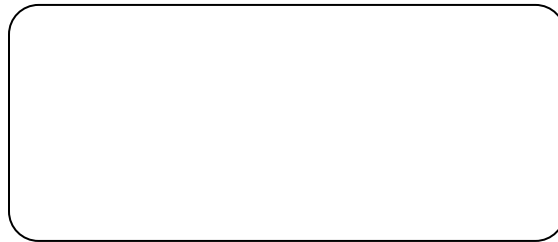


**PROJECT SPECIFIC HEALTH & SAFETY PLAN  
AND  
EMERGENCY RESPONSE PLAN**

**For**



**YOUR PROJECT INFORMATION HERE \_ ADDRESS PROJECT/NUMBER**

**Instituted DATE HERE**

Each subcontractor shall receive a copy of this document. They must ensure that the contents of the plan, relevant to their works, are communicated to their management, supervisors and employees as is appropriate.

**SUBSEQUENT RECORD ISSUE & REVISIONS**

Issue	Date Issued	Description of Revision		Reviewed By	Authorized By
		Page No	Comment		
		N/A	Initial Issue		

This following project-based staff has copies available for reference and will distribute to their team, including Subcontractors:

<b>NAME</b>	<b>POSTION</b>	<b>EMERGENCY CONTACT INFORMATION</b>
	Chris-Tel project Executive	
	Chris-Tel Project Manager	
	Chris-Tel Project Manager / Superintendent	
	Chris-Tel Assistant Project Manager	
	Chris-Tel Safety Director	
	Another Project Manager/s	
	Contractors on this line and below: (Add more table cells if needed)	

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## ACRONYMS

ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ANSI	American National Standards Institute
ASTM	American Society for Testing of Materials
CFR	Code of Federal Regulations
FM	Factory Mutual
GFCI	Ground Fault Circuit Interrupter
HASP	Health and Safety Plan
HSD	Health and Safety Director
MGD	Millions of gallons per day
CHRIS-TEL	Chris-Tel Construction
NIOSH	National Institute for Occupational Safety and Health
OSHA	Occupational Safety and Health Administration
PPE	Personal Protective Equipment
PSI	Pounds per Square Inch
TBD	To Be Determined
UL	Underwriters Laboratories

## **CHRIS-TEL SAFETY AND HEALTH POLICY**

The health, safety and quality of life of each person on this project are a top priority of CHRIS-TEL. We are dedicated to making workplace safety as important a consideration as productivity and quality in conducting our business. Toward this end, everyone on this project must be committed to a continual effort to safeguard against the occurrence of any incident and to vigilant compliance with applicable safety procedures and OSHA regulations.

**Our Goal:** CHRIS-TEL is committed to the goal of zero accidents on all projects. Safety must never be compromised for expediency or short-term cost savings. Avoid short cuts. Even if you think a short cut is safe enough for you — it's not safe enough for CHRIS-TEL.

*A Word about Safety: CHRIS-TEL needs the participation of every employee to prevent accidents in the work place. When you work, remember the three A's of safety; they are:*

*Attitude – Each of us must have concern for our own safety and the safety of others.*

*Awareness – Each of us must be aware of the hazards around us and of the means to eliminate or control them.*

*Action – Combine attitude and awareness and take the necessary action to prevent unsafe acts and unsafe conditions from occurring.*

Safety is everyone's responsibility; therefore, every employee is expected to do his or her part to prevent incidents from occurring. I thank each of you for your contribution toward a healthful work environment, and trust that you will join CHRIS-TEL with a personal commitment to safety as a way of life.

---

**Howard Wheeler – President Chris-Tel Construction**

## **1.0 INTRODUCTION**

### **1.1 PURPOSE OF THE PROJECT SAFETY PLAN**

This Project Safety Plan applies to demolition and construction activities that will be conducted for (PROJECT NAME) Improvements Segment I. It establishes general safety requirements, and procedures for the protection of personnel and to prevent and minimize personal injuries, illnesses and physical damage to equipment, supplies and property. (Project NAME). This Project Specific Safety Plan complements and is a part of Chris-Tel's Corporate Health and Safety Plan.

All employers involved in this project must comply with, OSHA Title 29 of the Code of Federal Regulations (29 CFR 1926), Safety and Health Regulations for the Construction Industry and applicable sections of 29 CFR 1910 Safety and Health Regulations for General Industry.

All project personnel and visitors shall comply with the OSHA safety requirements, and the requirements of the project safety plan. In addition, project personnel are responsible to comply with health and safety procedures required by their organizations. Where such safety and health requirements are more stringent than the procedures specified herein, they shall be followed and shall supersede the requirements of this plan.

The evaluation of hazards, levels of protection, and procedures specified in this plan are based on the best information available and represent the minimum health and safety requirements to be observed by all personnel while engaged in this project. It is recognized that site conditions may change during construction; therefore, it is imperative that safety measures be thoroughly assessed prior to and during the planned activities.

### **1.2 PROJECT SAFETY GOAL**

The goal of this project is zero preventable incidents (OSHA recordable, lost workdays, property damage etc...). To achieve this goal, everyone on the project is responsible for eliminating or correcting at risk-behavior or unsafe conditions. If you see unsafe conditions, correct it and/or immediately notify your supervisor. If you observe someone performing an unsafe act, let them know that their behavior is putting them in danger.



### **1.3 SUBCONTRACTORS SAFETY PLAN**

Prior to the start of any work, each subcontractor of any tier shall prepare an Accident Prevention Program in accordance to OSHA requirements and a site-specific safety plan limited to the scope of the contract. The plan shall identify:

- A Safety Representative with authority and responsibility for implementing the safety plan.
- A Competent Person(s) as defined by OSHA
- A system for ensuring that personnel comply with safe and healthy work practices (disciplinary process and/or incentive program).
- Procedures for dissemination of safety information including the compilation and distribution to appropriate parties of records of notice, training, meetings, inspections, violations, corrective actions and other activities that reflect on the safety of the project.
- Methods used to identify and evaluate hazards and the means and methods that will be used to eliminate or control hazards.
- Procedures for reporting and investigating occupational injury or illnesses.
- Methods for reporting and correcting unsafe or unhealthy conditions.
- Means that will be used to instruct, orientate and train personnel assign to the project
- Procedures for conducting safety inspections that document unsafe condition and work practices.
- Procedures for assuring compliance by their lower tier subcontractors, suppliers, and authorized visitors to the project. In addition, the plan shall specify the measures that will be taken to discourage unauthorized personnel from entering the site.
- Measures that will be taken in cases where workers are suspected of drug or alcohol impairment.

### **1.4 MULTIPLE EMPLOYER PROJECTS**

Under the OSHA, each employer is required to provide a safe and healthful working environment for employees. When several employers are working simultaneously on the project, the activities of one employer could expose personnel of another company to a hazard.

Where an employer creates unsafe conditions, the exposing employer shall be responsible for exercising reasonable diligence to discover the condition, and for taking steps to protect their personnel. When the exposing employer has authority to correct the hazard, it shall do so. Where the exposing employer lacks the authority to correct the hazard, the employer shall ask the creating and/or controlling employer to correct the hazard; inform its personnel of the hazard; and take reasonable alternative protective measures. In extreme circumstances (e.g., imminent danger situations), the exposing employer shall remove their personnel from the area to avoid the hazard.

### **1.4.1 Differing Opinions**

When a dispute or difference of opinion occurs between CHRIS-TEL and a subcontractor, concerning any interpretation of the safety practices or procedures required for the subcontractor's scope of work, CHRIS-TEL's interpretation shall control. The subcontractor shall not start or continue with work until the safety practices and procedures in dispute are resolved to the satisfaction of CHRIS-TEL.

### **1.5 UNSAFE CONDITIONS**

The subcontractor shall immediately correct any unsafe conditions that are brought to its attention. When unsafe conditions are not corrected to the satisfaction of CHRIS-TEL or the subcontractor fails to correct the unsafe conditions and/or repeatedly fails to comply with the safety and health requirements as found in 29 CFR 1926, CHRIS-TEL will stop the work. The work stoppage will be in place until the corrective steps to eliminate the unsafe conditions are taken.

### **1.6 SAFETY DISCIPLINARY POLICY**

Personnel refusing or repeatedly failing to comply with CHRIS-TEL job safety requirements, or supervisors failing to enforce compliance with these and referenced standards shall be promptly disciplined by their employer, which at CHRIS-TEL's discretion, may include removal from the project.

CHRIS-TEL believes that the safety requirement of this Safety Plan is unenforceable without some type of disciplinary policy. Our company believes that in order to maintain a safe and healthful workplace, the employees must be cognizant and aware of all company, State, and Federal safety and health regulations as they apply to the specific job duties required. The following disciplinary policy is in effect and will be applied to all safety and health violations.

#### **A. Primary Violation**

Due to the seriousness of a Primary Violation, issuing an employee warning is not required and an employee may be terminated after the first occurrence. In such cases, the employee shall be placed on suspension until a full review of all facts is completed and a final decision made. Primary violations include, but are not limited to:

- Theft of or deliberate damage to Company property or another employee's property.
- Use of or possession of intoxicants and or illegal/non-prescription drugs on the project.
- Exposing others to loss of life or limb, either willfully or through negligence.
- Willful violation of safety rules, fire prevention, or security regulations.

- Possession of firearms or ammunition on premises.

### **B. Secondary Violation**

A Secondary Violation is a safety infraction, which is less serious than a Primary Violation, but still requires disciplinary action. A written citation and/or a notice for this type of safety infraction will be issued to personnel while on the project site.

### **C. Citation or Notice**

Citations and/or a notice of safety infractions can be issued to any CHRIS-TEL employee or subcontractor on the project site by CHRIS-TEL supervisors and management personnel. Upon receipt of the first citation, the employee's immediate supervisor will counsel the employee.

A formal conference session between the employee, supervisor, and management may follow any citation or notice, and is intended to inform to the employee that CHRIS-TEL's acknowledgment is sincere, and/or that the offense is serious enough to warrant strict disciplinary action.

### **D. Verbal Warning**

A verbal warning may be given for safety infractions, and shall be accompanied with documentation of the discussion for future reference. Documentation will be placed in the employee's personnel file and should include:

What rule, policy, or established work practices the employee violated.

The time and place of the infraction.

The potential consequences of the infraction (i.e., injury to self or co-worker).

Potential disciplinary action which may result from recurrence of the infraction.

### **E. Types of Disciplinary Action**

The following steps will be followed unless the seriousness of the violation would dictate going directly to Step 2 or Step 3.

1. A first-time violation will be discussed orally between company supervision and the employee. This will be done as soon as possible.

2. A second-time offense will be followed up in written form and a copy of this written documentation will be entered into the employee's personnel folder.
3. A third-time violation will result in time off or possible termination, depending on the seriousness of the violation.

### **1.7 SUBSTANCE ABUSE, AND WEAPONS**

The project will not tolerate unsafe workplace conditions created by persons with substance-abuse (alcohol and drug) problems. All personnel on site are expected to be in suitable mental and physical condition while at work, performing their jobs satisfactorily, and behaving appropriately.

No firearms of any kind are permitted on the project. Only knives germane to work and suitable for construction will be permitted. Switchblades, stiletos, flip knives, throwing stars, and other martial arts weapons are expressly prohibited.

### **1.8 SAFETY BULLETIN BOARD**

The project team shall establish a safety bulletin board to increase employee's safety awareness and convey the company's safety message. The following items are required to be posted:

- OSHA poster
- Industrial Insurance poster
- Wage and hour laws
- Citation and Notice. If a Citation and Notice is received, it must be posted until all violations are abated.
- Emergency Telephone Number Posted (as appropriate)
- OSHA 300 Summary (required February 1 thru April 30 of each year)

### **1.9 SITE VISITORS**

The CHRIS-TEL Project Manager (PM) or Project Superintendent (PS) will give approval to visitors to enter the site if escorted. Based on the discretion of the PM/PS, visitors who plan to revisit the site regularly and remain unescorted by CHRIS-TEL field staff, may be required to attend a safety orientation. CHRIS-TEL will provide some personal protective equipment necessary to provide an adequate level of protection for the purpose of their visit. All visitors

will be required to wear sturdy work boots, with slip resistant soles that provide adequate protection to the feet and ankles.

### **1.10 REPORTING UNSAFE CONDITIONS**

When personnel observe an unsafe condition that is likely to cause harm, they shall immediately report the hazard to their supervisor so that prompt corrective action can be taken to correct the hazard. In cases of imminent danger, project personnel at all levels shall stop an activity if s/he is aware that by not doing so would cause serious harm to themselves or others.

### **1.11 SAFETY SUGGESTIONS**

The Program has an “open door policy” for project personnel to make suggestions to improve safety. Suggestions are welcome and may be made by any person conducting or observing work, or affected by work on the program. Suggestions may be communicated verbally to CHRIS-TEL management or in written form.

Safety will be discussed at all weekly staff and subcontractor meetings and will be the first item on the agenda. Staff are encouraged to raise awareness of important safety issues and be involved in the planning of upcoming hazardous activities. Recent events such as near misses or accidents are to be communicated to the group.

### **1.12 INCIDENT INVESTIGATION**

Incidents that result in injury and/or loss of equipment or damage to property shall be reported immediately to CHRIS-TEL after providing or obtaining appropriate medical and emergency assistance. Subcontractors shall conduct a thorough investigation of the incident to determine the contributing factors. The subcontractor shall submit a comprehensive written report of findings and corrective action taken to prevent a similar incident from reoccurring to CHRIS-TEL within one (1) working day.

Incidents that shall immediately be reported include, but are not limited to: near-hits, fires, vandalism, equipment failure, and spills and leaks. All subcontractors are responsible for investigating the incident as soon as possible.

The CHRIS-TEL shall maintain a log of near misses, property damage, first aid and OSHA recordable events.

Subcontractors must maintain a log of work-related injuries and illnesses (OSHA 300-A) in accordance with 29 CFR 1904

### **1.13 SAFETY INSPECTIONS**

Walk-around safety inspections will be conducted at the beginning of each job, and at least weekly thereafter.

- The weekly inspections will be conducted jointly by CHRIS-TEL and one member of subcontractor's management and one employee, elected by the employees, as their authorized representative.
- The inspections and corrective action will be documented, and the documentation will be submitted to CHRIS-TEL and made available for inspection by representatives of the Department of Labor and Industries.
- The records of the walk-around inspections will be maintained until the completion of the job.
- Where a safety deficiency or unsafe act is observed during the inspection corrective action must be taken before the next inspection. Imminent hazardous shall be immediately corrected.
- A corrective action log shall be established for the Project. The log shall contain the following:
  1. Safety deficiency
  2. Date
  3. Location
  4. Person assigned to initiate corrective action
  5. Description of corrective action
  6. Date corrective action was taken.

