that have occurred in the past year that can serve as training examples of related work, and other relevant topics).

11.14 Equivalent training. Equivalent training includes any academic training or the training that existing employees might have already received from actual hazardous waste site work experience. Employee's who can show by documentation or certification that their work experience and/or training has resulted in training equivalent to that training required for a 40 hour course will not be required attend formal training. However, certified employees or employees with equivalent training new to a site shall receive appropriate, site specific training before site entry and have appropriate supervised field experience at the new site

12. Medical surveillance. The employer when engaged in hazardous waste operations specified section 2 of this standard practice instruction will institute a medical surveillance program in accordance with this section.

12.1 Employees covered. The medical surveillance program shall be instituted by Tectonic for the following employees:

12.1.1 All employees who are or may be exposed to hazardous substances or health hazards at or above the permissible exposure limits or, if there is no permissible exposure limit, above the published exposure levels for these substances, without regard to the use of respirators, for 30 days or more a year.

12.1.2 All employees who wear a respirator for 30 days or more a year or as required by 29 CFR 1910.134.

12.1.3 All employees who are injured, become ill or develop signs or symptoms due to possible overexposure involving hazardous substances or health hazards from an emergency response

or hazardous waste operation.

12.1.4 Members of HAZMAT teams

12.2 Frequency of medical examinations and consultations. Medical examinations and consultations shall be made available by Tectonic to each employee authorized on the following schedules:

12.2.1 Prior to assignment.

12.2.2 At least once every twelve months for each employee covered unless the attending physician believes a longer interval (not greater than biennially) is appropriate.

12.2.3 At termination of employment or reassignment to an area where the employee would not be covered if the employee has not had an examination within the last six months.

12.2.4 As soon as possible upon notification by an employee that the employee has developed signs or symptoms indicating possible overexposure to hazardous substances or health hazards, or that the employee has been injured or exposed above the permissible exposure limits or published exposure levels in an emergency situation.

12.2.5 At more frequent times, if the examining physician determines that an increased frequency of examination is medically necessary.

12.3 For authorized employees who may have been injured, received a health impairment, developed signs or symptoms which may have resulted from exposure to hazardous substances resulting from an emergency incident, or exposed during an emergency incident to hazardous substances at concentrations above the permissible exposure limits or the published exposure levels without the necessary personal protective equipment being used:

12.3.1 As soon as possible following the emergency incident or development of signs or symptoms.

12.3.2 At additional times, if the examining physician determines that follow-up examinations or consultations are medically necessary.

12.4 Content of medical examinations and consultations.

12.4.1 Medical examinations will include a medical and work history (or updated history if one is in the employee's file) with special emphasis on symptoms related to the handling of hazardous substances and health hazards, and to fitness for duty including the ability to wear any required PPE under conditions (i.e., temperature extremes) that may be expected at the work site.

12.4.2 The content of medical examinations or consultations made available to employees will be determined by the attending physician. (The guidelines in the Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities should be consulted).

12.5 Examination by a physician and costs. All medical examinations and procedures performed by or contracted through Tectonic will be performed by or under the supervision of a licensed physician, preferably one knowledgeable in occupational medicine, and shall be provided without cost to the

employee, without loss of pay, and at a reasonable time and place.

12.6 Information provided to the physician. Tectonic will provide one copy of 29 CFR 1910.120 any appendices to the attending physician, and in addition the following for each employee:

12.6.1 A description of the employee's duties as they relate to the employee's exposures.

12.6.2 The employee's exposure levels or anticipated exposure levels.

12.6.3 A description of any personal protective equipment used or to be used.

12.6.4 Information from previous medical examinations of the employee which is not readily available to the examining physician.

12.6.5 Information required by 29 CFR 1910.134.

12.7 Physician's written opinion. Tectonic shall obtain and furnish the employee with a copy of a written opinion from the attending physician containing the following:

12.7.1 The physician's opinion as to whether the employee has any detected medical conditions which would place the employee at increased risk of material impairment of the employee's health from work in hazardous waste operations or emergency response, or from respirator use.

12.7.2 The physician's recommended limitations upon the employee's assigned work.

12.7.3 The results of the medical examination and tests if requested by the employee.

12.7.4 A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions which require further examination or treatment.

12.7.5 The written opinion obtained by Tectonic shall not reveal specific findings or diagnoses unrelated to occupational exposures.

12.8 Recordkeeping. An accurate record of the medical surveillance shall be retained. This record shall be retained for the period specified and meet the criteria of 29 CFR 1910.20.

The record will include at least the following information:

12.8.1 The name and social security number of the employee.

12.8.2 Physician's written opinions, recommended limitations, and results of examinations and tests.

12.8.3 Any employee medical complaints related to exposure to hazardous substances.

12.8.4 A copy of the information provided to the examining physician by Tectonic, with the exception of 29 CFR 1910.120 and any appendices.

13. Engineering controls, work practices, and personal protective equipment for employee protection. This

company will ensure that engineering controls, work practices, personal protective equipment, or a combination of these will be implemented in accordance with 29 CFR 1910, subparts G and Z. Engineering controls and work practices will be instituted to reduce and maintain employee exposure to or below the permissible exposure limits, except to the extent that such controls and practices are not feasible.

14. Spill and leak prevention and emergency response.

14.1 **Propane tank:** Tectonic maintains propane in two (2) above ground storage tank as a fuel supply for emergency generators at Tectonic's main office. Each tank holds approximately 500 lbs and is located on the east side of building. A rupture in this tank entails a potentially devastating explosion presenting a severe threat to human health and the environment, although the probability of this occurring is low. The following countermeasure actions would be used to mitigate injury and damage from a release.

14.1.1 Countermeasure. The tanks are inspected by the propane supplier and the Corporate Health and Safety Officer on a yearly basis to ensure adherence to gas safety regulations. The following countermeasure actions would be used to mitigate injury and damage from a release.

14.2 **General spill procedure.**

14.2.1 In the event of a spill the following general steps are to be taken:

1. Determine source and nature of spill.

2. Based on chemical information available from personal knowledge, technical data or MSD Sheets, don protective equipment. IF YOU ARE UNSURE OF THE PROPER PROCEDURES, EQUIPMENT OR GENERAL SAFETY ACTIONS, DO NOT ATTEMPT TO REMEDIATE THE SPILL. NEVER PLACE YOURSELF OR OTHERS IN DANGER DURING AN EMERGENCY SITUATION.

3. Try to stop the spill at the source.

4. Contain the spill with absorbent material (e.g. booms) if possible.

5. Notify your immediate supervisor.

6. Your supervisor will notify the Corporate Health and Safety Officer.

7. A Spill Report must be completed.

15. Definitions.

- Buddy system means a system of organizing employees into work groups in such a manner that each employee of the work group is designated to be observed by at least one other employee in the work group. The purpose of the buddy system is to provide rapid assistance to employees in the event of an emergency.

- Clean-up operation means an operation where hazardous substances are removed, contained, incinerated, neutralized, stabilized, cleared up, or in any other manner processed or handled with the ultimate goal of making the site safer for people or the environment.

- Decontamination means the removal of hazardous substances from employees and their equipment to the extent necessary to preclude the occurrence of foreseeable adverse health affects.- Emergency response corresponding to emergencies means a response effort by employees from outside the immediate release area or by other designated responders (i.e., mutual aid groups, local fire departments, etc.) to an occurrence which results, or is likely to result, in an uncontrolled release of a hazardous substance. Responses to incidental releases of hazardous substances where the substance can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate release area, or by maintenance personnel are not considered to be emergency responses within the scope of this standard. Responses to releases of hazardous substances where there is no potential safety or health hazard (i.e., fire, explosion, or chemical exposure) are not considered to be emergency responses.

- Facility means (A) any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, storage container, motor vehicle, rolling stock, or aircraft, or (B) any site or area where a hazardous substance has been deposited, stored, disposed of, or placed, or otherwise come to be located; but does not include any consumer product in consumer use or any water-borne vessel.

- Hazardous materials response (HAZMAT) team means an organized group of employees, designated by Tectonic, who are expected to perform work to handle and control actual or potential leaks or spills of hazardous substances requiring possible close approach to the substance. The team members perform responses to releases or potential releases of hazardous substances for the purpose of control or stabilization of the incident. A HAZMAT team is not a fire brigade nor is a typical fire brigade a HAZMAT team. A HAZMAT team, however, may be a separate component of a fire brigade or fire department.

- Hazardous substance means any substance designated or listed under paragraphs (A) through (D) of this definition, exposure to which results or may result in adverse effects on the health or safety of employees:

  A. Any substance defined under section 101(14) of CERCLA.

  B. Any biological agent and other disease-causing agent which after release into the environment and upon exposure, ingestion, inhalation, or assimilation into any person, either directly from the environment or indirectly by ingestion through food chains, will or may reasonably be anticipated to cause death, disease, behavioral abnormalities, cancer, genetic mutation, physiological malfunctions (including malfunctions in reproduction) or physical deformations in such persons or their offspring.

  C. Any substance listed by the U.S. Department of Transportation as hazardous materials under 49 CFR 172.101 and appendices.

  D. Hazardous waste as herein defined.

- Hazardous waste means--

A. Waste or combination, as defined in 40 CFR 261.3.

B. Substances defined as hazardous wastes in 49 CFR 171.8.

- Hazardous waste operation means any operation conducted within the scope of 29 CFR 1910.120.

- Hazardous waste site or Site means any facility or location within the scope of 29 CFR 1910.120 at which hazardous waste operations take place.

- Health hazard means a chemical, mixture of chemicals or a pathogen for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur in exposed employees. The term "health hazard" includes chemicals which are carcinogens, toxic or highly toxic agents, reproductive toxins, irritants, corrosives, sensitizers, heptaotoxins, nephrotoxins, neurotoxins, agents which act on the hematopoietic system, and agents which damage the lungs, skin, eyes, or mucous membranes. It also includes stress due to temperature extremes. Further definition of the terms used above can be found in appendix A to 29 CFR 1910.1200.

