SAFETY
360°
EVERYBODY | EVERYWHERE | EVERYDAY

Corporate

Safety, Health, and Environmental

Policies and Procedures Manual

SAFETY 360°

EVERYBODY | EVERYWHERE | EVERYDAY

Revised: April 2026

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SECTION 1: CORPORATE COMMITTMENT

SECTION 1.1: STO BUILDING GROUP CORPORATE COMMITMENT

STATEMENT OF INTENT

STO Building Group ("STOBG") considers a successful safety, health and environmental management program of primary significance to its business. We are committed to the continual improvement of safety, health and environmental performance and the advancement of safety, health and environmental standards. Our overall goal is to protect both people and the environment. STO Building Group recognizes that attaining the absolute goal of causing no harm to people or the environment is extremely challenging and will work with clients, suppliers and the workforce towards achieving this goal.

It is the policy of STO Building Group to:

Pursue high standards of safety, health and environmental management as an integral part of efficient business management and ensure that the decisions related to other business priorities address safety and health issues and requirements.

1. Observe all federal, state and local legislation applicable to the construction industry.
2. Develop construction systems and procedures that set effective safety and health standards.
3. Inspect, initiate and audit construction operations for worker safety.
4. Establish practices and procedures to address the selection and performance of all subcontractors performing contractual obligations at STOBG projects.
5. Develop and review safety and health performance indicators including:
    a. Accident and incident matrix
    b. STOBG employee training
    c. Subcontractor prequalification
    d. Inspection findings
6. The STOBG safety leadership team will annually provide:
    a. Training
    b. Audits
    c. Reviews and revisions to the corporate safety policy whenever necessary
7. Develop and implement Safety 360° initiatives.

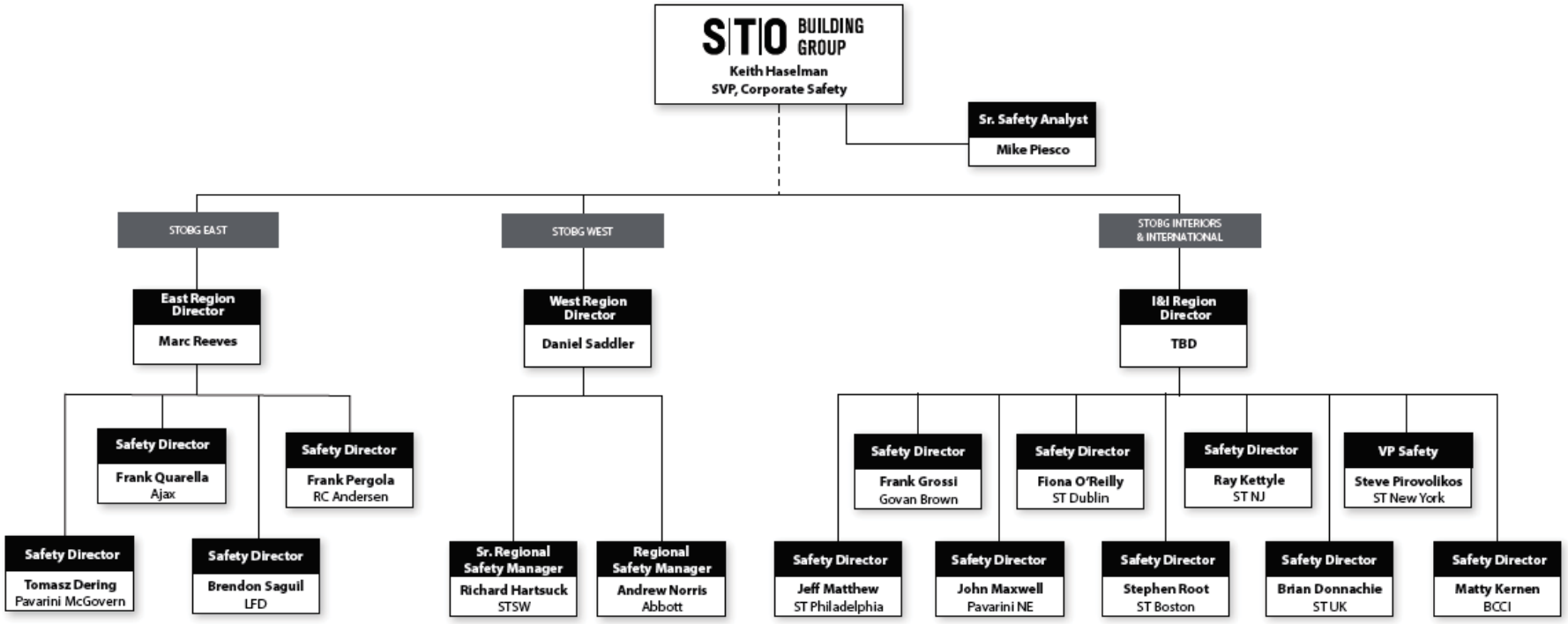
Robert W. Mullen

Chief Executive Officer

SECTION 1.2: STOBG SAFETY ORGANIZATIONAL CHART

STO BUILDING GROUP

Safety Department
2026



SECTION 1.3 RC ANDERSEN CORPORATE COMMITMENT

STATEMENT OF INTENT

RC Andersen considers a successful safety, health and environmental management program of primary significance to its business. We are committed to the continual improvement of safety, health and environmental performance and the advancement of safety, health and environmental standards. Our overall goal is to protect both people and the environment. RC ANDERSEN recognizes that attaining the absolute goal of causing no harm to people or the environment is extremely challenging and will work with clients, suppliers and the workforce towards achieving this goal.

It is the policy of RC ANDERSEN to:

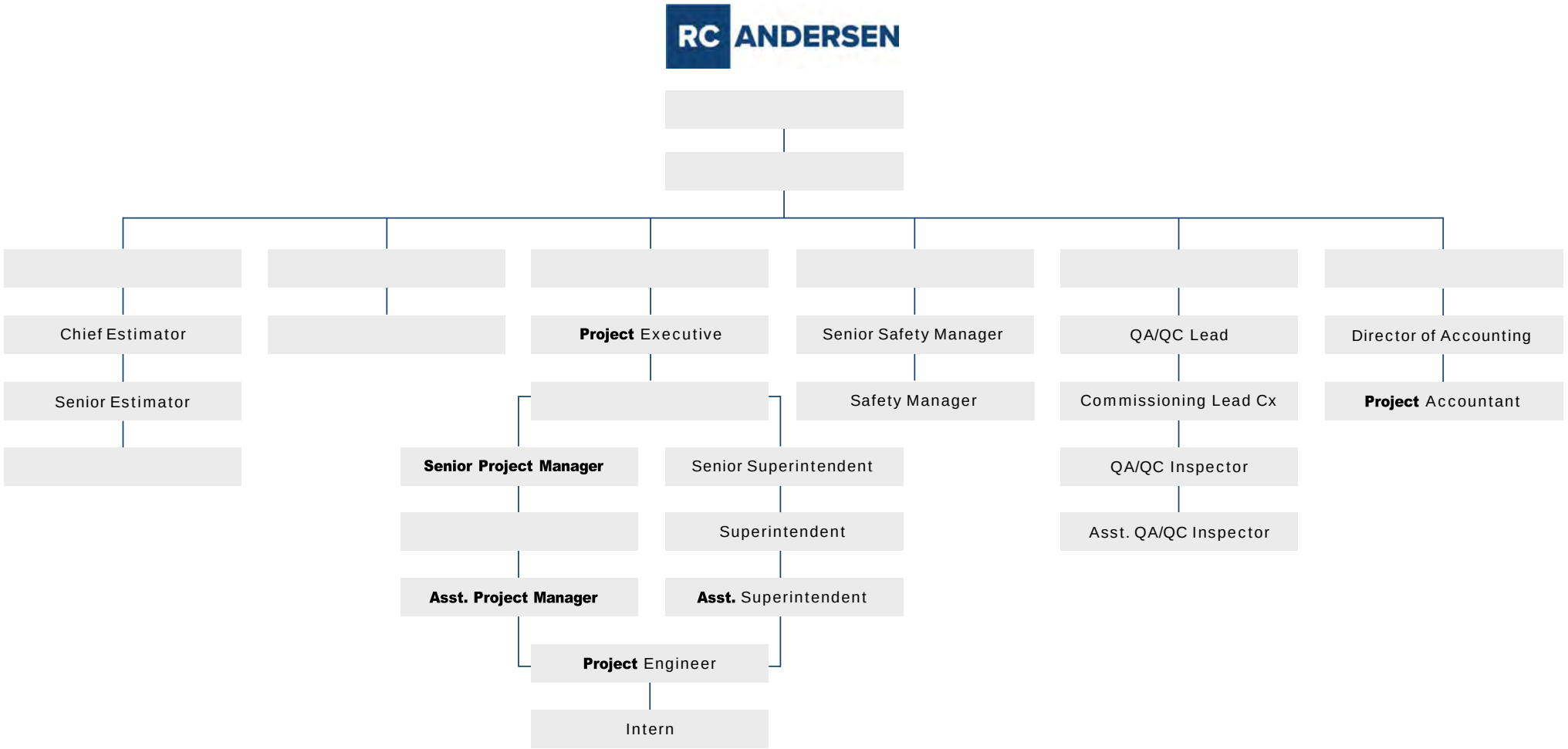
Pursue high standards of safety, health and environmental management as an integral part of efficient business management and ensure that the decisions related to other business priorities address safety and health issues and requirements.

8. Observe all federal, state and local legislation applicable to the construction industry.
9. Develop construction systems and procedures that set effective safety and health standards.
10. Inspect, initiate and audit construction operations for worker safety.
11. Establish practices and procedures to address the selection and performance of all subcontractors performing contractual obligations at RC ANDERSEN projects.
12. Develop and review safety and health performance indicators including:
    a. Accident and incident matrix
    b. RC ANDERSEN employee training
    c. Subcontractor prequalification
    d. Inspection findings
13. The RC ANDERSEN safety leadership team will annually provide:
    a. Training
    b. Audits
    c. Reviews and revisions to the corporate safety policy whenever necessary
14. Develop and implement Safety 360° initiatives.

Neil Ascione

President

Company Overview



Human Resources | Marketing | BIM/VDC | Insurance | Administration

SECTION 2: SAFETY 360°

Our Safety 360° initiative is a pillar of our identity as a company. We believe that our employees and workforce should never worry about returning home safely and our clients should never worry about the safety of their staff and visitors.

Our approach to safety is different; for us safety is a passion, not an obligation. Every employee receives annual safety coaching from our dedicated Safety Department that includes role plays of scenarios tailored to specific work environments; lessons-learned discussions and new best practices; and leadership training so that every employee is engaged and becomes a voice for safety. We expect continuous growth and innovation from our teams, which ranges from adopting new technology to testing cutting-edge emergency and safety measures.

In turn, our investment in safety benefits our clients who avoid safety-related impacts to their projects and rest assured of their staff and visitors' safety.

FOUR KEY COMPONENTS OF SAFETY 360°

Awareness
We foster a 360° view of safety physically and philosophically. We expect active engagement from each employee in his immediate environment, as well as awareness of activities above, below, and adjacent. It also means that we look out for one other's physical and mental safety, and that every employee and worker is empowered to speak up.

Shared Responsibility
Every employee receives annual safety coaching. We believe that the best way to increase accountability is to increase responsibility, so superintendents and project managers are as engaged in safety as our dedicated Safety Department team members.

Behavior
A key component of our approach is avoiding risky behaviors all together, as behavior is the primary contributing cause of over 80% of accidents. We are changing behaviors to support a strong safety culture that solicits feedback, engages our workforce and empowers people to make a difference.

Positivity
Our coaching takes a preventative approach and is defined by positivity rather than enforcement and punishment.

SECTION 3: CODE OF CONDUCT

RC Andersen's Code of Conduct (the "Code of Conduct") is the keystone to our commitment to ethical conduct. It provides guidance on upholding RC ANDERSEN's core values and helps employees and business partners understand the legal and ethical principles that govern the way we conduct business.

The Code of Conduct applies to all RC ANDERSEN employees, and to members of the board of directors, agents, consultants, contracted labor, and others when they are acting for or on behalf of RC ANDERSEN. The Code of Conduct also applies to RC ANDERSEN vendors, subcontractors, suppliers, and other business partners through our Supplier Code of Conduct.

The Code of Conduct is an indispensable resource, but it cannot address every situation that may arise. We rely on you to exercise common sense and good judgment in applying the principles contained in the Code of Conduct, and to ask for help when you need it. These key principles include:

- maintaining compliance with the letter and spirit of all applicable laws and regulations
- upholding our commitment to maintaining a respectful workplace, free from discrimination and harassment, and to fair employment practices providing business opportunities to minority, women-owned, and disadvantaged business enterprises (M/W/DBEs)
- avoiding conflicts of interest—actual, potential, and perceived
- promoting fair competition and making business decisions exclusively on the basis of price, service, and the ability to meet the company's and clients' needs
- operating in a fair and transparent fashion and disclosing material terms and conditions of our engagements
- keeping accurate company documents and records

As a member of the RC ANDERSEN family, you also have a duty to let the company know about any potential misconduct. Managers have a duty to act and to ensure that reports of potential misconduct made to them are promptly escalated and handled in accordance with the Code of Conduct. You can report potential misconduct to or seek guidance from any of the following company resources:

- Your manager, a more senior manager, or your business unit leader
- A member of RC ANDERSEN executive management
- Your compliance liaison or the Compliance & Ethics Department, which can be reached at Compliance@STOBuildingGroup.com
- The Human Resources Department
- The Legal Department

You may also report potential misconduct anonymously through our 24/7 helpline, operated by a third party unaffiliated with RC ANDERSEN, by calling the below toll-free numbers or visiting the online portal.

Call toll-free:
800.461.9330 in the US
1.800.235.6302 in Canada
1800.904.177 in Ireland
0808.189.1053 in the UK

Online: compliancehelpcenter.com

Posters with the helpline's details, available here in both English and Spanish, will be displayed at every jobsite.

SECTION 4: ADMINISTRATION

SAFETY POLICY

RC ANDERSEN shall strive to provide a safe work environment for all its employees, the owner, the public, workforce and other contracting firms on all Company project sites. It is the Company's intention, both in spirit and in deed, to abide by all federal, state and local jurisdictions, as they may pertain to the construction industry. Safety training, the recognition of hazards, documentation, abatement of unsafe conditions and compliance are the focus of our Safety Program, as set out in this Safety, Health, and Environmental Policies and Procedures Manual ("safety manual" or "manual").

Every Company Supervisor shall maintain a safe workplace and contribute to a safe project site, to preserve our corporate image of excellence in construction safety. With respect to Company employees, the communities that surround our project sites, and the federal, state and local agencies with whom we interface, our Safety Program shall have the full support of management from the Chief Executive Officer down throughout the management ranks.

1. The Company will appoint competent safety and health superintendents and/or safety managers with duties outlined in the policy documents of this manual.
2. This manual provides assistance in complying with 29 CFR Part 1926 regulations (OSHA Standards). The intent of the content is to make available to Company personnel reasonably accurate and authoritative information concerning project safety. This program is in no way a substitute for subcontractor safety programs, which must meet or exceed requirements specified herein. The maintenance of safe operations and the elimination of unsafe practices and conditions remains the responsibility of Company subcontractors. The Company does not direct, control or supervise the actual performance of subcontractor scopes of work. The Company does not self-perform work. The information provided in this manual is available to subcontractors to assist them in regulatory compliance.
3. This manual is a guidance document to manage all Company projects. Certain elements of the program may not be applicable to all types of projects.
4. The safety director has the authority and option to modify or develop program elements as it relates to this manual based on specific needs.
5. The Company is dedicated to the pursuit of safety excellence through a continuously improving safety program, the enforcement of safety compliance and the elimination or minimization of exposure to hazards on the jobsite. All subcontractors are required to recognize and abate unsafe jobsite conditions and behaviors.
6. Subcontractors are responsible for following their submitted safety program. In addition, each subcontractor is required to comply with any additional Company and/or Owner-imposed safety regulations and standards. Other current industry standards or safe work practices such as Joint Commission, NFPA, ANSI and other regulatory standards incorporated to execute safe work practices. When more than one standard might apply to a given situation, the more stringent will be the prevailing authority, when feasible.
7. This manual attempts to state the most commonly accepted regulatory work practices and spell them out in plain language to emphasize their importance.
8. The possession, sale, use or distribution of narcotics and/or related paraphernalia, alcohol (all related beverages) or other illegal substances/drugs are prohibited on the project. Persons found in violation of this policy will be subject to disciplinary action(s) up to and including discharge from the project. Unsafe behavior of any kind may result in immediate dismissal from the project.
9. To maintain a safe project environment, the possession of hazardous materials, explosives, or unauthorized weapons is restricted. Employees hired in a security function must submit a written request for authorization from the Company (CLO & CCO) for the possession of any defensive tools or items otherwise restricted by law. This policy does not apply to lawful cutting tools or knives required for job performance. Non-compliance may result in project removal or employment termination.
10. As set out in our Non-Discrimination and Anti-Harassment Policy, which applies to subcontractors by virtue of their agreement to abide by our Supplier Code of Conduct, discrimination and harassment based on any characteristic protected by applicable federal, state, or local law (such as race, color, religion,

creed, sex, pregnancy, sexual orientation or affectional preference, gender identity or expression, age, national origin or ancestry, physical or mental disability, marital status, genetic information, veteran status, citizenship status, or uniformed servicemember status) are strictly prohibited. The Company prohibits unlawful discrimination and harassment, as well as similar conduct that does not rise to the level of being unlawful.

a. Conduct prohibited by this policy includes, but is not limited to:
    i. epithets, slurs, or negative stereotyping (including verbal comments and graffiti)
    ii. threatening, intimidating, or hostile acts
    iii. denigrating jokes or display or circulation in the workplace of written or graphic material that denigrates or shows hostility or aversion toward an individual or group
    iv. unwelcome or inappropriate physical contact or touching
    v. actions, words, jokes, or comments based on a protected characteristic
    vi. display of a hate symbol, including for example, a noose or swastika
b. Sexual harassment can take various forms. Examples of prohibited conduct includes, but is not limited to:
    i. verbal conduct: making or using sexually derogatory comments, innuendos, epithets, slurs, sexually explicit jokes, or comments about an individual's body or dress, whistling, or making suggestive or insulting sounds
    ii. physical conduct: unwelcome or inappropriate touching, physical violence, intimidation, touching, assault, or impeding or blocking normal movements
    iii. visual conduct: leering, making sexual gestures, displaying of sexually suggestive objects or pictures, cartoons, posters, websites, emails, or text messages
    iv. online conduct: vulgar statements or sexually suggestive postings in any social media platform
c. Any suspected discrimination or harassment should be reported immediately to the Company's superintendent for review, investigation, and resolution by the Company, which may subject the offender to immediate removal from the jobsite by their employer. Reports may also be made to the Company's 24/7 anonymous helpline, which is operated by an independent third party. For contact information, see SECTION 3: CODE OF CONDUCT.

11. The Company has adopted a zero-tolerance policy concerning workplace violence. Workplace violence means any act of violence or threat of violence that occurs in a place of employment.
    a. Workplace violence includes, but is not limited to:
        i. The threat or use of physical force against an individual that results in, or has a high likelihood of resulting in, injury, psychological trauma, or stress, regardless of whether the individual sustains an injury.
        ii. An incident involving a threat or use of a firearm or other dangerous weapon, including the use of common objects as weapons, regardless of whether the individual sustains an injury.
    b. The Company has in place a Workplace Violence Prevention Plan to protect against aggressive and violent behavior in the workplace. By virtue of their agreement to abide by our Supplier Code of Conduct, subcontractors agree to coordinate and cooperate with the Company to implement its Workplace Violence Prevention Plan.
    c. Reports about a violent incident, threat, or other workplace violence concerns should be made immediately to the Company's superintendent or safety personnel for response and investigation by the Company. Reports may also be made to the Company's 24/7 anonymous helpline, which is operated by an independent third party. For contact information, see SECTION 3: CODE OF CONDUCT. In the event of a workplace violence incident that poses an immediate and life-threatening danger, 911 should be called.
12. Each subcontractor shall appoint a safety representative as the Competent Person with a minimum of OSHA 30 training. This individual must have the ability to recognize hazards in the work environment and shall have the authority to take prompt corrective action, as set forth by OSHA 29 CFR 1926.32(f).
13. If required by the Company or the client, any subcontractor with 25 or more employees including tiered sub employees, shall have a full-time dedicated safety manager with a minimum of OSHA 30 training within the past five years.