#### **1.14 SAFETY PERFORMANCE REPORT**

Each and every month, in which a subcontractor performs any work on the Project, a monthly summary of hours worked and number and types incidents (e.g., first aid, near hits, OSHA recordable/s) shall be provided to the CHRIS-TEL Project Superintendent no later than the second workday of the new month. A copy of the Monthly Subcontractor Safety Report is provided in **Attachment A**.

#### **1.15 CONSULTATION**

Employers who may have difficulty complying with OSHA requirements or require technical assistance are encouraged to contact the University of South Florida, Department of Environmental and Occupational Health consultant service at 813-927-5347 to arrange for a safety consultation.

The Safety and Health Consultation Program is free of charge and is completely separate from OSHA inspection efforts. Information about the workplace, plus any unsafe or unhealthful working conditions that the consultant uncovers, will not be routinely reported to OSHA inspection staff. **Employers participating in this program are exempt from routine OSHA inspections for up to one year.**

This service helps employers to identify and correct specific hazards; consultants provide guidance in establishing or improving an effective safety and health program and offer training and education for employers and their employees.

CHRIS-TEL may elect to use the consultation program during the execution of this project. If used, all subcontractors are expected to participate in the consultation program.

**END OF SECTION**

## **2.0 PROJECT DESCRIPTION AND SCOPE OF WORK**

### **2.0 SITE LOCATION, DESCRIPTION AND DURATION OF WORK**

#### **2.0.1 Location and Description**

The facility is located in/at (LOCATION). The work is generally described as: (JOB DESCRIPTION). The construction/reconstruction will include (XXXXXX)

#### **2.1.2 Project Duration and Shift Work**

The term of the Agreement (owner/entity) estimated to be (XX Months). The project will be executed by (ENTITY) via Construction Manager at Risk (CMAR) Delivery Method and will have an individual schedule established for each task.

### **2.1 WORK HOURS AND DAYS WORKED**

The work conducted on the project will be day shift work, unless otherwise approved. Working hours will be limited to 7:00 A.M. to 5:30 P.M., Monday through Friday. Work outside these hours will not be permitted without written approval from CHRIS-TEL.

**END OF SECTION**



### **3.0 ORGANIZATION AND RESPONSILITIES**

Responsibilities for safety and health include the establishment and maintenance of an effective communication system among workers, supervisors and management officials. To this end, all personnel are responsible to assure that their messages are received and understood by the intended receiver. Specific safety and health responsibilities for company personnel are as follows:

#### **3.0 MANAGEMENT OFFICIALS**

Active participation in and support of safety and health programs is essential. Management officials will display their interest in safety and health matters at every opportunity. At least one manager (as designated) will participate in the safety and health committee meetings, incident investigations and inspections. Each manager will establish realistic goals for implementing instructions for meeting the goals. Goals and implementing instructions shall be within the framework established by this document. Incentives will be included as part of the instructions.

#### **3.1 SUPERVISORS**

The safety and health of the employees they supervise is a primary responsibility of the supervisors. To accomplish this obligation, supervisors will:

- Assure that all safety and health rules, regulations, policies and procedures are understood and observed.
- Require the proper care and use of all required personal protective equipment
- Identify and eliminate job hazards quickly through job safety analysis procedures.
- Inform and train employees on the hazardous chemicals and/or procedures they MAY encounter under normal working conditions or during an emergency situation.
- Receive and take initial action on employee suggestions, awards or disciplinary measures.
- Conduct crew/leader meetings the first five minutes of each work shift to discuss safety and health matters and work plans for the workday.
- Conduct walk-around safety inspections at the beginning of each job, and at least weekly thereafter.
- Train employees (new and experienced) in the safe and efficient methods of accomplishing each job or task as necessary.
- Review injury trends and establish prevention measures.
- Attend safety meetings and actively participate in the proceedings.
- Promote employee participation in the safety and health program
- Actively follow the progress of injured workers and display an interest in their rapid recovery and return to work

#### **3.2 PROJECT STAFF**

As part of their oversight duties, Project staff shall be responsible for observing personnel for at-risk-behavior and work areas for unsafe conditions. Project staff has the authority to stop work that poses an immediate danger. At-risk-behavior of individuals or unsafe conditions shall be promptly reported to the supervisory personnel who oversees the activity or personnel. The at-risk-behavior or unsafe condition and action taken by the responsible party shall be document.

### **3.3 PROJECT SUPERINTENDENT**

The Project Superintendent shall be responsible for monitoring compliance with the project safety requirements, and OSHA requirements. The Project Superintendent has absolute authority to stop work that is deemed hazardous. Additional responsibilities of the Project Superintendent include providing guidance and consultations related to safety issues, conducting orientation training, and executing duties described in this plan. The Project Superintendent shall maintain a daily safety log/report and required safety-related documents.

### **3.4 PROJECT PERSONNEL**

All project personnel including visitor/s shall observe the items of responsibility established in this document as well as job safety rules, which may apply to specific task assignments. Personnel are responsible to comply with all aspects of safety as applicable to the work they perform.

### **3.5 COMPETENT PERSON**

Employers are responsible for working in accordance with the project safety plan and OSHA requirements. Each employer shall designate a “competent person” or persons to oversee construction activities as required by OSHA regulations and to implement and enforce the project safety plan and company safety procedures. The “competent person” shall be capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.

**END OF SECTION**

## **4.0 TRAINING REQUIREMENTS**

### **4.0 INTRODUCTION**

Each employer shall ensure that employees under their control have received the necessary safety training as mandated by OSHA requirements. Documentation and certificates of training listed in Section 6 shall be provided to CHRIS-TEL Project Superintendent and CHRIS-TEL Project Manager.

### **4.1 PROJECT ORIENTATION**

Prior to the first work shift or visit, all personnel shall receive safety orientation given by the CHRIS-TEL Project Superintendent, Project Superintendent or delegate. The safety orientation shall be relevant to the work being undertaken. Where, the subcontractor employee/s Hispanic personnel, they shall provide a person to conduct the orientation in Spanish.

Orientation shall include but not limited to:

- General safety rules for personal conduct.
- Zero Tolerance for unsafe acts
- Substance abuse policy
- Security and parking procedures
- Emergency notification.
- Personal protective equipment and construction dress wear.
- Rule to attend weekly toolbox safety talks.
- Incident reporting.
- Basic project rules for construction activities.

Each person participating in the orientation shall acknowledge receipt of these instructions by filling out the Personal Safety and Health Acknowledgment form located in Attachment B. A copy of this acknowledgement shall be retained on the project to document that the person has been orientated. Upon completion of the orientation each participant will be provided with a hardhat decal, which will identify that person as having completed the orientation requirements

### **4.2 TOOLBOX SAFETY MEETINGS**

Toolbox safety meetings will be held at the beginning of each job and at least weekly thereafter, according to the various circumstances involved or when necessary to clear working procedures. Each employer shall conduct the meetings for their personnel. All site personnel shall attend a weekly toolbox safety meeting held on a selected weekday morning each week and sign a meeting roster to confirm attendance.

Safety Meetings will cover relevant health and safety issues, site activities, changes in site conditions, and a review of topics covered in the orientation as they apply to daily activities. As part of the toolbox safety meeting, employee feedback (comments, questions, health or safety concerns) are welcomed. Issues addressed in the safety meetings will be documented and shall include the date, attendees, subjects discussed and names of individual(s) who conducted the meeting. Subcontractor shall submit documentation of all toolbox meetings to CHRIS-TEL.

#### **4.3 SAFETY TASK ANALYSIS & REVIEW**

The Safety Task Analysis & Review (STAR) Plan is a proactive approach to accident prevention that provides a method to perform a safety analysis on a specified job task.

#### **4.4 SUPERVISORS SAFETY MEETING**

At least once a month safety meeting for all supervisors on the project location shall be held. The meetings will cover past activities, review of incidents, plan for new or changed operations, review pertinent aspects of appropriate activity (by trade), and establish safe working procedures for anticipated hazards. The supervisor's safety meeting shall be documented on the Safety Meeting Record Form (Attachment E), including the date, attendance, subjects discussed, and names of individual(s) who conducted the meeting.

**END OF SECTION**

## 5.0 GENERAL SAFETY REQUIREMENTS

### 5.0 PROJECT SAFETY RULES

The Project Safety Rules establishes the minimum rules that are to be followed by project personnel. The rules shall be posted on the Safety Bulletin Board.

#### General

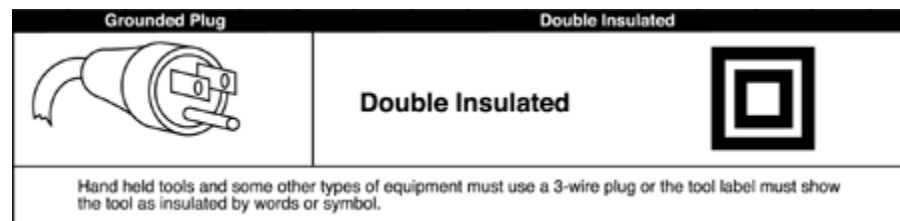
1. All persons shall follow these safe practice rules, and report all unsafe conditions or practices to their Supervisor.
2. Supervisors shall insist that employees observe and obey every rule, regulation, and order to insure the safe conduct of work.
3. Anyone known to be under the influence of drugs or intoxicating substances shall not be allowed in the facility/project in that condition.
4. The use of alcoholic beverages or illegal drugs on the job site is not allowed.
5. The use or possession of firearms or weapons of any kind on the job site is prohibited.
6. The use of cellular telephone in the work area by general workers is prohibited, except when the cellular telephone is used in the case of an emergency.
7. Horseplay, scuffling, and other acts which tend to have an adverse influence on the safety or well being of employees is prohibited.
8. Work shall be well planned and supervised to prevent injuries in the handling of materials and in working with equipment.
9. Injuries and on the job illnesses, regardless of severity, shall be immediately and accurately reported to your Supervisor. A near miss incident or exposure to a hazardous substance must be reported immediately to your Supervisor.
10. Employees shall not enter manholes, underground vaults, chamber, tanks, silos, or other similar places that receive little ventilation, until a confined space entry permit is issued.
11. Eating, drinking, or the use of tobacco products or any practice that increases the probability of hand-to-mouth transfer and ingestion of materials is prohibited in areas where hazardous materials are present.
12. Labels shall not be removed from containers, and all unlabeled containers shall be properly labeled.
13. As a minimum, a shirt covering the shoulder and trousers covering the legs and ankle must be worn always.
14. Inappropriate footwear or shoes with thin or badly worn soles shall not be worn.

15. Proper and adequate PPE will be required within the construction zones always. At a minimum, all personnel working within the construction zone shall have protective foot wear, an ANSI Class II safety vest or approved equal, proper attire (shorts and sleeveless shirts are prohibited). In cases where overhead work is being performed, hard hats are required. In instances where cutting, grinding or like activities are being performed, proper eye and ear protection is required per OSHA standards for the task being performed.
16. Smoking is permitted in designated outdoor locations only.
17. Employees are required to cleanse thoroughly after handling hazardous substances.
18. Do not remove, deface or destroy any warning, danger sign, or barricade, or interfere with any form of protective device or practice provided for your use or that is being used by other workers.
19. No burning, welding or other source of ignition shall be applied to any enclosed vessel or tank, even if there are some openings, until it has first been determined that no possibility of explosion exists, and authority for the work is obtained from your supervisor or Health and Safety Officer.
20. Gasoline or other flammable liquids shall not be used for cleaning purposes.
21. Employees shall not use compressed air to blow dust off themselves or other workers.
22. Workers shall not handle or tamper with any electrical equipment, machinery, or air or water line in a manner not within the scope of their duties, unless they have received instructions from their Supervisor.
23. When lifting heavy objects, the large muscles of the leg instead of the smaller muscles of the back shall be used. Lift with the legs not the back.

### **Use of Tools and Equipment**

24. Compressed gas cylinders shall be labeled, protected, and secured in an upright position at all times. The valve cap shall always be kept in place except when a cylinder is in use. All cylinders must be tagged as "FULL", "IN USE", or "EMPTY". Fuel gas and oxygen cylinders shall be stored a minimum of 20-feet apart or be separated by a 5-foot tall half-hour rated firewall.
25. Do not use tools with split, broken, or loose handles, or burred or mushroomed heads. Keep cutting tools sharp and carry all tools in a container. Damaged tools or equipment shall be removed from service and tagged. **"OUT OF SERVICE"**
26. Only appropriate tools shall be used for the job and tools or equipment shall not be altered or modified without consent from the manufacturer.
27. Keep all tools away from the edges of scaffolding, platforms, shaft openings, etc.

28. Proper guards or shields must be installed on all power tools before use. Do not use any tools without the guards in their proper working condition. No “homemade” handles or extensions (cheaters) will be used!
29. All electrical power tools (unless double insulated), extension cords, and equipment must be properly grounded and a ground fault circuit interrupter (GFCI) used.
30. All electrical power tools and extension cords must be properly insulated. Damaged cords must be replaced.
31. Do not operate any power tool or equipment unless you are trained in its operation and authorized by your firm to do so.
32. All electrical power equipment and tools must be grounded or double insulated.



33. No employee shall remove, displace, damage, destroy, or alter a safety device or guard provided on tools and equipment.
34. The manufacturer instructions or your supervisor shall be consulted before operating, or using tools or equipment, which you are not familiar with.
35. Portable electric or pneumatic tools shall not be lowered by means of the power cord or hose.

### **Machinery and Vehicles**

36. Only authorized persons shall operate machinery or equipment.
37. Machinery and construction vehicles shall be inspected before each shift. Defective machinery and construction vehicles shall not be used and shall be tagged, “OUT OF SERVICE.”
38. Loose or frayed clothing, or long hair, dangling ties, finger rings, etc. shall not be worn around moving machinery or other sources of entanglement.
39. Machinery shall not be serviced, repaired or adjusted while in operation, nor shall oiling of moving parts be attempted, except on equipment that is designed or fitted with safeguards to protect the person performing work.
40. When refueling, the ignition shall be turned off, and the engine allowed to cool prior to fueling.
41. Where appropriate, lockout procedures shall be used.

42. Employees shall not work under vehicles supported by jacks or chain hoist, without protective blocking that will prevent injury if jacks or hoist should fail.
43. The use of seat belts/shoulder harness is required in all vehicles used for company business. When heavy equipment is equipped with seat belts, they shall be used.
44. Riders are not permitted on equipment designed to carry only the operator.