- IDLH or Immediately dangerous to life or health means an atmospheric concentration of any toxic, corrosive or asphyxiant substance that poses an immediate threat to life or would cause irreversible or delayed adverse health effects or would interfere with an individual's ability to escape from a dangerous atmosphere.

- Oxygen deficiency means that concentration of oxygen by volume below which atmosphere supplying respiratory protection must be provided. It exists in atmospheres where the percentage of oxygen by volume is less than 19.5 percent oxygen.

- Permissible exposure limit means the exposure, inhalation or dermal permissible exposure limit specified in 29 CFR part 1910, subparts G and Z.
- Published exposure level means the exposure limits published in "NIOSH Recommendations for Occupational Health Standards" dated 1986 incorporated by reference, or if none is specified, the exposure limits published in the standards specified by the American Conference of Governmental Industrial Hygienists in their publication "Threshold Limit Values and Biological Exposure Indices for 1987-88" dated 1987 incorporated by reference.

- Post emergency response means that portion of an emergency response performed after the immediate threat of a release has been stabilized or eliminated and clean-up of the site has begun. If post emergency response is performed by an employer's own employees who were part of the initial emergency response, it is considered to be part of the initial response and not post emergency response. However, if a group of an employer's own employees, separate from the group providing initial response, performs the clean-up operation, then the separate group of employees would be considered to be performing post emergency response.

- Qualified person means a person with specific training, knowledge and experience in the area for which the person has the responsibility and the authority to control.

- Site safety and health supervisor (or official) means the individual located on a hazardous waste site

who is responsible to Tectonic and has the authority and knowledge necessary to implement the site safety and health plan and verify compliance with applicable safety and health requirements.

- Small quantity generator means a generator of hazardous wastes who in any calendar month generates no more than 1,000 kilograms (2,205 pounds) of hazardous waste in that month.

- Uncontrolled hazardous waste site, means an area identified as an uncontrolled hazardous waste site by a governmental body, whether Federal, state, local or other where an accumulation of hazardous substances creates a threat to the health and safety of individuals or the environment or both. Some sites are found on public lands such as those created by former municipal, county or state landfills where illegal or poorly managed waste disposal has taken place. Other sites are found on private property, often belonging to generators or former generators of hazardous substance wastes. Examples of such sites include, but are not limited to, surface impoundments, landfills, dumps, and tank or drum farms. Normal operations at TSD sites are not covered by this definition.

APPENDIX R

Asbestos Awareness Program

TECTONIC ASBESTOS AWARENESS PROGRAM

1.0 PURPOSE

The purpose of this "Asbestos Awareness Program" is to assist Tectonic Engineering and Surveying Consultants, P.C. management and Employees in conducting their jobs in a safe manner while not putting themselves, others, or the company at risk due to the potential handling or exposure to asbestos containing materials (ACMs) and potentially asbestos containing materials (PACMs).

Asbestos is a set of six naturally occurring silicate minerals used commercially for their desirable physical properties. Asbestos became increasingly popular among manufacturers and builders in the late 19th century because of its sound absorption, average tensile strength, its resistance to fire, heat, electrical and chemical damage, and affordability. It was used in such applications as electrical insulation for hotplate wiring and in building insulation. When asbestos is used for its resistance to fire or heat, the fibers are often mixed with cement (resulting in fiber cement) or woven into fabric or mats. Asbestos minerals have in common their eponymous asbestiform habit: long (roughly 1:20 aspect ratio), thin fibrous crystals. Research has found that the prolonged inhalation of asbestos fibers can cause serious illnesses including malignant lung cancer, mesothelioma, and asbestosis (a type of pneumoconiosis). Although the trade and use of asbestos have been restricted or banned in many jurisdictions, asbestos containing materials (ACMs) and potentially asbestos containing materials (PACMs) can still be found in many buildings.

2.0 SCOPE

The Asbestos Awareness Program applies to all Tectonic activities involving and/or in any building/facility that may contain PACM/ACM and the employees who, as part of their job responsibilities include:

2.1 Market and sell Tectonic capabilities. This includes those who scope and estimate jobs or review such paperwork.

2.2 Employees who are in situations where they may potentially disturb, impact, or contact PACM and ACM through incidental exposures.

2.3 Employees who perform asbestos inspections, air monitoring, or other asbestos worker duties as part of their employment duties.

3.0 DEFINITIONS

3.1 ***Asbestos***: chrysotile, amosite, crocdiolite, tremolite, anthophyllite, actinolite, and any of these minerals that have been chemically altered; includes PACM

3.2 ***ACM:*** Asbestos Containing Materials. Any material containing >1% asbestos

3.3 **Friable:** Material, when dry, may be crumbled, pulverized, or reduced to powder by hand pressure; includes previously non-friable material after it has become damaged so that when dry it may be crumbled, pulverized, or reduced to powder by hand pressure.

3.4 ***PACM:*** Presumed Asbestos Containing Material to be treated as ACM unless rebutted.

3.5 ***Surfacing ACM:*** Material that is sprayed, troweled-on or otherwise applied to surfaces (such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, and other purposes) and that contains more than 1% asbestos.

3.6 ***TSI:*** Thermal System Insulation ACM – means ACM applied to pipes, fittings, boilers, breaching tanks, ducts or other structural components to prevent heat loss or gain and that contains more than 1% asbestos.

3.7 ***Class I Asbestos Work:*** Activities involving the removal of TSI and surfacing ACM and PACM.

3.8 ***Class II Asbestos Work:*** Activities involving the removal of ACM that is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastics.

3.9 ***Class III Asbestos Work:*** Repair and maintenance operations, where "ACM," including TSI and surfacing ACM and PACM, is likely to be disturbed.

3.10 ***Class IV Asbestos Work:*** Maintenance and custodial construction activities during which Employees contact but do not disturb ACM or PACM and activities to clean up dust, waste and debris resulting from Class I, II and III activities.

3.11 ***Building/Facility Owner:*** The legal entity, including a lessee, which exercises control over management and record keeping functions relating to a building and/or facility in which activities covered by this standard take place.

3.12 ***Intact:*** ACM that has not crumbled been pulverized or otherwise deteriorated so that the asbestos is no longer likely to be bound with its matrix.

3.13 ***Disturbance:*** Activities that disrupts the matrix of ACM or PACM, crumble or pulverize ACM or PACM, or generate visible debris from ACM or PACM.

3.14 ***Competent Person:*** Capable of identifying existing asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure and has the authority to take prompt corrective action to eliminate them.

4.0 REFERENCE DOCUMENTS

4.1 Fundamentals of Industrial Hygiene, Third edition, 1988. Barbara A. Plog, Editor.

4.2 29 CFR 1910.1200, OSHA Hazard Communication Standard.

4.3 29 CFR 1926.1101, OSHA Construction Industry Asbestos Standard.

4.4 USEPA. 1990. U.S. Environmental Protection Agency. Managing Asbestos in Place: A Building Owner's Guide to Operations and Maintenance Programs for Asbestos-Containing Materials. Washington, D.C. ("Green Book")

4.5 USEPA. 1985. U.S. Environmental Protection Agency. Asbestos in Buildings: Guidance for Service and Maintenance Personnel. Washington, D.C.: EPA 560/5-85-018. ("Custodial Pamphlet")

4.6 DHHS. 1995. National Institute for Occupational Safety and Health. Respiratory Protective Devices. 42 CFR 84. June 1995.

4.7 OSHA Hazard Communication (HAZCOM). 29 CFR 1910.1200.

4.8 OSHA Occupational Exposure to Asbestos in General Industry. 29 CFR 1910.1001.

4.9 OSHA Occupational Exposure to Asbestos in Construction Industry. 29 CFR 1926.1101. 02/01/13 Page 3 of 9 Tectonic Asbestos Awareness Program

4.10 OSHA Respiratory Protection. 29 CFR 1910.134.

4.11 OSHA Hazardous Waste Operations. 29 CFR 1910.120.

4.12 USEPA. Asbestos. 40 CFR 763.

4.13 USEPA. National Emission Standards for Hazardous Air Pollutants. 40 CFR 61.

5.0 RESPONSIBILITIES

5.1 Asbestos Awareness Program Manager (designated location safety coordinator) shall be responsible for the following tasks:

5.1.1 Assure the implementation of the Asbestos Awareness Program;

5.1.2 Assuring that all Tectonic Team Member activities related to the Asbestos Awareness Program are properly coordinated to include the participation of all those who must be involved.

5.1.3 Developing and maintaining job specification guidelines for work conducted where there is the presence of PACM and/or ACM that is encapsulated and free from defects so that it is not disturbed.

5.1.4 Assure that all asbestos related training records are maintained in accordance with the applicable portions of the OSHA Regulations on Hazard Communication (HAZCOM), Asbestos in General Industry, Respiratory Protection, and Asbestos in Construction.

5.1.5 Ensure that any employees tasked to address the presence of asbestos are qualified and certified in accordance with applicable federal, state and local standards;

5.1.6 Assure that all planned construction and maintenance activities in areas known to have PACM and ACM are conducted in a manner so as to avoid disturbing the material, occupant exposure, and contamination of the building.

5.1.7 Assure that a record is kept of all applicable incidents and situations/ accidents involving PACM and ACM utilizing the "PACM/ACM Incident Report Form" in this section.

5.2 Location Managers shall be responsible for the following tasks:

5.2.1 Assure that all Tectonic Employees adhere to the details of the Asbestos Awareness Program.

5.2.2 Assure that adequate staff and funding is available for the implementation and maintenance of the Asbestos Awareness Program.

5.3 Sales Persons shall be responsible for the following tasks:

5.3.1 Proactively gathering information about the potential presence of PACM/ACM in customer facilities while in the process of preparing bids and job specifications. This includes obtaining customer site Asbestos records including any certified asbestos sampling and identification information. A draft request for information letter is located in this program.

5.3.2 Working with the appropriate area location Asbestos Program Manager to assure that job bids take into account the potential presence of PACM/ACM.

5.4 Supervisors and Departmental Managers shall be responsible for the following tasks:

5.4.1 Assure that all Tectonic Team Member activities related to the Asbestos Awareness Program are properly coordinated to include the participation of all those who must be involved.