14. Prior to start of work, the subcontractor shall submit a letter identifying all competent persons, qualified persons and/or authorized persons responsible for each aspect of their work. The respective subcontractor principal shall complete all appropriate Company forms relating to this designation.
15. Subcontractors shall designate a competent safety representative (from management) at the beginning of the job who shall inspect the jobsite at regular intervals as required by OSHA. This representative must coordinate inspection efforts and abatement of noted deficiencies with the Company's superintendent / safety manager, as appropriate.
16. Subcontractors are required to hold weekly toolbox talks, daily huddles/Pre-task Planning, and jobsite inspections with their onsite personnel; meeting minutes with sign-off and deliver to the appointed Company onsite safety representative.
17. Subcontractors are to conduct pre-planning meetings with written documentation for all high-risk activities. The Subcontractor as required will conduct a Job Hazard Analysis (JHA). The Company must be notified two (2) weeks prior to any known or planned high risk activities, critical crane lifts, scaffolding, demolition, excavation, fire or smoke potential or activity with potential for severe injury or death. Pre-planning meetings are required as necessary to satisfy the duty of reasonable care.
18. Subcontractors' key personnel are required to attend a pre-mobilization safety meeting
19. Subcontractors shall maintain all required OSHA documentation and data before the start of work and through the duration of their contracted work. Including, at a minimum, a written Site-Specific Safety & Health Program, OSHA 300A Summary form, identity of their designated Competent Person(s), name of designated Management safety representative and all certifications, licenses, credentials and training records for their employees. Forward a copy of these documents to the Company upon request. The company reserves the right to accept or reject the adequacy of such documents.
20. Subcontractors are to report all accidents to the Company's superintendent immediately. Subcontractors shall provide first report of incident documentation to the Company by end of shift of the accident/incident. For all serious and Lost Time accidents subcontractors shall provide all associated documentation and complete the 7 Step Post Incident Review form as part of the final investigation.
21. The Company's worker orientation is required for all new hires before the start of work on the day they arrive on site.
22. Failure by a subcontractor to meet or exceed the standards of this manual preplanning meetings or other imposed safety elements subjects the subcontractor to remedies under the subcontract, including default.
23. All visitors must report to the field office and sign a Visitor Release. Visitors must wear all appropriate clothing including sturdy work boots, head protection, cut-level gloves, and eye protection 100%.
24. Subcontractor Site Specific Safety procedures will meet or exceed the more stringent requirements of OSHA, the Company, or their own policy.
25. The Company has a fall protection requirement for all operations or work above six feet (6' fall protection rule).
26. The Company uses a guardrail disruption permit system. Details of the permit system are in Section 5.35 GUARDRAIL DISRUPTION PERMIT of this manual.
27. Each subcontractor must ensure that the on-site foreman, superintendents, or supervisor(s) has successfully completed an OSHA 30-hour construction safety course.
28. Non-compliance with OSHA regulations, Owner imposed safety regulation or standards, or this manual subjects the subcontractor to remedies under the subcontract, including default.
29. The Company has adopted a Zero Tolerance Policy towards compliance with fall protection, electrical safety, confined space entry, excavation, harassment, violence and smoking/vaping including electronic cigarettes and electronic vaporizers as set forth in Section 4.6. ZERO TOLERANCE POLICY. Each subcontractor shall be responsible for enforcing this policy throughout their respective work activities.
30. The Company's Safety Director shall have the full authority and final word in determining the Subcontractor's compliance with the Safety Program.
31. The Company relegates "stop work authority" to any worker who perceives an unsafe condition, act, error, omission or lack of understanding that could result in a undesirable event (injury, illness or property damage) Following any stop, worker shall immediately notify project leadership. Project leadership (PM, Super, foremen) shall evaluate and correct the issue prior to the resumption of work in accordance with the agreed upon procedures.

4.1. COMPANY RESPONSIBILITIES

Safety Director

1. Direct, administer, develop implement, execute and monitor RC ANDERSEN safety policies and programs to ensure compliance with the requirements of this manual.
2. Determine training needs for RC ANDERSEN employees and provide training to achieve safety implementation on jobsites.
3. Develop systems to evaluate and report accidents/incidents resulting in property damage or general liability claims.
4. Represent RC ANDERSEN with appointed attorneys in RC ANDERSEN's legal defense.
5. Manage and administer RC ANDERSEN Safety Staff and evaluate which projects require additional safety attention and staff accordingly.
6. Conduct or assist in accident and incident investigations.
7. Act as the safety advisor to line management and/or related supervision on each project and to provide technical support for safety and occupational health requirements.
8. Manage onsite safety audits to ensure compliance with safety and health standards as required by OSHA, Federal, State and Local Laws and other regulatory commissions as required.
9. Coordinate with the insurance safety representatives, OSHA and other authorized safety inspectors to evaluate and abate unsafe conditions and to improve safety implementation on the jobsite.
10. Establish priorities for the correction of factors contributing to or causing occupational injuries. In addition, coordinate with respective Risk Manager in the management of W/C claims.
11. Maintain lines of communication with all levels of management and supervision to ensure that each is aware of the Company's safety and health policies and their own responsibilities under the regulatory statutes.
12. Develop Site-Specific Safety Policies and Procedures, identifying areas requiring preventive maintenance, the procurement of safety equipment and first aid supplies, and the procedures for the safety of personnel, equipment and property.
13. Coordinate the public relations aspect of the Safety Program, participate in safety society meetings and attend educational seminars to ensure continued professional development.
14. Represent RC ANDERSEN Safety Policy at Owner meetings, community meetings and with subcontractors as required. Confer with clients to coordinate safety efforts and implement accordingly.
15. Track and trend Subcontractor compliance on projects. Work with Subcontractor principals to improve their level of safety performance. Work with designated Officers to ensure subcontractor compliance and contract language addresses ongoing issues relevant to specific exposures created by subcontractor or the public.
16. Maintain a strategic overview of the implementation of safe work practices in the industry including Safety 360.

Site Safety Manager

1. Perform daily inspections of the project and address all matters relating to safety, fire protection, public safety and property/product damage prevention.
2. Implement and enforce RC ANDERSEN and owner policies such as fire watch, lockout/tagout, confined space, fall protection, etc. as directed by the Corporate Safety Director and/or Corporate Safety Manager.
3. Submit monthly workforce and accident reports to the Corporate Safety Director.
4. Attend Interim Life Safety Committee meetings and others as required.
5. Accompany owners, other third-party insurance representatives, and other governing agencies during site safety inspections.
6. Track compliance with items found during jobsite inspections.
7. Maintain all safety logs to ensure compliance with RC ANDERSEN Safety Program.
8. Work with the project team to execute and implement Safety 360.

Project Managers

1. Administer and manage the overall Safety Program on the project in coordination with the Safety Director or Site Safety Manager, including collecting subcontractor OSHA compliance data as part of the submittal process.
2. Perform monthly Safety audit of project and record findings.
3. Fully support the Project Team efforts in ensuring safety compliance at the project.
4. Participate in investigations of all personnel, equipment, and property accidents or incidents to reduce the risk of recurrence.
5. Cooperate with all insurance representatives having insurance coverage on the project.
6. Attend the monthly jobsite safety meeting and audit.
7. Initiate and conduct pre-planning meetings of high-risk activities and subcontractor kick-off meetings and invite safety representatives.
8. Enforce Subcontractor Safety Compliance through documentation, meetings and by withholding payment if necessary. Fully support Superintendent to enforce subcontractor jobsite compliance.
9. Document all exposures that might result in a claim or lawsuit. Attend RC ANDERSEN Safety Trainings to assure your full understanding of the RC ANDERSEN Safety, Health and Environmental Policies and Procedures Manual and execution thereof.
10. Ensure all the safety and reporting requirements of the jobsite are met.
11. Work with the project team to execute and implement Safety 360.

Superintendents

1. Manage the overall Safety Program on the project, including ensuring subcontractors are adhering to their submitted safety program, the RC ANDERSEN Safety Program, and Owner Safety Program.
2. Plan and execute all work to minimize jobsite hazards and comply with RC ANDERSEN's Safety Program.
3. Enforce all provisions of the contract dealing specifically with safety and accident prevention.
4. Cooperate with all insurance representatives having insurance coverage on the project.
5. Perform weekly Safety audit of project and record findings.
6. Direct or coordinate correction of unsafe conditions and hazards in plain view or reported or observed.
7. Attend the monthly jobsite safety meeting and audit.
8. Submit paperwork and documentation to the Safety Department as required.
9. Enforce subcontractor safety compliance on the jobsite on a day-to-day basis.
10. Ensure that all subcontractor personnel complete the site safety orientation before work.
11. Meet with local fire and EMT officials if required to review access to the jobsite in the event of an emergency.
12. Call the Safety Director and their project manager immediately following a severe accident or injury.
13. Submit all subsequent Accident/Incident Forms and participate in accident investigations as required.
14. Maintain and monitor all logs required by this manual.
15. Maintain daily logs to include work force logs and submit them to Safety Department by the tenth of the following month.
16. Accompany owner and other agencies during jobsite inspections.
17. Ensure compliance with owner site-specific requirements.
18. Manage the owner's Hot Work Permit system.
19. Coordinate all Fire Protection Requirements.
20. Coordinate with RC ANDERSEN and the owner's Project Management all utility interruptions within the requirements of the owner policy.
21. Participate in the preplanning of all high risk or unusual activities with risk exposure.
22. Notify the Safety Department whenever local, state, or federal agencies representatives visit the site.
23. Ensure compliance with monthly reporting requirements.
24. Work with the project team to execute and implement Safety 360
25. Discuss 30-day look ahead for critical (high risk) activities at foremen's meeting

RC ANDERSEN Project Team Requirements

It is our responsibility to address the safety concerns of workers on RC ANDERSEN jobsites by investigating and responding to those concerns in a timely fashion. Additionally, we aspire to advance the cause of a safe work environment by continuously improving the safety program and creating worksites free from anticipated and recognized hazards. To maximize performance improvement and reduce exposures, safety measures must focus on compliance and the abatement of hazards to reduce injuries, promote risk mitigation and unforeseen events. Safety should be given the same attention on projects as production, schedule and budget. Implement all aspects of Safety 360.

1. The following are the core principles of the RC ANDERSEN Safety Policies and Procedures:
    a. Management commitment
    b. Employee involvement.
    c. Worksite analysis
    d. Hazard Prevention and control
    e. Safety and health training
    f. Evaluation and improvement
2. In conjunction with the Safety Department develop a Site-Specific Safety Policies and Procedures Manual that reflects the Owner health, safety and environmental requirements and addresses the hazards associated with the scope of work for that specific project in accordance with applicable Federal, State and local safety standards and shall address the following items at a minimum:
    a. Narrative of the job including excavation, foundations, structural steel/concrete, exterior components, demolition, rough-ins, finishes, and associated anticipated hazards.
    b. Address high hazards such as the use of cranes, equipment for excavation or demolition, risk assessments for health care facility work, use of scaffolds, swing stage, electrical exposures, shaft work, confined spaces, hot work, work at heights, work at depths, etc.
    c. Understand the requirements of the Contractor Controlled or Owner Controlled Insurance Program regarding reporting and follow-up.
3. All projects with the potential to exceed 120 days in duration shall perform the following:
    a. Weekly Jobsite Inspection showing all subcontractors on site and the status of the weekly jobsite inspections of their work
    b. Toolbox Talk Log listing all subcontractors on site and the status of their weekly toolbox talks
    c. Copies of the weekly toolbox talk
    d. Subcontractor to maintain Safety Training Records, to be available upon request

RC ANDERSEN Project Team Safety Files, Documentation and Archiving

The points below are safety expectations to be followed at all RC ANDERSEN projects:

1. At least one member of the RC ANDERSEN Project Team staff on a project will be appointed the safety coordinator. This person should be responsible for setting up and maintaining a safety file.
2. Before the start of the project, subcontractors shall conduct a risk assessment/JHA identifying their largest exposures. The information in the assessment documents must include the means and methods used by sub and lower tier contractors for medium to high-risk work (in writing). This would include but not be limited to fall protection, scaffold erection, work at heights, work at depths, crane and elevator installation/erection and impact of project progress on adjoining buildings and site conditions.

Example:

No.			*Files Attached?*
1	Confined Spaces	*Scope not determined*	
2	Driving & Off-Road Vehicles (ORVs)	*Scope not determined*	
3	Electrical	*Scope not determined*	
4	Energy Isolation	*Scope not determined*	
5	Ground Disturbance	*Scope not determined*	
6	Hazardous Material	*Scope not determined*	
7	Lifting Operations	*Scope not determined*	
8	Material Handling	*Scope not determined*	
9	Mobile Equipment	*Scope not determined*	
10	Working from Heights	*Scope not determined*	
11	Temperature Extremes	*Scope not determined*	
12	Noise	*Scope not determined*	

3. The RC ANDERSEN Project Team will meet with every subcontractor before they commence work to review site specific safety requirements and document hazard prevention and control methods.
4. Safety will be a formal topic and documented at all weekly job meetings. Attendees identified and minutes maintained in the project files.
5. A designated project team member for RC ANDERSEN should conduct a formal weekly safety walk-through of the project and note potentially hazardous conditions or work practices. Notify Subcontractors for corrective actions. Maintain documentation of these inspections with item closure in the project files.
6. The RC ANDERSEN Project Team should be watchful for potential safety hazards and improper work practice during their daily rounds throughout the project. Subcontractors are to be notified for corrective actions.
7. All subcontractors on the project will be required to conduct their own weekly toolbox safety meetings and inspection with their workers. The topic and attendance at these meetings must be documented and a copy submitted to the RC ANDERSEN site project office to be placed in the safety file.
8. All accidents, incidents, close calls/good catches and near misses will be immediately reported to RC ANDERSEN Safety Department and an appropriate report form will be filled out. Follow Incident Reporting Procedures.
9. RC ANDERSEN site personnel will develop and post emergency evacuation, fire and medical information at the project. RC ANDERSEN site personnel will immediately inform Corporate Safety Staff of any scheduled or unscheduled site visits by OSHA.
10. Subcontractors are required to submit SDS sheets to RC ANDERSEN project team and be maintained on site.
11. Should any subcontractor or employee document an alleged safety hazard in writing and deliver it to RC ANDERSEN personnel, that alleged issue should be responded to in writing and depending on the severity of the issue, bumped up the hierarchy to a RC ANDERSEN executive.
12. Archive all monthly manpower reports, orientation signoffs, meeting minutes, weekly walk-throughs, accident and incident reports and any other documentation which might be required in a future lawsuit.
13. Establish a system for recognition of safe behaviors.

4.2. SUBCONTRACTOR CONTRACT RESPONSIBILITIES

To the extent that a subcontractor of any tier performs any part of the contract scope of work, he assumes responsibility for complying with the provisions of the RC ANDERSEN Corporate Safety, Health and Environmental Policies and Procedures Manual. The Subcontractor has the responsibility for participating in and enforcing the site-specific safety and loss prevention programs established for the Project that shall cover all work performed by it and its sub-subcontractors. Subcontractor shall cooperate fully with RC ANDERSEN, the Owner, and all insurance carriers and loss prevention engineers on loss and accident prevention. There is no substitute for the exercise of good professional judgment.

1. Subcontractor shall perform all parts of its Purchase Order/Contract while assuming responsibility for complying with all applicable federal, state and local safety standards, regulations, rules or guidelines.
2. Subcontractor shall maintain documentation at the Project site that verifies that its safety program is in current compliance with applicable federal state, local, and Project safety regulations, rules or guidelines. RC ANDERSEN shall make documentation available upon request. The more stringent policy shall prevail.
3. Subcontractor shall plan and execute all work operations to comply with stated objectives of the project Site Specific Safety Policies and Procedures.
4. Subcontractor shall attend safety meetings as are scheduled by the RC ANDERSEN project management team. Subcontractor to discuss and issue a 30-day look ahead for critical (high risk) activities at foremen's meeting.
5. Subcontractor shall schedule weekly Toolbox safety meetings conducted by their job foreman for all their site employees under their supervision with sign-off and submit to the RC ANDERSEN Project Team weekly.
6. Subcontractor shall implement immediate corrective action to eliminate unsafe practices and conditions when they are observed or reported.
7. Subcontractor shall provide initial safety orientations for their new employees upon arrival to the job-site. At a minimum, such orientations shall include training on safety hazards associated with their work, site-specific safety policies and procedures as they pertain, personal protective equipment requirements, rules and limitations on equipment operations and what to do in case of injury or illness and location of medical station(s). Such orientations shall also advise of each employee's required attendance at weekly "toolbox" safety meetings and each employee's obligation to report observed or known unsafe conditions or practices to the employees' immediate supervisors and to RC ANDERSEN. RC ANDERSEN will have available the proof of orientation form.
8. Subcontractor Safety and Management Safety Representative shall investigate all events resulting in personal injury and/or hospitalization as well as incidences of property damage, fire and any third-party claim to determine the causes. All findings shall be in writing and submitted to RC ANDERSEN. Subcontractor's follow-up in connection with such investigations shall consist of immediate corrective action and an initial written report submitted to RC ANDERSEN within twenty-four (24) hours of the event.
9. Subcontractor shall evaluate hazardous exposures that may arise from every portion of the Work prior to the start of the operation and follow-up with appropriate action where required. For medium to high-risk scopes of work, Subcontractor shall submit to RC ANDERSEN a written Work Plan or Methods of Procedures (MOP) that shall include a safety "means and method" prior to the start of operations.
10. Subcontractor shall provide adequate safety measures against occupational disease exposures such as gases, fumes, vapors, dusts, chemicals, and noise levels that may be injurious to the Project workforce.
11. Subcontractor shall provide personal protective equipment to his employees at the work area where needed, required and to utilize all such equipment. Subcontractor shall be prepared to take immediate corrective action for noncompliance that shall include dismissal if Subcontractor's employee(s) refuses to utilize the provided safety equipment.
12. Subcontractor shall include all its personnel (including office staff) in the Project's safety program.

13. Subcontractor shall maintain OSHA documentation related to injuries.
14. Federal and State regulations require each employer to have a Hazardous Communications ("Hazcom") program in place. The Project requires a complete library of safety data sheet (SDS) for all material incorporated into the construction process. The Subcontractor shall submit all SDSs for materials provided/used in the performance of his scope of work to RC ANDERSEN to ensure completeness of this library. The Subcontractor shall maintain on site a copy of hazardous communications program and a library of SDSs for materials provided/used in the performance of its scope of work. Subcontractor shall submit its written Hazcom program to RC ANDERSEN for record purposes prior to the start of work.
15. In connection with all Work performed hereunder, Subcontractor shall include provisions for and shall comply with all Safety and Health Regulations of the Occupational Safety and Health Act of 1970 (29 CFR. 1926), including all amendments and modifications thereto (hereinafter "OSHA"). In the event there is a conflict between the safety and health provisions of federal, state or local regulations, the more stringent provision shall prevail. Subcontractor acknowledges and agrees that with respect to the scope of its Work under this Subcontract, it shall comply with all obligations and assume all responsibilities imposed upon and through the "controlling contractor" as such term is defined and construed under all OSHA rules and regulations.
16. In accordance with the terms and conditions of the contract, RC ANDERSEN reserves its right to take appropriate actions to remedy subcontractor or sub-subcontractor non-compliance with these safety requirements at the Subcontractor's expense.
17. Subcontractor shall prepare the Site-Specific Safety Program (SSSP) encompassing their contract activities and submit it to RC ANDERSEN for review prior to start of work. A SSSP should include a written Safety & Health Program, written Hazard Communication Program, Lockout/Tagout Program (if required), SDSs, OSHA 300A Summary form, Site-Specific Fall Protection Plan (if required), PTP, name of designated Competent Person, name of designated Management safety representative, name of Qualified Person (if required), Fall Protection Training Documentation (for all employees who might be exposed to a fall hazard), and other training or certification elements as required such as for ladders, scaffolding, excavations signaling and rigging for cranes, confined space, etc.
18. Subcontractor shall submit emergency contacts and telephone numbers for their senior safety person and their senior operations person, and management safety representative who are available 24/7.
19. Subcontractor shall appoint and submit in writing the name of the competent person who is qualified by training and experience to recognize and anticipate predictable hazards and has the authority to take prompt corrective action to abate them and must have the authority to stop work of his/her work forces in the event of a safety issue.
20. The subcontractor project safety representative shall ensure that their site employees, suppliers and technical support, regardless of tier, comply with the RC ANDERSEN Corporate Safety, Health and Environmental Policies and Procedures Manual, their project's Safety and Health and HAZCOM Programs, the Contract Documents, the project Site Specific Safety Plan, OSHA Standards and all other federal, state and local codes, laws and regulations.
21. Subcontractors shall provide and enforce, always, the use of personal protective equipment at no cost to the employees.
22. Subcontractors shall conduct periodic safety observations and take corrective actions for recognized hazards. Report unsafe conditions outside their scope of work to RC ANDERSEN personnel.
23. Subcontractor shall comply with the record keeping and procedural requirements of OSHA and RC ANDERSEN and its insurance carrier relating to accident reporting and investigation. Document loss control data involving personnel, equipment, and property.
24. Subcontractors shall report immediately any accident/incident involving employees and provide accident, insurance and hospital reports in a timely fashion per section 3 of the RC ANDERSEN Safety Manual.
25. Subcontractor shall provide for safety planning in the scheduling and coordination of the work.
26. Subcontractor shall conduct periodic safety meetings with employees, foremen and subcontractors, and direct subcontractors to issue safety instructions with work assignments including training to use the

required tools, and to recognize hazards associated with the work environment. In addition, subcontractors are to provide safety training for all aspects of their job duties as required by OSHA (and re-training when necessary).