**Fall Protection**

45. Standard guardrails must be erected around all floor openings and excavations must be barricaded. Contact your supervisor for the correct specifications
46. Personal fall restraint/arrest devices shall be used when there is no standard guardrail and a fall hazard is at or greater than 6 feet.
47. All workers operating or working from a mobile aerial lift shall wear a safety harness that is attached to the manufacture attachment point.
48. Floor openings and a standard railing or equivalent shall guard open sides floors.

**Material Handling**

49. Temporary and permanent storage of materials shall be neat and orderly to eliminate hazards, and conserve space.
50. Always store materials in a safe manner. Tie down or support piles if necessary to prevent falling, rolling, or shifting
51. Unobstructed access to fire extinguishers and emergency equipment must be maintained. Electrical panel boxes shall be maintained free and clear of stored material.
52. All exists and routes to exits shall be accessible at all times and shall not be blocked by tools, parts, or debris.
53. For visibility, material should not be stacked near the corners of working (non-storage) aisles.

**END OF SECTION**



## 6.0 SPECIFIC SAFETY REQUIREMENT

### 6.0 AERIAL LIFTS

Aerial work platform used on this project shall comply with the requirements as found in 29 CFR 1926.453.

***CHRIS-TEL personnel shall not operate or inspect an aerial lift or components of an aerial lift, unless properly trained and certified.***

#### General Requirements

- Aerial work platforms (man-lifts, scissors lifts, cherry pickers) shall be inspected before each day or at the beginning of each shift. The aerial platform shall be given a visual inspection and functional test. Aerial work platforms not in safe operating condition shall be removed from service until repaired. The inspection shall be done in accordance with the manufacturers' and owners operating requirements.
- Personnel shall maintain a firm footing on the platform floor. Use of rails, planks, ladders, or any other devices on the aerial platform for achieving additional height or reach shall be prohibited.
- Before lowering the platform, the operator shall ensure that the area surrounding the platform is cleared of personnel and equipment.
- Personnel shall be tied off to the aerial work platform as required by the manufacturer.
- Aerial lifts shall not be used to lift materials, unless specifically designed for this task.

#### Training Requirements

Employers shall have the responsibility of ensuring that their personnel are trained to operate aerial work platforms. The training shall meet the requirement as found in 29 CFR 1926.453 and that the training can be verified by documentary evidence.

## 6.1 CONCRETE AND MASONRY

Concrete and masonry work performed on this project shall comply with OSHA requirements found in Subpart Q of 29 CFR 1926.

### Formwork

- Formwork, falsework, structural shoring and bracing shall be designed, erected, braced and maintained so that it will safely support all vertical and lateral loads that might be applied until such loads can be supported by the concrete structure.
- All form work, falsework, structural shoring and bracing, concrete placement, and masonry construction shall be under the supervision of an experienced and competent person.
- Forms and shoring equipment shall be inspected prior to erection to determine that it is as specified in the shoring layout. Equipment found to be damaged should not be used.
- Removal of forms and shoring equipment shall not be undertaken until concrete has sufficiently set and/or the concrete has reached the minimum strength called for in the formwork and shoring design to allow the safe removal of the forms, shoring, and bracing. Removal shall be planned so that shoring equipment is not overloaded.

### Metal/Tube and Coupler Shoring

- Metal tubular frames used for shoring shall have allowable loads based on tests conducted according to the Recommended Procedure for Compression Testing of Scaffolds and Shores, Scaffolding & Shoring Institute, 1967.
- Design of shoring layouts shall be based on allowable loads which were obtained using the test procedures of subsection (1) of this section and on at least a two and one-half to one safety factor. Refer to the project specifications for requirements for the use of an Registered Professional Engineer licensed in the State of Florida for shoring designs calculations and signed and sealed drawings as required.
- All shoring equipment shall be inspected before erection.
- Metal frame shoring equipment and accessories shall not be used if heavily rusted, bent, dented, re-welded, or having broken welds or other defects.
- The material used for the couplers (clamps) shall be of a structural type such as dropforged steel, malleable iron, or structural grade aluminum. Gray cast iron shall not be used.

- Tubes of shoring structures shall not be used if heavily rusted, bent, dented, or having other defects.
- Couplers (clamps) shall not be used if deformed, broken, or having defective or missing threads on bolts, or other defects.
- All locking devices on frames and braces shall be in good working order, coupling pins shall align the frame or panel legs, pivoted cross braces shall have their center pivot in place, and all components shall be in a condition similar to that of original manufacture.
- When checking the erected shoring frames with the shoring layout, the spacing between towers and cross-brace spacing shall not exceed that shown on the layout, and all locking devices shall be in the closed position.
- Devices for attaching the external lateral stability bracing shall be securely fastened to the legs of the shoring frames.
- All baseplates, shore heads, extension devices, or adjustment screws shall be in firm contact with the footing sill and the form material, and shall be snug against the legs of the frames.
- Eccentric loads on shore heads and similar members shall be prohibited unless the shore heads have been designed for such loading.
- Adjustment screws shall not be adjusted to raise formwork after the concrete is in place.

#### Reinforcement Steel

- Exposed rebar onto or into which personnel could fall shall be covered to eliminate the hazard of impalement. Plastic “mushroom” cap coverings shall not be used for implementing protection but may be used to cover the ends of horizontal rebar. Wooden troughs or other substantial material shall be used to cover vertically protruding rebar.
- Where personnel must cross over vertical rebar a stairway shall be constructed. Personnel are prohibited from walking between or climbing over vertical rebar.
- Rebar covers shall not be prematurely removed. As work progress the rebar shall be exposed.
- Reinforcing mats used as walkways shall be provided with planking to afford safe footing.
- Wire mesh reinforcing mats shall be secured at each end or the roll turned over to prevent recoiling action. Unrolled wire mesh shall be secured on each side of a proposed cut before cutting the mesh.

### Masonry Construction

- A limited access zone shall be established whenever a masonry wall is being constructed. The limited access zone shall be established prior to constructing the wall and shall be equal to the height of the wall being built, plus four feet, and shall run the entire length of the wall.
- The limited access zone shall be established on the side of the wall opposite the scaffolding.
- Employees who are constructing the wall may enter the limited access zone but shall not allow other employees to enter. The limited access zone shall remain in place until the wall is adequately supported to prevent overturning or collapse.
- All masonry walls over eight feet in height shall be adequately braced and supported so that they will not overturn or collapse. Limited access zones and bracing shall remain in intact until permanent supporting elements of the structure are in place.
- Scaffolding for masonry construction shall be in compliance with the requirements of Subpart L of 29 CFR 1926.

### Concrete Pump

- Concrete pumps and components shall be inspected before use. If during the inspection a condition is revealed that might endanger workers, the equipment must not be returned to service until the condition is corrected.
- Booms shall not contact adjacent structures.
- Pump should be positioned so that any obstructions (power lines, ditches, walls, and columns) do not interfere with safe operation.

- Outriggers shall be extended and locked into place and kept away from surfaces with inadequate support. Pads or dunnage will be used as necessary to stabilize the vehicle. Raised tires should be blocked to prevent unnecessary bouncing or rolling.
- Hoses shall be fastened to prevent disconnect.
- Concrete pump shall not be operated unless the hopper is guarded. Personnel shall not place hands or objects in the hopper unless it is locked out.

### Silica Dust

The cutting, grinding and drilling of concrete will be necessary for the completion of this Project. Disturbing of concrete poses a silica dust hazards. One of the most dangerous kinds of dust personnel can breathe is crystalline silica which can be generated when concrete is disturbed. Each employer shall warn employees about the hazards posed by silica dust. Where jackhammers, masonry saws, grinders, etc. are used to disturb masonry and concrete products, engineering or work practice controls shall be implemented to reduce (silica) dust. When engineering or work practice controls are not feasible, employees exposed to dust shall use respiratory protection.

### General Requirements

- Concrete and masonry cement is irritating to the eyes and skin. Protective equipment such as gloves, rubber boots, kneepads, and protective eyewear, such as safety glasses, shall be used when handling concrete. Washing with soap and water is important to prevent skin irritation. Hands shall not be washed in a bucket of water used for moistening and washing concrete tools.
- Concrete buckets shall have positive safety latches or similar safety devices installed to prevent the premature or accidental dumping. Manually operated gates shall be of the self-closing type. Riding of the concrete bucket is prohibited, and no person shall be under the buckets suspended from a crane while they are being raised or lowered into position.
- Concrete trucks shall not travel through the job site with the chute extended.

- Powered and rotating type concrete troweling machines that are manually guided shall be equipped with a control switch of positive mechanical release devices that automatically stops trowel rotation when the operator removes his/her hand from the equipment handle.

## 6.2 CRANES

Cranes used on this project shall comply with the requirements of 29 CFR 1926 Subpart H and requirements imposed by local authorities (i.e., state or city government). In addition, subcontractors who employ a crane on the Project will be provided with a copy of CHRIS-TEL's safety criteria for cranes (Procedure 04.02). The procedure shall be used as minimum requirements that shall be followed and shall be exceeded when necessary to provide safe crane operation onsite. Where filling out a form is required in the procedure, subcontractors may use the forms provided in the procedure, or use an equivalent form.

***CHRIS-TEL personnel shall not operate or inspect a crane or components of a crane, including below the hook rigging.***

- Subcontractors employing cranes shall provide CHRIS-TEL with the crane's scheduled arrival time, general crane information such as type, size, and owner, anticipated lifts, and any critical lift plans a minimum of 72 hours before scheduled arrival time of the crane.

### Critical Lifts

- When a critical lift is conducted, a crane Lift Supervisor shall be assigned to the lift and will be responsible for the lifting operation. The Lift Supervisor is the competent person for the lift and has the authority to stop all operations if the lift conditions, equipment, or rigging is determined to be deficient, unsafe, or inadequate.
- When critical lifts are made, the contractor is required to prepare a written Critical Lift Plan. The Project Superintendent, CHRIS-TEL General Superintendent, or an appointed designee, the Lift Supervisor, the crane operator, and rigging crew shall accept the plan before the lift is made.

### Inspection Requirements

No crane will be operated or assembled before proof of an annual safety inspection that was performed by a qualified person is furnished. The inspection criteria and document shall be consistent with WISH regulations and the regulatory agency of the governing state where the project is located. Copies of these certifications shall be placed on the crane upon its arrival at

the jobsite and provided for inspection and photocopying by the CHRIS-TEL Project Superintendent or General Superintendent before operation of the crane. If either certificate expires while the crane is in operation on a project, the crane's operation will be stopped until the crane is inspected and tested, and a licensed crane surveyor has issued a current certificate.

### Training Requirements

The subcontractor shall ensure that personnel involved in supervising, maintaining, repairing, transporting, assembling, and operating crane equipment are trained, experienced, and competent to handle their specific jobs in a safe manner. All crane operators shall be experienced, trained, and qualified to operate the size and type of crane in question and to perform the type of work necessary. Crane operators shall provide proof of any training certification or licenses attesting to their knowledge of the crane's operation and their skills and experience for review and photocopying by the CHRIS-TEL General Superintendent. All crane operators shall be certified under the National Commission for the Certification of Crane Operators (CCO) or by an equivalent program that has been reviewed by an independent assessment service.

### Windy Conditions

- No crane will be operated in wind speeds that exceed 30 mph or the manufacture recommendation whichever is less.

### Lightning Conditions

- When lightning conditions are present crane operations shall cease until conditions are deemed all clear.

### Power line conditions

- Cranes (or other mechanical equipment, such as excavators) shall not be operated within 15 feet of live distribution power lines and within 20 feet for transmission lines or other sources without appropriate approval.

### General Requirements

- Any employee involved in the operation or maintenance of cranes shall report any unsafe conditions to the subcontractor's foreman or the Project Superintendent immediately.
- No loads shall be lifted over personnel.

- A designated signal-person shall provide direction to the operator using the standard hand signals or radio communications that are common to the industry.
- When crane pads are used, their size should be a minimum of 3 times the area of the outrigger footplate. When hardwood timber mats are used for bearing support, they shall be in sound condition and through-bolted so that they will act as one unit.
- The swing radius of the crane shall be barricaded or labeled with HAZARD signs at potential pinch points.
- Taglines shall be used on loads unless their use creates an unsafe condition. When a tagline is used near power lines, an insulated link shall be installed between the load and tagline.
- No water jugs, lunch boxes, clothing, etc. shall be stored on the crane or with in the swing radius. The crane shall not serve as a break area for personnel other than the operator.

### **6.3 CONFINED SPACE**

Confined space entry shall be performed in such a manner as to protect personnel from the hazards associated with entering a confined space such as lack of oxygen, toxic gases and vapors and physical hazards. Employers whose personnel shall enter a confined space are responsible for compliance with 29 CFR 1910.146 when working in confined spaces. The subcontractor's competent person is responsible for identifying and evaluating all potential confined spaces.

Employers must develop and implement all aspects of the permit required confined space entry program required by the Confined Space Standard, (29-CFR 1910.146).

***CHRIS-TEL employees shall not enter permit required confined spaces, unless properly trained and certified.***

The Subcontractor's Safety Plan shall include a confined space entry procedure. The procedures shall include, but not be limited to:

- Name of competent person responsible for the identification and evaluation of confined spaces.
- Names of individuals who received confined space training.
- Procedures for testing the atmosphere in the confined space.
- Ventilation and/or cleaning methods to be used where hazardous conditions are found.
- Isolation procedures.
- Personal protective equipment that is required for confined space entry.
- Emergency rescue plan.



### Training Requirements

Employers shall have the responsibility of ensuring that their personnel are trained in confined space procedures. The training shall meet the requirement as found in 29 CFR 1910.146 and that the training can be verified by documentary evidence.

## **6.4 CONTROL OF HAZARDOUS ENERGY (LOCKOUT)**

Lockout procedures of control of hazardous energy shall be implemented and enforced. Lockout procedures are required to render inoperative electrical systems, pumps, pipelines, valves and all other such energy systems that may accidentally be energized while employees are working on them on or before they are ready and released for service. Control of hazardous energy shall comply with OSHA requirements as found in Subpart of 29 CFR 1910.147

### General Lockout Requirements

- Notify affected personnel and facility staff.
- Shut down equipment by normal stopping procedure.
- Isolate from energy sources using blocks, caps or blanks.
- Apply locks with tag identifying the person performing the lockout. Each authorized person working on equipment applies his/her own lock.
- Release any stored energy.
- Verify isolation.
- Remove guards or covers as necessary and perform work.
- When work is complete, reinstall guards and inspect equipment to ensure it is operational.
- Notify affected personnel.
- Remove locks. Each authorized individual removes his/her own.
- Return the equipment to service and notify affected personnel.