5.4.2 Obtain and/or present asbestos-specific training and technical assistance to Tectonic Employees. This is in addition to the presentation of general asbestos-related information as part of any Tectonic Hazard Communication training.

5.4.3 Gather and maintain asbestos-related training records in accordance with the applicable portions of the OSHA Regulations on Hazard Communication (HAZCOM) and Asbestos.

5.4.4 Assure that all planned construction and maintenance activities in areas known to contain PACM and ACM are conducted in a manner so as to avoid disturbing the material, occupant exposure, and contamination of the building.

5.4.5 Assure that a record is kept of all applicable incidents and situations/accidents involving PACM and ACM utilizing the "PACM/ACM Incident Report Form" in this program. Assure that all required signatures are obtained and a copy is forwarded to the Location Manager, Asbestos Awareness Program Manager and the Director of Safety.

5.4.6 Assure that there is a process in place to assure that all damage to PACM and ACM-containing materials is reported and addressed immediately. Protocol will be that work in the area is discontinued until such time the damage has been addressed. In an approved manner, if PACM or ACM is completely encapsulated or sealed there may not be a danger of exposure. However, Employees must be trained to recognize such hazards.

5.4.7 Assure that any Team Member that is suspected to have been exposed to ACM above the PEL and/or excursion limits is notified as soon as Tectonic is notified of possible exposure. Notifications are to be sent via registered mail.

5.4.8 Make arrangements for Team Member medical monitoring in a timely manner. All records are to be maintained for 30 years plus the length of Team Member's employment with Tectonic.

5.5 Employees shall be responsible for the following tasks:

5.5.1 Understanding and following the details of the Tectonic Asbestos Awareness Program.

5.5.2 Attending and successfully completing all required Asbestos-Related Awareness Training.

5.5.3 Assuring the proper conduct of all job activities while maintaining personal safety and the safety of others.

5.5.4 Inform the Job Supervisor immediately if PACM/ACM is suspected, disturbed or damaged. Stop work and await the arrival of a qualified/licensed asbestos inspector or project monitor to assess the severity of the situation and what needs to be done to allow work to continue in the area.

5.5.5 Stabilize the area only if properly trained to do so and the proper equipment is available.

5.5.6 Assure that the details of all work activities involving areas where there is the potential for contact with PACM/ACM are discussed, understood, and documentation exists as to how the work will be safely conducted.

5.5.7 Review proposed renovation, maintenance, or equipment repair work with the Asbestos Awareness Program Manager if there is the suspicion of the presence of PACM/ACM that has not been identified.

6.0 IMPLEMENTATION

6.1 General Policy

6.1.1 No Tectonic Employees are to work in a situation where they may disturb (i.e. drill, saw, sand, or otherwise manipulate) PACM/ACM or be exposed to airborne concentrations of asbestos in excess of the OSHA Permissible Exposure Limit (PEL) and or excursion limit.

6.1.2 Before contract project work begins Tectonic must obtain from the building owner a certification as to the presence of ACM in the proposed work area. Absent this information all PACM will be treated as ACM. (See attached "Request for Information" letter). This letter should be sent once it is determined that the building is pre-1980's as bidding commences. This certification must be from a licensed asbestos inspector or equivalent in the specific state or location.

6.1.3 As part of the initial inspection of the facility/building by Tectonic, the management of existing PACM and/or ACM will need to be considered before work begins. At a minimum, any of these materials found to be damaged and/or otherwise unstable will need some level of attention. This may include anything from repair-in-place to removal (see 5.1 above). The areas around such conditions will necessarily need to be thoroughly cleaned to assure that spilled PACM and/or ACM is properly collected and disposed.

6.1.4 Before project work begins, the customer will be told that Tectonic Employees are not to disturb PACM/ACM. Where there is the potential for such contact, the material must be abated by a licensed asbestos abatement contractor.

6.1.5 Employees required to work on a job site where ACM or PACM has been identified; or it has been properly encapsulated and labeled; must be notified of its location prior to beginning work activities. Destruction or damage of encapsulating materials could potentially expose Employees to ACM or PACM.

6.1.6 In the course of work activities, should Tectonic Employees encounter PACM/ACM that they may disturb, they should stop work at that potential ACM site and notify the job supervisor for further direction. Failure to do this may result in disciplinary action up to and including termination.

6.1.7 When notified of the presence of PACM, the site supervisor shall discuss this with the construction manager or customer representative and request a test of the material. The owner/general contractor shall bear the cost of the test as well as any abatement that may be necessary to clear the ACM from the site so that work can commence. Under no circumstances will Tectonic employees perform ACM abatement of any sort or scale. Failure to perform in this manner may result in disciplinary actions up to and including termination of the site supervisor. In the absence of data to the contrary, PACM will be treated as ACM.

6.1.8 While this investigative process is continuing all work associated in the immediate work area will be stopped until the issue is resolved. Work can only commence when the ACM

test is negative or a licensed ACM contractor has abated or encapsulated the material and clearance air monitoring results indicate levels at or below 0.1 fibers/cubic centimeter. Air sampling must be overseen by a certified industrial hygienist (CIH). When ACM has been unexpectedly found on the job site, the Site Project Manager of that Tectonic location will be notified in writing by using **the "PACM/ACM Incident Report Form**" located in this program.

6.1.9 This work will need to be done by an approved asbestos removal/remediation contractor, licensed or otherwise approved in the State where the facility is located. It shall be overseen by an independent third party monitoring firm. These activities shall have documentation that is available for review by a CIH. Tectonic will not abate, repair, isolate, encapsulate, dispose, or test any PACM or ACM.

6.1.10 Any work activities directly involving PACM and/or ACM shall be the responsibility of the building owner. A person or firm, licensed or otherwise, approved in the State where the facility is located should perform it. Typically it is overseen by an independent third party monitoring firm.

6.1.11 Any Team Member who was or may have been inadvertently exposed to ACM above the OSHA limit will be notified in writing. A sample letter is located in this program. A copy of the letter must be added to their team member's file and kept for 30 years plus length of employment. Arrangements for a complete physical must be made for the Team Member in a timely fashion. The physician must be a physician familiar with the symptoms and physiology of asbestos exposure.

6.1.12 PACM and/or ACM within a facility shall be periodically monitored for changes in condition. This periodic inspection shall be performed at least quarterly during a project or as conditions necessitate.

6.1.13 Should damage occur, repair or removal work shall be carried out by an approved asbestos removal/remediation contractor, licensed or otherwise approved in the State where the facility is located, as necessary to stabilize the material. These activities shall have documentation that is available for review.

6.1.14 The program supervisor or salesperson shall be responsible for obtaining monitoring results. A designated representative of Tectonic should review the results

6.2 Training Requirements

6.2.1 All Employees with the potential for exposure to PACM/ACM will be trained as to the contents of this program including descriptions of PACM/ACM and possible locations, effects of ACM, and what to do if PACM/ACM are suspected in the work environment.

6.2.2 All new Tectonic Employees shall receive information relating to the potential locations and hazards of asbestos during basic HAZCOM Training. It will inform Employees of the

potential presence of PACM and/or ACM as well as some precautions that must be observed during their work activities.

6.2.3 Training will be conducted on a Employees first day and annually thereafter if necessary.

6.2.4 Training shall be documented.

6.2.5 Training records will be maintained in the branch office and available to program auditors from the Corporate Safety Department upon request.

6.2.6 Tectonic Employees who are in a position where they could disturb PACM/ACM should receive Asbestos Awareness Training. **UNDER NO CIRCUMSTANCE IS ANY TECTONIC TEAM MEMBER TO WORK IN AN ENVIRONMENT WHERE THERE IS AIRBORNE ASBESTOS EXPOSURE IN EXCESS OF THE PEL AND/OR THE EXCURSION LIMIT OR WHERE THEY WILL IMPACT PACM/ACM.**

6.2.7 The training is ***NOT*** intended to teach removal or repair procedures or practices. Completion of this training does ***NOT*** enable Employees to handle or directly work on PACM and/or ACM.

6.2.8 Asbestos Awareness Training shall be conducted for all required employees on an as needed basis.

6.2.9 The required elements of an asbestos awareness program include, at a minimum, the following topics:

6.2.9.1 Health effects of Asbestos
6.2.9.2 Potential locations where PACM and/or ACM can be found in a building.
6.2.9.3 Recognition of ACM and PACM damage and deterioration
6.2.9.4 OSHA requirements relating to housekeeping
6.2.9.5 Proper response to fiber release episodes

6.2.10 Should the situation change where the decision is made for Tectonic Employees to be involved in activities where they may be exposed to concentrations of asbestos at or above the TWA and/or excursion limit, a more extensive Personal Protection, Work Practice Control Training and Certification Program will be required of all Employees before performing the necessary tasks. ***ONLY DONE WITH APPROVAL OF THE TECTONIC CORPORATE HEALTH AND SAFETY OFFICER.*** The general details are as follows:

6.2.10.1 The health effects associated with asbestos exposure;
6.2.10.2 The relationship between smoking and exposure to asbestos producing lung cancer;
6.2.10.3 The specific nature of operations which could result in exposure to asbestos;
6.2.10.4 Engineering controls and work practices that may be associated with particular job assignments;

6.2.10.5 The specific procedures implemented to protect Employees from exposure to asbestos, such as appropriate work practices, emergency and clean-up procedures, and any personal protective equipment to be used;

6.2.10.6 Purpose, proper use, and limitations of respirators and protective clothing, if appropriate;

6.2.10.7 The content of OSHA 1926.1101, including appendices;

6.2.10.8 The purpose and a description of the medical surveillance program required by Appendix (I) of 29 CFR 1926.1101;

6.2.10.9 The employer may distribute the list of such organizations contained in OSHA 1926.1101, Appendix A, to comply with this requirement;

6.2.10.10 Building owner requirements for posting signs and affixing labels and the meaning of the required legends for such signs and labels.