27. Where a designated site safety manager is required by contract, he/she shall meet the following criteria:
    a. Successfully completed an OSHA 30-hour construction safety course within the last five years.
    b. Be recognized by the Subcontractor as competent person in accordance with OSHA definitions.
    c. Can recognize hazards associated with the scope of work.
28. If RC ANDERSEN determines a Subcontractor's work is considered a high hazard (crane lifts, unusual lifts, extensive scaffolding, demolition, excavation, fire or smoke generating activities, concrete formwork, pre-cast concrete, steel erection, shaft work, confined space, work at heights, work at depths, etc.) the subcontractor shall provide a written Job Hazard Analysis (JHA) and/or a written Method of Procedures (MOP). A joint meeting shall be held to determine the need for a full-time dedicated safety manager and review/coordinate the plan with the Owner or other subcontractors as required.
29. Subcontractors with an on-site safety work history which does not meet RC ANDERSEN's expectations shall be required to designate a full-time, on-site, dedicated safety person meeting the requirements of 27 (a-c).
30. The Foreman shall be required to prepare and submit a daily PTP covering that day's work and working conditions, as required.
31. RC ANDERSEN, as a leader in safety, shall strive to require all subcontractor foremen and/or competent persons to be OSHA 30 Hour Trained.
32. The project employees shall comply with all Federal and State Safety and Health Standards/Laws and all site employees are charged with obeying the law. The standards and laws contained in Federal and State mandates are available for review at the RC ANDERSEN job site field office. Rules cannot be written to cover every possible situation that may arise at the job site. Therefore, certain responsibilities rest upon the site employee, namely the protection of themselves and protection of fellow workers.
33. The following rules are important to the safety of all personnel on the project and are to be enforced by subcontractor management:
    a. Employees are always to be alert and report all unsafe conditions or acts, along with all accidents, to RC ANDERSEN immediately.
    b. Possession of or working under the influence of alcohol or drugs is prohibited and subject to immediate dismissal.
    c. Firearms are prohibited on projects. Anyone found with such shall be subject to immediate dismissal and the authorities shall be notified.
    d. Fighting on the job is cause for immediate dismissal.
    e. "Horseplay" and other inappropriate behaviors are prohibited.
    f. Zero tolerance is in effect for fall protection, confined space, non-OSHA compliant excavations, and NFPA 70E issues, even if discovered after the fact. Offenders will be removed from the project and re-trained within two days before returning to the project.
    g. Expose no site employees to a fall hazard greater than six (6') feet above a lower level. When an employee observes a fall hazard, they shall notify their supervisor of the hazard. The responsible Subcontractor shall immediately correct the hazard. 100% continuous fall protection, for fall hazards greater than six (6') feet, shall be implemented using hard barricades or personal fall arrest system.
    h. An operable Ground Fault Circuit Interrupter (GFCI) plugged in at the power source or a GFCI circuit breaker shall protect temporary power for all power tools and cord sets. If no GFCI outlets are available, the subcontractor shall provide a GFCI "pigtail". Above 110 V, any cord and plug set shall be protected via GFCI or Assured Equipment Grounding Conductor Program (AEGCP).
    i. Site employees are to inspect all hand tools and extension cords they will be using. Defective tools and extension cords found to be defective are to be taken out of service immediately and red tagged. The subcontractor's competent person prior to use shall inspect other equipment,

such as scaffolding and ladders for any defects. If equipment is defective or unserviceable, it is to be immediately brought to the attention of the supervisor and removed from service.

j. Hot work permits and qualified full-time fire watch are required for all hot work.
k. Fire protection equipment is not to be tampered with or removed from its assigned location.
l. Obey "No Smoking/Vaping" rules. Smoking/vaping is prohibited including electronic cigarettes and vaporizers throughout the job site.
m. The use of gasoline is prohibited for the cleaning of equipment and tools or for starting fires. Gasoline engines shall be shut off and allowed to cool before refueling.
n. The use of plastic gas cans for storing combustible/flammable liquids on the site is prohibited. Use only approved metal containers.
o. Hazard Communication and Lockout/Tagout Programs shall be observed.
p. Use approved respirators when conditions warrant and procedures in the Respiratory Protection Program strictly followed.
q. Appropriate work attire shall always be worn:
    i. Wear personal protective equipment supplied by the employer.
    ii. Type II Helmets and eye protection are required 100%.
    iii. Wear gloves appropriate to the task such as when handling objects or substances that could cut, tear, burn or injure hands.
    iv. Wear traffic/safety vests as required by task, visibility, traffic or near heavy equipment operations.
    v. Fluorescent (colors that are easily distinguishable from their background) outer garments shall be worn at all times.
r. Maintaining good housekeeping is always mandatory.
s. Only authorized and properly instructed/trained employees shall operate machinery, equipment, vehicles and tools.
t. Assigned operator shall always operate vehicles in a safe manner.
u. Utilize proper lifting techniques. Workers are not to lift or push heavy objects. Get help if necessary.
v. Do not enter barricaded areas unless authorized to do so.
w. The use of portable FM/AM, iPod, and MP3 radios or other devices affecting the ability to hear emergency instructions and warnings on the site is always prohibited.
x. Subcontractor shall comply with respirable Crystalline Silica 1926.1153 and provide silica training to ensure employee can demonstrate knowledge and understanding of health hazards associated with exposure to respirable crystalline silica, specific tasks hazards associated with exposure to RCS, and measures that can be implemented including engineering controls, work practices and respirators to be used.

34. The Subcontractor is responsible to obtain and faithfully execute and comply with the most current version of the RC ANDERSEN Corporate Safety, Health and Environmental Policies and Procedures Manual available at https://stobuildinggroup.com/Safety/ which is hereby incorporated by reference and made a part hereof as if fully set forth in length.

4.3. SAFETY INSPECTIONS

Safety Inspections by RC ANDERSEN

1. RC ANDERSEN and all subcontractors shall conduct weekly safety inspections, make corrective actions, and provide inspection documentation upon request.

Safety Inspections by Outside Agencies

1. From time to time, various persons will present themselves to the Project Team requesting permission to make safety inspections or accident investigations. Only the following persons are authorized to do so:
    a. State or Federal OSHA Compliance Officers. Please see Section k (OSHA Inspection Procedure).
    b. Representative of RC ANDERSEN's insurance carriers
    c. Representatives of the Owner, Architect and Engineer
    d. Representatives of Labor Unions
    e. Insurance carriers with coverage at the project
    f. State and Local Municipal Governmental Agencies including safety, building, police and fire departments
    g. EPA (Environmental Protection Agency)
    h. Third-party safety consultants at the discretion of RC ANDERSEN
2. The Project Team shall admit such persons only upon recognition or presentation of proper credentials. All other persons wishing to make safety inspections or accident investigations shall not be admitted without prior authorization from the RC ANDERSEN Officer- in-Charge (OIC). Each subcontractor shall notify RC ANDERSEN of the presence of safety inspectors from any of the above-mentioned areas.
3. The RC ANDERSEN Superintendent or his designee shall escort the safety inspector and record the inspector's observations.
4. Where such observations appear to conflict with the site-specific safety policies and procedures, the matter shall be submitted to the RC ANDERSEN Project team for resolution.
5. Copies of safety reports, notices or citations resulting from safety inspections shall be submitted to RC ANDERSEN before leaving the site.

4.4. VISITORS ON THE PROJECT

1. All visitors entering RC ANDERSEN projects shall sign a visitor release form.
2. Retain signed releases in a separate file at the project office.
3. Persons not required to sign a release form are as follows:
    a. RC ANDERSEN employees and subcontractors.
    b. Owner, Architect and Engineer employees and/or their representatives.
    c. Representatives of Governmental Agencies on official business.
    d. Persons making deliveries to subcontractors working on the project site.
4. The following items must be observed during a site visit as well as any other site-specific requirements:
    a. Head protection, eye protection, cut-level gloves, safety vests or high visibility clothing.
    b. Maintaining good housekeeping is always mandatory.
    c. Appropriate sturdy work boots are required, no open-toe shoes or high heels.
    d. Obey all warning signs and barricades.
    e. Do not stray from the approved path for ingress and egress.
    f. Do not enter areas with inadequate lighting.
    g. Be aware of and stay clear of any overhead hazards.
    h. Smoking /vaping and use of tobacco products is prohibited.
    i. Do not touch or walk on welding leads, wires, piping, ductwork, conduit or other construction materials of any kind.
    j. Do not climb on ladders or scaffolds.
    k. Do not lean on, reach beyond or travel beyond any handrails or barricades.
    l. Be aware that walking surfaces will be uneven or have other impediments not present in a finished product and take extreme caution with each step.
    m. Report any hazards to a RC ANDERSEN representative.
    n. Do not go into unsafe areas where fall protection does not exist or where obvious safety hazards exist.

4.5 DISCIPLINARY POLICY

1. **RC ANDERSEN Employees**
    a. RC ANDERSEN employee disciplinary procedures available in the Employee Handbook.
2. **Subcontractor Employees (Workers)**
    b. Safety 360 encourages safety coaching to change work behavior as a first effort.
    c. The ultimate responsibility for the discipline of any worker rests on the employer.
3. **Zero tolerance (See Zero Tolerance Policy)**
    a. RC ANDERSEN has adopted a Zero Tolerance Policy for items including but not limited to harassment, smoking/vaping and violence in the workplace. Workers determined to be in non-compliance with specified Zero Tolerance items are subject to immediate permanent removal from the jobsite by their employer. Owner requirements supersede RC ANDERSEN policies.
    b. Fall exposures exceeding 6'-0, exposure to live energized electrical components without proper protection and/or permits, confined space and exposure to non-compliant OSHA excavations will subject the employee to removal from the jobsite. Worker must be retrained if permitted to return to the jobsite. The subcontractor/employer must supply written verification of re-training before the employee will be permitted to return. Retraining will be only allowed once. A repeat violation will require immediate and permanent removal. The foreman or direct supervisor may also be subject to retraining and possible removal from the project.
4. **Worker Misconduct**
    a. Worker misconduct may be subject to a graduated system of enforcement known as the three-strike rule and will include but not be limited to issues such as PPE, misuse of a ladder, using a damaged cord or tool, etc.
    b. When a subcontractor employee is observed engaging in an unsafe act or working in an unsafe condition, stop the work and engage his or her foreman in the disciplinary action.
    c. When a worker is observed engaging in continued unsafe activities, a second warning may be given, and the subcontractor's foreman must be engaged.
    d. The third occurrence will result in removal of the employee from the site permanently.
    e. RC ANDERSEN reserves the right to immediately remove personnel should the circumstances warrant.
5. **Disciplinary Notifications**
    a. When an employee is removed from a jobsite, the Safety Department is to be notified immediately.
    b. Written notifications must include the name of the dismissed, subcontractor, trade, local number and reason for dismissal.
    c. The Safety Department will maintain a log with the name of the worker, subcontractor, trade, local number and reason for dismissal.
    d. Notification of all Zero Tolerance issues and Safety Violation Notices must be distributed to the subcontractor, RC ANDERSEN Superintendent, RC ANDERSEN Project Manager, RC ANDERSEN Project Executive, and the RC ANDERSEN Safety Department.

4.6. ZERO TOLERANCE POLICY

ANYONE FOUND ENGAGING IN ANY OF THE FOLLOWING IS SUBJECT TO IMMEDATE AND PERMANENT DISMISSAL FROM THE JOBSITE

GENERAL ISSUES:

1. Blatant disregard for safety
2. Any form of discrimination or harassment based on a characteristic protected by applicable law or other conduct that violates our Non-Discrimination and Anti-Harassment Policy.
3. The possession, sale, use or distribution of narcotics and/or related paraphernalia, alcohol (all related beverages) or other illegal substances / drugs or evidence of impairment
4. The possession of firearms, explosives or other weapons used to cause harm to personnel or property, other than that use to perform specific construction activities.
5. Any act of workplace violence.
6. Smoking/vaping on the jobsite.
7. Parking on-site (unless with permission of the Company's Superintendent only).

FALL PROTECTION ISSUES:

1. Workers observed in unprotected or unguarded areas without proper fall protection in place.
2. Disrupting a guardrail system without a permit.
3. Removing a hole cover or working in the area of an unprotected or insufficiently protected hole without appropriate fall arrest system.
4. The use of an inadequate anchorage point.

SAFE ELECTRICAL WORK PRACTICES ISSUE:

1. Any worker engaged in energized work of any type whether observed or discovered after the task, as specified in NFPA 70E.

CONFINED SPACE:

1. Workers and their foreman observed or discovered after the task without a preplanning meeting and/or a permit or working in or entering a confined space.

EXCAVATIONS:

1. Workers in trenches or excavation exceeding 5'-0" in depth, observed or discovered after the task, without OSHA compliant systems.

RETRAINING GUIDANCE:

1. Where the project allows, the worker must be retrained before returning to work.
2. The subcontractor must supply written verification of re-training before their employee is permitted to return to the jobsite.
3. Retraining will be only allowed once.
4. A repeat violation will require immediate and permanent dismissal from the project.
5. The foreman or direct supervisor may also be subject to retraining and possible removal from the project.

4.7 SAFETY COMPLAINT PROCEDURES

1. OSHA gives employees the right to notify the Federal/State Department of Labor and request an inspection if they believe that unsafe and unhealthful conditions exist at their work site. OSHA gives a high priority to employee complaints, and a heavy percentage of inspections are of this type.

2. Unsafe acts and conditions may occur on construction projects without the supervisor's knowledge. The employee safety complaint is usually an effort to call these to the superintendent's attention. Since most safety complaints are in good faith, they should be welcomed as an opportunity to correct unknown safety hazards before injury results. Investigate the complaint and resolve the issue before the situation gets out of hand and results in an injury or an OSHA complaint.

3. Follow this procedure in handling employee safety complaints:

    a. Pass along all employee safety complaints to the Superintendent. Do not ignore any complaint.

    b. Assure the complainant (if known) that the matter will be investigated immediately, and any required corrective action taken. Explain that the OSHA regulations shall be the basis for determining hazards and corrections.

    c. Fully investigate the item of complaint and call the RC ANDERSEN Safety Department for guidance if required. Consult the OSHA regulations to determine if a violation exists and the required correction. Order immediate corrective action for any violation, including any act or condition not covered by OSHA regulations but believed to be hazardous.

    d. Always report the disposition of the complaints back to the complainant promptly. Settle the complaint to the mutual satisfaction of all concerned.

    e. Make a written record of the details of the complaint, including corrective actions taken and file for future reference in the event of a complaint inspection by OSHA.

4. This procedure will be of little value in handling complaints internally if employees do not know it is available to them. At a safety meeting, notify all employees of the procedure.

5. At a safety meeting, review the procedure with subcontractors and instruct them to follow it. Have them report their employee complaint handling to you in writing. Enforce their compliance with this procedure, as a complaint inspection for any contractor may include all contractors on the project.

4.8 INCIDENT REPORTING POLICY

DEFINITIONS:

1. An “incident” is unplanned event, which results in an injury to a worker, the public or property damage.
2. A “near-miss” is an unplanned event, which could have resulted in an incident.

RESPONSIBILITIES:

RC ANDERSEN Project Team:

1. The project team is to notify the Officer-in-Charge and the Safety Department immediately following any incident.
2. The Project team must submit the Origami First Report for any Incident as soon as possible after discovery of or notification of the event.
3. Preserve incident scene materials and equipment
4. The site superintendent is to record the event on the CMIC Daily Log and follow up as required.

RC ANDERSEN Safety/RISK Department:

1. Notify Risk Management for accidents resulting in medical care (emergency room or involving a doctor or clinic), OSHA recordable accident (including lost time and/or restricted work), 911 police/fire department, potential property damage over $50,000 and any event which may result in a legal suit.
2. Determine if the event requires additional investigation by the safety department or a third party
    a. For accidents: a third-party adjuster/investigator should be involved for severe injuries, loss of consciousness, severe bleeding, broken bones, falls from elevation, cave-in, facial injuries, burns, hospitalization, any 911 event, etc. Further determination of when a third-party investigation is needed shall be decided jointly with Safety and Legal.
    b. For incidents and property damage: a third-party adjuster/investigator should be involved in the event of water damage in occupied spaces affecting owner operations, major water damage in non-occupied spaces, fire requiring the fire department, vehicle accidents involving the public, injury of non-construction worker, or extensive property damage that may impact the client or the schedule, etc.
    c. Consult with the risk management, legal and insurance departments in questionable cases to determine if a third party is required.
    d. Subcontractors to fully cooperate ensuring that they preserve the scene of incident and provide witness statements as required.
3. Keep lines of communication open among safety, site supervision, risk management and legal.
4. Conduct follow-up as required.

Subcontractors:

1. Notify RC ANDERSEN Project Team promptly upon discovery of an event and submit written report by end of shift.
2. Subcontractor to investigate when it involves their employees, property or vendors and submit report before the end of shift. Report to include cause, contributing factors, appropriate PPE for task, was more than one worker required for the task, type of training and planning.
3. Subcontractor to perform the initial follow-up when it involves a lower tier subcontractor and submit to RC ANDERSEN for follow-up and resolution.
4. Provide copies of all pertinent documents including medical release forms and work status.

After the subcontractor has notified the RC ANDERSEN Project Team, THEN:

1. RC ANDERSEN must submit the First Report of any Incident as soon as possible, but within 24 hours after discovery of or notification of the event.
2. Review incident with subcontractor if required to mitigate hazardous conditions.

4.9 PERSONAL INJURY AND PROPERTY DAMAGE DOCUMENTATION

The following items should be included in the incident reports:

1. **Photos:** All reports filed should have photos attached. Photos such as:
    a. Area where the incident occurred.
    b. Any damage inflicted.
    c. Any tools/materials involved in incident.
    d. Provide any pre incident photos of area.
    e. Please include reference points to the location where the pictures were taken. Example, mark 19th Floor on a piece of paper and include it in the picture. Indicate if you are looking north, east, south or west, which column line or room you are looking at.
    f. Do not take pictures of the injured employee, blood or guts.

2. **Subcontractor Incident Reports:** All reports should contain the reports of all subcontractors involved in incident. Include in the report the names of all subcontractors involved or witnessed the incident

3. **Explanation of damaged property involved:** A detailed description of damaged property should be included in report. This includes owner of the property, description of the property, how it was damaged and by whom.

4. **Witness statements:** Collect all information of persons witness to the incident as well as a detailed statement. (See witness statement form in Origami).

5. **Locations:** Document the location of the incident on the Form. (Discern where on site the incident took place) Give room number(s) or control lines (column lines).

6. **Conditions:** Describe job site conditions in area (i.e., weather, muddy, dusty, dimly lit, uneven terrain, cluttered, etc.). Include information on who owns debris involved in the incident**.**

7. **Incidents:**
    a. Accident reports should have attached all medical paperwork for the injured party involved. This includes discharge papers or any information from their personal doctors concerning their injury. If these are not available immediately, send accident report updates and clearly, in BOLD, write: UPDATE #1, UPDATE #2, etc. as information and paperwork become available.
    b. Give details when people other than workers are involved in accident. If visitor, explain how they came to be involved in the accident.
    c. Describe injury (laceration, bruise, exact body part, location i.e., right elbow or left ankle).
    d. Please include information regarding all subcontractors involved in the incident, nor just the primary. In the case of severe accident or incident, the area should be sealed off to all personnel, except for Emergency Responders, until otherwise directed by the Safety Director and/or Project Executive.

8. **After Hours Incidents:**
    a. For after hours, weekends and holiday work, RC ANDERSEN has set an “800” number to call 24/7 to make emergency notification of an incident or accident. Make all attempts to contact your project team, the Safety Director first. If no contact, call 1 (800) 452-5452.

4.10 MANAGING AN OSHA INSPECTION

A. What to Do When OSHA Arrives

1. Reportable Incidents

- **The Employer:**
  - 8-hours to report a fatality to OSHA. 24-hours to report amputations, eye loss or hospital admission (excluding admissions solely for diagnostic testing or observation). Reporting assistance is available via Corporate Safety and Fisher & Phillips (e.g., personal medical conditions, car accidents, reporting and timing)
- **Preparation:**
  - Project teams should expect and prepare for an OSHA inspection following a reportable accident. Prepare the site, determine the inspection route and notify subs. OSHA 300 injury logs and chemical Safety Data Sheets (SDS) may be requested.

2. Initial Contact by OSHA

- **Reception Protocol:**
  - Greet the Compliance Officer professionally and bring them into a larger room for an Opening Conference. Convey that we take safety and health seriously and have a sophisticated approach. Maintain professionalism and courtesy.
- **Notify Management:**
  - Immediately notify the BU Leadership and Corporate Safety Director upon OSHA's arrival, and prior to the Opening Conference.
- **Limited Employee Interaction:**
  - Only the Site Manager or supervisor should confer with the OSHA Compliance Officer before the Opening Conference. The site representative should express the company's strong commitment to safety.
- **Review Credentials:**
  - The site representative should review the Compliance Officer's credentials and obtain their business card with an address and phone number.
- **Clarify Purpose:**
  - Ask the Compliance Officer about the basis of the inspection and scope of their visit. If based on a complaint, request a copy. Take notes if a verbal response.
- **Check for a Warrant:**
  - Generally, a warrant is not required but confirm if the Compliance Officer has one and its scope. If a warrant is in hand, read and limit the inspection specifically to the lawful scope of the warrant.
- **Union Notification:**
  - If employees are union-represented, notify the union representative of OSHA's presence.
- **Multi-Employer Sites:**
  - Inform all contractors on-site about OSHA's presence and inquire if the OSHA representative wants to include all employers in the Opening Conference.

3. The Opening Conference

- **Delay:**
  - The Opening Conference can be reasonably delayed to allow Safety or a management representative to arrive. Inform subs that OSHA is onsite so they can evaluate any ongoing high-risk activities.
- **Establish Scope:**
  - Use this time to determine the areas of inspection, route for the walk-around, and any trade-secret areas to wary of. Ask about planned sampling or pre-determined interviews.

- **Maintain Professionalism:**
  - Be cooperative yet assertive about limiting the inspection to the agreed-upon scope.
- **Safety Briefings:**
  - Conduct any required safety briefings for OSHA Compliance Officers before they access the site. CSHO's are prohibited from exposing themselves to hazards.

4. The Walk-Around Inspection

- **Designated Representative:**
  - A site representative should accompany the Compliance Officer at all times, except during employee interviews which the CSHO may hold in private. A representative should be assigned to each compliance officer during the walk.
- **Detailed Note Taking:**
  - The site representative(s) should document areas inspected, pictures taken, discussions held, and employee interviews conducted.
- **OSHA's Burden of Proof:**
  - Remember that OSHA must prove the elements of a violation including employee exposure to the hazard, so detailed notes and photos are crucial for clarity later.
- **Scope Deviation:**
  - If the Compliance Officer deviates from the agreed-upon areas, ask for justification (e.g., expanded based on plain view doctrine, manager admissions). If OSHA fails to stay with management or wanders off, suspend the inspection and consult counsel who should contact the OSHA Area Director. Maintain professionalism.
- **Photographic Evidence:**
  - Take photographs of inspected areas, especially if the Compliance Officer does so. Side-by-side photographs and videos of the same views are typical and allowed.
- **Post-Inspection Measurements:**
  - Conduct your own measurements after OSHA leaves, before any abatement actions.
- **Trade Secret Protection:**
  - Indicate any areas that should be protected as trade secrets and request that filming and/or photography be limited in these areas.
- **Addressing Violations:**
  - Correct any alleged violations quickly unless instructed otherwise by the Compliance Officer.

- **Agent Guidelines:**
  - Staff should not volunteer information without consulting designated management or counsel.
- **Employee Interviews:**
  - All interviews are voluntary. Employees may decline or end interviews without reason, refuse to sign statements, to be tape recorded or to be photographed.
  - ***Staff interviews are to be scheduled through Fisher & Phillips counsel***. Counsel will only schedule interviews with appropriate preparation. This typically means no staff interviews are held on the day of the inspection.
  - Employers may inform employees/workers of their rights including legal counsel, but you cannot direct or prohibit their participation which is their right.
  - OSHA may refer managers for criminal prosecution based on any inaccurate or untruthful comments made during an interview. (e.g., after a fatality)
- **Document Requests:**
  - Only OSHA injury logs and Safety Data Sheets (SDS) must be provided within 4 hours. Ask the Compliance Officer to submit all other document requests in writing through our legal counsel, Fisher & Phillips.