### Training Requirements

Employers shall have the responsibility of ensuring that their personnel are trained in hazardous energy control procedures. The training shall meet the requirement of Subpart J of 29 CFR and that the training can be verified by documentary evidence.

## **6.5 ELECTRICAL**

All temporary and permanent electrical work, installation, testing and maintenance and all electrical equipment and appliances shall conform to the requirements of the National Electrical Code and comply with OSHA requirements as found in Subpart K of 29 CFR 1926.

### General Requirements

- Only qualified electricians with full knowledge of the electrical code requirements will be allowed to perform electrical work.
- Ground fault circuit interrupters are required on all temporary electrical cords and generators. Assured equipment grounding programs is not accepted in place of GFCI protection.
- All live parts of electrical equipment are properly guarded against accidental contact.
- Power generators shall be provided with an earthen ground.
- Extension cords shall be approved three-wire type and shall be inspected before use. Defective cords shall be rendered inoperative or removed from service.
- All temporary lights shall be equipped with a guard to prevent contact with the bulb.
- The work area shall be checked for overhead and underground electrical utilities. The Subcontractor shall contact the local power company to establish safe clearance distances or to re-locate utilities. Mechanical equipment, such as excavators, shall not be operated within 15 feet of live distribution power lines and within 20 feet for transmission lines or other sources without appropriate approval.

### Training Requirements

Employers shall have the responsibility of ensuring that their personnel are trained to recognize electrical hazards. The training shall meet the requirement as found in OSHA requirements as found in Subpart K of 29 CFR 1926.

## **6.6 EXCAVATIONS AND TRENCHING**

Excavating and trenching operations shall be performed in such a manner as to protect personnel from the dangers associated with trenching and excavating such as cave-ins, and to prevent damage to underground utilities. All excavating subcontractors are responsible for compliance with Subpart P of 29 CFR 1926.

Each subcontractor shall have a competent person on site to conduct daily evaluations of each trench or excavation and determine the necessary precautions to take. These inspections shall be documented and submitted daily to CHRIS-TEL.

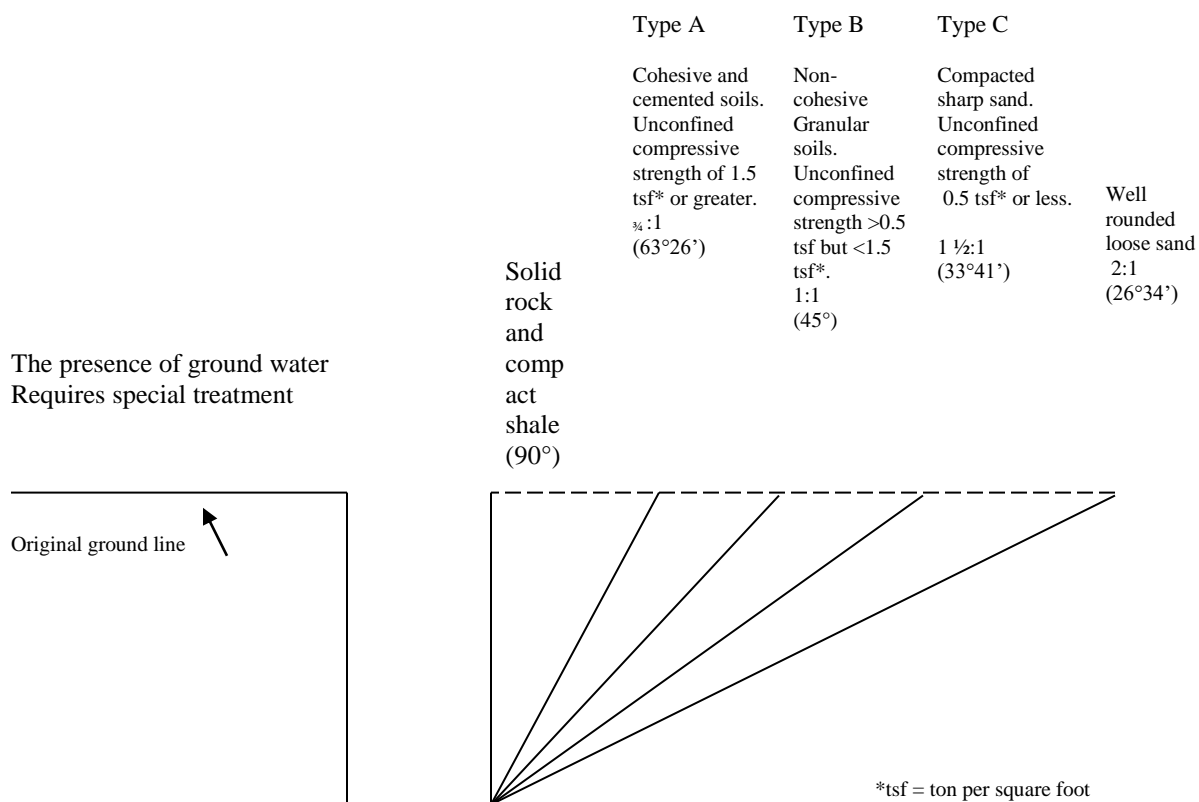
***CHRIS-TEL personnel shall not enter excavation or trenches that do not meet the general requirements outlined below.***

### General Requirements

- At least 72 hours before digging the subcontractor shall locate underground service and mark underground utilities.
- Sufficient room (minimum 20 feet, call utility company to determine safe line clearance) shall be maintained from overhead power and communication lines.
- If underground utilities not previously identified are encountered, the subcontractor will cease work immediately and consult with the CHRIS-TEL General Superintendent or designated representative before proceeding with the work.
- When employees are required to enter a trench or excavation over 4 feet deep, an adequate means of exit, such as a ladder, steps, or ramp will be provided and located to require no more than 10 feet of lateral travel. Ladders will extend at least 36 inches above the edge of the trench.
- Walkways or bridges with standard railings must be provided when employees or equipment are required to cross over excavations.
- The walls and faces of all excavations in which employees are exposed to danger from moving ground must be guarded by a shoring system, sloping of the ground, or some other equivalent means.
- No person must be permitted under loads handled by power shovels, derricks, or hoists.
- All employees must use proper PPE while working in the excavations.
- Protective system(s) to prevent cave-in shall be used when personnel enter excavations 5 feet or greater in depth or if the competent person determines it is necessary at shallower depths. Protective system(s) shall be compliant with the requirements found in Appendix A through F of Part N of the Construction Safety Standard, WAC 296-155.
- The determination of the angle of slope and design of the supporting system shall be based on careful evaluation of pertinent factors, such as:
  1. Depth and/or cut/soils classification
  2. Possible variation in water content of the material while excavation is open
  3. Anticipated changes in materials from exposure to air, sun, water, or freezing

4. Loading imposed by structures, equipment, or overlaying or stored material
5. Vibration from equipment, blasting, traffic, or other sources

**Approximate Angle of Slope  
For sloping of sides of excavations**



- Where protective systems are used such as trench boxes, hydraulic shoring, etc. is used it shall be used in accordance with the manufacturer’s specifications and limitations. The manufacturer’s tabulated data for such systems will be maintained on the project site.
- Before personnel enter excavations and during work, the competent person shall inspect the excavations, the adjacent hazards, and protective systems for evidence of possible cave-in/failure of protective systems, hazardous atmosphere, and other hazardous conditions. The inspection shall be documented and submitted daily to CHRIS-TEL.

- The spoils pile shall be placed at one side of the excavation. At a minimum, the toe of the spoil pile shall be at least 4 feet away from the edge of the excavation. The spoils pile shall be moved farther back in proportion to the depth of the excavation. The spoils pile height shall not exceed the depth of the excavation and shall be sloped to prevent the soil and rocks from sliding into the excavation.

### Training Requirements

- Employers shall have the responsibility of ensuring that their personnel are trained in the hazards associated with trenching and excavations and the necessary safety precautions to be taken. The training shall meet the requirement as found in Subpart P of 29 CFR 1926, and that the training can be verified by documentary evidence.

## **6.7 FALL PROTECTION**

Falls from elevation are a major cause of injuries and deaths in the construction industry. We at MWH Constructors are committed to eliminating injuries caused by fall hazards by instituting a program of 100% fall protection for all fall hazards 6 feet or greater. No person is exempt from the 100% fall protection requirement. Fall protection shall comply with the applicable OSHA standards as found in Subpart M of 29 CFR 1926.

All work sites with fall hazards of 6 feet or more will have a site-specific fall protection work plan completed before any employees begin work. The employees on that specific job will be trained in the fall hazards and the method used to implement fall protection. All employees will use fall protection when there is exposure to a fall hazard of 6 feet or more. Employees who fail to follow this policy are subject to disciplinary action, up to and including dismissal.

The evaluation of the jobsite and the completion of the fall protection work plan will be done by the subcontractor's designated "competent person". The competent person is one who understands OSHA fall protection requirements the fall protection systems available for use and has the authority to take corrective action to eliminate employee exposure to fall hazards.

Fall protection will be provided either through the use of a fall arrest system or a fall restraint system as shown below and thoroughly described in the fall protection work plan available on site for review.

**Fall Protection**

**Fall Restraint**

*(Restrained from falling)*

**Guardrails**

**Safety belt/harness**

**Warning line system or**

**Warning line system and safety monitor**

**Fall Arrest**

*(Stopped after the fall)*

**Full-body harness**

**Safety net**

**Catch platform**

***CHRIS-TEL personnel shall only enter or work at locations that protects a person from falling by employing a fall restraint system such as guardrails, unless authorized by CHRIS-TEL Project Superintendent.***

**Fall Protection Considerations**

- Personnel shall be vigilant in providing clear footing, clearly identifying obstructions, holes, or other tripping hazards and maintaining an awareness of uneven terrain and slippery surfaces. Fall hazards such as slips, trips and falls from elevations will be eliminated or guards will be erected around the hazard.
- Walking and working surfaces shall be kept free of materials, obstructions, and substances that could cause a surface to become slick or otherwise hazardous.
- Makeshift substitute ladders such as toolboxes, buckets, and coolers shall not be used.
- The use of cellular telephones (making or receiving calls) for personal use is prohibited in the work area.
- When personal fall arrest systems are used, the employer must assure that employees can be promptly rescued or can rescue themselves should a fall occur. The availability of rescue personnel, ladders or other rescue equipment should be evaluated. In some situations, equipment that allows employees to rescue themselves after the fall has been arrested may be desirable, such as devices that have descent capability.

**Training Requirements**

- Employers shall have the responsibility of ensuring that their personnel are trained in fall protection procedures. The training shall meet the requirement of No person is exempt from the 100% fall protection requirement. Fall protection shall comply with the applicable OSHA standards as found in Subpart M of 29 CFR 1926.

## **6.8 FIRE PREVENTION**

Each employer shall establish fire prevention and protection techniques in accordance with Subpart F of 29 CFR 1926. The CHRIS-TEL General Superintendent or designee shall meet with the local fire department. During the initial meeting, the fire department will be briefed on the scope of work at the site; requirements for various response situations; site access control measures; and the types of incidents for which response may be required.

### General Requirements

- An alarm system, e.g., telephone system, siren, etc., shall be established whereby personnel on the project and the local fire department can be alerted for an emergency. The alarm code and reporting instructions shall be conspicuously posted.
- Electrical wiring and equipment for light, heat, or power purposes shall be installed in compliance with the requirements of Subpart K of 29 CFR 1926.
- Smoking shall be prohibited at or in the vicinity of operations which constitute a fire hazard and shall be conspicuously posted: “No Smoking or Open Flame.”
- Fire extinguishers shall be conspicuously located. Ten-pound tri-class chemical fire extinguishers shall be provided within 50 feet of more than 5 gallons of flammable or combustible liquids or 5 pounds of flammable gas.
- Each employer shall be responsible for the monthly inspection of his/her fire extinguishers.
- Only Type I or Type II safety cans shall be used. All safety cans shall be equipped with a dispensing funnel or hose, and each container shall be clearly labeled.
- Drums containing flammable liquids shall be grounded when in use and be provided with a bonding wire for interconnecting between containers during material transfer. The drum shall be equipped with a self-closing faucet and a bung vent. A safety drip pan shall be positioned below each drum faucet to catch drips.

- Containers used for flammable liquids shall be removed from a vehicle (e.g., a pickup truck with a bed liner) before the container is filled.
- Flammable and combustible materials shall be stored away from sources of ignition and areas where hot work is performed. Flammable material storage areas shall be clearly marked with signs reading “FLAMMABLE — No smoking or open flames within 50 feet.”
- Flammable and combustible materials shall not be stored in areas used for exits or stairways or areas normally used for safe passage of people.
- Separately covered, self-closing metal containers shall be used for the collection of oily, flammable, and dangerous wastes. The containers shall be labeled with a description of their contents. The contents shall be properly disposed of daily.
- The indoor storage of flammable and combustible liquids will be limited to 25 gallons, and the liquids must be in approved containers. Quantities of flammable and combustible liquids in excess of 25 gallons shall be stored in an approved safety cabinet.
- Containers (tanks) used for the bulk storage of petroleum products shall be in above ground storage tanks. The tanks shall be UL listed or FM approved and be equipped with a secondary containment system or mobile. Tanks of more than 300 gallons shall have a current DEP permit. Prior to the mobilization of the tank(s) the local Fire Marshal’s office shall be contacted. Where applicable, the tanks shall be registered.
- Fire lanes providing access to all areas shall be established and kept free from obstructions.
- Exits shall be established and the exit and exit pathway shall be kept free of obstructions.

#### Training Requirements:

- Employer shall be responsible of ensuring that their personnel are trained in the use of portable fire extinguishers. In addition, employers shall be instructed personnel in the method used to report fires, the alarm system used, what to do in the event of a fire, and the location of the telephone for calling the local fire department.



## **6.9 FIRST-AID STATION**

Each employer shall make available to his/he personnel, first aid services, and shall make provisions for medical care as required by with 29 CFR 1926.50. The employer shall maintain a first aid kit in accordance with 29 CFR 1926.50. In addition, where the eyes or body of any person may be exposed to injurious corrosive materials, dust etc... suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate use.