6.3 Asbestos Survey

6.3.1 The following requirements apply to building owners. As contractors in these buildings, Tectonic Employees should use this information to guide their efforts as this information applies to the conduct of their work. Of specific importance is the information listed below. The first is a list identifying "Suspect Asbestos-Containing Materials; the second is list identifying Common Locations of Suspect Asbestos Containing Materials.

6.3.2 OSHA requires that all surfacing and thermal system insulation, suspect in buildings constructed prior to 1980, be presumed asbestos containing materials (PACM) until sampled and confirmed as non-ACM by laboratory analysis.

6.4 *Signs and Labels*

6.4.1 Must be posted by the building owner.

6.4.2 Signs posted and visible at the entrance to mechanical rooms and into which Employees may reasonably be expected to enter and which contain PACM/ACM. They are to be identifying the material present, its location, and appropriate work practices to be followed to ensure that the PACM/ACM is not disturbed.

6.4.3 Labels may be used as an alternative to signs to ensure that the proper work practices are observed and that PACM/ACM is not disturbed. Visibly affixed to identify the presence of PACM/ACM such as on pipes and pieces of equipment.

6.4.4 The wording for labels is:
"DANGER"
"CONTAINS ASBESTOS FIBER"
"AVOID CREATING DUST"
"CANCER AND LUNG DISEASE HAZARD"
"AUTHORIZED TEAM MEMBER ONLY"

Labels must also contain a warning statement against breathing asbestos fibers.

7.0 ATTACHMENTS:

7.1 Sample List Of Suspect Asbestos-Containing Materials

7.2 Common Locations of Suspect Asbestos-Containing Materials

7.3 Tectonic PACM/ACM Incident Report Form

7.4 Asbestos Awareness Program Attendance Roster

7.5 Certification of Attendance – Sample

7.6 Requesting for Asbestos Information - Sample Letter

7.7 Potential Asbestos Exposure Notification - Sample Letter

7.8 Physical Examination Authorization - Sample Letter

APPENDIX S

Lead Based Paint Protection Program

TECTONIC
LEAD BASED PAINT PROTECTION PROGRAM

Introduction

Tectonic Engineering & Surveying Consultants PC has adopted this policy for the prevention of employee exposure to lead substances.

Lead is a soft bluish-gray metal with properties that make it a desirable building material additive for paint. Paints containing lead are resistant to corrosion and provide a durable surface which does not crack with temperature variations.

Lead can enter the body by inhalation or ingestion. When materials containing lead are heated, lead is released as a fume which can be inhaled. Poor hygiene practices can introduce lead into the body through ingestion (swallowed) when eating, drinking, and smoking.

Lead can adversely affect many parts of the body. Most common are the circulatory, nervous and reproductive systems. Common symptoms of lead poisoning include

- Loss of appetite, nausea, and vomiting
- Joint and/or muscle aches,
- fatigue,
- difficulty sleeping
- high blood pressure,
- irritability, or moodiness
- headache
- tremors, and
- Anemia.

Lead can accumulate in the body and build up to dangerous levels over time. Too much lead in the body can damage the brain, nerves, kidneys, and blood cells. Lead can also affect the ability to conceive and bear a healthy child. If a pregnant woman is exposed to lead, it can harm her fetus. Men with lead exposure can have damaged sperm. Overexposure to lead is common. Although many people with high lead levels do not feel sick or poisoned, their health may be seriously affected. The longer people have elevated lead levels, the greater the risk of health problems. Sometimes the damage is permanent.

Tectonic Policy

Tectonic shall implement for all employees whose job duties may involve lead substances:

- Lead awareness training is required for employees whose work activities may contact lead containing materials but do not disturb the material during their work activities.

- Lead awareness training will be conducted at the time of hire, during orientation, or prior to assignment of work in lead containing areas.

- It is required that annual refresher training be given to all employees whose work activities may contact lead containing materials but do not disturb the material during their work activities.

- Lead awareness training must be documented including the date of training, the employee names, and the person that conducted the training.

Employees who have potential for overexposure to lead shall be protected by engineering and/or administrative controls, or shall use appropriate respiratory protection.

Lead is addressed by OSHA regulation 29 CFR 1926.62 (Construction Industry). The following requirements are set forth:

The permissible exposure limit (PEL) is 50 micrograms per cubic meter (µg/m^3) as an hour time weighted average (TWA). The action level is 30 µg/m^3. Action level is the level of exposure at which the employer must take positive steps to comply with OSHA· requirements.

Locations/operations that expose employees to lead at or above the PEL for more than 5 days per year require engineering or administrative controls to reduce and maintain employee exposure below the PEL. Engineering controls may include, local ventilation, changes in work methods, and use of alternative removal procedure. Administrative controls are steps such as limiting time of exposure and/or number of employees exposed. If these controls do not reduce employee exposure to less than 50 µg/m^3, personal protective equipment shall be utilized. Employees, who fall under CFR 1926, and who have potential for exposure at or above the action level of 30 µg/m^3, shall be protected by engineering and administrative controls and use respiratory protection.

Where respirators are required to limit employee exposure to lead, the employee shall be provided with the proper respirators, and a physical examination to determine respiratory fitness. Employees using cartridge type respirators shall be fit tested. Employees issued respirators shall be trained in their use, maintenance, and limitations as per Tectonic's Respiratory Protection Program.

Work environments shall be maintained as free as practicable of accumulations of lead. Floors and other surfaces shall not be cleaned with compressed air. Shoveling, sweeping, and brushing shall only be used where preferred methods (i.e. wet washing) are not practical. Eating, drinking, or smoking shall not be allowed in areas where lead contamination exists. Employees shall not enter designated eating areas with protective clothing and equipment, unless surface lead dust has been removed. Clothing, shoes, coveralls, etc. worn during paint removal inspection operations shall not be worn in other environments

Medical Monitoring

Employees covered under General Industry who are engaged in abrasive blasting, grinding, welding, cutting and brazing on materials containing or coated with lead, and who may be exposed at or above the action level (30 µg/m^3) for more than 30 days per year shall enter a medical monitoring program. For employees covered under OSHA's Construction Industry Regulation, who have any exposure at or above the action level, they shall be subject to initial medical surveillance.

Medical monitoring requires that blood lead ·and zinc protoporphyrin (ZPP) levels be determined every six months. An employee with a blood lead level of 40 µg/100g {micrograms per 100 grams) of whole blood shall be tested at least every other month until two consecutive blood samples indicate blood lead levels below 40 µg/100g.

An employee with a blood lead level exceeding 40 µg/100g must be notified in writing within 5 working days of the test. An employee with a blood lead level at or above 50 µg/100g, and the previous test was 40 µg/100g or above, shall be removed from lead exposure until their blood lead level returns to 40 µg/100g.

Even though it is expected that Tectonic employees will not be exposed above the action level, exposure will be monitored on the job site as an additional precaution. Representative inspectors will wear personal air sampling pumps on days which are indicative of the highest exposure they can reasonably expect to receive in the course of their typical work assignments. When the results of this sampling are obtained, employees will be provided written notification of their exposures within five working days. The results will also be added to the employees' personal History Folders.

Exposure above the Permissible Exposure Limit (Overexposure)

The employer shall supply protective apparel at least weekly to employees exposed to lead above the PEL, and. daily for exposure to lead over 200 $\mu g/m^3$ (TWA). The apparel shall be properly disposed of after each use.

Tectonic employees will be potentially exposed to lead during inspections at facilities under the control of a site contractor. Hygiene facilities (changing rooms and showers) shall be provided by the Contractor where employees are over exposed in accordance with OSHA regulations. The changing room shall be equipped with separate storage facilities for protective apparel and equipment, and for street clothes. Employees shall not leave work areas wearing protective clothing or equipment.

Warning signs shall be posted by the contractor alerting all workers to areas where overexposure conditions could be present.

Procedures for Limiting Exposure

The following is a list of engineering and work practice controls that must be considered as a means for reducing employee lead exposure:

A. Employees are not allowed inside the containment until work has stopped and all debris has been vacuumed up.

B. Employees must stay away from the work area when vacuum shrouded power tool/abrasive blasting surface preparation operations are on-going.

C. Employees shall inspect the surface preparation efforts only after the operation has stopped and lead based paint, and debris has been vacuumed from within the containment.

Hygiene Facility and Practice

Eating, drinking, smoking or applying cosmetics will not be permitted inside containment systems, or for any other area where exposure may exceed the Permissible Exposure Limit (PEL) of 50 micrograms per cubic meters, calculated as an 8-hour TWA.

Employees who enter containment systems will be required to wash their hands and face immediately after leaving, and also remove any visible dust from their shoes and clothing using vacuums equipped with HEPA filters. If possible, shower at the job site. Do not wear work clothes into your car or home.

The following warning signs will be posted by the Contractor in all areas where exposure may exceed the PEL, including entrance points to containment structures and in any areas where work involving lead based paint will be conducted.

'WARNING'
'LEAD WORK AREA'
'POISON'
'NO SMOKING OR EATING'

Training

Since it is expected Tectonic employees will not be exposed above the action level, no additional training is required by the OSHA Lead Standard (29 CFR 1926.62). Never the less, Tectonic's employees assigned to projects involving lead based paint will be provided training regarding the project specific operations which entail exposure to lead, the exposure control procedures that must be followed and the contents of this Plan. ·

Revisions to the Lead Exposure Control Plan

If the results of exposure monitoring indicate that any employee may be exposed above the action level, this Plan will be revised to include the following additional elements:

A. Additional exposure monitoring.

B. Provisions for follow up medical surveillance and medical removal.

C. Additional lead specific training as required by the OSHA lead standard (29 CFR 1926.62

If the results of exposure monitoring indicate that any Consultant employee may be exposed above the PEL, this Plan will be revised to include the following additional elements:

A. Additional exposure monitoring.

B. Protective work clothing and equipment, and dedicated changing areas and shower facilities.

C. A respirator program, including respirator fitness tests, training, and provision of appropriate respirators.

D. More stringent hygiene practices.

Record Keeping

Records of exposure assessment, medical surveillance and medical removals will be kept and maintained in the employees' personal History Folder at Tectonic's corporate office in Mountainville, NY. These records will be made available, upon request, to employees or their designated representatives.