- **Monitoring and Sampling:**
  - Document all sampling and monitoring by the Compliance Officer and request copies of results.
- **Side-by-Side Testing:**
  - Consider conducting your own tests simultaneously with OSHA's.
- **Consult Counsel:**
  - Discuss the implications of providing audit copies and bringing up other facilities with legal counsel.
- **Evidence Handling:**
  - Ensure that no evidence is destroyed or improperly handled during the inspection.

5. **Closing Conference**

- **Discussion of Citations:**
  - The Compliance Officer will describe potential citations but will not debate them. *Only the OSHA Area Director can propose a citation after reviewing the evidence.*
- **Record Keeping:**
  - Take detailed notes on potential violations and suggested abatement procedures. This is a defense if new hazards are later claimed that the CSHO was not even aware of.
- **Request Reports:**
  - Ask for copies of all OSHA sampling and monitoring reports.
- **Documentation Preparation:**
  - Start preparing supporting documentation for the Company's position regarding the alleged violations.
- **Designated Contact Information:**
  - Provide OSHA with the contact details for correspondence regarding citations. Share the Fisher & Phillips contact information for document requests.

B. After the Inspection

- **Obtain Reports:**
  - Request all sample and monitoring reports from OSHA for your records.
- **Implement Abatement:**
  - Review noted areas, implement appropriate abatement measures, and document improvements.
- **Documentation Review:**
  - Provide the Corporate EHS Manager and Counsel with all documents shared with OSHA, including notes and photos. Only requested OSHA 300's and SDS's must be provided on the date of the inspection.
- **Confidentiality Assurance:**
  - Ensure all trade secrets disclosed are marked as confidential in correspondence with OSHA.
- **Retaliation**
  - OSHA Act prohibits any type of retaliation or adverse action taken against a whistleblower.

C. Upon Receipt of OSHA Citations

1. **Citations Protocol:**
   - Post the Citation where employee notices are typically displayed and notify involved unions.
2. **Notification of Management:**
   - Inform the Corporate Safety Director and OSHA Counsel about the Citation's receipt and confirm the contest date.

3. **Informal Conference Scheduling:**
    - We may schedule an 'Informal Conference' with OSHA within the 15 working days Right to Contest period from time of receipt. Seek guidance from Corporate Safety and OSHA Counsel.
4. **Documentation Posting:**
    - If scheduled, post a notice of the 'Informal Conference' in conjunction with the Citation.
5. **Contest Filing:**
    - If no settlement is reached, or we determine an informal conference is not warranted, we must file a formal 'Notice of Contest' within those fifteen (15) working days.
6. **Coordination on Further Meetings:**
    - After filing a Notice of Contest, BU will coordinate with counsel for any newly requested meetings with OSHA.
7. **Document Communication:**
    - Immediately provide the Corporate Safety Director and Counsel with any documents received post-contest regarding the inspection.

4.11 OSHA RECORDABLE INJURIES

RECORDABLE:

1. Loss of consciousness
2. A significant injury or illness diagnosed by a physician
3. Death
4. Stitches, staples or medical glue to treat lacerations
5. Removal of Foreign Bodies embedded in the eye(s)
6. Non-simple removal of foreign bodies from a wound
7. Prescribed use of medications (even over the counter medications) prescribed at prescription strength
8. Cutting away dead skin
9. Positive X-Ray diagnosis
10. Admission to the hospital (or equivalent) for treatment
11. Lost time or restricted work
12. Burns (first, second, or third) which cause days away from work, work restrictions or additional medical treatments
13. Intravenous (IV) fluids for relief of heat stress

NON-RECORDABLE:

1. Antiseptics
2. Prophylactic treatments only (tetanus shots)
3. Cleaning, flushing or soaking wounds on the surface of the skin
4. Bandages, Butterfly Dressings or Steri-Strips
5. Using hot or cold therapy
6. Use of any non-rigid means of support such as elastic bandage
7. Use of temporary immobilization devices (backboard and neck collars) for transportation only
8. Drill of a fingernail or toenail to relieve pressure, or draining fluid from a blister
9. Use of eye patch
10. Removal of foreign bodies not embedded in eye (only irrigation or cotton swab)
11. Simple removal of foreign bodies from a wound
12. Non-prescription medications not prescribed by a physician
13. Massage
14. Drinking fluids for relief of heat stress
15. Ointments
16. Whirlpool bath therapy (first visit to medical personnel)
17. Negative x-ray diagnosis
18. Observation of injury during visit to medical personnel
19. Rigid finger guard for a strained or sprained finger
20. Administration of oxygen purely as a precaution

EQUATIONS FOR BUREAU OF LABOR STATISTICS ACCIDENT STATISTICS:

Incident Rate: *(Total Case Rate)*

$$\frac{\text{Number of OSHA Recordables} \times 200{,}000}{\text{Total Hours Worked}}$$

Frequency Rate: *(DART Case Rate)*

$$\frac{\text{Number of DART Cases} \times 200{,}000}{\text{Total Hours Worked}}$$

Severity Rate: *(Lost Workday Rate)*

$$\frac{\text{Number of Lost Time Days} \times 200{,}000}{\text{Total Hours Worked}}$$

4.12 EMERGENCY SERVICES

Emergency Action Plan (OSHA 1910.38)

Prior to the start of the project, the Superintendent shall meet with the local fire and EMT provider to ensure coordination with emergency services. Additionally, the Superintendent shall provide and maintain throughout the life of the project the following emergency services:

1. **First Aid Kit:**
    a. The contents of the kit shall be checked on a regular basis
    b. All subcontractors at the project site shall evaluate their first aid kit to determine that the medical products in that kit are adequate to meet any safety hazards noted in their Employer's Safety Data Sheets.
    c. Each first-aid kit shall provide personal protective equipment (such as gloves, gowns, face and eye protection) for the protection of bloodborne pathogens.
2. **Medical Services and First Aid:**
    a. **Physician or Medical Clinic:** For RC ANDERSEN Employees, a panel listing of physicians, medical clinics and hospitals shall be posted. Business hours at the facility should coincide with those worked at the job site
    b. **Ambulance Service:** Posted in the RC ANDERSEN field office shall be the name, address and phone number of emergency services. Typically, "911" is the quickest and most efficient means to call an ambulance service.
    c. **First Aid Training Requirements:** Where a physician, clinic, or hospital is not readily available in terms of time and distance for treatment of injured employees, a person who has a valid certificate in first aid and CPR/AED training from the American Red Cross or equivalent training verified by documentary evidence shall be available to render first aid. Consult the Safety Department in the Main Office for information on first aid and CPR/AED training.
3. **Safety Data Sheets:** Safety Data Sheets (SDS) required when a worker sustains a chemical injury. These sheets should be readily available for any First Aid needs.
4. **Fire and Police Services:** Posted in the RC ANDERSEN field office shall be the locations, availability and jurisdiction of local fire and police department. Where required contact the local fire department and request them to visit the job site to review the following items:
    a. Fire reporting procedures
    b. Access to the job site
    c. Location of stairways and ladders
    d. Location and emergency operation of hoists, elevators, pumps, electrical controls and other equipment essential to fire fighting
    e. Location of fire department connection to standpipe/sprinkler system(s) and hose connections
    f. Required signage for hose connections and standpipes
    g. Implement recommendations of fire department and schedule follow-up surveys as warranted by the scope of the project and development of buildings and structures on the job site.
5. **Fire Alarm:**
    a. OSHA regulations require a means of alerting workers in case of an emergency such as fire.
    b. The alert system may consist of air horn sirens, bells, telephone system, public address or other communication systems capable of being audible to employees throughout the building or structure when sounded.
    c. Purpose of the alert system is to notify employees to evacuate in the event of fire or another emergency.
    d. The alert system is not complete until a telephone is available to notify the local fire department.

e. During renovations, consider leaving the current fire alarm system in place until the new one can be installed.
f. For health care facilities, coordinate with their safety/security department to ensure appropriate coverage.

4.13 CRISIS RESPONSE PROTOCOL

Crisis Communication:

The intent of communicating during a crisis is to aid RC ANDERSEN Organizational personnel to respond in a professional, calm, organized and expeditious manner. A crisis is any serious incident or situation that focuses questionable or potentially negative attention on RC ANDERSEN either in the media or before key audiences. The goal is to influence and/or control the situation and any media coverage by:

1. Offering a credible, knowledgeable spokesperson to respond to media inquiries to provide accurate information to avoid conjecture and the dissemination of potentially damaging misinformation to the public.
2. Demonstrating that the situation is under competent control and thereby reassures employees, clients, contractors and the community.
3. Communicating what actions/steps are being taken to control the situation and that every effort is being made to mitigate the crisis.

For RC ANDERSEN, a crisis may include, but not be limited to:

1. A fatality
2. An accident involving severe or multiple injuries
3. An accident involving a fall greater than 6 feet
4. An explosion, significant fire or serious burns
5. Loss of Limb / Crush Injury
6. Physical contact with heavy machinery
7. Any event with significant media attention

Company Communications Principles:

In the event of a crisis, RC ANDERSEN is committed to the communication of relevant, factual information on the situation. The crisis response plan guidelines facilitate that process. When executing the recommended guidelines, RC ANDERSEN encourages all employees involved in the response process to adhere to the following communications principles:

1. Anything said by anyone is **"on the record"** and considered the opinion of the company
2. Avoid saying "no comment"
3. We are in the process of gathering facts.
4. "Please provide your contact information and I will have the appropriate person call you as soon as possible."

CRISIS RESPONSE TEAM

No one person fully and effectively manages a crisis. Due to the uncertainty surrounding any crisis, and the potential for escalation or complication, every crisis needs control by a team of experts who represent the various disciplines potentially needed to execute proper response strategy.

Responsibilities:

The Primary Crisis Response Team will include:

1. SVP Corporate Safety
2. VP Risk Management
3. VP Corporate Communications
4. General Counsel
5. Assigned Outside Counsel
6. BU Leader
7. Most knowledgeable of incident (PM, Super, Site Safety)

It is essential that all team members identify and prioritize appropriate personnel that can serve in a back-up capacity for each in advance.

Additional Team Members:

1. BU Safety Director
2. Corporate Claims Director
3. VP Operations
4. SVP Human Resources
5. President
6. CEO
7. Chairman

In general, the crisis response team will:

1. Define the extent of the crisis
2. Implement communication protocols
3. Designate a spokesperson
4. Determine an appropriate response strategy
5. Provide guidance to the BU
6. Assign Legal Counsel, Investigator, Grief Counselor and offer to coordinate public relations statements with the Owner.
7. Monitor the response efforts
8. Evaluate the effectiveness of the plan and team activity after the crisis has passed

Chain of Communication:

Upon completion of initial response to an incident and the incident scene has been secured, the Project Executive or his designee shall notify the BU Leadership, SVP Corp Safety, VP Risk and General Counsel. They will in turn communicate with the CEO, CFO, SVP Human Resources and VP Communications. The BU Leader or his designee shall notify the client and offer RC ANDERSEN's help to coordinate Public Relations efforts.

Team Members must be prepared to report the following:

1. Names of persons and companies involved in the incident.
2. Extent of injuries or property damage.
3. A basic understanding and chronology of the event.

Once communication protocols are completed, the Crises Management Team will advise the Project Leader or his designee of any additional action(s) to take including but not limited to:

1. Additional Notifications
2. Secure evidence
3. Collect Information
4. Take Photographs

Crisis Spokesperson

Regardless of the type of crisis, the initial spokesperson(s) will be a Corporate Executive (Chairman, CEO or President) and / or, if designated the Vice President of Corporate Communication. After initiating the crisis response process, the crisis response team members will determine whom the designated spokesperson should be through the duration of the crisis based upon the type of incident and potential mitigating factors involved. If necessary, identify additional back-up spokespersons (or support personnel) from the project-type and/or geographic region in question. It is **not** recommended that any legal personnel interact with media during a crisis. This will ensure an appropriate opportunity exists for the spokesperson to be able to provide requested information, and that the title of the spokesperson does not send an unwarranted message about the seriousness of the incident. The spokesperson will coordinate comments/statements with RC ANDERSEN legal counsel prior to interacting with media.

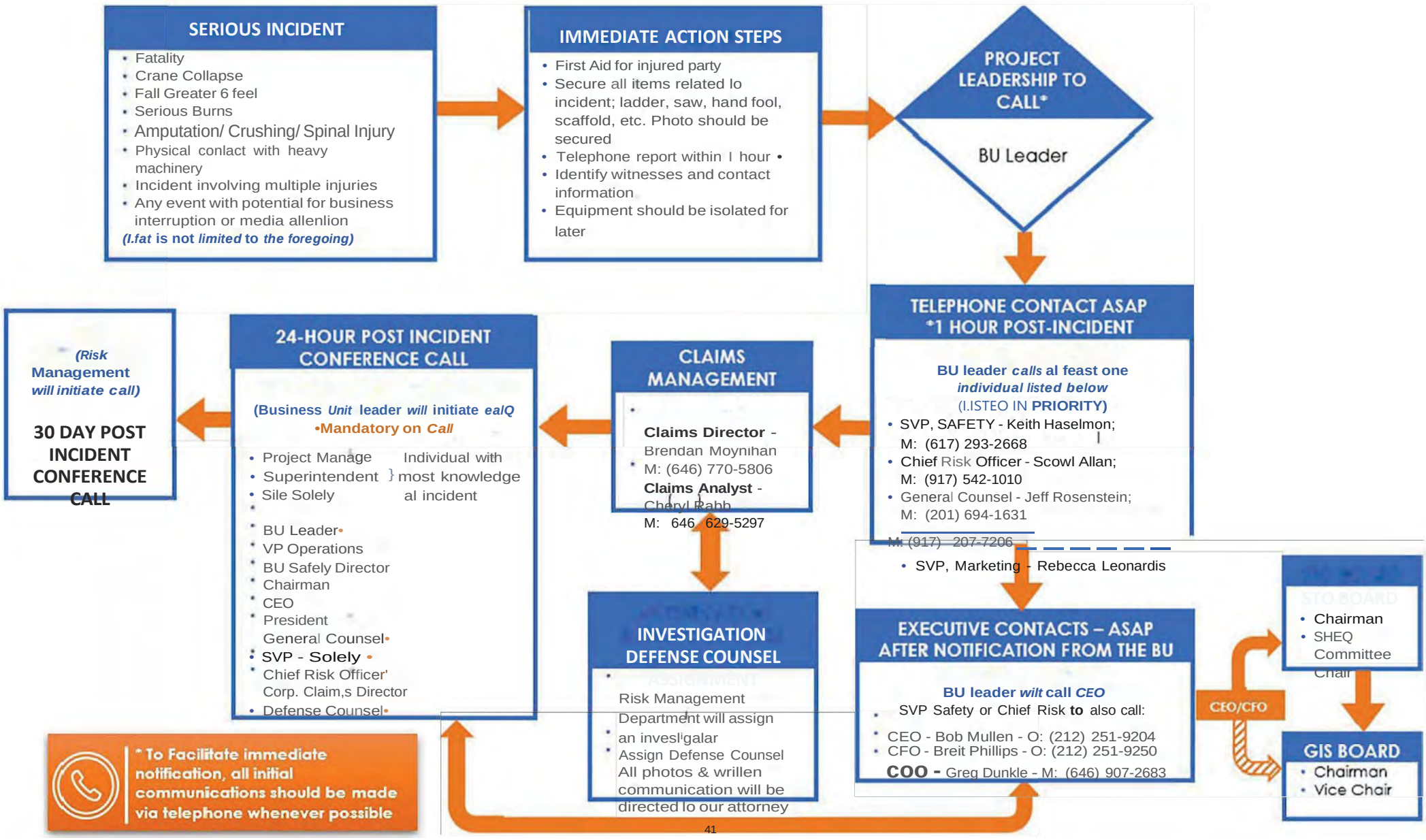
Crisis Response Team Leader

For all crisis incidents, or potential crisis, the CEO or appointee is the crisis response team leader. At any given time, the potential exists for crisis response team members to be dispersed across the country. Given this potential scenario, the crisis response team leader plays a pivotal role in the event of a crisis, initiating the crisis response plan. The responsibility holds true for all types of crises from incidents where the media has yet to be alerted or involved, to those where the crisis has yet to fully manifest itself. Specifically, the crisis response team leader is responsible for:

1. Establishing contact/control at crisis source
2. Convening the crisis team
3. Identifying the spokesperson
4. Alerting the RC ANDERSEN receptionist(s) and key executive secretaries
5. Providing administrative support to crisis team

Public Relations Component

1. Inform corporate and legal of a potential crisis.
2. Crisis response team leader starts notification process of crisis team members.
3. Crisis response team members assess situation based on available information. Crisis response team members determine designated spokesperson and appropriate response strategy.
4. Inform/bring in other parties (if necessary).
5. Corporate Communication drafts initial media response statement; updates developed as appropriate and develop internal and/or external materials (as necessary).
6. Spokesperson ensures coordination of the RC ANDERSEN statements with other parties (if necessary).
7. Crisis response team leader informs all team members of crisis status as it unfolds/continues. Spokesperson and/or crisis response team leader informs select individuals/audiences of crisis status (as appropriate).
8. Crisis response team members determine how (and if) news of the crisis' resolution is communicated to appropriate audiences.
9. Crisis response team members determine what post-crisis actions/activities need to be taken to correct perceptions/situation created by crisis.
10. Crisis response team members analyze and evaluate the effectiveness of the crisis response system identifying ways in which to amend and/or improve the process for future incidents.


SERIOUS INCIDENT
• Fatality
• Crane Collapse
• Fall Greater 6 feel
• Serious Burns
• Amputation/ Crushing/ Spinal Injury
• Physical conlact with heavy machinery
• Incident involving multiple injuries
• Any event with potential for business interruption or media allenlion
(I.fat is not limited to the foregoing)
IMMEDIATE ACTION STEPS
• First Aid for injured party
• Secure all items related lo incident; ladder, saw, hand fool, scaffold, etc. Photo should be secured
• Telephone report within I hour •
• Identify witnesses and contact information
• Equipment should be isolated for later
PROJECT LEADERSHIP TO CALL*
BU Leader
TELEPHONE CONTACT ASAP *1 HOUR POST-INCIDENT
BU leader calls al feast one individual listed below
(I.ISTEO IN PRIORITY)
• SVP, SAFETY - Keith Haselmon; M: (617) 293-2668
• Chief Risk Officer - Scowl Allan; M: (917) 542-1010
• General Counsel - Jeff Rosenstein; M: (201) 694-1631
M: (917) 207-7206
• SVP, Marketing - Rebecca Leonardis
CLAIMS MANAGEMENT
Claims Director - Brendan Moynihan M: (646) 770-5806
Claims Analyst - Cheryl Rabb M: 646 629-5297
24-HOUR POST INCIDENT CONFERENCE CALL
(Business Unit leader will initiate ealQ
•Mandatory on Call
• Project Manage
• Superintendent
• Sile Solely
Individual with most knowledge al incident
• BU Leader•
• VP Operations
• BU Safely Director
• Chairman
• CEO
• President
• General Counsel•
• SVP - Solely •
• Chief Risk Officer'
• Corp. Claim,s Director
• Defense Counsel•
(Risk Management will initiate call)
30 DAY POST INCIDENT CONFERENCE CALL
INVESTIGATION DEFENSE COUNSEL
Risk Management Department will assign an invesl'galar
Assign Defense Counsel
All photos & willen communication will be directed lo our attorney
EXECUTIVE CONTACTS – ASAP AFTER NOTIFICATION FROM THE BU
BU leader wilt call CEO
SVP Safety or Chief Risk to also call:
• CEO - Bob Mullen - O: (212) 251-9204
• CFO - Breit Phillips - O: (212) 251-9250
COO - Greg Dunkle - M: (646) 907-2683
CEO/CFO
• Chairman
• SHEQ Committee Chair
GIS BOARD
• Chairman
• Vice Chair
* To Facilitate immediate notification, all initial communications should be made via telephone whenever possible

TELEPHONE INQUIRY RESPONSE

During a crisis, numerous calls will likely be coming into RC ANDERSEN. Notify all personnel who could receive calls or inquiries of the situation immediately and advise them how to respond. Receptionist/administrative personnel should not acknowledge that a crisis is occurring. Rather, the standard response should be that: ***"Our spokesperson is not available right now. May I take your name and number and have someone call you back as soon as information is available."***

If any personnel were pressed for information about a current crisis, an appropriate response would be: ***"I am not able to comment on this issue. I would be happy to take your name and number and have the appropriate person call you back as soon as information is available"***

It is important to handle each inquiry as efficiently as possible and that a log is to be kept keeping track of who called or stopped by and what information was sought. Specifically, document the following information:

1. The person's name
2. The person's phone number
3. How long they will be at that phone number
4. What the inquiry is regarding

Other questions asked if calls/queries are from media:

1. What station or publication do they represent?
2. What is their deadline?

SAMPLE GENERAL STATEMENT

In most all crises, a statement will be prepared for the spokesperson to use in handling media queries. If a response is needed before a formal statement is prepared, the spokesperson can simply make a general statement to indicate the stage of the process, such as: ***"We are in the process of gathering facts to determine precisely what has occurred. We will provide more information as it becomes available."***

NOTE: Record names and phone numbers in the event a return call is necessary/warranted.

NOTIFICATION OF EMPLOYEE'S NEXT OF KIN

RC ANDERSEN is concerned about the health and welfare of all its employees and subcontractors. Notify Human Resources of the event. In the event of a serious or fatal incident, the speed with which an employee's family is informed, and the way in which it is done can help ease the pain and afford some level of comfort or support when it is needed most. Please keep in mind that others will know how the employee's family is treated in an emergency. **Absolutely no discussion with media should take place until the employee(s) next of kin or emergency contact has been notified.**

4.14 QUICK RESPONSE CHECKLIST

1. Introduction

This Construction Project Quick Response Checklist outlines procedures to handle significant crises that may arise during construction activities. This plan aims to promote safety, minimize disruption, and maintain compliance with legal and regulatory requirements.

2. Objectives

- Protect the health and safety of workers and the public.
- Minimize damage to property and the environment.
- Ensure swift, coordinated responses to emergencies.
- Facilitate effective communication and incident reporting.
- Continuously improve the crisis management plan.