- Supervisors or persons in charge of crews will be first aid trained unless their duties require them to be away from the jobsite. If so, other persons who are certified in first aid will be designated as the recognized first aider. Valid first aid cards are recognized as ones that include both first aid and cardiopulmonary resuscitation (CPR) and have not reached the expiration date.
- First aiders are designated to ensure that the first aid kits are properly maintained and stocked.
- Posters listing emergency numbers, procedures, etc. will be strategically located, such as on the first aid kit, at telephones, and in other areas where employees have easy access.

## **6.10 HAND AND POWER TOOLS**

Hand and power tools used on the project shall be used in accordance with Subpart I of 29 CFR 1926 and for their intended design per the manufacturer's recommendations. Tools shall be maintained in a safe condition and inspected for broken or defective parts.

- All guards originally supplied with power tools shall be in place when the tool is in use. Guards shall not be altered, modified, or defeated. If hand-held power tools are equipped with a constant pressure switch (a dead man switch), the switch shall not be defeated (taped or wired) in order to keep the power on.
- All powder-actuated tools (PATs) shall be operated following manufacturer's instructions and American National Standards Institute (ANSI) Standard A10.3, Powder-Actuated Fastening Systems—Safety Requirements. An operator's instruction manual shall be kept in the carrying case of the tool at all times.
- Tools shall be maintained in a safe condition. Tools will be inspected for broken or defective parts such as split/cracked handles, mushroomed heads on drift-pins, damaged electrical cords, etc., and removed from use until repaired or replaced. Defective power tools shall be tagged "OUT OF SERVICE" until repairs can be made.

- Hoses supplying pneumatic power tools will be provided with retainers and whip checks to prevent disconnect. Hoses greater than ½-inch inside diameter shall have a shut-off valve at the source.
- When compressed air is used for cleaning, the pressure will be reduced to less than 30 psi or the nozzle shall not be capable of being dead-ended. The trigger mechanism shall be of the constant pressure type.
- Fuel-powered tools shall be stopped when refueled, serviced or maintained. Tools shall be allowed to cool down as necessary before refueling.

#### Training Requirements:

- Only properly trained and qualified operators are permitted to use Powder Activated Tools (PAT). Operators shall possess an operator's card issued by the manufacturer's authorized dealer or distributor.

## **6.11 HAZARD COMMUNICATION**

Employers shall have available on the project their company's written Hazard Communications program. The Hazard Communication program shall meet the requirements of 29 CFR 1926.59. Material Safety Data Sheets (MSDS) for products that are used on the project shall be readily available to all personnel. Employers are required to provide the CHRIS-TEL Project Superintendent a copy of their written Hazardous Communication Program, inventory list, and MSDS to be stored at CHRIS-TEL site office. This requirement does not relieve the employer from maintaining his or her own copies of Material Safety Data Sheets.

Under the Hazard Communication standard each employee has the responsibility to:

- Know the hazardous chemicals in your workplace that are a potential physical or health hazard. Make an inventory list of these hazardous chemicals; this list must be a part of your written program.
- Inform personnel about hazardous chemicals in their work area upon initial assignment and whenever a new hazard is introduced. Make sure there is a material safety data sheet (MSDS) for each chemical and that the inventory list and labeling system reference the corresponding MSDS for each chemical.

- Verify that all containers are labeled as to their content and hazard and those labels are legible and not removed. Each container entering the workplace must be properly labeled with the identity of the product, the hazardous warning, and the name and address of the manufacturer.
- Inform personnel of hazards when performing non-routine tasks.
- Inform other employers of the hazardous chemicals their personnel may be exposed to while working and any precautionary measures that shall be taken to protect these persons during normal operating conditions or foreseeable emergencies.

#### Training Requirements:

- Employers shall have the responsibility of ensuring that their personnel are trained on hazardous chemicals in their work area. Training shall be updated, as required, when new physical or health hazards are brought into the work area. The training shall meet the requirement of 29 CFR 1926.59 and that the training can be verified by documentary evidence.

## **6.12 MATERIAL HANDLING**

Employers are responsible for the safe handling of materials. The handling of materials shall be in compliant with the requirements of 29 CFR 1926, Subpart F and H.

### **6.12.1 Forklifts**

- Operators of forklifts and/or telescoping material handlers shall be trained and evaluated as required by 29 CFR 1910.178(I). The training shall be verified by documentary evidence.
- Forklift operators shall conduct a pre-operation inspection before each day or at the beginning of each shift. If at any time a material handler is found to be in need of repair, defective, or in any way unsafe, the lift truck shall be taken out of service until it has been restored to safe operating condition. A written record of the inspection shall be maintained

### **6.12.2 Rigging Equipment**

- The competent person shall conduct daily inspections of all slings, fastenings and attachments of rigging equipment for damage or defects prior to their use. In addition, the

rigging equipment shall be inspected during use to ensure it is safe. Defective equipment shall be removed from service.

- Safety latches on hooks shall not be deactivated or made inoperable.
- Only synthetic or wire rope slings shall be used. Synthetic and wire rope slings shall be properly marked. The markings shall be legible during the life of the appliance.
- The use of chain slings is prohibited on CHRIS-TEL projects for general construction activities. The only exception to this is when no other type of sling is suitable for the hoisting activity. CHRIS-TEL Safety Director or the Project Superintendent must approve the use of chain slings.
- Job-fabricated rigging hardware or specialized hardware is prohibited unless designed and certified by an engineer qualified in this field and tested at twice the rated load capacity. Testing must conform to American National Standards Institute (ANSI) B30.9 for rigging hardware.
- Mark special rigging accessories (i.e., spreader bars, grabs, hooks, clamps, etc.) or other lifting accessories with the rated capacity. Proof test all components to 125% of the rated load prior to the first use. Maintain permanent records on the job site for all special rigging accessories.
- Slings shall always be protected from being cut by sharp corners, sharp edges, protrusions or abrasive surfaces. Slings shall not be shortened or lengthened by knotting or other methods not approved by the sling manufacture. Slings shall not be pulled from under a load when the load is resting on the sling.
- Portions of the body shall be kept from between the rigging and the load, and from between the rigging and hoist hook. All personnel shall be kept clear of loads about to be lifted and or suspended loads. Personnel shall not work under suspended load or place body parts under suspended loads.
- Keep the load under control at all times. Where personnel maybe endangered by a rotating or swing load, use one or more tag lines to prevent unintentional motion.
- Rigging and hardware not in use shall be properly stored.

### **6.12.3 General Material Storage:**

- Make sure that all materials stored in tiers are stacked, racked, blocked, interlocked, or otherwise secured to prevent sliding, falling, or collapse.
- Post conspicuously the maximum safe load limits of floors within buildings and structures, in pounds per square foot, in all storage areas, except for floor or slab on grade. Do not exceed the maximum safe loads.
- Keep aisles and passageways clear to provide for the free and safe movement of material handling, equipment or employees. Keep these areas in good repair.
- Do not store materials on scaffolds or runways in excess of supplies needed for immediate operations.
- Use ramps, blocking, or grading when a difference in road or working levels exists to ensure the safe movement of vehicles between the two levels.
- Do not place materials stored inside buildings under construction within 6 feet of any hoist way or inside floor openings, or within 10 feet of an exterior wall which does not extend above the top of the material stored.
- Segregate non-compatible materials in storage.
- Stack bagged materials by stepping back the layers and cross-keying the bags at least every ten bags high.
- Do not stack bricks more than 7 feet high. When a loose brick stack reaches a height of 4 feet, taper it back 2 inches for every foot of height above the 4-foot level.
  - (i) Never stack bricks, for storage purposes, on scaffolds or runways.
  - (ii) Always stack blocks; do not throw in a loose pile.
- When stacking masonry blocks higher than 6 feet, taper back the stack one-half block per tier above the 6-foot level.

- (i) When stacking inside a building, distribute the piles to prevent overloading the floor.
  - (ii) Do not drop or throw blocks from an elevation or deliver blocks through chutes.
- Do not stack lumber more than 20 feet high; if handling lumber manually, do not stack more than 16 feet high.
  - (i) Remove all nails from used lumber before stacking.
  - (ii) Stack lumber on level and solidly supported sills, and such that the stack is stable and self-supporting.
  - (iii) Stack stored lumber on timber sills to keep it off the ground. Sills must be placed level on solid supports.
  - (iv) Place cross strips in the stacks when they are stacked more than 4 feet high.
- If not racked, stack and block structural steel, poles, pipe, bar stock, and other cylindrical materials as to prevent spreading or tilting.
- Frequently inspect stock piles of sand, gravel, and crushed stone to prevent their becoming unsafe by continued adding to or withdrawing from the stock.
  - (i) Do not remove frozen material in a manner that would produce an overhang.

**6.12.4 Disposal of waste materials:**

- Whenever materials are dropped more than 20 feet to any point lying outside the exterior walls of the building, use an enclosed chute of wood or equivalent material.
- When debris is dropped without the use of chutes, make sure that the area onto which the material is dropped is completely enclosed with barricades at least 42 inches high and 20 feet back from the projected edge of the opening above. Post at each level warning signs of the hazard of falling materials. Do not remove debris in this lower area until debris handling ceases above.

- Remove all scrap lumber, waste material, and rubbish from the immediate work area as the work progresses.
- Make sure to comply with local fire regulations if disposing of waste material or debris by burning.
- Keep all solvent waste, oily rags, and flammable liquids in fire-resistant covered containers until removed from the work site.

### **6.13 MOTOR VEHICLES AND MECHANIZED EQUIPMENT**

The use of self-propelled earthmoving and other construction equipment used on the Project shall be in compliance with the requirements of Subpart O of 29 CFR 1926. All construction equipment, with the exception of light service trucks, panel, pickup, station wagons, and crawler type cranes will be equipped with reverse signal alarms. Rollover protective structures will be required on backhoes, skid steers, and water trucks with the tank lower than the cab, or other equipment where Subpart O requires their use. Employees shall wear seat belts when operating heavy equipment. Self-propelled earthmoving and construction equipment shall be inspected before each day or at the beginning of each shift and the inspections shall be documented. The inspection shall be done in accordance with the manufacturers' and owners operating requirements.

#### General Requirements

- Always inspect your vehicle or equipment before and after daily use.
- Personnel shall not be transported in the back of a pick-up truck or similar vehicles of conveyances.
- Seat belts shall be used at all times when vehicles and equipment is equipped with seat belts.
- Only trained and qualified personnel shall be permitted to operate heavy equipment.
- All heavy equipment shall be equipped with at least one dry chemical fire extinguisher.
- Work areas shall be arranged as to minimize the backing of heavy equipment and trucks. Heavy equipment and trucks will have operational reverse signal alarms.

- Operators/drivers shall obey all speed limits and other traffic regulations.
- Safe distances shall be maintained between heavy equipment and overhead power lines and utility poles. The minimum safe clearance distance is 20 feet. The utility company shall be notified and consulted to determine the actual safe clearance distance.
- Equipment operators will be responsible for the safe operation of the equipment and for the safety of those working around the equipment. When mounting or dismounting equipment maintain three points of contact (two-hands/one foot or two-feet/one hand).
  - 8. *Always be aware of pedestrians and give them the right-of-way.*
  - b. *Never mount or dismount any vehicles or equipment while they are still in motion.*
  - c. *Do not dismount any vehicle without first shutting down the engine, setting the parking brake and securing the load.*
  - d. *Each operator must be knowledgeable of all hand signals and obey them*
- Personal stereo headsets and the use of cellular telephone shall not be allowed when operating equipment or working near operating equipment.
- Tools, personal clothing, water jugs, or lunch boxes shall not be stored on or in heavy operating equipment. The operator's personal artifacts are permitted only and shall be secured in the cab of the equipment.
- Personnel shall wear hard hats and brightly color traffic safety vest for visibility and shall stay out of the operating envelope/swing radius of heavy operating equipment. Personnel shall not walk under or work under suspended loads and shall maintain eye or verbal contact with the equipment operators.

Training Requirements:

Employers shall have the responsibility of ensuring that personnel are qualified by training or experience to operate heavy equipment. In addition, personnel shall be trained to recognize the hazards associated with working near heavy equipment. The training shall meet the requirement of Subpart O of the 29 CFR 1926 and that the training can be verified by documentary evidence.



## 6.14 NON-IONIZING RADIATION (LASER)

Where lasers are used on the project the employer shall comply with the requirements of 29 CFR 1926.54. Only qualified and trained personnel shall install, adjust, and operate laser equipment. Proof of qualification shall be in the laser operator's possession always. Areas in which lasers are operated shall be posted with standard laser warning placards.

## 6.15 NOISE

Where employees are exposed to noise at or above 85 dBA for an eight- hour period (TWA<sub>8</sub>) the employer shall provide hearing protection as required by 29 CFR 1926.52

Examples of information or situations that can indicate exposures which equal or exceed 85 dBA TWA<sub>8</sub>, include:

- Noise in the workplace that interferes with people speaking, even at close range
- Information from the manufacturer of equipment you use in the workplace that indicates high noise levels for machines in use
- Reports from employees of ringing in their ears or temporary hearing loss
- Warning signals or alarms that are difficult to hear
- Work near abrasive blasting or jack hammering operations
- Use of tools and equipment such as the following:
  - Heavy equipment or machinery
  - Fuel-powered hand tools
  - Compressed air-driven tools or equipment in frequent use
  - Power saws, grinders or chippers
  - Powder-actuated tools.

### Hearing Protection

The employer shall make sure employees use hearing protection when their noise exposure equals or exceeds 85 dBA TWA<sub>8</sub>. The employer must make sure employees wear hearing protectors that will provide sufficient protection when exposure equals or exceeds:

- 85 dBA TWA<sub>8</sub> (noise dosimeter, providing an average exposure over an 8-hour period)

- 115 dBA (slow response sound level meter, identifying short-term noise exposures)
- 140 dBC (fast response sound level meter, identifying almost instantaneous noise exposures).

## **6.16 PILE DRIVING OPERATIONS**

Employers engaged in the driving of piles shall comply with the requirements of Part M of the Construction Safety Standard, WAC 296-155. Pile driving operations shall be conducted under the guidance of a competent person who is familiar with pile driving operations and the hazards posed by the operations.

- Prior to piling, all underground utilities in the area shall be located and rendered safe.
- Precautions should be taken if it is necessary to erect pile-drivers in dangerous proximity to electrical conductors to ensure they are first made dead
- Consideration shall be taken with regards to damage that may be caused to utilities, excavations, and structures by the vibration caused by pile driving.
- The competent person shall delineate and maintain a danger zone around the pile driving operations to protect employees from falling/flying objects. The danger zone shall be twice the height of the pile.
- The work area around pile drivers shall be kept clear of materials and equipment not being used.
- Pile-driving equipment (hammer, slings, hoses, compressor, etc...) shall be inspected before each shift and at suitable intervals. Equipment found to be damaged worm or defective shall be repaired or replaced.
- Repairs shall not be done while the pile driver is operating or under pressure (air or hydraulic). When shutting down a rig, all pressure shall be released from the lines.
- The condition and type of pile shall be checked before driving.