Procedure & Guideline for Personal Protective Equipment Monitoring

A. Head and Eyes, Foot and Body

i. Safety glasses or safety goggles are worn when there is a potential for eye injury (e.g. flying particles).

ii. Hard hats are worn at all times.

iii. Hearing protection equipment (earplugs or muffs) are used in high noise areas operations (e.g. abrasive blasting, power tool cleaning, blastpot tendering).

B. Head and Eyes, Foot and Body

i. Suitable footwear shall be worn by all personnel. If the work area involves dangers of falling or rolling objects or piercing of the sole, safety foot wear that meets the requirements of ANSI Z41-1.991 shall be worn. All ANSI approved safety footwear is stamped or labeled as an integral part of the footwear.

ii. Gloves are worn when there is a potential for contact with chemical substances, severe cuts, abrasion or puncture wounds, or temperature extremes.

iii. Protective clothes or coveralls are worn when hazards are present, such as from abrasive blasting or painting.

iv. Protective equipment shall be kept clean and inspected prior to use for damage. Dirty or damaged equipment shall be immediately replaced.

C. Respirators

i. Respirators will only be used by trained personnel. Training for Tectonic employees will be conducted by a competent person from Tectonic or a Tectonic authorized trainer. Respirator training records and fit testing records will be maintained in the corporate office and field office. Respirators used shall be selected based on the concentration of the airborne lead, the manufacturer's directions for the respirator and the direction of the contractor's site safety officer.

Procedure & Guideline for Lead Paint Removal

The following lists the typical procedures for inspecting lead paint removal operations:

A. During abrasive blasting operations, the ventilation and filtering system operates continuously.

B. Tarps & seals of the containment remain intact during abrasive blasting operations.

C. During power tool cleaning, paint chips are collected to prevent accumulation of material.

D. Dust emissions controlled (e.g. not visible in or around the work zone) at time of inspection.

E. Warning signs posted around the lead paint removal work area.

F. Respirators cleaned and stored in accordance with the Contractor's lead safety plan

G. Coveralls, gloves and other protective equipment are to be used by workers as per Contractor's lead safety plan.

H. Conduct progress inspections when there are no active abrasive blasting or other removal activities.

I. Food and beverages must be kept away from work area.

J. No smoking in or around any work area,

K. Street clothes are stored in separate area from work area.

L. Workers must shower (or at a minimum clean their hands, face, or any other area of bare skin) before changing into street clothes and departing the work site.

APPENDIX T

Cadmium and Hexavalent Chromium Protection Program

CADMIUM AND HEXAVALENT CHROMIUM SAFETY

Purpose:

The purpose of this program is to establish requirements for the use and handling of materials that expose employees to cadmium and/or hexavalent chromium.

Scope

This program covers all employees but is particularly applicable to those employees who inspect metal cutting and welding operations.

Key Responsibilities

Managers/Supervisors

- Shall ensure that all employees are aware of the proper work procedures for cadmium and hexavalent chromium
- Shall ensure that initial training is conducted for all new employees and that retraining is conducted when employee behaviors suggest that retraining is warranted.
- As part of the JSA and other hazard evaluation processes, identifies and evaluates chromium or cadmium hazards and potential exposures during planning and the conduct of work.
- Reviews and approves the Task-Specific Safety Analysis.
- As necessary, quantitatively determines the presence of chromium or cadmium in materials, substrates, and other media. This may involve the collection of samples for analysis by a qualified laboratory or field testing using acceptable test methods.
- Provides results of any chromium or cadmium survey to management/supervision, along with information regarding hazard potential and control measures. As appropriate, makes recommendations to management/supervision to maintain, modify, upgrade, or downgrade controls accordingly.
- Takes prompt corrective measures (or supports any Competent Person in this role) to eliminate hazards; such as recommending to management/supervision to implement or modify engineering, administrative, work practice, and personal protection (including respiratory protection) controls.
- Conducts periodic exposure assessment.
- As appropriate, assists management/supervision in ensuring that workers have the necessary training and medical surveillance based upon the activity and hazard.
- Ensures that medical monitoring is conducted in accordance with 29 CFR 1926.1126 (for chromium) or 29 CFR 1926.1127 (for cadmium) including imposition of work restrictions where appropriate and reviewing results of medical monitoring.
- In evaluating chromium or cadmium hazards and specifying controls for a job, (a) utilizes reliable historical exposure monitoring data generated for other similar operations or activities, (b) utilizes objective data, and/or (c) plans and conducts initial monitoring to determine exposures and assess the effectiveness of hazard controls.
- Conducts initial and periodic exposure monitoring in accordance with National Institute for Occupational Safety and Health (NIOSH)/OSHA methods if lacking historical or objective data.
- Maintains effective records of jobs monitored, so that a historical database can be used to specify controls and eliminate unnecessary and redundant monitoring for future activities.
- Supports project management/supervision in responding to exposures above the PEL when workers were not adequately protected.

- As appropriate, participates in pre-job and daily worker briefings regarding task-specific chromium or cadmium hazards and controls, work practices/plans (such as JSAs), and other applicable information, including any changes that are made to controls or to the work practices or plans.

Employees

- Shall follow all requirements regarding the safe work procedures for cadmium and hexavalent chromium.

Cadmium Procedure

Compliance Program

A written compliance program shall be implemented when the PEL for cadmium is exceeded at a work site.

The following areas shall be addressed within the site compliance program:

- Potential exposure determination including a description of each operation where cadmium is omitted, machinery use, material processed, controls in place, crew size, employee job responsibilities and maintenance practices.
- Air monitoring data or developing a justification for not conducting monitoring based on previous monitoring/historical data or objective data.
- Engineering controls including the specific means that will be employed to meet compliance.
- A report of technology considered in meeting the PEL.
- A detailed schedule of implementation.
- Consideration of respiratory protection.
- Written plan for emergency situations.
- Work practice program.
- Other relevant information such as protective clothing, housekeeping, hygiene areas and practices (including consideration of shower facilities), consideration of medical surveillance, training and recordkeeping.

The written program must be reviewed and updated annually or more often to reflect significant changes in the compliance status for Tectonic.

The program shall be provided for examination and copying upon request of affected employees, their representatives or OSHA officials.

The program shall include maintenance procedures while working on ventilation systems and changing of filters to minimize employee exposure while performing such maintenance.

Construction work activities that result in exposure to chromium or cadmium may include, but are not limited to, the following:

- Demolition or salvage of structures where chromium or cadmium, or materials containing chromium or cadmium, are present.
- Removal or encapsulation of materials containing chromium or cadmium.

- New construction, alteration, repair, or renovation of structures and substrates that contain chromium or cadmium.
- Installation of products containing chromium or cadmium.
- Working with/around Portland cement (in powder or dust form – chromium only).
- Torch-cutting chromium/cadmium containing paints.
- Transportation, disposal, storage, or containment of chromium or cadmium, or materials containing chromium or cadmium.
- Maintenance operations associated with construction activities.
- Welding, cutting, burning, or grinding stainless steel, chromium-/cadmium-containing alloy steel, and chromium/cadmium containing alloys.

Note!!! Exposure to chromium (especially hexavalent chromium) has also occurred when the welding rod or wire in use contains chromium.

The permissible exposure limit (PEL) for cadmium and hexavalent chromium is five (5) micrograms calculated as an 8-hour time-weighted average over a work shift. The action level (AL) of 2.5 micrograms triggers the following requirements:

- Pre-job planning includes, as needed, a thorough identification of chromium or cadmium materials. Identification may include the product name, a Material Safety Data Sheet (MSDS) with the MSDS number (if available) or a sample content analysis. Sampling data includes location, sampling method, sampling dates, laboratory identification, and analytical method.
- If documentation is not feasible or has been determined by the project engineer to be unavailable or unreliable, chromium or cadmium content sufficient to exceed the action level for chromium or cadmium is assumed.

Results of bulk sampling, calculations of potential chromium or cadmium exposure, and other data that demonstrate compliance with this practice (as well as the pertinent standards) are attached to the work package.

Where chromium or cadmium exposure above the action level is suspected, and in the absence of monitoring data, interim protective measures are established that are equal to or greater than the assumed exposure level.

Hexavalent Chromium Procedure

Welding, Cutting, and Grinding

Certain welding and cutting activities have been shown to expose the welder/cutter, and potentially helpers, to hexavalent chromium above the action level when exhaust ventilation is not used. The activities have included the following:

- Shielded metal arc welding, Gas metal arc welding
- Flux cored arc welding, Sub arc welding
- Torch cutting through chromate-containing paints, grinding chromium-containing metals.

The types of metal involved have been stainless steel, chromium-containing alloy steel, and chromium-containing nonferrous alloys. Exposure has also occurred when the welding rod or wire in use contains chromium, and exhaust ventilation is not used.

Therefore, exhaust ventilation is always prescribed as a control measure when activities with the materials mentioned above are in use unless historical personal monitoring data performed when similar materials, using similar methods, under similar environmental conditions are used shows conclusively that the welder/cutter and helper (if applicable) are not exposed above the action level without regard to respiratory protection.

Practices and procedures shall ensure that no employee is exposed to hexavalent chromium in excess of the permissible exposure level which is 5 micrograms per cubic meter of air based on an 8 hour Time Weighted Average.

Plasma and Air Arc Cutting and Gouging

Plasma and air arc cutting and gouging operations have been shown to expose the worker and helpers within 10 feet of the work to levels of hexavalent chromium above the permissible exposure limit (PEL) under most circumstances and conditions. Exhaust ventilation and respiratory protection (at least a half-face, tight-fitting respirator with a HEPA filter/cartridge) are always prescribed as control measures when activities with the materials mentioned above are in use; a higher level of respiratory protection may be prescribed, depending on conditions.

Note!!! Each discrete task must begin with ventilation and respiratory protection control measures in place. Respiratory protection may be downgraded only upon conclusive results of breathing zone monitoring of the employee(s) involved in each discrete task showing exposure to be less than 50 percent of the protection factor of the respirator relative to the concentration and PEL of hexavalent chromium. Respiratory protection may be eliminated only upon conclusive results of breathing-zone monitoring of the employee(s) involved in each discrete task showing exposure to be less than the PEL as an 8-hour time-weighted average.