3. Key Components

3.1 Emergency Contact List *[post externally for emergency responders]*

- **Project Manager:** [Name, Phone, Email]
- **Safety Officer:** [Name, Phone, Email]
- **Site Supervisor:** [Name, Phone, Email]
- **Emergency Services (Fire, Police, Medical):** [Phone Numbers]

3.2 Emergency Procedures

3.2.1 Severe Weather

- Monitor weather forecasts through reliable sources.
- Maintain Contact Lists: (staff, workers, subs, emergency services)
- Communicate severe weather alerts and preparations to all site personnel.
- Prepare using Severe Weather Checklist.
    - ***Winter****: clear walkways, snowblowers, generators, fuel, shovels, ice melt, heat, drains clear, snow load caution, plowing plan, shutoffs identified, cold air infiltration, etc.*
    - ***Wind:*** *Cranes (down or free vaning), tarps and scrim down, dumpsters emptied, material tied down and banded (ant-chaffing), debris removed, scaffolds/swing staging secured,etc. Generators, extra fuel, dumpsters empty, material, clear drains, cranes, etc.*
    - ***Rain/Flood:*** *Clean all roof/site drains, pumps in place, backup generators ready, fuel available, check valves/plugs to prevent stormwater backups, redirect from low points.*
- Suspend work during extreme weather conditions and assign someone to monitor the site conditions intermittently or continuously, as necessary.

3.2.2 Serious Injuries/Medical Emergencies

- Ensure immediate medical attention (FA/CPR) and notify emergency services.
- Post personnel at gates to meet and direct emergency services to the injured person.
- Have a hoist operator or elevator committed to the emergency.
- Secure the incident area to preserve evidence.
- Make initial notifications to BU Leadership.
- Injured worker's own employer must notify OSHA when required.

3.2.3 Fatalities

- Contact emergency services.
- Engage the Legal Department for advice on legal reporting requirements.
- Preserve the scene for investigation. (expect: police, EMT, OSHA, Coroner)
- Call BU Leadership for an initial brief. BU to contact RC ANDERSEN Corp. Safety and CEO.

- Contact Risk Management to assign an investigator, Legal, and HR to offer counseling.
- Post personnel at site gates/entries.

3.2.4 OSHA Inspections

- Check credentials and determine the reason for and scope of the OSHA inspection.
  - *Dodge Report (wall-to-wall), focus 4 or complaint based?*
- Notify BU Safety Director & BU Leadership. Ask OSHA to wait a reasonable period for Safety Director or his appointee to attend the walk. (30 min typical)
- Politely hold the inspection to the agreed upon scope. Politely convey that he/she is exceeding the scope of the inspection and that you did not agree to an expansion.
- BU to notify RC ANDERSEN Corp. Safety, Keith Haselman, Legal, and our OSHA attorney who will call the BU team to give guidance and may ask to confer directly with OSHA.
- Provide Safety Data Sheets (SDS) and OSHA 300s if requested. **Any** other **documentation requests must be made through our OSHA attorney** (Fisher Phillips, LLP).
- Any requests to **interview RC ANDERSEN staff must be** scheduled through our attorney.
- Address any identified safety violations promptly and implement corrective actions.
- Take identical pictures to any pictures OSHA takes *(even more pictures).*
- Take detailed notes of any alleged violations discussed during the closing conference.

3.2.5 Bomb Threats

- Take all bomb threats seriously.
- Pay attention to comments, and calmly ask for details:
  - When will it go off?
  - What does it look like?
  - What will make it explode?
  - Where is it right now?
  - Pay attention to caller's **voice** (calm, angry, crying, accent, age, etc.)
  - What **background sounds** do you hear?
- Evacuate the site immediately. (Do not operate switches or close doors)
- Contact law enforcement and follow their instructions.
- Keep all personnel informed.
- Post personnel at site gates/entries.

3.2.6 Active Shooter

- Implement a "Run, Hide, Fight" response plan:
  - Run: Evacuate the area if it is safe to do so.
  - Hide: Find a secure location and lock doors if possible.
  - Fight: As a last resort, confront the shooter if no other options are available.
- If outside the project, secure the site and move workers to a safe area inside.

3.2.7 Exposure to Hazardous Materials

- If an unexpected hazardous material is encountered… STOP WORK!
- Check the Owner General Conditions contract (AIA 201 §10.3) for owner and architect notification and our responsibility where we did not bring the hazmat to the site.
- Review the **RC ANDERSEN Management of Environmental Hazards Policy** for guidance.
- We do not "self-perform" remediation. If we must subcontract the abatement, engage an environmental subcontractor who has signed our master agreement.
- Ensure that Safety Data Sheets (SDS) are available for anything brought to the site.

3.2.8 Chemical Spills

- Evacuate the affected area immediately and avoid breathing any vapors.
- Use spill kits and follow the chemical spill response procedures.
- Contain, neutralize, absorb, and collect. *Refer to Safety Data Sheet (SDS).
- Notify emergency services and environmental agencies if necessary.
- Document the spill and implement measures to prevent future occurrences.
- Do not transport anywhere if additional contamination may result.

3.2.9 Collapse *(building or crane)*

- Evacuate the site and notify emergency services immediately.
- Ensure personnel are accounted for and remain clear of the unstable structure.
- Contact BU and Corporate Leadership for additional resources. (Safety, RM, Legal)
- Conduct a structural assessment to identify the cause and prevent further collapses.
- Provide support to injured personnel and manage the recovery process.
- Post guards at site gates/entries.

3.2.10 Civil Emergency

- Follow local government instructions and emergency protocols.
- Secure the project site and bring workers inside if directed.
- Provide information to workers on how to stay safe during the emergency.
- Assess the impact on the project and adjust schedules as needed.

3.2.11 Natural Disasters (Earthquakes, Hurricanes, Tornadoes)

- Have a disaster preparedness plan in place with specific procedures for each type of natural disaster.
- Ensure that all personnel are trained in these procedures.
- Secure the site and protect equipment and materials before and after the event.
- Track expenses incurred in protecting the project as they may be recoverable from insurance.
- Post guards at site gates/entries.

3.2.12 Fire

- Activate fire alarm to evacuate building structure to ensure all site personnel evacuate.
- Notify emergency services to get them started enroute (regardless of fire size)
- Have staff meet emergency services and warn of any ignition sources or hazards.
- If you feel you can do it safely, use extinguisher(s). *PASS – pull, aim, squeeze, sweep.*
- Review event for fire drill modifications, communication, and evacuation route plans.

3.2.13 Wild Fires (Flying Embers)

- Establish a buffer zone of defensible space around the building, ideally 50 to 100 feet. (remove dead vegetation, tree limbs, and combustibles)
- Use hardscaping (such as gravel, stone, or concrete) to minimize the fuel load
- Ensure that access roads, driveways, and pathways are clear of vegetation.
- Install fire-resistant barriers around windows and openings to prevent ember entry.
- Activate available fire sprinkler system inside the building and construct active wetting means around the exterior and roof.
- Ensure that emergency responders can access the site easily, maintaining clear roads and access to water (tanks, ponds, hydrants, etc.)
- Plan vegetation and combustible-free escape routes from the building.
- Store flammables in secure, non-combustible areas.

3.2.14 Explosion

- Sound alarm and evacuate the structure immediately and notify emergency services.
- Meet emergency services to provide critical response information (risk assessment, cause, etc.)
- Notify emergency services of any flammables or hazardous materials for their safety.

3.2.15 Flood

- Monitor weather forecasts and flood warnings.
- Implement flood protection measures for site infrastructure and equipment.
- Evacuate personnel if necessary and relocate critical operations to higher ground.

3.2.16 Gas Leak

- Cease all work and evacuate the area immediately leaving doors open to ventilate. Avoid operating any equipment, light switches, and circuit breakers that could ignite the gas.
- Isolate the source of the leak if safe to do so.
- Contact utility company and emergency services.

- Magnitude of leak may require notification of local businesses and residences.
- Share knowledge of shutoff locations with emergency responders and utility company.

3.2.17 Significant Water Damage within Building

- Shutdown source of water. Refer to utility shutoff plan.
- Notify Building Management if existing facility.
- Ensure electrical safety if exposed to or near water.
- Vacuum up pooled water and wipe down any wet surfaces.
- Assess the scope of the damage and notify Safety & Risk Management of the incident.

NOTE: Mold can begin to appear with 48-72 hours.

- Photograph all areas with water and/or water damage.
- Remove wet product that will prevent further damage.
- Insured has responsibility to prevent further damage so removal/cleaning up is covered.
- Dehumidify, ventilate, and remove damaged ceiling tiles, insulation, drywall, flooring.
- Replacement of insured materials requires approval from insurance claims adjuster.
- Engage a firm to assess and mitigate water damage and to prevent mold growth.
- Make any repairs necessary to permanently fix cause of damage.

3.2.18 Power Failure

- Have backup power systems (generators) in place using ATS or manual disconnect(s).

NOTE*: Ensure you are not back-feeding electrical feeds through the generator.*

- If no generator or delayed restart, ensure all electrical equipment is shutoff.
- Inform personnel about safety measures during power outages.
- Investigate cause of power failure. *(Arising out of our operations or external?)*
- Coordinate with utility companies/owner to restore power as quickly as possible.

4. Serious Incident Investigations

- Preserve and secure the area until an investigation is completed.
- An incident investigation should be performed to understand what happened such that the company can, if warranted, take appropriate steps to mitigate future incidents.
- Contact Risk Management right away [or, if Risk Management is unavailable, reach out to the Safety Department] to assign an external investigator to conduct a privileged investigation on our behalf.
- The investigator should gather and preserve evidence, including witness statements, photos, and documents relevant to the incident.
- Internal emails, memos, and other electronic communications are legally discoverable unless protected by legal professional privilege. Whenever possible, communications should occur via phone or in person. Written communications should be minimized and shared only with those who absolutely need the information.
- All documents and emails compiled or created in relation to an incident investigation should be marked as 'Strictly confidential and subject to Legal Professional Privilege' and addressed to a member of the legal team.
- Unless instructed otherwise by a lawyer, speculation or conjecture about the nature and cause of the incident or any implications for the organization, third parties or any individuals involved should be avoided. Any speculation or conjecture (particularly in relation to the cause(s) of the incident) will ultimately be unhelpful if that speculation is contained in an unprivileged document (i.e. a document which is discoverable in court proceedings).

5. Incident Reporting

- All incidents must be reported to the site supervisor and documented using incident reports or direct entry into Origami.
- Incident reports should include a description of the injured party, sequence of events, tasks being performed when the incident occurred, supervision information, injury characteristics, equipment involved, and actions taken. Include details (e.g., date, time, witnesses, pictures, prognosis, etc.)
- Reports should:
    - Be factual and objective
    - Set out events in chronological order

- Consider all contributing factors
- Be completed immediately after the incident when details are clear

- Reports should not:
  - Make admissions of alleged company deficiencies
  - Make unsupported statements or conclusions
  - Use speculation or exaggeration
  - Cast blame on someone else in the company or describe internal disputes or problems
  - Use words or expressions that could be misinterpreted
  - Throw in humorous or sarcastic words
  - Be influenced by preconceptions, stereotypes or prejudices

6. Emergency Planning and Communication

- Develop and distribute a site emergency response plan to project staff.
- Determine emergency response team, contact numbers, and a site communication plan.
- Establish evacuation procedures, emergency services access, and team responsibilities
- Conduct regular training and drills to ensure preparedness and communication.

7. Alarm Signals

- Clearly define and communicate alarm signals (e.g., horns, sirens, bells, flashing lights).
- Ensure personnel understand and respond appropriately (e.g., fire, evacuation, emergency stop)
- Regularly test alarm systems to ensure functionality.

8. Media Management

- It is **not** recommended that personnel interact with media during a crisis, but if you are confronted you should reply with:

"I am not able to comment on this issue. I would be happy to take your name and number and have the appropriate person call you back as soon as information is available"

- Make sure to pass this contact information along to your BU leadership, who will coordinate with our media spokesperson and Corporate Executives (Chairman or CEO).

9. Plan Improvements

- Review and update the crisis management plan regularly.
- Incorporate lessons learned from incidents and drills.
- Solicit feedback from personnel and emergency services to enhance the plan.

10. Conclusion

This Crisis Management Plan is designed to provide a comprehensive framework for responding to various emergencies on a construction site. Adherence to this plan, along with regular reviews and updates, will help promote the safety of all personnel and the effective management of crises.

4.15 SITE SPECIFIC SAFETY PLAN

Introduction

The purpose of a Site-Specific Safety Plan (SSSP) is to provide for systematic identification, evaluation and prevention or control of general workplace hazards, specific job hazards and potential hazards that may arise from foreseeable conditions on any project. A SSSP plan defines respective project and site employee responsibilities, participation in the program, and individual activities required by each. The coordinated, cooperative approach shall minimize labor and monetary losses and help all site employees to comply with all current laws and regulations.

This management plan establishes the duties and responsibilities of the field supervisory staff, as well as the basic procedures followed by each site employee. The regulations and objectives are to help assure the health and safety of each site employee, their fellow workers, all persons authorized to be on the job site, and the public. In the preparation of this management plan, every effort is made to be complete, yet practical. It is the explicit intention of the project management team that each program, policy, and procedure described in the SSSP be comprehensive and compliant with all applicable current laws to the best of their ability. The project management team, subcontractors and all site employees shall apply them to the daily work processes on the project.

It is possible that a process or requirement on any job site may not be completely addressed, or that a new process or requirement may be encountered. In such conditions, it is understood that prior to performing the related work activities each new situation shall be addressed by immediately referring to and applying local, state, and/or federal laws governing the situation for site employees. Rights and responsibilities go hand in hand. No project site employee shall ever intentionally expose any worker to an unsafe condition or observe actual or possible exposure without reporting the instance to his or her supervisor as soon as possible. Site employees are expected to develop their own commitment to safety and health protection for themselves and for their fellow workers. Any site employee who does not comply with the project safety policy, or who is persistently negligent in his or her responsibilities may be subject to disciplinary action or dismissal.

A Site-Specific Safety Plan shall be developed and implemented for:

1. Core and Shell projects
2. Large interior projects
3. Healthcare facilities
4. When required by contract

4.16 SITE LOGISTICS

Activities on construction projects frequently create safety hazards for the public and strong, positive steps must be taken to control such hazards and to reduce our exposure to liability claims. Therefore, before the start of the project, the RC ANDERSEN project team shall review the work ahead to determine hazards to the public that may arise during the work and identify required controls to protect the public. As work on the project progresses, the Project Team shall continually review the work to identify new hazards that may arise and implement new controls as required. During the life of the project inspect and maintain all items installed for public safety. The Project Team shall enforce all requirements for public protection with subcontractors where their work creates safety hazards for the public.

Public protection shall conform to all local codes as well as the following requirements:

Fences:

1. Where required, all construction projects shall be fenced at all open perimeters to prevent unauthorized or inadvertent entry by the public.
2. For projects where continuous perimeter fencing is not feasible or impractical due to the size or configuration of the site, a combination of partial perimeter fencing, controlled access points, signage, and other protective measures shall be used to restrict unauthorized entry.
3. Where construction material may tend to splash or intrude into public areas, the fence shall be constructed of solid material such as plywood and be free of openings which might permit the passage of the materials.
4. Fences shall be free of projections such as protruding nails, etc., upon which the public may become snagged, impaled, or bump into.
5. Fences shall be free of projections that may present tripping hazards to the public.
6. Areas on the public side of fences shall be kept free of debris and construction materials.
7. Bases and support members of fences shall be so constructed as to prevent accidental displacement of the fence by high winds or if struck by construction vehicles.
8. Openings in fences for the passage of construction vehicles and employees shall be equipped with gates incorporating the same safety features required for fence construction.
9. Equip gates with locking devices keep closed during work hours and locked during non-working hours.
10. Where the erection of fences is not immediately feasible due to the nature of the work, or where fences must be temporarily taken down to facilitate the work, alternate protection such as barricades shall be provided.
11. Gates should swing inward as to not create a hazard to oncoming pedestrian and vehicular traffic.

Canopies:

1. Sidewalk canopies or covered walkways erected in public ways shall be constructed according to local codes.
2. Bases and support members of canopies shall be so constructed as to prevent accidental displacement by high winds or if struck by construction vehicles. Consider jersey barriers as a base for overhead canopies adjacent to vehicular traffic.
3. Temporary walkways constructed under canopies shall present a smooth and stable walking surface, free of excessive deflection and tripping hazards.
4. Canopies and covered walkways shall be lighted in accordance with local codes.
5. Always maintain lighting in working order.
6. Walkways under canopies shall be kept free of debris, construction materials, projections, and tripping hazards.
7. Canopies are not to be used for the storage of construction materials or equipment unless designed, stamped and approved by a registered engineer.
8. Canopies are not used as work platforms unless approved by the Superintendent.

9. When used as a work platform, all open sides of the canopy shall be protected with a standard guardrail installed in compliance with OSHA regulations.
10. A ladder shall be used to provide access to the platform.
11. If the installation of a guardrail is not feasible, employees shall be fall protected.
12. Fences attached to canopies shall comply with requirements under the section for fences above.
13. Where employees entering or leaving buildings or structures under construction are exposed to overhead hazards, access to the building or structure shall be limited to areas provided with overhead protection of planking, 3/4-inch plywood or equivalent. (check local codes).
14. Construct canopies with a four-foot parapet.

Project Signs:

1. Subcontractor shall provide for the prompt and conspicuous posting and maintenance of Danger Signs, Caution Signs and Safety Instruction Signs as required for general use at the project to alert and inform subcontractors and workers of safety hazards and safety rules and regulations.
2. Areas adjacent to gates where construction vehicles are entering and leaving the job site shall be posted with signs warning the public to watch out for trucks and other vehicles.
3. All doors, gates or other points of entry from occupied areas into construction areas shall be posted with warning signs. Signs may state **"DANGER: CONSTRUCTION AREA," "KEEP OUT," "AUTHORIZED PERSONNEL ONLY,"** etc.
4. Where blind spots may exist for pedestrians or motorists along fences, under canopies, at approaches to driveways or gates where construction vehicles are entering or leaving the job site, appropriate warning signs shall be posted to warn the public of the hazard. Strategic placement of Plexiglas mirrors will help both pedestrians and vehicles through potential blind spots.
5. Post project signage in accordance with local jurisdictions.
6. Post safety 360 signage throughout the project. Ensure posters are changed regularly and are relevant

4.17 SIGN POSTING

REFERENCES:
29 CFR Subpart G – Signs, Signals, and Barricades

1. Also, see Site Logistics in this manual.

2. All RC ANDERSEN job sites will have the proper accident prevention signs as outlined in the OSHA Standard Sub Part G 1926.200. Accident prevention signs are to define specific hazards and prevent accidental injury to workers, public and property. Accident prevention signs will be strategically placed, always maintained and visible when work is being performed and shall be removed or covered promptly when the hazard no longer exists.

3. **Sign Types:**

    a. **Danger Signs:** Use red as the predominant color and use it only where immediate hazards exist. Inform all employees that danger signs indicate immediate danger and that special precautions are necessary.

    b. **Caution Signs**: Shall have yellow as the predominating color and used to warn against potential hazards or to caution against unsafe practices. Inform all employees that caution signs indicate a possible hazard and take proper precaution.

    c. **Exit Signs:** Shall have red letters and white field and placed strategically indicating where the main egress point is located. Exit signs should be placed in corridors as the walls on the project are erected.

    d. **Safety Instructional Signs:** Shall be white with green upper panel and shall be used where there is a need for general instructions and suggestions relating to safety measures.

    e. **Traffic Signs:** Post where visible to vehicular traffic and in compliance with local and state traffic regulations.

    f. **Safety 360 Signs**

4.18 OSHA TRAINING REQUIREMENTS FOR RC ANDERSEN EMPLOYEES

REFERENCES:
Training Requirements in OSHA Standards and Training Guidelines Publication 2254
RC ANDERSEN Project field Team (RPE's, Supers, PM's) shall be trained at a minimum of OSHA 30 Hour. The following elements require training as per OSHA for contractor employees engaged in those activities:

Subpart C	**General Safety and Health Provisions** General Safety and Health Provisions Safety Training and Education
Subpart D	**Occupational Health and Environmental Controls** Medical Services and First Aid Ionizing Radiation Non-ionizing Radiation Hazard Communication, Construction Gases, Vapors, Fumes, Dusts, and Mists Asbestos Lead in Construction Silica in Construction
Subpart E	**Personal Protective and Life-Saving Equipment** Hearing Protection Respiratory Protection
Subpart F	**Fire Protection and Prevention** Fire Protection
Subpart G	**Signs, Signals and Barricades** Signaling
Subpart I	**Tools - Hand and Power** Powder-Operated Hand Tools Woodworking Tools
Subpart J	**Welding and Cutting** Gas Welding and Cutting Arc Welding and Cutting Fire Prevention Welding, Cutting and Heating in Way of Preservative Coatings
Subpart K	**Electrical** Ground Fault Protection Lock-out/Tag-out Procedures
Subpart L	**Scaffolding** Erecting, Disassembling, Moving, Operating, Repairing, Maintaining, or Inspecting General Requirements for Users Competent Person Fall Protection
Subpart M	**Fall Protection** All workers who might be exposed to a fall hazard

Subpart O	**Motor Vehicles, Mechanized Equipment and Marine Operations** Material Handling Equipment Site Clearing
Subpart P	**Excavations** General Protection Requirements (Excavations, Trenching and Shoring)
Subpart Q	**Concrete and Masonry Construction** Concrete and Masonry Construction
Subpart R	**Steel Erection** Fall Hazards Multiple Lift Rigging Procedures Connector Procedures Controlled Decking Zone Procedures Bolting, Riveting, Fitting-Up and Plumbing-UP
Subpart S	**Underground Construction, Caissons, Cofferdams and Compressed Air** Underground Construction Compressed Air
Subpart T	**Demolition** Preparatory Operations Chutes Mechanical Demolition
Subpart U	**Blasting and Use of Explosives** General Provisions (Blasting and Use of Explosives) Blaster Qualifications Surface Transportation of Explosives Firing the Blast
Subpart V	**Power Transmission and Distribution** General Requirements Overhead Lines Underground Lines Construction in Energized Substations
Subpart X	**Ladders** General Requirements
Subpart Z	**Toxic and Hazardous Substances** SDS General Requirements Asbestos
Subpart CC	**Cranes and Derricks in Construction** Certified Signalperson Qualified Rigger Certified Crane Operator
Subpart DD	**Cranes and Derricks in Demolition and Underground Construction**
Subpart EE	**Silica**

SECTION 5: HAZARD PREVENTION CONTROL

5.1 ACTIVE SHOOTER

Crisis Response is designed to give employees an understanding of what actions to take during an unforeseen crisis such as an act of terrorism or an active shooter scenario. Individuals must be prepared both mentally and physically to deal with these situations should they arise on our jobsites. This policy is designed to cover both an office setting as well as an active construction site. Quickly determine the most reasonable way to protect your own life. Employees are likely to follow the lead of managers during these situations as they evolve quickly. The following is situation dependent.