- Remote release shackles shall be used where possible. The length of the operating rope should be less than the length of the pile and the rope should be secured around the pile to prevent snagging or being caught in the wind and becoming inaccessible.
- Stirrups shall be provided for use on sheet piles or a mechanical device shall be used to guide the pile into place. If an employee is required to go aloft on sheet piling, the employee shall use an aerial device or ladder. Personal fall protection system shall be required when working six-feet or more above the grade.
- When a worker is guiding a pile into position, the worker shall not put any body part between the pile, inside guide or on top of the pile. Tag line shall be used to guide the pile.
- All workers shall be kept clear of pilings being hoisted. A tag line shall be attached to the pile for stability during the operation.
- The pile driver operator shall receive signals from a designated signal person.
- Fixed leads shall be provided with ladders and adequate rings or similar attachment points so that the loft worker may engage a safety harness lanyard to the leads. If the leads are provided with loft platform, a standard guardrail shall protect such platform. Workers are not permitted to climb piles or ride a pile into position.
- All hose connections leading to the hammer, must be securely attached with an adequate length of 1/4 inch diameter alloy chain or cable to prevent whipping if the joint is broken at the hammer. Safety chains must be provided for other hose connections to prevent thrashing around in case the coupling becomes disconnected.
- Airline controls must consist of two shutoff valves. One of these must be a quick-acting type within reach of the hammer operator.
- When it is necessary to cut off the top of driven piles, pile-driving operation shall be suspended, except where the cutting operations are located at least twice the length of the longest pile from the driver. The descent of the cut pile shall be controlled.
- Workers employed near pile placement should wear hear protection and the prescribed personnel protective equipment as found in Section 6.18.

## **6.17 PERSONAL PROTECTIVE EQUIPMENT (PPE)**

In accordance with Subpart E of 29 CFR 1926.132, the employer is responsible for requiring the wearing of appropriate personal protective equipment in all operations where there is an exposure to hazardous conditions. It is the responsibility of each employer to evaluate each task and determine the appropriate personal protective equipment required for the task, this information must be communicated affected personnel.

### **6.17.1 Project Dress Code**

The dress for this project requires that all personnel shall wear shirts with, at a minimum, 4” sleeves and long trousers that are ankle length. Shorts, tank tops, sneakers and other in appropriate work attire are not permitted on this project.

On this project all personnel shall wear (at a minimum) approved protective footwear and ANSI Class II high visibility vest or alternate approved outer garment always.

### **General Requirements**

- The employee is responsible for the care, maintenance and inspection of their PPE. Before each use PPE shall be inspected by the end user. Damage or defective PPE shall not be used and must be replaced.
- Eye Protection: Safety glasses or prescription glasses with side shields shall meet the ANSI Z87.1 standard for eye protection. Other forms of eye protection such as goggles face shields, welding hoods, etc., will be worn if it is deemed necessary. The following activities will be closely observed for the required eye protection:
  - Welding, burning or cutting with torches.
  - Using abrasive wheels, portable grinders or files.
  - Chipping concrete, stone, or metal.
  - Working with any materials subject to scaling, flaking or chipping.
  - Handling or working with hazardous liquids, powders or substances.
  - Using hand or power tools.
  - Drilling or working under dusty conditions
  - Using powder actuated fastening or nailing tools.
  - Working with compress air or gases.
  - Working near any of the operations listed above.

- Foot Protection: Employees on this project are required to wear adequate protective footwear in the construction work area always. Other forms of protective footwear such as muck-boots and concrete boots shall be worn when necessary.
- Head Protection: All areas where overhead work is being performed shall require the use of an approved “hard hat” always during that portion of work. All employees and visitors will be required to wear hard hats near overhead construction activity or when there is a threat of falling or flying objects. All welding hoods or face shields shall be of the type that fit on/over the hard hats. Hard hats will be worn with the brim point forward unless the hard hats are designed to be worn with the brim point backwards. Hard hats shall meet the ANSI Z89.1. Alterations or modifications of the hard hat or hard hat liner shall be prohibited. Western style hardhats are not permitted
- Hearing protection shall be provided by the employer and worn by personnel when a person must shout to be heard when 2 feet or less away from the person they are communicating with.
- Material Safety Data Sheets (MSDS) shall be referenced to identify the proper chemical resistant protective garments and gloves.
- When an employee is employed under conditions which expose them to a risk of drowning, they shall wear a U.S. Coast Guard approved life saving device, unless it can be shown that conditions, such as shallow water, are such that flotation would not be achieved.
- As applicable personal protective equipment shall meet ANSI/ISEA requirements
- Where respiratory protection is required the employer shall have a respirator protection program that meets the WISHA requirements (Subpart E, 29 CFR 1926). Only NIOSH approved respirators are acceptable.

#### Training Requirements:

Employers shall have the responsibility of ensuring that their personnel are trained in the proper use, care and limitation of personal protective equipment. The training shall meet the requirement of 29 CFR 1926.132.

## **6.18 SANITATION**

Subcontractor and employers shall provide an adequate supply of potable drinking water for their personnel. Portable containers used to dispense drinking water shall be capable of being tightly closed and equipped with a drain faucet. Water shall not be dipped from containers. ***The lid of the water container shall be sealed and labeled. The label shall contain the date drinking water was placed in the container.*** A common drinking cup is prohibited. Where disposable

cups are supplied, both a sanitary container for the unused cups and a receptacle for disposing of the used cups will be provided.

Each subcontractor shall provide toilet facilities for their personnel. The minimal number of toilets and urinals shall comply with 29 CFR 1926.51 Table D-1. Each subcontractor providing toilet facilities must plan to have the facilities pumped and cleaned weekly or more frequently based on usage.

### General Requirements

- Hand washing facilities or hand sanitizer shall be provided where employees come into contact with wastewater or where toilet facilities are not equipped with a hand washing sink.
- Personnel shall be provided with a clean and safe area to take breaks.
- All outlets carrying non-potable water shall be marked.
- Covered containers are to be provided for food scraps and lunch remains.

## **6.19 SCAFFOLDS**

Where scaffolding is used it 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. The use of scaffolding shall be in compliance with the requirements of Subpart L of 29 CFR 1926.

### General Requirements

- Do not change or remove scaffold members unless authorized to do so.
- Scaffold shall be erected on a solid base. The use of makeshift devices (bricks, boards, etc.) as supports is prohibited. Scaffold shall be plumb, level and square with brace connections secured.
- Access such as ladders, stairs, or integral prefabricated scaffold frames, specifically designed for use, as ladder rungs shall be installed on scaffolds. Climbing the cross bracing is not allowed.

***Do not attempt to gain access to a scaffold by climbing on it (unless it is specifically designed for climbing – always use a ladder.***

- Scaffold shall be inspected daily before/during use for defects. Damaged or defective scaffold/components shall be repaired or replaced.

***Before starting work on a scaffold, inspect it for the following:***

8. *Are guardrails, toe-boards, and planking in place and secure?*
    - b. *Are locking pins at each joint in place?*
    - c. *Are all wheels on moveable scaffolds locked?*
- Any scaffold, including accessories such as braces, brackets, trusses, screw legs, ladders, etc., damaged or weakened in any way, must be immediately repaired or replaced.
  - A tag indicating that scaffolds are unsafe shall be placed at points of access and employees shall be restricted from using the scaffold.
  - To prevent tipping, scaffolding shall be secured to permanent fixtures with tie or guy wire. The first vertical tie-off shall occur at a height 4 times the least base width of the scaffold (4:1 base ratio).
  - Guardrails shall be installed on scaffolds higher than 6 feet above a lower level. Other means of fall protection shall be used when openings occur in guardrails or for openings more than 14 inches between scaffolds and buildings or structures. Personnel shall not tie-off lanyards to scaffold guardrails.
  - Screens, toeboards, debris nets, canopy structures, or barricade shall be installed in the area beneath scaffolds as necessary to protect personnel from falling objects. Toeboards are required on both platforms and walkways.
  - Scaffolds and their components must be capable of supporting four times the maximum intended load.
  - Scaffold planks must extend over their end supports not less than 6 inches nor more than 12 inches, unless otherwise specifically required.
  - Scaffold platforms must be at least 18 inches wide unless otherwise specifically required or exempted.
  - Do not allow workers to ride on a rolling scaffold when it is being moved. Remove or secure all materials and tools on deck before moving.

Training Requirements

- Employers have the responsibility of ensuring that a competent person has trained each of their employees in accordance with the requirement of Subpart L of 29 CFR 1926, and that the training can be verified by documentary evidence.

## **6.20 SAFETY SIGNAGE**

The subcontractor shall be responsible for providing an installing safety signs that comply with Subpart G of 29 CFR 1926 or other applicable OSHA standards. Signs shall not be a substitute for the elimination of hazards. Where, site personnel read a language other than English signage shall be bilingual or the universal graphics/ pictorial signs shall be used

### General Requirements

- Signs and symbols part shall be visible at all times when work is being performed, and shall be removed or covered promptly when the hazards no longer exist.
- Signs shall be placed to alert and inform personnel of hazards in sufficient time to avoid the hazard and take appropriate action. Personnel should not be in harm's way before seeing the sign.
- Signs must be placed so that they are legible, do not create a distraction, and are not a hazard themselves. Signs shall be designed with rounded or blunt corners and must be free from sharp edges, burrs, splinters or other sharp projections. The ends or heads of fastening devices cannot be located as to create a hazard.
  - Signs must not be placed on moveable objects or adjacent to moveable objects like doors, windows etc., which if moved will obscure the sign.

## **6.21 STAIRWAYS AND LADDERS**

A stairway, ladder or ramp shall be provided at all points of personnel access where there is a break in elevation of 19 inches or more and no other means of safe access is available. Where doors or gates open directly onto a stairway, a platform extending at least 20 inches beyond the swing of the door shall be provided. The use of ladders and stairways must be in compliance with the requirements of Subpart X of 29 CFR 1926.

### **6.21.1 General:**



- Inspect before use for physical defects.
- Ladders are not to be painted except for numbering purposes.
- Do not use ladders for skids, braces, workbenches, or any purpose other than climbing.
- When you are ascending or descending a ladder, do not carry objects that will prevent you from grasping the ladder with both hands.
- Always face the ladder when ascending and descending.
- If you must place a ladder over a doorway, barricade the door to prevent its use and post a warning sign.
- Only one person is allowed on a ladder at a time.
- Do not jump from a ladder when descending.
- All joints between steps, rungs, and side rails must be tight.
- Safety feet must be in good working order and in place.
- Rungs must be free of grease and/or oil.

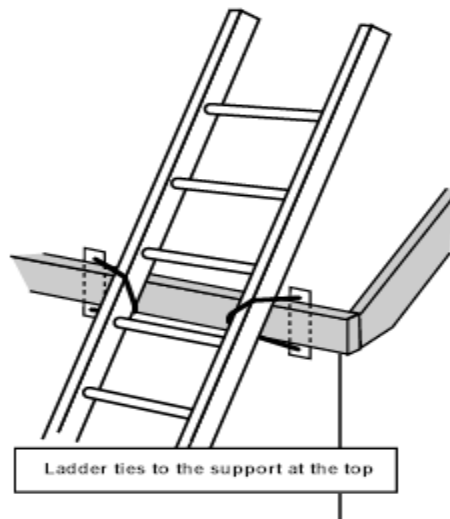
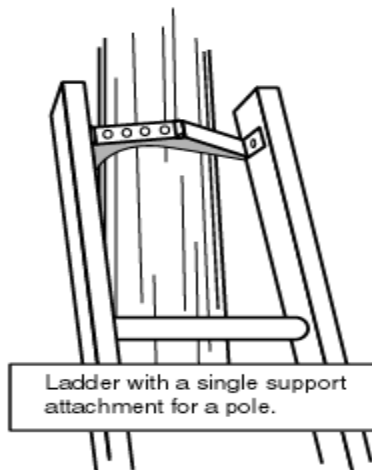
#### **6.21.2 Stepladders**

- Do not place tools or materials on the steps or platform of a stepladder
- Do not use the top two steps of a stepladder as a step or stand.
- Always level all four feet and lock spreaders in place.

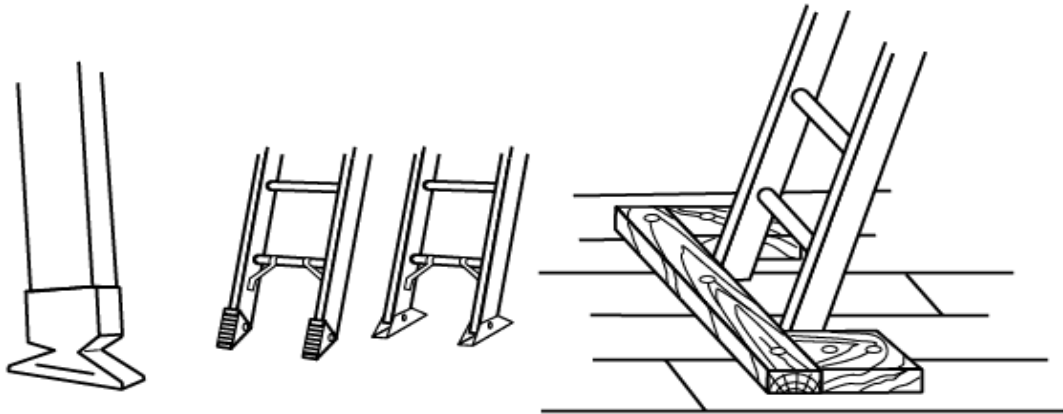
- Do not use a stepladder as a straight ladder.

### 6.21.3 Straight type or extension ladders

- All straight or extension ladders must extend at least three feet beyond the supporting object when used as an access to an elevated work area.
- After raising the extension portion of a two stage or more ladder to the desired height, check to ensure that the safety dogs or latches are engaged.
- All extension or straight ladders must be secured or tied off at the top.