Additional controls may also be appropriate to be in compliance with 29 CFR 1926.1126, depending on the results of evaluations of the materials to be used, environmental conditions, length of the work process/activity, etc.
Employees who are exposed at or above the action level 30 days or more per year are enrolled in a medical surveillance program.

Personal hygiene is very important while working with chromium or cadmium products. To avoid accidental ingestion of chromium or cadmium, employees wash thoroughly (regardless of other controls) prior to eating, chewing, smoking, or drinking.

Practices

Tectonic Management/supervision supported by safety professional(s), the medical contractor and training providers conducts the following basic steps to control exposure to chromium or cadmium:

- Determine the types of projects, activities, and operations that could involve chromium or cadmium, or chromium or cadmium-containing materials. For those jobs, conduct hazard identification as part of the work design, planning, and control process.
- If chromium or cadmium materials are involved, ensure that project safety (for chromium) or a competent person (for cadmium) conducts a hazard evaluation to determine the potential exposure and to recommend initial controls.
- Develop and implement a Task-Specific Safety when exposure is or is likely to be above the PEL. The JSA (or equal) addresses the scope of work activities; provides initial exposure assessment; and prescribes exposure controls, air-monitoring requirements, work practices, personal protective equipment and additional information as required.

- Incorporate recommendations from project safety for chromium or cadmium hazard control measures into any JSA and work control documents.

Exposure Monitoring

Monitoring or measuring of employee exposure shall be conducted at least every 6 months if the initial monitoring shows employee exposure. Air monitoring will be performed at the beginning of each job task. If exposure monitoring results indicate exposure is above the PEL Tectonic must include in the written notification to employees the corrective action being taken to reduce exposure to or below the PEL.

- Notify each affected employee, in writing, of the results of monitoring within five (5) working days.
- Air monitoring for chromium or cadmium may be waived provided the following conditions are met:
    - Monitoring has been performed in the last 12 months.
    - Data from historical monitoring originates from work operations that closely resemble the planned work operations.
    - Workplace and environmental conditions (such as indoors or outdoors, temperature, wind speed, ventilation, and space configuration) are similar to those when the monitoring was performed.
    - The processes, types of material, control methods and work practices are similar.
    - Justification for waving initial monitoring shall be included in the Task-Specific Safety Analysis or equal. Employees involved are briefed regarding the existence of such data.

Surveillance

Medical surveillance shall be provided when an employee experiences signs or symptoms of the adverse health effects of Hexavalent Chromium (dermatitis, asthma, bronchitis, etc). Medical evaluations will be provided at no cost to employees. Examinations will be performed by or under the supervision of a physician or other licensed health care professional.

Facilities

Tectonic must provide change rooms for decontamination and ensure facilities prevent cross-contamination. Washing facilities shall be readily accessible for removing chromium from the skin. Workers must wash their hands and face or any other potentially exposed skin before eating, drinking or smoking.

Regulated Areas

Regulated areas shall be established when exposure to an employee is or is expected to be in excess of the PEL. Regulated areas shall be marked with warning signs to alert employees and access is restricted to authorized persons only.

Controls

If the exposure level is above the PEL for 30 days or more then engineering controls and work practices shall be provided to reduce exposure to the lowest feasible level. If employees can demonstrate that such controls are not feasible Tectonic shall use engineering and or work controls to reduce employee exposure to the lowest levels achievable and shall supplement them by the use of required respiratory protection.

Recordkeeping

Tectonic is required to maintain and make available an accurate record of all employee exposure monitoring, medical surveillance and training records.

Respiratory Protection & PPE

The appropriate respirator shall be used when engineering controls and work practices cannot reduce employee exposure during work operations where engineering controls and work practices are not feasible and emergencies. Respirators shall be provided in accordance with 1910.134 (Respiratory Protection) (see Tectonic Respiratory Protection Program). Specific requirements contained within 1926.1127 (Cadmium) regarding respiratory protection shall also be followed including:

- Providing employees with full face piece respirators when they experience eye irritation.
- Providing HEPA filters for powered and non-powered air-purifying respirators.
- Providing a powered air-purifying respirator instead of a negative-pressure respirator when an employee entitled to a respirator chooses to use this type of respirator and such a respirator will provide adequate protection to the employee.

PPE will be provided when there is a hazard from skin or eye contact and employees are required to use the PPE. Gloves, aprons, coveralls, goggles, foot covers and other as needed PPE shall be provided at no cost to the employee and will be removed at the end of the work shift. Tectonic must clean, launder and replace all protective clothing as needed.

Housekeeping

All surfaces shall be maintained as free as practicable of chromium. All spills and releases of chromium shall be cleaned promptly with approved procedures including use of HEPA filtered vacuums as the primary method, dry or wet sweeping or other methods to minimize the likelihood of exposure to chromium.

No compressed air shall be used to remove chromium from any surface unless the compressed air is used in conjunction with a ventilation system designed to capture the dust cloud created by the compressed air or no alternative method is feasible.

Cleaning equipment must be handled in a manner that minimizes the reentry of chromium into the workplace.

Training

Tectonic shall provide appropriate types of training for employees who are potentially exposed to chromium or cadmium prior to their initial assignment and annually thereafter. Tectonic will assure employee participation and maintain a record of the training contents. This training includes:

- Hazard communication training for potentially exposed employees.
- Training specified by the applicable chromium or cadmium standard for workers exposed at the action level for any one day, or who are exposed to chromium or cadmium compounds that are skin irritants.
- Respirator training if respirators are to be used.
- Provide information to workers regarding task-specific chromium or cadmium hazards and control methods, the JSA, work practices, medical surveillance and other applicable information, including any changes that are made to these controls.
- Provide training annually, as appropriate, to workers who continue to have exposure to chromium or cadmium at or above the action level on any one day.
- All training will be recorded and include the identity of the employee trained, the signature of the person who conducted the training and the date of the training.
- Training records must be kept for one year.

APPENDIX U

Radio Frequency Radiation Protection Program

RADIOFREQUENCY AND MICROWAVE SAFETY PROGRAM

1.0 INTRODUCTION

"Radiofrequency (or RF) Radiation" refers to electromagnetic fields with frequencies between 300 kHz and 300 MHz, while "Microwave (or MW) Radiation" covers fields from 300 MHz to 300 GHz. Since they have similar characteristics, RF and MW radiation are usually treated together. As well, the lower-frequency boundary of RF radiation is often extended to 10 kHz, or even to 3 kHz, in order to include emissions from commonly used devices.

This program is meant to minimize exposure to RF/MW radiation and to prevent overexposure and injuries from RF/MW radiation in the workplace as per the requirements OSHA General Duty Clause.

2.0 HEALTH HAZARDS

The nature and the degree of the health effects of overexposure to RF/MW fields depend on the frequency and intensity of the fields, the duration of exposure, the distance from the source, any shielding that may be used, and other factors.

The main effect of exposure to RF/MW fields is heating of body tissues as energy from the fields is absorbed by the body. Prolonged exposure to strong RF/MW fields may increase the body temperature, producing symptoms similar to those of physical activity. In extreme cases, or when exposed to other sources of heat at the same time, the body's cooling system may be unable to cope with the heat load, leading to heat exhaustion and heat stroke.

Localized heating, or "hot spots," may lead to heat damage and burns to internal tissues. Hot spots can be caused by non-uniform fields, by reflection and refraction of RF/MW fields inside the body, or by the interaction of the fields with metallic implants, for example, cardiac pacemakers or aneurism clips. There is a higher risk of heat damage with organs which have poor temperature control, such as the lens of the eye and the testes.

Other hazards include contact shocks and RF burns. These can result from the electric currents which flow between a conducting object and a person who comes into contact with it while they are exposed to RF fields. (These effects should not be confused with shocks from static electricity.)

3.0 EXPOSURE LIMITS

Exposure limits for RF/MW radiation are designed to keep the RF/MW energy absorbed by the body well below the lowest levels associated with demonstrated adverse effects, and to reduce the likelihood of contact shocks and burns.

Since the RF/MW energy absorbed by the body varies with the frequency of the fields, and since the rate of energy absorption is difficult to measure directly, the exposure limits are expressed in terms of frequency-dependent, root-mean-square (RMS) electric and magnetic field strengths, or in power density units (W/m^2). Power density measures the amount of radiating energy crossing a given area in a given period of time.
Occupational exposure of the whole body to RF/MW fields should not exceed the Federal Communications Commission (FCC) maximum permissible exposure values for entire body exposure in Table I or the FCC limits for localized (partial body) exposure shown in Table II.

Table 1. ***FCC Limits for Maximum Permissible Exposure (MPE)***

(A) Limits for Occupational/Controlled Exposure [(1)]

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time E^2, H^2 or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	($900/f^2$)*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

(B) Limits for General Population/Uncontrolled Exposure [(2)]

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time E^2, H^2 or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz *Plane-wave equivalent power density

NOTE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

NOTE 2: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Table 2. ***FCC Limits for Localized (Partial-body) Exposure***

Specific Absorption Rate (SAR)	
Occupational/Controlled Exposure (100 kHz - 6 GHz)	**General Uncontrolled/Exposure (100 kHz - 6 GHz)**
< 0.4 W/kg whole-body	**< 0.08 W/kg whole-body**
≤ 8 W/kg partial-body	**≤ 1.6 W/kg partial-body**

Table III lists common sources of RF/MW radiation and the common frequencies associated with each source. Table III is for reference only, actual frequencies should be determined by the site owner/operator or through on-site RF measurements.