Employee actions:

1. **Evacuate**
   If there is an accessible escape path, attempt to evacuate the premises. Be sure to:
   a. Have an escape route and plan in mind
   b. Evacuate regardless of whether others agree to follow
   c. Leave your belongings behind
   d. Help others escape, if possible
   e. Prevent individuals from entering an area where an active shooter may be
   f. Keep your hands visible
   g. Follow the instructions of any police officers
   h. Do not attempt to move wounded people
   i. Call 911 when you are safe

2. **Hide out**
   If evacuation is not possible, find a place to hide where the active shooter is less likely to find you. Your hiding place should:
   a. Be out of the active shooter's view
   b. Provide protection if shots are fired in your direction (i.e., an office with a closed and locked door)
   c. Not trap you or restrict your options for movement
   To prevent an active shooter from entering your hiding place:
   a. Lock the door
   b. Remove the means of access (i.e., pull the ladder up to prevent use to your location)
   c. Blockade the door with heavy equipment / furniture
   If the active shooter is nearby:
   a. Lock the door
   b. Silence your cell phone
   c. Turn off any source of noise (i.e., radios, power tools)
   d. Hide behind large items
   e. Remain quiet
   If evacuation and hiding out are not possible:
   a. Remain calm
   b. Call 911, if possible, to alert police to the active shooter's location
   c. If you cannot speak, leave the line open and allow the dispatcher to listen

3. **Take action against the active shooter**
   As a last resort, and only when your life is in imminent danger, attempt to disrupt and/or incapacitate the active shooter by:
   a. Acting as aggressively as possible against him/her

b. Throwing items and improvising weapons
c. Attack in masses whenever possible (safety in numbers)
d. Yelling
e. Committing to your actions

4. **Responding when law enforcement arrives**
   a. Remain calm, and follow officers' instructions
   b. Put down any items in your hands (i.e., bags, tools, jackets)
   c. Immediately raise hands and spread fingers
   d. Keep hands visible at all times
   e. Avoid making quick movements toward officers such as holding on to them for safety
   f. Avoid pointing, screaming and/or yelling
   g. Do not stop to ask officers for help or direction when evacuating, just proceed in the direction from which officers are entering the premises

5. **Information to provide to law enforcement or 911 operator**
   a. Location of the active shooter
   b. Number of shooters, if more than one
   c. Physical description
   d. Number and type of weapons used
   e. Number of potential victims at the location

Based on the location of the shooter and the location of employees in the building, either a finished building or active construction site, it may be impossible to evacuate. If the shooter is a fellow employee and is aware of the access points for egress from the building, he/she may be merely waiting for people to leave. In those instances, best practice is to remain in place, deny access to your location (if possible), barricade and notify the authorities.

5.2 ASBESTOS

29 CFR 1926.1101 Asbestos

Asbestos should be assumed to be in all buildings no matter the age of the facility. Some local building departments require inspection reports as a prerequisite to issuance of permits**.** Building materials encountered during renovations or demolitions that are not identified on the asbestos survey and are suspected to contain asbestos must be avoided and not impacted. Notify the Owner and Subcontractors and stop work around suspicious material. These building materials should be surveyed for asbestos, and necessary abatement or stabilization completed by a qualified contractor. Work may resume after the asbestos material is removed and written clearance report received from IH.

Below are a few rules to follow when discovery of unanticipated Asbestos is suspected;

1. Notify RC ANDERSEN Risk Department
2. Notify and request in writing to conduct an asbestos survey and sampling to determine if asbestos containing materials are present. Request a drawing and copy of sampling results with IH recommendation.
3. Inform other employers on the site of the nature of the discovery of asbestos and/or PACM
4. Request in writing that all asbestos containing material be cleared by the Owner.
5. Ensure that clearance report is received in writing and states that the area is “Clear for work” and all areas in survey have be addressed.

ASBESTOS POLICY

When suspicious material is discovered;

1. Stop work and clear area immediately. Barricade area and post signage. Stop vibratory work in adjacent areas, i.e., Jack hammers, or any activity that could loosen or dislodge the suspicious material.
2. Notify RC ANDERSEN project team, Safety Department and property owner immediately. Identify the owner to have suspicious material analyzed.
3. When suspicious material has positive results:
    a. It must be abated by a certified contractor utilizing proper means and methods
    b. Proper signage must be posted by the contractor
    c. Before returning to work, abatement must be 100% complete or secured and WRITTEN results must be in hand.

    Even if the results are negative:
    Copies of written results must be distributed to: Owner, Project Manager & Project Team, RC ANDERSEN Safety Department and posted for employee review. Copies should be distributed to the subs who were working in the area. **ABSOBUTELY NO VERBAL RESULTS WILL BE ACCEPTED.**

4. If there is ongoing employee unrest and it is still possible that suspicious material may be in the building:
    a. Ongoing area samples may be required
    b. Various trade employees may volunteer to wear personal monitors to ensure that air samples remain below OSHA limits and to bolster worker confidence in the results.
5. Emphasize in project meetings that if trade workers find suspicious material to notify RC ANDERSEN immediately and **STOP WORK IN THE AREA**.

5.3 BITUMEN & KETTLE SAFETY

1. A pre-planning meeting is required. Submit a diagram of the location of the kettle and fire extinguishers. RC ANDERSEN needs to coordinate the location with entrances, delivery routes, and openings in the building. The convenience of the roofer should be way down the list of criteria.
2. Place the kettle so the lid opens away from the building so vapors will not enter the air ducts.
3. Light burners on a non-combustible surface and pointed away from equipment and material.
4. Always keep the kettle tubes covered with bitumen.
5. Always keep ABC rated fire extinguishers nearby.
6. Protect workers with a face shield, long sleeve shirt, long pants, gloves, and over the ankle boots.
7. Inspect hoses, fittings and regulators daily before use.
8. Shut off burners prior to refueling the kettle engine.
9. Avoid direct contact with asphalt and pitch fumes. Use PPE if necessary.
10. Hot bitumen luggers or storage equipment shall be free of any water or ice before using.
11. Rope off kettle area when exposure to others exists.
12. At the end of hot bitumen operations each day:
    a. Mop tubs and mini moppers shall be turned over and lugger lids closed to prevent the accumulation of ice and water.
    b. Used mops shall be removed from the roof, spun out and placed on a non-combustible surface.
    c. Kettle burners shall be locked up or removed from the jobsite.
    d. In populated areas, the kettle lid and outlet valve shall be locked.
13. Do not leave lit kettles unattended.
14. Train all workers in equipment operation and submit training documentation at the pre-con meeting.
15. Always calibrate kettle thermometer and verify working condition.
16. Separate combustible materials to prevent spread of fire.
17. Keep kettle on the ground when possible.
18. Use and location of hot bitumen or kettle is exclusively the discretion of RC ANDERSEN and/or the owner.

5.4 BLASTING PROCEDURE

Purpose:
The purpose of this policy is to develop, implement, maintain and enforce safe work practices when working with any level of explosive material. Due to the hazardous nature of the use of blasting agents and explosive materials planning is of utmost importance to protect workers during these operations. This policy outlines the requirements for a site-specific blasting plan to achieve worker safety during these operations.

General Requirements:

1. Subcontractor shall develop and implement a site-specific blasting plan according to the specifications of this policy. The written plan must be maintained on site and conform to 29 CFR 1926.900.
2. The proper explosive permits will be obtained, and notification to local authorities including the fire marshal and/or governing agency will occur.
3. Only authorized and qualified employees shall handle or accept delivery of explosives or detonators. Don't allow unnecessary people to be present (within 50 feet) where explosives are being handled.
4. Flammable liquids, fires, smoking/vaping, matches, and any other spark or heat producing device shall not be allowed within 100 feet of explosives.
5. Good housekeeping is vital to preventing fires near explosives. No fire shall be fought where flames may come in contact with explosives. Everyone shall be kept at a safe distance from the fire.
6. All explosives shall always be accounted for. The blaster shall keep an accurate, up to date record of explosives and detonators that are delivered, used and removed from the job. Appropriate authorities shall be notified of any loss or theft of explosives or detonators.
7. Handle explosives and detonators carefully to prevent damage. Don't place them where they may be exposed to an impact. Damaged items shall not be used. Contact the manufacturer or supplier for safe disposal methods. Explosives shall not be abandoned.
8. Every reasonable precaution, including signs, guards, flagmen, horns, blasting mats, flags and barricades shall be used to ensure public and employee safety. Warning signs shall be posted around the circumference of the blasting area.
9. Adequate signs, warning against the use of mobile radio transmitters, shall be displayed on all roads within 1,000 feet of blasting operations.
10. Blasting shall only be done during daylight hours.
11. Special precautions in the loading, delaying, initiation and confinement of blasts shall be taken, when blasting near buildings, railways, roadways, utilities or any other public area.
12. Blasting shall not be done near overhead power lines or other utility structures until the owners have been notified, and safe control measures have been taken.
13. Explosives shall be fired with an electric blasting machine unless stray electricity or overhead powerlines make it too dangerous to use this method.

Site-specific Blasting plan

1. Any project using explosives must have a specific site blasting plan, including, but not limited to:
    a. A thorough survey of nearby structures, photographs, videos, notes and vibration analysis may be needed.
    b. A list of authorized and qualified personnel and credentials.
    c. Transportation, storage, and handling requirements.
    d. Blasting records, including:
        i. Date of blast;
        ii. Time of blast;
        iii. Number of holes;
        iv. Type of explosive used;
        v. Number of delays;

vi. Amount of charge per delay;
vii. Stemming (material to be placed on top of explosive in blast hole);
viii. Number and type of caps; and
ix. A continuous inventory of all explosives.

e. Warning signals.
f. Traffic control.
g. Employee training.
h. Any other local requirements.

Types of Explosives: Classification of explosives by the U.S. Department of Transportation is as follows:

Class A Explosives: Possessing detonating hazard, such as dynamite, nitro- glycerin, picric acid, fulminate of mercury, black powder, blasting caps, and detonating primers.

Class B Explosives: Possessing flammable hazard, such as propellant explosives, including some smokeless propellants.

Class C Explosives: Include certain types of manufactured articles, which contain class A or B explosives, or both, as components, but in restricted quantities.

5.5 BLOODBORNE PATHOGEN EXPOSURE CONTROL PLAN

REFERENCES:
29 CFR 1910.1030 – Blood borne Pathogen and Appendix A
OSHA retool – Healthcare Wide Hazards/Blood-Borne Pathogens
OSHA'S Safety and Health Topics - Biological Agents
OSHA Standard Interpretations - OSHA Requirements for Providing Training for First Aid, CPR, and BBP for Prompt Treatment of Injured Employees at Various Workplaces.

This bloodborne pathogen exposure control plan provides precautions to use when occupationally exposed to blood, bodily fluids and other potentially infectious materials. These materials may cause diseases such as hepatitis B (HBV) and human immunodeficiency virus (HIV).

1. **DEFINITIONS:**
   a. **Blood:** Human blood, human blood components, and products made from human blood.
   b. **Bloodborne Pathogens:** Pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV)
   c. **Contaminated:** The presence or the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface.
   d. **Contaminated Laundry:** Laundry soiled with blood or other potentially infectious materials or may contain sharps.
   e. **Contaminated Sharps:** Any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wires.
   f. **Decontamination:** The use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.
   g. **Engineering Controls:** Controls that isolate or remove the bloodborne pathogens hazard.
   h. **Exposure Incident:** A specific eye, mouth, other mucous membrane, non-intact skin, or potential contact with blood or other potentially infectious materials that results from the performance of an employee's duties.
   i. **Hand Washing Facilities:** A facility providing an adequate supply of running potable water, soap and single use towels or hot air-drying machines.
   j. **HBV:** Hepatitis B virus.
   k. **HIV:** Human immunodeficiency virus.
   l. **Occupational Exposure:** Reasonably anticipated skin, eye, mucous membrane, or potential contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.
   m. **Other Potentially Infectious Materials:** (1) The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any bodily fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids; (2) Any unfixed tissue or organ (other than intact skin) from a human (living or dead); and (3) HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.
   n. **Parenteral:** Piercing mucous membranes or the skin barrier through such events as needle sticks, human bites, cuts, and abrasions.

o. **Personal Protective Equipment:** Specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes (e.g., uniforms, pants, shirts or blouses) not intended to function as protection against a hazard is not personal protective equipment.
p. **Regulated Waste:** Liquid or semi-liquid blood or other potentially infectious materials; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or other potentially infectious materials.
q. **Sterilize:** The use of a physical or chemical procedure to destroy all microbial life including highly resistant bacterial endospores.
r. **Universal Precautions:** An approach to infection control. According to the concept of Universal Precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens.
s. **Work Practice Controls:** Controls that reduce the likelihood of exposure by altering the way a task is performed.

2. METHODS OF COMPLIANCE

a. Observe universal precautions to prevent contact with blood or other potentially infectious materials.
b. Consider all body fluids potentially infectious materials.
c. Any injured employee will report to their supervisor and provide them with the first-aid materials, i.e., cleansing solution, Band-Aid, aspirin, etc., for minor injuries. In the event, an injured person requires assistance for treatment of the minor injury, the person rendering aid shall wear a pair of rubber medical-type gloves. (Rubber medical-type gloves are a required item of inventory of the first-aid kit) Upon completing treatment of any injury, both the person aiding the injured person will wash thoroughly with soap and water to remove all traces of blood or other body fluids from their skin.
d. If clothing is contaminated with blood or body fluids, it shall be removed prior to continuing work to minimize the potential of contaminating other persons, materials, tools, etc. Place soiled clothing in a plastic bag. Discard clothing if contaminated with another person's blood. It shall be at the discretion and responsibility of the individual whose clothing was/is contaminated with their own blood to either clean or dispose of the clothing, as they deem appropriate.
e. Should a serious injury be incurred to an employee on the job site, which results in extensive bleeding, and another employee comes to assistance of the injured party (Good Samaritan) and is contaminated with the blood of the injured party, their employer will also offer this employee the hepatitis B vaccination free of charge.
f. Any tool, material, or equipment contaminated with human blood or other body fluids shall be cleaned/decontaminated prior to being put back into service. Any soil, material or other items, which cannot be cleaned or decontaminated, shall be disposed of in an appropriately approved manner.
g. A simple disinfectant decontamination solution may be made of 1-part household Bleach and 10 parts of water.

3. COMMUNICATION OF HAZARDOUS MATERIAL

a. Affix the universal biohazard symbol to containers of regulated waste. They must be in fluorescent orange or orange red in color. Do not substitute red bags or red containers for red labels.

4. HEPATITIS B VACCINATIONS

a. The Hepatitis B vaccine and vaccination are required by law to be available to employees, who have the potential for occupational exposure to bloodborne pathogens.
b. If any employee becomes exposed to bloodborne pathogens that have not received the Hepatitis B vaccine, it must be made available to them within 24 hours of exposure.
c. The HBV vaccination series is provided at no cost to the employee and are provided by a licensed physician as specified by their employer.
d. Employees exposed to bloodborne pathogens will have medical evaluation at the time of the exposure and be placed on post-exposure follow up by a licensed physician as specified by their employer.
e. The employee may decline Hepatitis B vaccinations. The employee must sign a Hepatitis B vaccination declination statement. The employee may receive the vaccination later if they desire.
f. If routine boosters of the Hepatitis vaccine are recommended by the U.S. department of Public Health, the booster shots will also be available to the employee at no cost and administered by a licensed physician as specified by their employer.

5. SAFE WORK PRACTICES

a. Always observe universal precautions when working with bodily fluids.
b. Wash hands with soap and water and/or a disinfectant solution immediately after removing gloves.
c. Mouth pieces/barriers shall be available in the project first aid kits for performing CPR.
d. Keep a Bloodborne Pathogen spill kit on each project.
e. Cleaned immediately with a bleach solution areas and equipment contaminated with blood or body fluids. Prepare the bleach solution freshly made at the time of the spill. The concentration should be a 10% bleach solution or other approved anti-microbial.
f. For large areas of contamination, use the Universal Precaution Spill Kit kept with every First Aid kit. Wearing the personal protective equipment included in the kit, (i.e., gloves, face shield with mask, and gown) sprinkle the provided powder over spilled area. Allow solidifying to a gel. Remove gelled material with the scoop and scraper provided. Carefully place material in bag provided. Clean away remaining solids and disinfect with the bleach solution or the enclosed germicidal (germ killing) cloth in kit.
g. Place all contaminated articles including gloves in the red plastic bag. Seal the red bag and contact the local Health Department for proper disposal.
h. Promptly wash hands with soap and water. If antiseptic hand cleaners or towelettes are used, wash hands with running water as soon as possible.

6. HOUSEKEEPING PROCEDURES

a. If an area is contaminated with blood or body fluids, report the situation immediately to the Project Manager or Superintendent.
b. Do not proceed into the area of possible exposure.
c. Never pick up contaminated broken glass directly with your hands, even if wearing gloves.
d. Use a brush and dustpan to clean up broken glass.
e. Discarded in the designated sharps container all contaminated sharps (i.e., broken glass, needles, or any other sharp object).
f. These containers will be on those job sites where there is potential for exposure to sharps. The sharps containers are to be closeable, puncture resistant, leak proof, red in color or appropriately labeled with a biohazard tag.
g. Discard any material contaminated with potentially hazardous material or regulated waste according to federal, state and local regulations. Decontaminate all equipment and work surfaces after contact with blood or other potentially infectious materials.

h. Clean all work surfaces with a disinfectant (Bleach solution), wearing gloves, or whatever other personal protective equipment is necessary.
i. The personal protective equipment is in the universal spill kit with the first aid kit.
j. Clean up the spilled fluids as follows:
    i. Put on protective gloves (latex or nitrile).
    ii. Spread the absorbent material on the spilled body fluids, e.g., paper towels.
    iii. Neutralize the potential pathogens with a 10% bleach-with-water solution. Cover the spill for 15 minutes or as required.
    iv. Use paper towels to pick up material as best possible. Place all potentially contaminated materials in a *leak-proof* plastic bag.
    v. Sweep/mop-up additional neutralized/absorbed fluids and place residue in the leak-proof bag.
    vi. Clean sweep/mop materials with hot, soapy water. Lastly, remove gloves from inside out and place them in the bag.
    vii. Secure the bag and discard it as other trash.
    viii. Wash hands thoroughly in hot, soapy water.

7. POST EXPOSURE DOCUMENTATION

a. Complete an incident report as soon as possible after the exposure. Exposure means direct contact with blood or body fluids without protective equipment or not covered by protective equipment.
b. Complete a personal injury form by the superintendent or designee. RC ANDERSEN will keep all exposure reports for the duration of employment, plus thirty years. Make all medical records available to anyone having the written consent of the subject employee or OSHA representatives.

8. BLOODBORNE PATHOGENS TRAINING

a. Employees shall receive training to make them aware of the standard and the hazards associated with Bloodborne Pathogens.
b. Provide training to employees and will cover all topics as specified in Bloodborne pathogens standards. Training shall include, but not be limited to:
    i. OSHA Standard 29 CFR 1910.1030, Occupational Exposure to Bloodborne Pathogens.
    ii. Explanation of what Bloodborne Pathogens are.
    iii. Modes of Transmission.
    iv. Company Compliance Program.
    v. How to Handle Exposure Incidents.
    vi. Use of Personal Protective Equipment
    vii. Availability of vaccination if exposed to Bloodborne Pathogens.
    viii. Eligibility of a Follow-up Program after an Exposure Incident.
    ix. Personal Hygiene.

9. POST-EXPOSURE and FOLLOW-UP

a. It the project team knows that a person who had received first-aid medical treatment on the project was confirmed to be infected with HIV or HBV, then the person(s) involved in that incident shall be provided the prescribed follow-up treatment by their employer. Management shall make immediately available to the exposed employee a confidential medical evaluation and follow-up, including a least the following:
    i. Documentation of the route(s) of exposure, and circumstances under which exposure occurred.
    ii. Identification of the source individual, if feasible.

iii. Source individual's blood to be tested and the results made available to the exposed employee, if consented. Refer to Federal, State and Local Laws regarding obtaining consent and confidentiality for testing of blood.
iv. Exposed employee's blood to be tested for HBV and HIV serological status.
v. Offer HBV vaccination series to the exposed employee.
vi. Provide counseling and a written opinion in accordance with 29 CFR 1910.130(f)(5).

10. GENERAL RULES

a. Workers are to follow the procedures outlined above.
b. Subcontractors are responsible for establishing an exposure control plan for their employees.
c. Each subcontractor is directly responsible for the clean-up and decontamination of material that could contain bloodborne pathogens associated with their work.
d. Exposure Incident means a specific eye, mouth, other mucous membrane, non-intact skin, and contact with blood or other potentially infectious materials that result from the performance of an employee's duties.

5.6 CABLE REWORK PROCEDURE

The removal or alteration of wire rope cable used for guardrail fall protection systems must be done only by qualified trade worker. The following is a guideline on reworking the cable.

1. Before any work on the guardrail system, guardrail disruption permit must be filled out and acknowledged by RC ANDERSEN.
2. Protect area with temporary hard barricades.
3. Set up the personal fall arrest system to a proper anchorage attachment.
4. Be sure to connect the lanyard or retractable hook to body harness before entering the “restricted work area”.
5. Dog off wire rope cable guardrail to maintain cable tension in areas not affected by the rework.
6. Once the area being reworked is isolated with a cable clamp beyond the closest upright to prevent the guardrail cable from dropping on the entire floor; bring cable back on itself (form a new loop) with 2 cable clamps attached with the saddle on the live end of the wire rope.
7. Rework cable using a cable dog and come-along.
8. After rework, tighten cable clamps.
9. Harness can now be disconnected from retractable.
10. Remove temporary hard barricades.