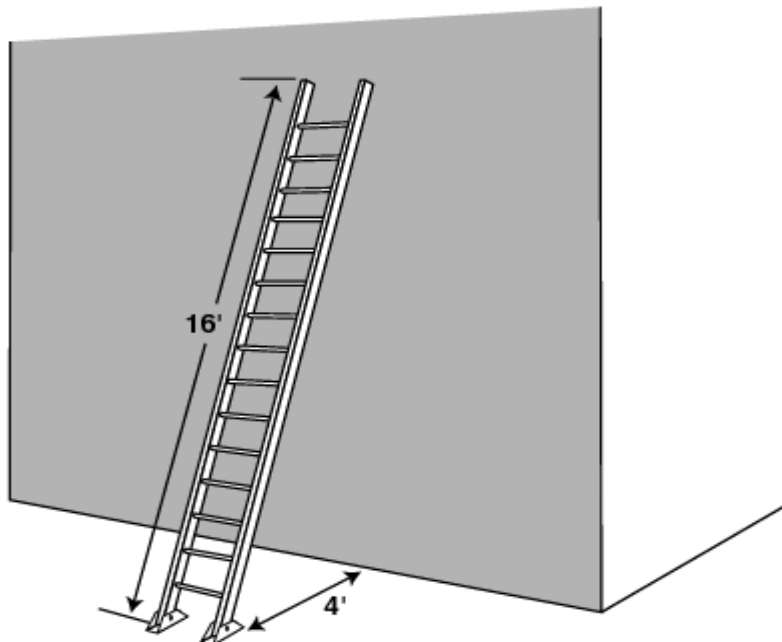


- All ladders must be equipped with safety (non-skid) feet.



Rubber Safety Feet	Spikes	Cleats Nailed to the Floor
	Ladders with supports on the bottom.	

- Portable ladders must be used at such a pitch that the horizontal distance from the top support to the foot of the ladder is about one-quarter of the working length of the ladder.



Training Requirements:

- Employers shall have the responsibility of ensuring that their personnel are trained in the proper use and care of ladders, the nature of fall hazards in the work area and the procedures to minimize these hazards. The training shall meet the requirement of Part X of 29 CFR 1926.

**6.22 STEEL ERECTION**

Steel erection shall comply with the requirements of Steel Erection as found in Subpart R of 29 CFR 1926. In accordance with Subpart R, both MWH and contractors performing the work have shared responsibilities.

Before authorizing the commencement of steel erection, CHRIS-TEL Constructors as the controlling contractor shall provide the steel erector with the following written notifications:

- That the concrete in the footings, piers and walls and the mortar in the masonry piers and walls has attained, either 75 percent of the intended minimum compressive design strength or sufficient strength to support the loads imposed during steel erection, as based on the appropriate ASTM standard test method of field-cured samples.
- If there has been any repair, replacement or modification of the anchor rods (anchor bolts) of columns. If modification or repair of anchor bolts is to occur, it shall be done with the approval of the structural engineer of record.

As the controlling contractor Chris-Tel shall provide and maintain:

- Adequate access roads into and through the site for the safe delivery and movement of derricks, cranes, trucks, other necessary equipment, and the material to be erected and means and methods for pedestrian and vehicular control.
- A firm, properly graded, drained area, readily accessible to the work with adequate space for the safe storage of materials and the safe operation of the erector's equipment.

In addition, Chris-Tel as the controlling contractor has the responsibility to bar other construction processes or trades from working below the steel erection activity unless overhead protection is provided.

Training Requirements:

- Subcontractors engaged in steel erection will have the responsibility of ensuring that each of their employees, as necessary is trained in fall hazards, and controlled decking zone procedures. The training shall meet the requirement of 29 CFR 1926.761 and that the training can be verified by documentary evidence.

## **6.23 TRAFFIC CONTROL**

Subcontractors working on or adjacent to public roads shall prepare a traffic control plan in accordance with the requirements of the US Department of Transportation Manual of Uniform Traffic Control Devices and FDOT Standard Index 600 Series at a minimum. Traffic control plans shall be prepared by a certified MOT card holder or a registered professional engineer licensed in the state of Florida. Traffic control plans shall be submitted and approved prior to implementation.

### **6.23.1 Traffic Control Supervisor**

Subcontractors shall designate a Traffic Control Supervisor who is either certified by the State of Florida or trained by the American Traffic Safety Service Association. The Traffic Control Supervisor shall be onsite always and is responsible for establishing the work zone. The Traffic Control Supervisor's name and qualifications shall be submitted to the CHRIS-TEL project staff.

### **6.23.2 Traffic Control Personnel/Flaggers**

All traffic control personnel employed by the subcontractor shall be trained in accordance with the requirements of Subpart G of 29 CFR 1926 and FDOT. Traffic control personnel shall be required ANSI Class 2 high visibility garments. In the case of flagging operations for "night work" flaggers shall be required ANSI Class 3 high visibility garments as required by FDOT.

## **6.24 WELDING AND CUTTING**

All welding and cutting equipment shall be inspected daily: defective equipment shall be removed from service, replaced or repaired, and re-inspected before again being placed in service. Personnel and the public shall be shielded from welding rays, flashes, sparks, molten metal, and slag. A compatible fire extinguisher shall be provided in the immediate vicinity of welding or cutting operations. Welding and cutting operation shall be compliant with Subpart J of 29 CFR. Fuel gas-oxygen, welding and cutting systems utilizing cylinder-hose-torch shall have a reverse-flow check valve, in each hose, between the torch and the regulator. (Reverse-flow check valves that are integral with the torch are acceptable.)

### 6.24.1 Gas Cylinders

Gas cylinders will be properly protected and used in a safe manner. Mandatory procedures will include, but not be limited to the following:

- Oxygen cylinders will be stored at least 20-feet from acetylene or fuel (gasoline/diesel, etc.), or separates with a 5-foot tall half-hour rated firewall.
- Valve protection caps shall be in place when compressed gas cylinders are transported, moved, or stored. Cylinder valves shall be closed when work is finished and when cylinders are empty or moved.
- Compressed gas cylinders shall be secured (roped, chained or racked) in an upright position always except when cylinders are being hoisted or carried. Cylinders shall not be hoisted by the valve cap or using magnets or choker. Lift cylinders in a secure cradle or basket. They shall not be intentionally dropped, struck or permitted to strike each other violently.
- Gas regulators shall be in proper working order while in use.
- Oxy-fuel gas, and other fuel gas-oxygen, welding and cutting systems utilizing cylinder-hose-torch shall have a reverse-flow check valve, in each hose, between the torch and the regulator. (Reverse-flow check valves that are integral with the torch are acceptable.)

### 6.24.2 Fire Prevention

***Before conducting welding or cutting operations, the area shall be surveyed to ensure it is free of the following hazards:***

- Proximate combustible materials,
- The presence or possible generation of potentially explosive atmospheres (flammable gases, vapors, liquids, or dusts), and
- The presence or nature of an oxygen-enriched atmosphere.

Hierarchy of fire control. Objects to be welded, cut, or heated shall be:

- Moved to a location free of dangerous combustibles;

- If the work cannot be moved, all moveable fire hazards in the vicinity shall be taken to a safe place (moved at least 35 ft horizontally from the welding or cutting area) or the combustible material and construction shall be protected from the heat, sparks, and slag of welding;
- When welding or cutting is done in a location where combustible or flammable materials are located, inspection and written authorization by the CHRIS-TEL Project Superintendent is required before such operations are begun (the location shall be checked for latent fires after the work is completed).

When a welding, cutting, or heating operation is such that normal fire prevention precautions are not sufficient, additional personnel shall be assigned to guard against fire and instructed in anticipated fire hazards and how fire-fighting equipment is to be used.

#### Training Requirements

Subcontractors shall have the responsibility of ensuring that personnel are trained in the recognition of welding and cutting and qualified to perform their duties. The training shall meet the requirement of Subpart J of 29 CFR and that the training can be verified by documentary evidence.

**END OF SECTION**

## **7.0 EMERGENCY RESPONSE PLAN**

### **7.0 PURPOSE OF THE EMERGENCY RESPONSE PLAN**

The purpose of this Emergency Response Plan is to outline the necessary procedures to be implemented on the (JOB NAME) project in response to unexpected situations that may develop as the result of project activities. The Emergency Response Plan is designed to control an unexpected situation so that the outcome will have a limited impact on personnel, the project, and the community.

This document along with the CHRIS-TEL Crisis Management Plan shall be used as a reference in identifying, controlling and responding to potential emergency scenarios that could occur as result of project activities.

### **7.1 PRE-PLANNING**

In order to handle emergencies effectively, planning is essential. Decisive action is imperative when an emergency arises. Procedures shall be in place to immediately respond to an emergency situation. Site personnel shall be knowledgeable of their roles and responsibilities. Supplies and equipment shall be on hand and in good working order to address the emergency. Delays can create life-threatening situations.

Prior to the start of the Project, the CHRIS-TEL project team will meet with the outside response agencies (fire, police, EMS and medical) to coordinate response efforts. During the initial meeting, response personnel will be briefed on the scope of work at the site; various response situations, site access control measures, and types of incidents for which response may be required. Each response agency will be kept informed as site activities and conditions change during construction activities.

### **7.2 RESPONSIBILITIES**

The CHRIS-TEL Project Manager is the primary Emergency Response Coordinator. The alternate Emergency Response Coordinator is the Project Superintendent. Personnel roles and lines of authority are listed in the order in which they will assume responsibility.

#### **7.2.1 Emergency Response Coordinator**

The Emergency Response Coordinator is responsible the implementation of the Emergency Response Plan. Specific responsibilities:



- Serves as liaison with appropriate government officials and the client representative.
- Interacts with any agency representatives who respond to the site as well as coordinate communications with the media through CHRIS-TEL or clients Information and Public Affairs.

### **7.2.2 Project Superintendent**

The Project Superintendent is responsible for the implementation of the Emergency Response Plan and for providing emergency response training to personnel. The Project Superintendent has the following responsibilities:

- Pre-emergency coordination with the local fire departments, police and hospitals.
- Updating and verify emergency telephone numbers.
- Monitor weather for storm warnings.
- Verifies that all personnel/ visitors are accounted for.
- Ensure that emergency evacuation routes are clear and that all personnel are aware of the routes.

### **7.3 COMMUNICATIONS SYSTEM**

Telephones connected to a public telephone system will be installed at the project site. The telephone will be located in the CHRIS-TEL field office. CHRIS-TEL personnel will also have available a working cellular telephone. A list of emergency telephone numbers will be posted near each hard wire telephone and will be made available to personnel with cellular telephones.

### **7.4 ALARM SYSTEM**

Where practicable, an audio or visual alarm system will be available to alert personnel to evacuate the work area. The alarm should have a distinctive evacuation signal and should be capable of being heard above normal site noise.

In small work groups where individuals are working in proximity to each other, a verbal warning signal will be used for alerting personnel of hazardous conditions or an evacuation.

Personnel shall be trained in the methods used to sound an alarm, the location of the alarm system (fire alarm pull stations, compressed-air horns), the signal system used, and the distinctive sound of the evacuation signal.

## **7.5 EVACUATION ASSEMBLY AREAS**

A designated evacuation assembly area shall be established. The location of the assembly area will be communicated to personnel. In the event of an emergency, personnel shall evacuate to the designated assembly area.

The designated assemble area for all CHRIS-TEL personnel is in front of the CHRIS-TEL field office.

In buildings, emergency exits will be marked and kept unlocked from the inside. On outdoor sites, emergency routes shall be established. Evacuation routes will be clearly communicated to personnel. This information will be discussed during the Toolbox Safety Meetings.

## **7.6 PROCEDURES TO ACCOUNT FOR PERSONNEL**

Personnel shall immediately report to the designated assembly area and remain there. A roll call shall be taken, to account for all personnel and to verify that total evacuation has taken place.

## **7.7 EMERGENCY EQUIPMENT AND SUPPLIES**

When required by the Project Superintendent, appropriate emergency equipment will be kept on the project site and maintained in good working order always. Equipment used for emergency response will be segregated from equipment and supplies used routinely. The segregation of the response equipment will verify that such equipment is available when required. Some regular construction equipment can double for emergency use, such as gas detection equipment, first-aid kits, fire extinguishers, and shovels.

## **7.8 SITE SECURITY AND CONTROL**

In an emergency, site security and control of the site remain the responsibility of CHRIS-TEL and until they are relieved of these duties by the arrival of the fire department's incident commander or a police official.

In a situation where the immediate area needs to be secured, the affected area will be cordoned off. As necessary, traffic shall be rerouted, personnel posted to warn others, and a sign-in/sign-out log shall be established.

The procedures for securing the incident scene are as follows:

- Secure the area to prevent unauthorized personnel from entering the area
- Record who has entered the area and for what purpose.
- Do not touch or move any equipment or objects.
- As soon as possible photograph the scene from various angles.

## **7.9 CRITICAL OPERATION PROCEDURES**

There are no critical operations that require a person to remain at their work area during an emergency. Personnel shall immediately evacuate the area and report to the assembly area. Once evacuated from the area, personnel shall not re-enter the area. Re-entry shall be made only when conditions have been determined to be safe.

## **7.10 EXTERNAL COMMUNICATIONS**

**Under no circumstances** may site personnel discuss an incident with the media, even if people from the media ask for or demand information. Personnel should not feel obligated, nor is it in CHRIS-TEL's interest, to speculate on the cause of the incidents, the severity of injuries, or the cost of repairs. Personnel are cautioned that any information given to the media could be constructed as an "official" response from CHRIS-TEL.

If approached by the media, contractors are to refer all media inquiries to the CHRIS-TEL Project Manager. The CHRIS-TEL Project Manager shall coordinate all media inquiries through corporate channels.

## **7.11 REVIEW OF RESPONSE AND FOLLOW UP**

As an integral part of the Emergency Response Plan, the Project Manager and Project Superintendent will review the emergency response activities. When reviewing information, the following will be presented:

- Cause of the emergency
- Action taken to prevent a reoccurrence

- Roles and responsibilities

### Plan Revision

In addition, the CHRIS-TEL Project Manager and Project Superintendent shall review and revise the Emergency Response Plan as necessary based on the review of the response and changes will be made to better reflect the requirements of the project.

### Follow Up

Before normal site activities are resumed, personnel under the direction of the Emergency Coordinator will prepare all equipment necessary to handle another emergency. This will include restocking all equipment and supplies, replacing or repairing damaged equipment, and cleaning and refueling the emergency equipment identified in Section 6.8 for future use.

## **7.12 NOTIFICATION PROCEDURES**

In the event of a site emergency in which an outside agency (police, fire EMS) is notified or the occurrence of incidents that requires reporting to OSHA or US EPA, the Project Manager shall be immediately notified.