Table III: Sources of RF/MW Radiation		
Source	**Frequency (MHz)**	**Potential for Over-exposure?**
Video Display Terminal (VDT)	0.015 - 0.3	No
Dielectric Heater	1 - 100 (typically 27.12)	Yes
Diathermy Applicator	13.56, 27.12, 915, 2450	Yes
Communications Transmitters: AM Radio	0.535 - 1.605	Yes
Communications Transmitters: FM Radio	88 - 108	Yes
Communications Transmitters: VHF TV	54-72, 76-88, 174-216	Yes
Communications Transmitters: UHF Radio	470 - 890	Yes
Communications Transmitters: Dish	800 - 15,000	Yes
CB Radio	27.12	Yes
Cordless Telephone	46 - 5800	No
Cellular Telephone	824 – 850, 900, 1800, 1900	No
Traffic Radar	10,500 and 24,000	No
Microwave Oven	915 and 2,450	No*
*Federal legislation requires that microwave ovens be constructed to meet stringent microwave leakage limits and to have safety interlocks. When these interlocks are defeated, for example, during repair work, there is a risk of overexposure to microwave radiation.		

4.0 CONTROLLING RF/MW RADIATION

The following measures will be implemented on any project where employees could be exposed to MW or RF radiation.

Engineering Controls

- Sources of RF/MW radiation should be properly shielded to minimize stray radiation.
- Assume all antennas are active.
- Do not stand or work in front of antennas.
- Maintain minimum 10 feet clearance from all antennas.
- Never operate transmitters without shields.
- Do not operate base station antennas in any equipment room.

Administrative Controls

- Notify owners and disable appropriate transmitters prior to working on the system.
- Potentially hazardous RF/MW devices should be appropriately labeled, and areas of excessive exposure around them clearly demarcated. Notices with warnings and the necessary precautions should be posted.
- Obey all posted signs.
- Maintenance of devices used to produce RF/MW radiation should be done by qualified personnel following standard safety procedures. The equipment should be turned off whenever possible.
- Only authorized entrants shall be allowed access.
- All personnel entering an EME controlled area shall be trained as required. Training shall include the measures that may reduce potential exposure.
- Exposure of workers to RF/MW radiation should not exceed the recommended exposure limits.
- All personnel who will be required to wear protective equipment (RF suits, etc.) shall be trained in their proper use, inspection, and limitations.
- All personnel with potential exposure to EME shall be trained on the requirements of Section 5.26.1 at least annually.
- Areas where worker exposure to RF/MW radiation is suspected to exceed the recommended limits should be surveyed to determine the exposure levels.
- Needless exposure to RF/MW fields should be avoided.
- Exposure times should be kept as short as reasonably possible.

Personal Protection

- When exposures cannot be reduced by the above methods, RF/MW protective suits, including head and eye protection, can be used. Suits should be tested to ensure that they reduce worker exposure to levels below the occupational exposure limits and that they do not pose any safety hazards (e.g., overheating, shocks, or fire).
- Use personal RF monitors while working near EME/RF sources.

Controlling RF Shocks and Burns

- Metallic structures producing contact shocks should be electrically grounded and/or insulated.
- Insulating platforms or shoes (e.g., rubber-soled shoes) can be used to reduce energy absorption and currents to ground.
- When the above measures are ineffective or not reasonably possible, workers should wear insulating gloves.

First Aid

- Remove worker from exposure area to a cool environment and provide cool drinking water.
- Apply cold water to burned areas.
- Seek immediate medical attention.
- Severe MW or RF overexposure may damage internal tissues without apparent skin injury, therefore any employee being overexposed to MW or RF radiation shall receive a medical evaluation by a medical professional.

APPENDIX V

Grounding Assurance Program

TECTONIC
ASSURED EQUIPMENT GROUNDING CONDUCTOR PROGRAM (AEGCP)

Tectonic Engineering & Surveying Consultants PC (Tectonic) has adopted this program for equipment grounding protection for the protection of employees from the following electrical shocks and electrocutions as per OSHA regulations: §1926.404 - Wiring Design and Protection. The use of electrical cords and electrical powered equipment potentially exposes employees to an uncontrolled release of electrical energy caused when the electrical insulation on wires becomes damaged or is missing. Tectonic wants to protect our employees electrical hazards by implementing this assured equipment grounding conductor program (AEGCP).

Tectonic Engineering & Surveying Consultants PC (Tectonic) will use Ground Fault Circuit Interrupters on all jobsites to eliminate all injuries resulting from possible malfunctions, improper grounding and/or defective electrical tools and systems.

- Ground fault circuit interrupters (GFCI) for all 120-volt, single phase, 15-20 ampere receptacle outlets which are not a part of the permanent wiring of a building or structure on a construction project, or

- Implementation of the assured grounding conductor program on construction sites covering all cord sets or receptacles which are not a part of the building or structure. James Upright is designated as the Competent Person in charge of implementing the Grounding Conductor program for Tectonic.

- Employees will be trained on the hazards of electrical energy and trained on this program to protect themselves from this hazard.

This Assured Grounding Conductor Program applies to all Tectonic projects and work sites covering all cord sets and receptacles that are not part of the building or structure, and equipment connected by cord and plug which are available for use or used by employees. Tectonic will not make available, or allow the use by employees, of any equipment which does not meet the requirements of this Grounding Conductor Safety Program.

Tectonic uses cord sets to power temporary lighting, hand power tools, and various monitoring and data recording instruments. Typically Tectonic relies on receptacles provided by our client or site contractor to provide electrical power otherwise Tectonic will provide a portable power generator.

A. Procedure

The preferred implementation of the program is the use of ground fault circuit interrupters as described above. If the existing receptacle does not have a GCFI, the employee shall use either a cord set with a built in GFCI or plug the cord set into stand alone GFCI device that is plugged into the receptacle. As an alternative to the GFCI requirement, Tectonic shall instruct employees NOT to use any equipment that does not meet the requirements of the Assured Grounding Program.

B. Visual Inspection

Employees are required, before each days use, to visually inspect each extension cord, or other device, and any equipment connected by cord and plug, for external defects, such as deformed or missing pins or insulation damage, and for signs of possible internal damage. Cord sets, devices, and receptacles that are fixed and not exposed to damage are exempt from this inspection . Employees are prohibited from using damaged or defective equipment. Any equipment found to be damaged or defective will be immediately tagged "DO NOT USE" and removed from service.

C. Testing

Tests performed as required by this program will be recorded as to the identity of each cord set, and cord and plug connected equipment that passed the test and will indicate the last date tested or interval for which is was tested. This record will be kept by means of logs, color coding, or other effective means and will be maintained until replaced by a more current record. These records will be made available at the jobsite for inspection by OSHA and any affected employees.

Tests will be performed on all extension cords, other devices and receptacles that are not part of the permanent wiring of the building or structure, and cord and plug-connected equipment required to be grounded will include:

- Testing all equipment grounding conductors for continuity.
- Testing each receptacle or plug to assure the equipment grounding conductor is connected to its proper terminal.

Testing will be performed:

- Before each use.
- Before equipment is returned to use following any repairs.
- Before equipment which has sustained possible damage is used.
- At intervals not to exceed 3 months, except that cord sets & receptacles which are fixed and not exposed to damage will be tested at intervals not exceeding 6 months.

D. Recording

A log will be kept on the job-site of all tests performed. These records will be kept until replaced by a newer record. The log will include:

- Pass/Fail record of each cord set, and cord- and plug connected equipment that was tested.
- Date of testing or test intervals.

APPENDIX W

Forklift Operations Safety Program

FORKLIFT OPERATIONS SAFETY PROCEDURES

Tectonic recognizes the potential for injuries from the use of forklifts to either the operator of the forklift or people working or walking near forklift operations. Therefore, to minimize the hazards and potential injuries, the following shall be implemented at all locations utilizing lift trucks (forklifts):

1.) Only authorized, trained personnel shall operate forklifts. Personnel shall be considered trained if they meet the requirements covered in OSHA's 29 CFR 1910 subpart N, Materials Handling and Storage, standard number 1910.178, Powered Industrial Trucks and the New York State OSHA approved State plan. All operator training and evaluation will be conducted by individuals who have the knowledge, training, and experience to train and evaluate potential operators. Tectonic will certify that every forklift operator has received the appropriate training, has been evaluated and has demonstrated competency in performing the operator's duties. Refresher training will be conducted so employees retain the ability to safely operate a forklift. The name of the trainee, date of training or refresher training and the signature of the designated evaluator will be included in the certification.

2.) Before the start of a shift, a visual inspection of the forklift(s) will be performed utilizing the Forklift Safety Checklist. Employees shall not operate an unsafe forklift at any time.

3.) Fuel tanks will be filled outdoors while the engine is off.

4.) The safe load capacity of the forklift shall not be exceeded at any time. Do not counterweight a forklift to increase lifting capacity.

5.) Horseplay is prohibited.

6.) Operators shall drive with both hands on the steering wheel. Driving with wet or greasy hands is prohibited.

7.) No person shall ride as a passenger on a forklift or on the load being carried. A forklift will not be used to elevate a platform or pallet with persons on it, except work platforms especially designed for this purpose. Work platforms must have standard guard rails, and must be securely fastened to the forks.

8.) No person shall stand or walk under elevated forks.

9.) Operators should avoid making jerky starts, quick turns, or sudden stops. The operator will not use reverse as a brake.

10.) Forklifts should be driven on the right side of the road or aisle-way.

11.) Operators shall cross railroad tracks diagonally whenever possible.

12.) Forklifts shall be operated at a safe speed with due regard for traffic and conditions. Maximum speed limits: inside buildings, 5 mph; outside buildings in work areas, 7 mph; on roads, 10 mph.

13.) Slow down on wet and slippery surfaces and at cross aisles or locations where vision is obstructed.

14.) Operators entering a building or nearing a blind corner shall make their approach at reduced speed. Sound horn and proceed carefully.

15.) Standard arm signals will be used at all times.

16.) Operators shall give pedestrians the right-of-way at all times.

17.) Operators shall not drive toward any person who is in front of a fixed object or wall.

18.) Operators shall not overtake and pass another forklift traveling in the same direction, at intersections, blind spots, or hazardous locations.

19.) Operators should not put their fingers, arms, or legs between the uprights of the mast, or beyond the contour of the forklift.

20.) When the forklift is not carrying a load, the operator shall travel with the forks as low as possible (maximum of 3 inches on paved surfaces). When carrying a load, it should be carried as low as possible (consistent with safe operation, 2 to 6 inches above the surface.)