Class 1 identifies Self-Retracting Lifelines that are used only on overhead anchorages and are subjected to a max free fall of 2 feet or less.

Class 2 Self-Retracting Lifelines can be used in applications where overhead anchorages may not be accessible and a structural edge is used instead; these can withstand a free fall of no more than 6 feet over an edge.

5.7 CAISSONS

REFERENCES:

29 CFR 1926.603 – Pile Driving Equipment
29 CFR 1926.1400 – Cranes and Derricks
29 CFR 1926.800 Underground Construction, Caissons

1. There shall be present at least one competent person designated by and representing the employer, who shall be familiar with this subpart in all respects, and responsible for full compliance with these and other applicable subparts.
2. Operator Training and Certification documents shall be provided before work is scheduled to commence.
3. The employer shall develop a plan to evacuate a shaft in an emergency and the procedures to carry out the plan shall be made known to the employees and to the rescue team.
4. Cords and plugs shall be heavy duty and suitable for use in damp locations.
5. A shaft or caisson shall be protected with a guardrail system as prescribed in 29 CFR 1926.502 fall protection systems criteria and practices.
6. A gate opening into the shaft shall be provided and shall be closed, except when necessary to enter or leave the shaft or caisson.
7. Workers inside the guardrail system shall be protected by a personal fall arrest system with anchorage.
8. Drilling equipment that is to be used during a shift shall be inspected each shift by a qualified employee. Defects shall be corrected before the equipment is used.
9. The drilling area shall be inspected for hazards before starting the drilling operation.
10. An employee shall not be allowed on a drill mast while the drill is in operations or when the machine is being moved.
11. When a drill is moved from one area to another, drill steel, tools and other equipment shall be secured, and the mast shall be placed in a safe position.
12. An employee who enters a caisson shall be protected by a steel or concrete casing designed by a qualified employee and approved by a registered engineer.
13. A copy of the design specifications of the casing shall be maintained at the jobsite.
14. An employer shall not permit an employee to work below the casing in running or unstable soil.
15. Each employee who is required to enter a deep caisson excavation shall have a lanyard attached to a body harness and to the load line of a crane.
16. The maximum rate of travel when lowering an employee shall be 100 feet per minute. Free-spooling when lowering employees into a caisson is prohibited.
17. All employees shall be removed from the caisson when material is being hoisted from the caisson.
18. A secondary mechanical means that can remove an employee from the caisson shall be readily available in case the crane performing the caisson work breaks down.
19. A top person shall be stationed at the caisson and shall constantly monitor any employees who are in the caisson with continuous means of communication.
20. The air quality of a caisson shall be tested and maintained in accordance with SECTION 5.12: CONFINED SPACE ENTRY PROCEDURE (CSEP).
21. A rescue plan must be in place.
22. Material Handling & Lift Plan to be completed by the Drill Rig Contractor:
    a. Shall evaluate whether the rig manufacturer permits material handling, off-loading of tooling equipment, caisson casings reinforcing requirements, capacity of the rig, the logistics of the trailer in proximity to the drill rig, and the length, diameter, and weight of the casing. Any pick in excess of 70% of the capacity of the rig, requires an assist crane and crane plan.
    b. Establish location of Restricted Access Zone including defined perimeter (hard barrier/danger tape) & ensure only trained & authorized personnel are permitted inside the RAZ.

5.8 COMPRESSED GAS CYLINDERS

1. See Liquefied Petroleum Gas in this manual if appropriate – located in Section 5.58
2. When cylinders are hoisted, secure them on a cradle, sling board or pallet.
3. Move cylinders by tilting and rolling on their bottom edges. Care in handling is required. Do not drag cylinders.
4. Use carriers or carts provided for that purpose when cylinders are in use.
5. In some jurisdictions the Fire Code requires fire extinguishers be attached to each burning cart or outfit in addition to a fire extinguisher at the burning location.
6. **Gas Cylinder Storage Requirements:**
    a. Storage Definition: Cylinders are considered "in storage" when not currently hooked up for immediate use. All cylinders in storage must have protective caps hand-tightened and be properly secured in an upright position.
7. **Indoor Storage Restrictions:**
    a. The storage of flammable gas cylinders (e.g., propane, acetylene) inside buildings is prohibited.
        i. Exception: Compressed gas cylinders secured in an approved cart may be stored indoors overnight only if local jurisdictions permit and the cart includes an integrated, one-half-hour fire-rated non-combustible barrier.
8. **Separation Requirements:**
    a. Whether stored indoors (where permitted) or outdoors, fuel-gas cylinders must be separated from oxygen cylinders by:
        i. A minimum distance of 20 feet **OR**
        ii. One half-hour fire-rated, non-combustible barrier at least five feet high.
9. **Outdoor Storage:** All flammable gas cylinders not in an approved overnight cart must be stored in a designated outdoor area that meets the separation requirements listed above.
10. Keep cylinders away from vehicular traffic.
11. Keep cylinders out of stair towers and egress paths.
12. The RC ANDERSEN superintendent or safety manager will designate:
    a. Well-ventilated storage areas for cylinders inside buildings.
    b. Take care to keep storage areas out of traffic areas or other situations where they could be knocked over, damaged or tampered with.
    c. Locations for fuel gas and oxygen manifolds in well-ventilated areas.
13. All compressed gas cylinders, whether full or empty, in use or in storage, or during transport, shall always be secured in an upright position.
14. Valve protection caps shall not be used for hoisting cylinders from one vertical position to another.
15. Prior to raising cylinders from a horizontal to a vertical position, the valve cap must be made hand tight. The cylinders should then be raised by grasping the cap.
16. Cylinder valves shall be closed before moving the cylinder, when the torch is not in active use and at the termination of work.
17. Valves on empty cylinders shall be closed.
18. Cylinders shall be kept far enough away from the actual cutting and welding operations so that sparks, hot slag and flame will not endanger them.
19. Empty cylinders shall be treated as if they were full, with proper storage and identification.
20. Regulators must be removed when cylinders are not used within a 24-hour period.
21. Torch backflow preventor and a flashback arrestor valve is required at the regulator.

5.9 CONCRETE CAST IN PLACE CONCRETE

REFERENCES:

29 CFR 1926 Subpart Q 1926.700 – 1926.706 – Concrete and Masonry Construction
29 CFR 1926.250 – General Requirements for Storage
OSHA Construction eTool – Constructing Masonry Walls
OSHA Outreach Program – Concrete and Masonry Construction
OSHA Interpretations - 10/30/2003 - Revised Response/Storage of Materials on a Scaffold for More Than One Shift's Work

1. A site-specific fall protection plan is required. Hard barricades or personal fall arrest system is required. The use of a controlled access zone, monitor or warning line is not permitted.
2. A registered professional engineer shall review, approve, date and sign all design, shoring, re-shoring and form work drawings and shall always be available on site.
3. Permit no field changes in the design without the written direction of the design engineer and the structural engineer of record (as required).
4. Subcontractors shall submit a written Fall Protection Plan including stripping operations exceeding 6 feet.
5. 100% fall protection is defined as the use of hard barricades or personal fall arrest systems.
6. All scaffolding systems must follow the scaffolding section of this manual. No makeshift or lean-to scaffolds will be permitted.
7. All rebar for walls and columns should be tied flat and picked by crane into place whenever possible.
8. Objects presenting impalement hazards shall be adequately protected (i.e., rebar and conduit).
9. Train all workers in fall protection with written verification of training submitted to the jobsite superintendent.
10. All formwork and shoring systems shall be able to support imposed loads.
11. Inspect all formwork before, during and after the pour.
12. All cutting, drilling, penetrating or coring a post-tensioned slab must be coordinated with the RC ANDERSEN superintendent.
13. All workers engaged in post tension concrete operations such installation of strands, tension process, and de-tensioning must trained and certified.
14. Handles on bull floats, used where they may contact energized electrical conductors, shall be of non-conductive material, or insulated with a nonconductive sheath.
15. Do not expose workers to silica dust hazards created by grinding and cutting operations.
16. Do not expose workers to hazards associated with working in wet concrete.
17. Where employees may work or pass below operations involving the stripping and removal of concrete formwork and shoring, the following precautions shall be observed:
    a. Remove all loose debris, material, and equipment from formwork before stripping the form.
    b. Permit only those employees involved in the work in areas where formwork and shores are being removed.
    c. Rope off areas below operations involving the stripping or removal of forms or shores, barricaded, or guarded by a flagger to prevent employees from entering in under the operations.
18. Be aware of exposures related to concrete pumping and placement.
19. Rebar is not permitted for use as an anchorage point unless approved by a registered professional engineer.
20. A deck turn-over procedure with a written permit is required.

5.9.1 TILT-UP WALL CONSTRUCTION WITH CONCRETE CURING

1. Introduction
Tilt-up wall construction involves casting, curing, and erecting concrete panels on-site. Ensuring safety throughout this process, including proper curing, is critical to prevent accidents and ensure structural integrity. This safety plan outlines procedures to manage the risks associated with tilt-up wall construction and proper curing of concrete panels.

2. Objectives
- Ensure the safety of workers during all phases of tilt-up wall construction.
- Properly cure concrete panels to achieve desired strength and durability.
- Minimize risks of accidents and structural failures.
- Comply with safety regulations and best practices.

3. Responsibilities
- **Site Safety Officer**: Oversee the implementation of safety protocols, including curing practices, and ensure compliance with safety regulations.
- **Project Manager**: Ensure the integration of safety measures into project planning and execution, including curing procedures.
- **Supervisors**: Enforce safety procedures and ensure that workers adhere to proper curing methods and safety practices.
- **Workers**: Follow all safety protocols, including those related to curing, and report unsafe conditions. Identify the competent person in writing.

4. Training and Certification
- **Safety Training**: Provide specific training on tilt-up wall construction, including handling, lifting, and curing concrete panels.
- **Curing Procedures**: Train workers on proper curing techniques and the importance of maintaining moisture and temperature control.
- **Certification**: Ensure workers are certified in operating cranes, boom lifts, equipment and rigging techniques.

5. Pre-Construction Planning
- **Site Assessment**: Conduct a site assessment to identify hazards and ensure a safe working environment. (e.g., power lines, ground conditions)
- **Engineering Review**: Confirm that tilt-up wall designs and curing plans have been reviewed and approved by a qualified engineer.
- **Detail drawings**: Panel reinforcement, lifting inserts and embeds, HK insulation ties and any temporary external steel supports for panels with large cutouts.
- **Weather Considerations**: Monitor weather conditions to plan for curing and lifting operations, avoiding extreme temperatures and adverse weather.
- **No Access Zone**: 150% of the panel height. No individuals may enter any part of this no access zone if not actively working on the pick.

6. Equipment and Machinery
- **Crane Inspections**: Ensure cranes and lifting equipment are regularly inspected and maintained.
- **Curing Equipment**: Provide necessary equipment for curing, including water sprays, curing blankets, or curing compounds.
- **PPE**: Supply appropriate PPE, such as helmets, eye protection, gloves, and fall protection gear.

7. Tilt-Up Wall Handling and Curing Procedures
- **Panel Inspection**: Inspect concrete panels for defects or damage before lifting.

- **Lifting and Rigging**:
  - Use properly rated lifting equipment and ensure all rigging is inspected and certified.
- **Curing Procedures**:
  - **Initial Curing**: Begin curing as soon as possible after finishing the surface of the panels. Use water spraying, wet curing blankets, or curing compounds as specified by the project requirements.
  - **Moisture Maintenance**: Ensure that concrete remains consistently moist during the curing period. This can involve regular reapplication of curing compounds or maintaining moisture with wet coverings.
  - **Temperature Control**: Monitor and control the temperature of curing environments to prevent premature drying or freezing. Use heaters or coolers if necessary to maintain optimal curing conditions.
  - **Curing Duration**: Adhere to the recommended curing duration, typically 5 - 7 days, or as specified by the concrete mix design.
  - **Columns:** In cases where intermediate and corner columns are necessary *(not always),* they are typically formed and cast in their designated positions after the panels have been set.

8. Fall Protection

- **Edge Protection**: Install guardrails or other edge protection systems around areas where workers are exposed to fall hazards.
- **Harnesses and Lanyards**: Provide fall protection harnesses and lanyards for workers working at heights.
- **Training**: Ensure workers are trained in the proper use of fall protection equipment.

9. Emergency Procedures

- **Emergency Plan**: Develop and communicate an emergency response plan for incidents such as panel collapse, equipment failure, or injury.
- **First Aid**: Ensure first aid kits are available on-site and that designated personnel are trained in first aid and CPR.
- **Emergency Contacts**: Post emergency contact numbers and procedures visibly on-site.

10. Inspections and Audits

- **Daily Inspections**: Conduct daily inspections of the site, equipment, and curing methods to ensure compliance with safety and curing procedures.
- **Safety Audits**: Perform regular audits to evaluate the effectiveness of the safety and curing plans and identify areas for improvement.
- **Incident Reporting**: Report and investigate any incidents or near misses to improve safety protocols and prevent recurrence.

11. Documentation and Record-Keeping

- Maintain records of safety training, equipment inspections, curing procedures, incident reports, and safety audits.
- Ensure all documentation is accessible for review by regulatory agencies and project stakeholders.

12. Conclusion

The success of tilt-up wall construction depends on stringent adherence to safety protocols and proper curing methods. Structural integrity, lifting and rigging hazards, panel connection failures are a key safety focus. By following this safety plan, risks can be managed effectively, and the structural integrity of the concrete panels can be ensured, contributing to a safer and more efficient construction process.

5.10 CONCRETE PRE-CAST PLANK REQUIREMENTS

REFERENCES:

29 CFR 1926 Subpart Q 1926.700 – 1926.706 – Concrete and Masonry Construction
29 CFR 1926.250 – General Requirements for Storage
OSHA Construction eTool – Constructing Masonry Walls
OSHA Outreach Program – Concrete and Masonry Construction
OSHA Interpretations - 10/30/2003 - Revised Response/Storage of Materials on a Scaffold for More Than One Shift's Work

1. A site-specific fall protection plan is required. Hard barricades or personal fall arrest system is required. The use of a controlled access zone, monitor or warning line is not permitted.
2. Pre-cast plank shall be engineered and fabricated with hooks or points to facilitate 100% tie-off to meet the OSHA requirement of 5000 pounds per person or engineered to support twice the intended load.
3. Fall exposures exceeding six feet at the perimeter are not permitted. Workers will not unhook from one point until secured to another.
4. All workers will be trained in site-specific fall protection by their employer in accordance with the OSHA Fall Protection Standard, the RC ANDERSEN 6-foot rule and the employer will provide written certification of training per OSHA.
5. A crane preplanning meeting is required for each setup (crane requirements in this manual).
6. The use of tongs for lifting of pre-cast members will not be permitted.
7. Rigging hooks or slings shall be inspected daily by the subcontractor for defects and removed from service if found to be damaged.
8. All rigging devices shall be engineered and tested to 125% of their design capacity as specified by OSHA or provided with appropriate manufacturer's documentation.
9. No one shall be permitted under a load. Loads will not be lifted over workers.
10. Two floors will remain clear below the setting of pre-cast members.
11. Planks will not be set until the load bearing walls/columns have attained required structural strength.
12. Unless otherwise specified by the contract, the pre-cast concrete subcontractor is responsible for implementation of all safety requirements set forth in the Site-Specific Policies and Procedures Manual on all floors and formwork under his control until turned over to and accepted by RC ANDERSEN.
13. Employees shall not be permitted to work above vertically protruding reinforcing steel unless protected to eliminate the hazard of impalement.
14. Employees working more than 6 feet above adjacent working surfaces placing and tying reinforcing steel in walls, tiers, columns, etc. shall be provided with a personal fall arrest system and tie off while aloft on the steel.
15. Reinforcing steel for walks, tiers, columns and similar vertical structures shall be guyed and supported to prevent collapse.

5.11 CONCRETE POST TENSION CONCRETE

POST TENSION SAFETY

1. **PROPER DOCUMENT CONTROL**
    a. Installation drawings
    b. Shipping list
    c. Material certifications
    d. Stressing equipment calibrations
    e. Stressing records

2. **STRESSING EQUIPMENT**
    a. Ensure proper electrical supply
    b. Check connections and hoses

3. **STRESSING PROCEDURES**
    a. Compression of concrete
    b. Breaks sheets to the ironworker prior to stressing

4. **STRESSING OPERATION**
    a. Ensure safe working area (platform)
    b. Proper tie-off for jack and pump
    c. Ironworker in full body harness
    d. Ironworker on pump in orange vest

5. **SAFETY MEETINGS**
    a. Orientation to stressing dangers

6. **STRESSING AREA**
    a. Clear of personal and debris
    b. No stressing in tagged areas for repair

7. **DETENSIONING PROCEDURES AND DANGERS**
    a. 5 years of experience

8. **LIFT-OFF PROCEDURES**

9. **PROPER PROCEDURES FOR HUNG UP JACKS**
    a. Never piggyback
    b. Proper equipment

10. **PRE-JOB REQUIREMENTS FOR CONTRACTORS**

POST-TENSIONED CONCRETE

1. A preplanning meeting is required for the installation or removal of tendons.
2. Post tensioning is a ZERO TOLERANCE issue. Anyone discovered directing or drilling, coring, cutting or chipping into a post tensioned slab, even after the fact, will be held accountable.
3. Information regarding the post tensioning process shall be included in worker orientation.
4. The area for post tensioning shall be barricaded with a hard barricade a minimum of 25' clear.
5. Only workers involved in the post tensioning process shall be permitted inside the post tensioning zone.
6. Workers involved in post tensioning shall stand clear of the stressing zone and the tendon a minimum of 6'0 while tensioning the tendon.
7. The tensioning zone shall remain clear for 12 hours after stressing.
8. Use two sheets of ¾" plywood behind the anchor to protect people and property.
9. Never stand directly over or behind the ram when stressing the strand.
10. Ensure the strand is perpendicular to the anchor and that the anchor is parallel to the concrete face. Do not stress if out of alignment.
11. Ensure the anchor is clean and free of dirt and debris so that the ram plunger will seat squarely. No debris in the wedge cavity or sheathing.
12. Any void or honeycombing of the concrete may result in a potential explosion of the concrete.
13. A post tensioned slab cannot be cored, drilled or saw cut without written direction from the structural engineer of record or a registered professional engineer.
14. The floor shall be surveyed using ground penetrating radar to locate strands which shall be painted on the deck before the concrete deck is cored, chipped, drilled, cut or disturbed in any fashion.
15. The slab shall be reinforced from below at the direction of a registered professional engineer.
16. The structural integrity of the slab shall be analyzed, and drawings shall be prepared by the structural engineer of record or a registered professional engineer to ensure the structural integrity of the slab before the slab is disturbed.
17. The de-tensioning process should be at the direction of the structural engineer of record or a registered professional engineer.
18. Ensure the execution of the de-tensioning process is well documented.
19. Ensure the structural integrity of the slab has been restored at the direction of the structural engineer of record or a registered professional engineer.

POST TENSION SLAB REMOVAL SAFETY

Note: The following is a safety guideline for minimum requirements for the removal of slab scope. The selected subcontractor will be required to submit to RC ANDERSEN the necessary engineering and method statement for the deconstruction of post tensioned slabs.

Cutting openings in PT slabs require care and caution when PT tendons are to be cut. With the proper knowledge of structural behavior retrofitting openings i n PT slabs can be achieved safely. Creating a large opening in a PT slab will result in several PT strands being interrupted by the new opening. An engineer should be consulted to analyze the effect that the new opening will have on the slab. The slab with the new opening should be analyzed. The analysis should show that strength is adequate and that all serviceability conditions, including stress limitations and deflections, are met. It is important for the design team to understand the implications of locating new openings in certain critical regions. To ensure successful execution of any retrofit project, it is vital that each member of the project team (architect/engineer, contractor, and specialty PT contractor) clearly understands who is responsible for completing the following tasks. For large openings, the general tasks associated with the planning and creation of an opening are:

1. Select the location for the new opening.
2. Evaluate the structural adequacy of the slab in its final state with the opening. Design a slab strengthening solution.
3. Evaluate the structural capacity of the slab during intermediate stages of construction. Design temporary shoring.
4. Install shoring.
5. Identify locations of existing PT strands that intersect the new opening.
6. De-tension and re-anchor strands at the perimeter of the new opening.
7. Remove concrete from the opening.
8. Strengthen the slab.

Slab opening procedure

The following discussion provides a typical approach that should be used to create openings in PT slabs. This procedure may vary depending on many factors.

Step 1: The perimeter of the opening is marked on the top and bottom of the existing slab.

Step 2: Shoring is installed under the opening and extended several feet beyond the perimeter of the opening in each direction. Shoring is also placed below the opening to prevent debris from falling to the level below during demolition.

Step 3: PT strands intersecting with the opening are located.

Step 4: Prior to beginning de-tensioning of the strands, the post-tensioning contractor should take appropriate measures to ensure the safety of the public and mitigate risk to property. Small de-tensioning pockets are chipped into the slab, exposing the strands using chipping hammers. The strands are then individually de-tensioned using a handheld grinder. PT strands are typically de-tensioned in phases to minimize the loss of pre-stress at any given time during construction. There are various techniques that can be employed to protect property and the public from potential hazards during the de-tensioning operation. Some of these techniques include:

1. Using a de-tensioning collar to temporarily lock off the strand at a predetermined location in the slab (normally at the boundary of the new opening). Although de-tensioning collars can be a very effective

means of eliminating the sudden release of energy during de-tensioning, they cannot be used in situations where strands are grouped or bundled together.

2. Using a specially designed de-tensioning jack to release the force in the strands in a controlled manner.
3. Installing a barrier at the slab edge to prevent the strand and grout plug from becoming projectiles during de-tensioning operations.

Step 5: New anchorage pockets are chipped in the slab at the intersection of the strand groups and the perimeter of the opening. The width and length of the pockets depends on the number of stands in the group and the location of the new anchorage relative to the strand profile's high and low points. If the new anchorage is near a strand high point, then the pocket will have to be long enough to allow the strand to be re-profiled so that the new anchorage can be located at the mid-depth of the slab.

Step 6: New PT anchorages are placed in the pockets along with the appropriate backup reinforcing steel.

Step 7: Anchorage pockets are then poured using a pre-bagged high-strength Portland cement grout with appropriate consolidation.