The CHRIS-TEL Project Superintendent shall prepare a written notification within 24 hours of the incident. The report shall include the following items:

- Name, organization, telephone number, and location of the Contractor
- Name and title of the person(s) reporting incident
- Date and time of incident
- Location of incident
- Brief summary of incident giving pertinent details including type of operation ongoing at time of the incident.
- Cause of incident, if known
- Details about injuries (number injured, type of injuries etc.)
- Details of any existing chemical hazard or contamination
- Estimated property damage
- Nature of damage; effect on contract schedule
- Actions taken to address root cause and prevent recurrence.
- Other damage or injuries sustained (public/private)
- Agencies notified

### Oil and Hazardous Material

In the event of a release of oil or hazardous materials, subcontractors (responsible parties) are responsible for notifying local, state and federal environmental agencies.

The guideline below should be used to determine when an accidental release of oil or hazardous material is reportable to outside authorities.

- The release posed or poses any potential threat to human health outside the facility.
- The release poses a threat to the air, land, or waters (ground and surface) of the state in which the spill occurred. This includes releases that occur inside a facility.
- The discharge of oil is greater than 2.5 gallons or release of hazardous material equals or exceeds the reportable quantity (RQ value). RQ values can be obtained by contacting the US EPA or the Department of Environmental Protection.
- The accidental release requires a response by off-site agencies (e.g. fire- department or response contractor).

In the event of an accidental release of oil or hazardous materials meeting the notification criteria, the following local, state and federal agencies shall be notified:

USEPA National Response Center                      1-800-424-8802

Where the above-cited agencies must be notified, the following information will be provided:

- Caller's Name
- Site Address:
- Location of spill or release (e.g. bodies of water)
- Date, time and type of incident (e.g. spill or fire)
- Quantity and type of hazardous materials involved
- Duration of release and corrective actions being taken
- Estimated quantity and disposition of recovered materials
- Extent of injuries if any

As required by the agencies, a written notification of the release will be sent to the local, state and federal agencies within 15 days or sooner if required by the agency. If CHRIS-TEL prepares the written notification, the Legal Department shall review it.



Chris-Tel Construction  
(JOB NAME AND ADDRESS HERE)  
Health and Safety Plan (HASP)

In addition, the owner of the pollutant shall be contacted and the person having control over the pollutant shall be contacted. This could be a variety of people depending on the substance spilled. For example, if a tank full of diesel owned by a Subcontractor were to break open and spill, then the Subcontractor should be contacted.

### **7.13 EMERGENCY CONTACTS**

A list of emergency telephone numbers (fire, police, gas, electric, water, etc) and non-emergency telephone numbers shall be posted in the CHRIS-TEL field office. Copies of the telephone list will be provided to subcontractors. In this area 911 service is available to notify police, fire, ambulance etc... of an emergency.

#### **Lee Memorial Health Park Medical Center**

9981 S. Healthpark Drive  
Fort Myers, Fl. 33908  
239-343-5000

**Accident and Urgent Care Center:**  
(MEDICAL CENTER HERE)

#### **Fire Department**

##### **FMB Fire Control District**

To Report a Fire: 911  
Local: 239-590-4200

**Police – Note FMB does not have a dedicated police department. All calls to Lee County Sheriff’s Office**

Emergency: 911  
Local: 239-477-1000

#### **Gas**

(GAS SERVICE HERE)

#### **Florida Power and Light**

Emergency: 911  
Customer Service 239-334-7754

#### **Potable Water Mains and Issues**

WATER COMPANY INFORMATION HERE

#### **Sewer Mains and Issues**

Lee County Utilities: 800-425-0841 (OR REPLACE WITH OTHER COUNTY SEWER COMPANY)

## **7.14 INCIDENT RESPONSE PROCEDURES**

It is the responsibility of all personnel to recognize through self-inspection and informal work site inspections, a situation that may pose a threat to the environment or personnel. When a situation is observed, it shall be immediately corrected.

### **7.14.1 Fire/Explosion**

In the event of a fire, personnel shall sound the fire alarm and evacuate the area. However, if a person believes that the fire can be extinguished with a portable extinguisher, they should proceed to do so. If a fire can not be extinguished in 30 seconds using a portable fire extinguisher the area shall be evacuated and the Fire Department notified by calling 911. Regardless of extinguishing efforts, the local Fire Department shall be notified. The response to a fire is as follows:

- Call the fire department.
- Evacuate the affected area or initiate evacuation by sounding the alarm or verbally warning others. Do not return to burning or smoked-filled areas.
- Use handheld extinguishers only to clear a path of escape.
- Report to the designated assembly area.
- Dispatch a person to greet the fire department and lead them to the scene.

### **7.14.2 Release of Oil or Hazardous Materials**

In the event of an oil or hazardous material release that exceeds normal operation levels (incidental release); the parties responsible for the release are responsible for initial containment or clean-up. All releases will be contained if necessary (if larger than an incidental spill) and cleaned up in a timely manner. This clean up may require the services of an outside contractor.

The cause of the release shall be investigated to prevent future occurrences. The response for a release of potentially hazardous material entails of the following:

- Determine the nature of the substance released.
- Eliminate all sources of ignition.
- Isolate the affected area or initiate area evacuation.

- Stop or contain the flow of the material from the source if this can be done safely.
- Following the procedures and using the protective equipment as indicated by the Material Safety Data Sheet (MSDS) or as directed by the site Health and Project Superintendent, contain the release to the smallest area possible and initiate cleanup.
- Dispose of all residues in accordance with the MSDS.

When on-site efforts cannot mitigate the hazard in a timely manner or the material poses a fire or explosion hazard or is a threat public safety, the site and surrounding area shall be evacuated, and the Fire Department shall be immediately notified.

### **7.14.3 Medical Emergency Response**

The term “medical emergency” means different things in different contexts. Regarding a person, a medical emergency is any life-threatening condition that requires immediate medical intervention to restore breathing, controls bleeding, restore circulation, or prevent shock. Regarding incidents on the job, a medical emergency is also an event in which two or more people receive injuries as the result of single incident.

The immediate response to either type of medical emergency is as follows:

- Take control of the situation.
- Ensure personal safety and the safety of others.
- Assist and evaluate the victim(s). Do not try to move the victim(s).
- Direct someone to call 911.
- Dispatch a person to greet the fire department or ambulance and lead the emergency personnel to the scene.
- Do not attempt to perform any type of technical rescue.

### **7.14.4 Severe Weather**

#### Thunderstorms and Short-Duration Windstorms

The following actions should be taken to secure the project site whenever there is a threatening storm that includes lightning or the chance of winds over 40 miles per hour:

- Secure all loose materials, metal toolboxes, trashcans, etc.
- Stop all work and bring all personnel indoors when lightning is within one mile of the site (five seconds or less from flash to thunder).



- Shut down generators and all electrical motors in an orderly manner to protect the equipment from electrical surges and abrupt power loss.
- Move all personnel off crawler-type equipment and boom equipment. Lower crane booms, where practicable.
- 

### Hurricane Warning

On all CHRIS-TEL projects the team shall follow the Hurricane Preparation Plan, issued to all Subcontractors. For all other projects the following shall apply:

- Start the following preparation at least 48 hours before a hurricane is scheduled to hit:
- Prepare or update the jobsite phone directory. Be sure to list the home phone numbers of all subcontractors' supervisors.
- When first warnings are received, stop shipment of materials and equipment to the jobsite, so that there will not be additional items to secure before the storm.
- Clean the work area and remove trash and other loose material that cannot be secured.
- Check tie-downs of trailers, barricades, and other temporary facilities.
- Cover windows with plywood.
- Check fuel supplies of generators and power equipment, and top off fuel tanks as required. Move all equipment and supplies to higher ground, away from rivers and small streams. Lower the booms on all cranes and secure the booms of tower cranes.
- Obtain equipment that might be needed after the storm (pumps, generators, No. 9 wire, rope, hose, power cords, plastic sheeting, etc.). These items will be hard to obtain after a hurricane.
- Take photos of each feature on the jobsite. These photos will aid in documenting damages after the storm and show that precautions were taken to prevent damages.
- Ensure all temporary signage is removed to avoid these becoming hazardous in the storm.
- Fully charge all job radios and cellular phones.
- Shut down and disconnect all electrical and natural gas equipment on the site.
- Shut down work early enough that personnel can arrive home before the storm hits. Give personnel instructions as to when to come back to work.

### **7.14.5 Contact with Utilities**

If utilities are contacted, the following procedures apply:

#### Electrical Strike

- Personnel near the incident shall not touch or come near downed power lines. If a machine (crane or other equipment) becomes energized by an electrical utility, all personnel surrounding the machine shall leave the area immediately.

- If the machine is energized, the operator should remain on the machine and avoid moving so as not to change their body position until the electric power has been turned off. The operator may choose to move the machine to break contact with the electric power. The operator should follow the manufacturer's procedure to determine if the machine is electrically charged before attempting to dismount the machine.
- If persons are exiting the area of an energized machine, it is advised that they should shuffle their feet while walking away or hop away from the machine until they reach a safe area. Gradient electric current could travel up one leg and down the other if feet are apart (from different voltage potential in the soil).
- Call 911 and the electric utility company.
- Barricade the area to prevent personnel from entering the incident area.

Notice: MEDICAL ATTENTION CANNOT BE GIVEN UNTIL THE POWER IS SHUT OFF.

#### Gas Line Strike

- Shut down all engines and eliminate all sources of ignition. Do not attempt to dig or reverse boring machines to break contact, as further movement may cause a spark.
- Evacuate the area immediately. Keep all personnel upwind and away from the incident area in case the gas ignites.
- Contact the Gas Company to have the gas shut off or call 911.

#### Fiber-Optic Strike

- Do not look into the cut ends of the cable. This can cause severe eye damage.
- Stop machine operation. Contact the utility owner immediately.

#### Water or Sewer Strike

- Stop excavating or drill boring and warn all bystanders to stay away. Contact the utility owner.
- Drill operators should not reverse the bore as sewer lines may contain deadly pathogens. Personnel coming in contact with sewer line breakage should seek medical attention.

**END OF SECTION****8.0 HURRICANE PREPARATION PLAN****8.0 INTRODUCTION**

This Hurricane Preparation Plan is to assist employees, subcontractors and the general public in the event the area is threatened by a Hurricane or Tropical Storm (See exhibit A). This plan is designed to provide general guidance in preparation of, during and after a storm event. Awareness and focus are key aspects of this plan and its execution. All storm systems will be monitored by CHRIS-TEL for locations status. When discussing preparedness, we use a Stage Scale for determining proper precautions procedures to be used:

- Stage 5 – Considered to be normal weather conditions – Normal precautions used
- Stage 4 – A storm classified as a Tropical Storm may affect the project site within 72 hours with the possibility of destructive winds and heavy rain. During this Stage, awareness and monitoring of the storms projected path are required. The storm could be over 1,000 miles from the project site and the projected path is erratic and unknown. Awareness precautions are used.
- Stage 3 – A Tropical Storm has established a definitive pattern and path and is positioned to directly threaten the project site with destructive winds and heavy rain within 48 hours. The storm could still be 700 miles away and the projected path and intensity could still change. Elevated awareness and preplanning precautions are employed.
- Stage 2 – A Tropical Storm or Hurricane has been established bringing destructive winds and rain to the project site within 24 hours. The storm could be within 300 miles. Workday activities change from production to preparation and securing the project site.

- Stage 1 – A Tropical Storm or Hurricane with destructive winds and heavy rain is predicted to hit the project site within 12 hours. All work activities are dedicated to preparation for the impending storm and securing the project site. Safety of the employees and the public are the focus at this stage.

## **8.1 PURPOSE**

The purpose of this plan is to establish preparation procedures in the event of a Tropical Storm or Hurricane.

## **8.2 PROCEDURES**

8.2.1 As the conditions warrant, the following general procedures will be employed. It should be noted that all project sites are different and these procedures are general. Additional procedures may need to be developed and instituted on a project specific basis to address the intricacies of any project and project needs.

- Stage 5 – Considered to be a normal workday. No special precautions are needed. However, being SW Florida, the threat of localized storms is always present and each “normal workday” shall consider that threat and standard precautions and common sense should be used.
- Stage 4 – During this stage, the project site should be inspected, and possible hazards are to be identified for further action should the threat of an approaching storm intensify. Employees and subcontractors shall monitor weather forecasts, review stages 3 thru 1 for the next steps needed. Production shall continue in conjunction with awareness.
- Stage 3 – All equipment, materials, and any other objects such as MOT devices shall be stored and secured to prevent from becoming air born in destructive winds. The emergency contact list for employees and subcontractors shall be reviewed for accuracy and updated as needed. The project communication matrix shall be verified and updated. Work should remain as normal as possible with enhanced awareness and addition measures taken to ensure the materials and equipment used are secured when work is complete.
- Stage 2 – All of the precautions listed in Stages 5, 4 and 3 are complete. **ALL MATERIALS AND EQUIPMENT SHALL BE STORED AND SECURED.** Employee and subcontractor contact information shall be distributed to all personal. Once all the above has been completed, unless otherwise instructed, all employees and subcontractors should be relieved of their duties. All utilities should be shut off prior to departure.
- Stage 1 – The project site is shut down until the storm has passed. Directions issued by local authorities shall be followed.

## **8.3 POST STORM**

- Minimal Storm – All employees and subcontractors shall return to the project site following the All Clear issued by the National Weather Service. Work shall commence the day following the storm event with an All Clear Issued. Prior to resuming production, the project site shall be re-inspected, and any collateral damage addressed.

- Major Storm – All subcontractors shall contact CHRIS-TEL for further instructions. All employees shall contact their respective supervisors or managers for additional information and instructions. CHRIS-TEL will issue instructions to employees and subcontractors based on the project conditions after the storm event. CHRIS-TEL will prioritize clean-up efforts on the site. Normal production will resume only after clean-up activities have been addressed.

## 8.4 TERMS

**Tropical Disturbance** – A moving area of thunder storms in the tropics

**Tropical Depression** – Rotary circulation at the surface, highest sustained winds of 38 mph (33 knots)

**Tropical Storm** – Distinct rotary circulation, sustained winds of 39-73 mph (34-63 knots). The storm has been named.

**Hurricane** – Pronounced rotary circulation, sustained winds of 74 mph (64 knots) or more.

<u>Categories</u>	<u>Sustained Winds (mph)</u>
1	74-95
2	96-110
3	111-130
4	131-155
5	Over 155

**Hurricane Watch** – Issued for coastal areas when there is a threat of hurricane conditions within 24-36 hours.

Hurricane Warning – Issued when hurricane conditions are expected in a specified coastal area in 24 hours or less.

**END OF SECTION**