21.) Forks should always be placed under the load as far as possible. Do not lift a load with one fork.

22.) No load should be moved unless it is absolutely safe and secure.

23.) The operator's view should not be obstructed by the load. In the event of a high load, the forklift will be driven backward.

24.) Operators shall look in the direction of travel.

25.) The forks should not be operated while the forklift is traveling.

26.) On a downgrade, the load shall be last, and the forks raised only enough to clear the surface.

27.) On an upgrade, the load shall be first, and the forks raised only enough to clear the surface.

28.) Use extra care when handling long lengths of bar stock, pipe, or other materials.

29.) Avoid sharp or fast end-swing.

30.) Compressed gas cylinders shall be moved only in special pallets designed for this purpose.

31.) When unloading trucks or trailers, the brakes on the vehicle will be set (locked) and the wheels chocked.

32.) Forklifts must be safely parked when not in use. The controls shall be neutralized, power shut off, brakes set, key removed, and the forks left in a down position flat on the surface, and not obstructing walkways or aisles.

33.) A forklift shall not be left on an incline unless it is safely parked and the wheels blocked.

APPENDIX X

Aerial / Scissor Lift Safety Program

AERIAL LIFTS (INCLUDING SCISSOR LIFTS)

This program provides Tectonic employees with general requirements and identifies the safety requirements for employees using aerial and scissor lifts.

Definitions:

Aerial Lifts: Any powered, mobile, vehicle-mounted device that may elevate, telescopically extend, articulate and may (or may not) rotate around a substantial axis in order to raise and support personnel to elevated job sites.
Aerial lifts include extendible boom platforms; vehicle-mounted aerial ladders; articulating, rotating boom platforms; vertical self-elevating towers; cherry pickers; bucket trucks and any other equipment built in accordance with either ANSI-A92.2 (1990), Vehicle-Mounted Elevating and Rotating Aerial Devices, or ANSI-A92.5 (1992), Boom Supported Elevating Work Platforms.

Scissor Lifts: Any powered, mobile device that has a personnel work platform, which is mechanically raised vertically above the carriage by means of controls on the work platform.

Operating Procedures:

- Aerial lifts and devices shall be operated in accordance with the manufacturer's specifications.
- The manufacturer's operating manual for aerial lifts and devices shall be maintained on the vehicle, or shall be readily available to personnel.
- No Tectonic employee shall operate a lift without proper instruction/training by a competent person and/or manufactures representative.
- Required safety decals, labels, and signs shall be in place and readable.
- Aerial lift and devices shall not be moved when the boom is elevated with employees in the basket, unless the equipment is specifically designed for such use.
- Brakes shall be set and outriggers, when used, shall be positioned on pads or a solid surface.
- Wheel chocks shall be installed before using an aerial lift on an incline.
- Lift controls shall be tested each day prior to use to ensure safe working condition.
- Boom and basket load limits specified by the manufacturer shall not be exceeded.
- Employees working from aerial lifts shall be provided personal fall arrest systems (PFAS) and tied off 100% of the time while in the basket.
- Tying off to an adjacent pole, structure, or equipment while working from an aerial lift shall not be permitted.
- Employees shall always stand firmly on the floor of the basket and shall not sit or climb on the edge of the

basket.

APPENDIX Y

Table 1: Specified Exposure Control Methods When Working with Materials Containing Crystalline Silica

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA			
Equipment / Task	**Engineering and Work Practice Control Methods**	**Required Respiratory Protection and Minimum Assigned Protection Factor (APF)**	
		< 4 hours/shift	**> 4 hours /shift**
(i) Stationary masonry saws	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
(ii) Handheld power saws (any blade diameter)	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. When used outdoors. When used indoors or in an enclosed area.	None APF 10	APF 10 APF 10

(iii) Handheld power saws for cutting fiber-cement board (with blade diameter of 8 inches or less)	For tasks performed outdoors only: Use saw equipped with commercially available dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency.	None	None

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA

Equipment / Task	**Engineering and Work Practice Control Methods**	**Required Respiratory Protection and Minimum Assigned Protection Factor (APF)**	
		< 4 hours/shift	**> 4 hours /shift**
(iv) Walk-behind saws	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. When used outdoors. When used indoors or in an enclosed area.	None APF 10	None APF 10

(v) Drivable saws	For tasks performed outdoors only: Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
(vi) Rig-mounted core saws or drills	Use tool equipped with integrated water delivery system that supplies water to cutting surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA

Equipment / Task	**Engineering and Work Practice Control Methods**	**Required Respiratory Protection and Minimum Assigned Protection Factor (APF)**	
		< 4 hours/shift	**> 4 hours /shift**
(vii) Handheld and stand-mounted drills (including impact and rotary hammer drills)	Use drill equipped with commercially available shroud or cowling with dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. Use a HEPA-filtered vacuum when cleaning holes.	None	None

(viii) Dowel drilling rigs for concrete	For tasks performed outdoors only: Use shroud around drill bit with a dust collection system. Dust collector must have a filter with 99% or greater efficiency and a filter-cleaning mechanism. Use a HEPA-filtered vacuum when cleaning holes.	APF 10	APF 10

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA			
Equipment / Task	**Engineering and Work Practice Control Methods**	**Required Respiratory Protection and Minimum Assigned Protection Factor (APF)**	
		< 4 hours/shift	**> 4 hours /shift**
(ix) Vehicle-mounted drilling rigs for rock and concrete	Use dust collection system with close capture hood or shroud around drill bit with a low-flow water spray to wet the dust at the discharge point from the dust collector. OR Operate from within an enclosed cab and use water for dust suppression on drill bit.	None None	None None

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA			
Equipment / Task	**Engineering and Work Practice Control Methods**	**Required Respiratory Protection and Minimum Assigned Protection Factor (APF)**	
		< 4 hours/shift	**> 4 hours /shift**

(x) Jackhammers and handheld powered chipping tools	Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact. When used outdoors. When used indoors or in an enclosed area. OR Use tool equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. When used outdoors. When used indoors or in an enclosed area.	None APF 10 None APF 10	APF 10 APF 10 APF 10 APF 10

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA

Equipment / Task	**Engineering and Work Practice Control Methods**	**Required Respiratory Protection and Minimum Assigned Protection Factor (APF)**	
		< 4 hours/shift	**> 4 hours /shift**

(xi) Handheld grinders for mortar removal (i.e., tuckpointing)	Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.	APF 10	APF 25
(xii) Handheld grinders for uses other than mortar removal	For tasks performed outdoors only: Use grinder equipped with integrated water delivery system that continuously feeds water to the grinding surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. OR	None	None

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA

Equipment / Task	**Engineering and Work Practice Control Methods**	**Required Respiratory Protection and Minimum Assigned Protection Factor (APF)**	
		< 4 hours/shift	**> 4 hours /shift**

	Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism. When used outdoors. When used indoors or in an enclosed area.	None None	None APF 10

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA			
Equipment / Task	**Engineering and Work Practice Control Methods**	**Required Respiratory Protection and Minimum Assigned Protection Factor (APF)**	
		< 4 hours/shift	**> 4 hours /shift**

(xiii) Walk-behind milling machines and floor grinders	Use machine equipped with integratedwater delivery system that continuously feeds water to the cutting surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. OR Use machine equipped with dust collection system recommended by the manufacturer. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. When used indoors or in an enclosed area, use a HEPA-filtered vacuum to remove loose dust in between passes.	None None	None None

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA

Equipment / Task	**Engineering and Work Practice Control Methods**	**Required Respiratory Protection and Minimum Assigned Protection Factor (APF)**	
		< 4 hours/shift	**> 4 hours /shift**
(xiv) Small drivable milling machines (less than half-lane)	Use a machine equipped with supplemental water sprays designed to suppress dust. Water must be combined with a surfactant. Operate and maintain machine to minimize dust emissions.	None	None

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA			
Equipment / Task	**Engineering and Work Practice Control Methods**	**Required Respiratory Protection and Minimum Assigned Protection Factor (APF)**	
		< 4 hours/shift	**> 4 hours /shift**
(xv) Large drivable milling machines (half-lane and larger)	For cuts of any depth on asphalt only: Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust. Operate and maintain machine to minimize dust emissions.	None	None
	For cuts of four inches in depth or less on any substrate: Use machine equipped with exhaust ventilation on drum enclosure and supplemental water sprays designed to suppress dust. Operate and maintain machine to minimize dust emissions.	None	None
	OR Use a machine equipped with supplemental water spray designed to suppress dust. Water must be combined with a surfactant. Operate and maintain machine to minimize dust emissions.	None	None

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA			
Equipment / Task	**Engineering and Work Practice Control Methods**	**Required Respiratory Protection and Minimum Assigned Protection Factor (APF)**	
		< 4 hours/shift	**> 4 hours /shift**
(xvi) Crushing machines	Use equipment designed to deliver water spray or mist for dust suppression at crusher and other points where dust is generated (e.g., hoppers, conveyers, sieves/sizing or vibrating components, and discharge points). Operate and maintain machine in accordance with manufacturer's instructions to minimize dust emissions. Use a ventilated booth that provides fresh, climate-controlled air to the operator, or a remote control station.	None	None
(xvii) Heavy equipment and utility vehicles used to abrade or fracture silica- containing materials (e.g., hoe-ramming, rock ripping) or used during demolition activities involving silica-containing materials	Operate equipment from within an enclosed cab. When employees outside of the cab are engaged in the task, apply water and/or dust suppressants as necessary to minimize dust emissions.	None None	None None

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA			
Equipment / Task	**Engineering and Work Practice Control Methods**	**Required Respiratory Protection and Minimum Assigned Protection Factor (APF)**	
		< 4 hours/shift	**> 4 hours /shift**
(xviii) Heavy equipment and utility vehicles for tasks such as grading and excavating but not including: demolishing, abrading, or fracturing silica- containing materials	Apply water and/or dust suppressants as necessary to minimize dust emissions. OR When the equipment operator is the only employee engaged in the task, operate equipment from within an enclosed cab.	None None	None None