Step 8: After the grout achieves at least 3000 psi compressive strength (normally the day after the pour), the strands are restressed using a hydraulic jack.

Step 9: The strand tails are cut by an approved method. Protective end caps are then installed over the tendon tails and the stressing pockets are patched with a non-shrink grout.

Step 10: Once all the strands are stressed and anchored at the perimeter of the opening, demolition of the remaining concrete in the opening is completed using conventional concrete breakers. The edge of the opening can be left as a rough, unfinished surface or it can be formed and poured to create a formed edge.

5.12 CONFINED SPACE ENTRY PROCEDURE (CSEP)

Confined Space Entry (OSHA 1026 Subpart AA (1926.1201-1213)

Introduction
The purpose of this program is to protect employees and assist other employers to protect their employees with regard to confined spaces that exist in the workplace or may come to exist through construction work activity. This program sets out procedures consistent with the United States Department of Labor's Occupational Safety and Health Administration (OSHA) standards Title 29 CFR 1926.1200 Subpart AA.

Construction sites are continually evolving, with the number and characteristics of confined spaces changing as work progresses. Occasionally, the materials we work with or the work activities we perform can create dangerous conditions that would classify our working environment into a confined space or worse a permit required confined space. This new OSHA rule emphasizes the necessity of training as well as continuous worksite evaluations and communication. The standard also holds various entities accountable for our worksites including controlling contractors, hosts and owners. These entities are required by OSHA to share information of known or foreseeable confined space hazards that we may encounter while at work.

1. **Definitions 1926.1202** *(for additional definitions)*

    a. **Attendant:** An individual stationed outside one or more permit spaces who assesses the status of authorized entrants and who must perform the duties specified in §1926.1209.
    b. **Authorized entrant:** An employee authorized by the entry supervisor to enter a permit space.
    c. **Blanking or blinding:** The absolute closure of a pipe, line, or duct by the fastening of a solid plate (such as a spectacle blind or a skillet blind) that completely covers the bore and that can withstand the maximum pressure of the pipe, line, or duct with no leakage beyond the plate.
    d. **Competent person:** One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has the authorization to take prompt corrective measures to eliminate them.
    e. **Double block and bleed:** The closure of a line, duct, or pipe by closing and locking or tagging two in-line valves and by opening and locking or tagging a drain or vent valve in the line between the two closed valves.
    f. **Engulfment:** The surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, crushing, or suffocation.
    g. **Entry supervisor:** The qualified person (such as the employer, foreman, or crew chief) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing entry and overseeing entry operations, and for terminating entry as required by this standard. *Note. An entry supervisor also may serve as an attendant or as an authorized entrant if that person is trained and equipped as required by this standard for each role he or she fills. Also, the duties of entry supervisor may be passed from one individual to another during an entry operation.*
    h. **Isolate or isolation:** The process by which employees in a confined space are completely protected against the release of energy and material into the space, and contact with a physical hazard, by such means as: blanking or blinding; misaligning or removing sections of lines, pipes, or ducts; a double block and bleed system; lockout or tagout of all sources of energy; blocking or disconnecting all mechanical linkages; or placement of barriers to eliminate the potential for employee contact with a physical hazard.

i. **Oxygen deficient atmosphere:** An atmosphere containing less than 19.5 percent oxygen by volume.
j. **Oxygen enriched atmosphere:** An atmosphere containing more than 23.5 percent oxygen by volume.
k. **Ventilate or ventilation:** Controlling a hazardous atmosphere using continuous forced-air mechanical systems that meet the requirements of §1926.57—Ventilation.

2. Procedures Before Work Begins

Employing Contractors shall identify the competent person, working with the owner, host employer and or controlling contractor to assess confined space(s) risks in which one or more employees may work or may be affected and inform workers accordingly. Competent persons will:

a. Warn workers of the existence, location and the dangers posed by each permit space. A sign reading **"DANGER -- PERMIT- REQUIRED CONFINED SPACE, DO NOT ENTER"** or using other similar language would satisfy this requirement.

3. Awareness-level Confined Space Training & Certification

Before workers enter a worksite where confined spaces exist or could potentially come into existence due to construction activity, employees will receive awareness level training for confined spaces and permit required confined spaces.

The competent person will:

a. Ensure that the trained employees possess the understanding, knowledge, and skills concerning confined spaces in general. The competent person will ensure retraining occurs immediately upon recognition of a training deficit.
b. Complete a Certificate of Confined Space Inventory & Employee Awareness form
c. If employees must enter a permit required confined space, we will make use of the procedures outlined in the written permit space portion of this program.

4. Procedures for Entry

When confronted with a necessary entry into a permit required confined space, we will first attempt to reclassify the space to a Non-permit required confined space by eliminating and exposure to hazards. Closely adhering to the RC ANDERSEN Organization Confined Space Entry Log and Permit Entry procedures will help assess the hazards, classification, elimination of hazards, reclassification of permit required confined spaces and planning and procedures for safe entry into these spaces. This program is a brief summary, not a substitute for the actual OSHA standard found under 29 CFR 1926 Subpart AA.

The RC ANDERSEN Organization Confined Space Program prohibits entry into spaces where an engulfment hazard exists without specific approval of the Corporate Safety Director. Due to the special nature of this hazard, additional planning for mitigating hazards, early warning notification and rescue planning must be in place.

5. Permit Space Entry Communication and Coordination

Before work begins in a confined space, the host employer must provide the contractor the following information:

a. The location of each known permit space;
b. The hazards or potential hazards in each space or the reason it is a permit space;
c. History of the space and any precautions that the host employer or any previous controlling contractor or entry employer implemented for the protection of employees in the permit space.

The Controlling Contractor will:

a. Coordinate of entry operations when more than one entity performs permit space entry at the same time including the introduction of any new hazards.
b. Debrief each entity that entered a permit space regarding the permit space program followed and any hazards confronted or created in the permit space(s).
c. Apprise the host employer of the any hazards encountered, mitigation efforts, and communications equipment necessary to safely operate in their confined spaces.

6. Permitting Process Including Suspension and Cancellation of Entry Procedures

Entry Supervisors, Attendants and Entrants must complete the Confined Space Entry Log together. The permit must be diligently followed for the proper planning, classification, and mitigation of hazards. If there is any confusion as to the steps required or procedures to be followed, please refer to the OSHA regulations which provide a more in-depth description of procedures. All three positions must:

a. Complete the Training Acknowledgement checklist to refresh understanding of Confined Space Entry Requirements.
b. Thoroughly complete the entry log and classify the space to understand requirements for entry
c. Complete the Permit Required Entry Permit (or the Alternate Entry Procedures should atmosphere only hazards be effectively eliminated through Forced Air Ventilation).
d. Post the Entry Permit near the Entry where it is clearly visible.
e. Cancel the entry permit when the entry operations covered by the entry permit have been completed; or
f. Suspend or cancel the entry permit and fully reassess the space before allowing reentry when a condition that is not allowed under the entry permit arises in or near the permit space and that condition is temporary in nature and does not change the configuration of the space or create any new hazards within.
g. Employing Contractors will retain each canceled entry permit for at least 1 year to facilitate the review of the permit-required confined space program.

If a hazard is detected during entry all entrants will leave the space immediately and the space re-evaluated to determine how the hazard developed and how it will be properly mitigated prior to re-entry.

CONFINED SPACE DUTIES

1. Confined Space Training

Employing Contractors will train employees to possess the understanding, knowledge, and skills necessary for the safe performance of the duties assigned to enter confined spaces and permit-required confined spaces:

a. In both a language and vocabulary that the employee can understand;
b. Before the employee is first assigned duties under this standard;
c. Before there is a change in assigned duties;
d. Whenever there is a change in permit space entry operations that presents a hazard about which an employee has not previously been trained; and
e. Whenever there is any evidence of a deviation from the permit space entry procedures.
f. The training must establish employee proficiency in the duties
g. The employer must maintain training records

2. Duties of Authorized Entrants

Employing Contractors will ensure that all authorized entrants:

a. Are familiar with and understand the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure.
b. Properly use equipment.
c. Communicate with the attendant as necessary to enable the attendant to assess entrant status and to enable the attendant to alert entrants of the need to evacuate the space if it becomes necessary.
d. Alert the attendant whenever there is any warning sign or symptom of exposure to a dangerous situation; or the entrant detects a prohibited condition;
e. Know how to exit from the permit space as quickly as possible whenever an order to evacuate is given by the attendant or the entry supervisor or there is any warning sign or symptom of exposure to a dangerous situation or the entrant detects a prohibited condition, or an evacuation alarm is activated.

3. Duties of Attendants

Employing Contractors will ensure that all authorized attendants:

a. Are familiar with and understands the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;
b. Are aware of possible behavioral effects of hazard exposure in authorized entrants;
c. Continuously maintain an accurate count of authorized entrants in the permit space.
d. Remains outside the permit space during entry operations until relieved by another attendant;
e. Communicates with authorized entrants as necessary to assess entrant status and to alert entrants of the need to evacuate the space.
f. Assesses activities and conditions inside and outside the space to determine if it is safe for entrants to remain in the space and orders the authorized entrants to evacuate the permit space immediately under any of the following conditions:
    i. If there is a prohibited condition;
    ii. If the behavioral effects of hazard exposure are apparent in an authorized entrant;
    iii. If there is a situation outside the space that could endanger the authorized entrants; or
    iv. If the attendant cannot effectively and safely perform all the duties required under §1926.1209 of this standard;
g. Summons rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from permit space hazards.
h. Performs no other duties other than the attendant's primary duty as the attendant.

4. Duties of Entry Supervisors

Employing Contractors will ensure that the authorized entry supervisor:

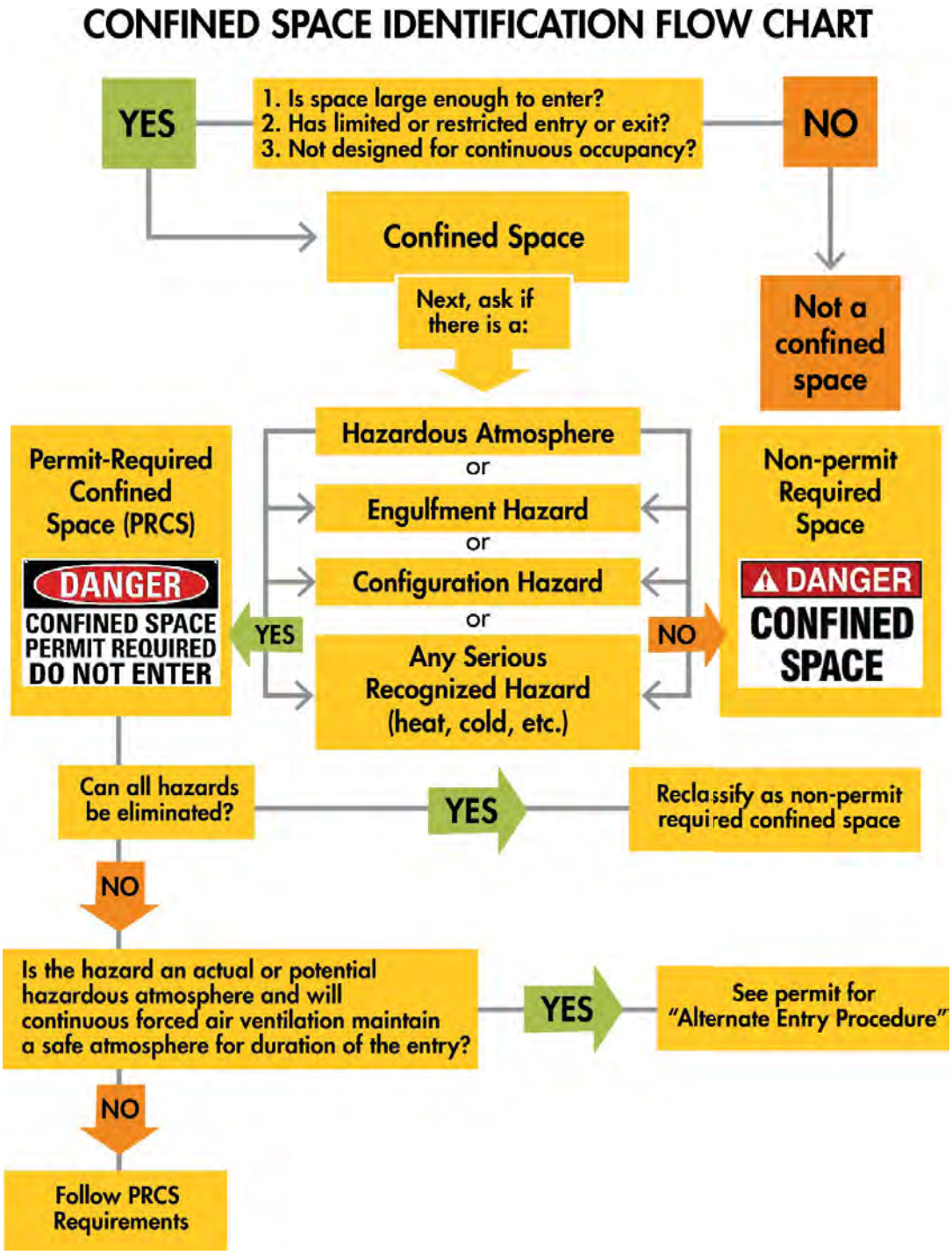
a. Is familiar with and understands the hazards that may be faced during entry, including information on the mode, signs or symptoms, and consequences of the exposure;
b. Verifies, by checking that the appropriate entries have been made on the permit, that all tests specified by the permit have been conducted and that all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin;
c. Terminates the entry and cancels or suspends the permit.
d. Verifies that rescue services are available and that the means for summoning them are operable, and that the employer will be notified as soon as the services become unavailable;
e. Removes unauthorized individuals who enter or who attempt to enter the permit space during entry operations; and
f. Ensures that the Entry Log and Confined Space Permit is fully executed, posted near the entry procedures are followed and permit is closed out and filed for one year for program reviews.

5. Rescue and Emergency Services

The RC ANDERSEN Organization does not designate rescue and emergency services on our client's properties. Therefore, the employer's Competent Person and/or Authorized Supervisor will evaluate the adequacy of their non-entry rescue planning. Should the Confined Space Entry planning indicate that an entry type rescue may be required, then no entry shall take place until the local responding emergency services:

a. Have been invited to the site with access to the permit space from which rescue may be necessary so that they may have an opportunity to develop an appropriate rescue plan.
b. Agree to respond to a confined space incident after being made aware of the associated risks
c. Are informed of the date and time of the entry and are available to respond.
d. Response time to an incident is appropriate for the risks identified.

PERMIT REQUIRED CONFINED SPACE DECISION FLOW CHART



5.13 CRANE SAFETY

REFERENCES:

29 CFR 1910.179 – Overhead and Gantry Cranes
29 CFR 1910.180 - Crawler Locomotive and Truck Crane.
OSHA e-Tool: Steel Erection – Cranes
OSHA e-Tool: Steel Erection – Inspection Guide
OSHA Construction e-Tool: Cranes and Derricks
OSHA Construction Outreach Training: Sling Safety
OSHA Construction Outreach Training: Cranes, Derricks, Hoists, Elevators, and Conveyors
OSHA Construction Outreach Training: Material Handling and Storage
Guidelines for OSHA Compliance Officers – Inspecting A mobile Crane
OSHA Publication: Construction Pocket Guide-Workers Safety Series/Construction

1. Conduct a preplanning meeting to address all pertinent elements required by CFR 1926.1400. A crane preplanning agenda is included in this manual.
2. Prior to the pre-planning meeting, the crane contractor must submit (a complete list of required documentation is found in this manual):
    a. Complete the Crane Lift Work Sheet. (See example in Sample Form Section)
    b. Provide Annual Inspection Certificate satisfying OSHA requirements and submit to RC ANDERSEN before the crane arrives on site. Cranes used for critical or high risk lifts shall have an annual inspection within the past three (3) months.
    c. Provide operator Certification(s) to RC ANDERSEN. Operators are required to have Certified Crane Operators (CCO) certification or equivalent. Check with local codes for any other specific requirements.
    d. Provide operator qualification(s) to RC ANDERSEN upon request. Subcontractor employer shall submit qualification letter for each operator for the type and configuration of the crane and type of lift as per qualification requirements of OSHA 29 CFR 1926.1427.
    e. Submit load chart and load weights verification in writing. Identify maximum radius and capacity.

REQUIREMENTS:

1. Subcontractors are responsible for any and all professional engineering services (including, without limitation, utility location and engineering study) that may be required to develop and execute a crane lift plan.
2. Locate and place cranes on firm, drained and graded surfaces sufficient to support all crane functions and travel.
3. For each crane set-up, identify the location of all underground hazards on a drawing. Convey these hazards to the crane operator/owner, and crew for each crane set-up and location of outrigger pads for underground utilities, voids or soft spots in streets.
4. Cranes shall be assembled and disassembled under the direct observation of a Qualified Person.
5. The subcontractor shall identify the Assembly/Disassembly Director (A/D Director) who must be a qualified and competent person, or a competent person assisted by a qualified person. Crane operators shall be competent and trained in the use and inspection of the crane.
6. Review all items identified by 29 CFR 1926.1404 with the assembly/disassembly crew, by the A/D Director before work begins.
7. Subcontractor is responsible for conducting shift, monthly and annual written inspections in accordance with OSHA inspection requirements and provide inspection reports to the RC ANDERSEN upon request.
8. Danger tape or barricades must be placed to protect pinch points and swing radius of weights.
9. Landing areas must be identified and communicated to all workers who might be affected.

10. When operating near overhead power lines, reference OSHA Table A, which establishes minimum approach distances for cranes operating near power lines up to 350 kV. Do not permit cranes to operate within twenty (20) feet of any electrical lines 350 kV or lower, except where lines are de-energized and visually grounded at the worksite or insulated by the utility company for this purpose. Voltages higher than 350 kV require greater distances. See OSHA 1926.1408 Table A.
11. Safety devices, including but not limited to crane level indicator, boom/jib stops, outrigger stabilization, and horn must be operational as required by the standard.
12. Do not use safety devices and operational aids as a substitute for professional judgment.
13. Lift routes shall avoid lifting over personnel.
14. Subcontractor to secure a street closure permit, when required.
15. Notify local helicopter rescue units, file NOTAM with the FAA if within controlled airspace and establish procedures for shutdown, lay down, downdraft, two-way communication, etc.
16. Obtain FAA permit for cranes over 200 feet.
17. Subcontractor shall submit in writing the names of the competent and “qualified” person(s) for both rigger and signal person as required before arrival of mobile crane.
18. Subcontractor shall submit in writing the names of the competent and “qualified” person(s) for both rigger and signal person as required before arrival of tower crane(s) lifts.
19. Train and evaluate Signal person and Riggers, by the employer, in accordance with 29 CFR OSHA 1926.1430.
20. Review as required: slings, points of attachment, hooks, spreaders, shackles and training.
21. Identify method of communication during picks. Radios shall have a dedicated frequency, per crane, that is coordinated with RC ANDERSEN.
22. Review lay down, staging and shakeout operations.
23. Coordinate with local police and owner security.
24. Develop an emergency plan, if necessary.
25. Fall Protection required for employees working above six (6) feet in unprotected areas. Verification of training required.
26. Anti-two block device required.
27. Tower cranes require two rescue stretchers, one on the ground and one in the air.
28. Use of a suspended person platform (man basket) requires further pre-planning per 29 CFR 1926.1431. See section D Crane and Derrick Suspended Personnel Platforms and check local jurisdiction for additional requirements.
29. All cranes that require site-assembly (as determined by RC Andersen) will require a post- assembly/erection inspection. This inspection is intended to verify that the crane is assembled (configured) properly and is in addition to independent 3rd party comprehensive annual inspections. Tower Cranes require OSHA pre- and post erection inspection with documentation by a third party prior to jobsite usage and after any modification.
30. Tower Cranes are to be assembled and disassembled under the direct observation of a factory-authorized representative.
31. Tower Crane requires OSHA pre and post erection inspection with documentation by an independent third party prior to jobsite usage.
32. Tower Crane requires shift, monthly and annual written inspections per 29 CFR 1926.1445 (f). Documentation shall be submitted to RC ANDERSEN Safety or Lift Director weekly, at minimum.
33. If a rescue plan for the crane operators is required, the subcontractor will be responsible to develop and implement a plan and supply any needed rescue equipment and training.
34. Cracked or broken window glass in cabs of cranes is prohibited.
35. Use of helicopters must have prior approval from RC ANDERSEN, lift plan submitted and a pre-planning meeting.
36. Helicopter picks shall comply with all applicable regulations of the Federal Aviation Administration.

37. Lifts in the following categories are considered Sensitive Lifts and require development of a detailed lift plan at the discretion of RC ANDERSEN to be submitted by the subcontractor and reviewed by the RC ANDERSEN Safety Department.
    a. Lifts over personnel occupied areas (i.e., buildings, sidewalks, etc.).
    b. Lifts requiring the crane to be set up over or adjacent to underground building structures, transportation tunnels, or retaining walls (i.e., parking garages, etc.)
    c. Lifts where any part of the crane or load encroaches onto or over highway, roadway or railroad rights of way, unless the corridor is shut down to traffic
    d. Drifting operations, i.e., crane lifts where the load is drifted sideways by external means
38. Lifts in the following categories are considered **Critical Lifts and require development of a detailed lift plan to be submitted by the subcontractor and** review by the RC ANDERSEN Safety Department.
    a. Lifts exceeding 75% of crane rated capacity
    b. Lifts requiring two or more cranes or additional equipment assisting in lifting simultaneously (tandem)
    c. Lifts using any type of equipment to transfer a worker within a personnel basket except for steel erection
    d. Lifts with helicopters over areas defined by the FAA as “congested areas”. Which are defined as areas people utilize or inhabit (e.g., non-wilderness areas)
    e. Unusual or complex lifts that exceed any site specific or owner requirements
    f. Subcontractors conducting a criterial lift must:
        i. provide Annual Inspection Certificate satisfying OSHA requirements and submit to RC ANDERSEN before the crane arrives on site. Cranes used for critical lifts shall have an annual inspection within the past three (3) months.
        ii. submit a detailed lift plan reviewed by a Lift Director.
39. Detailed Lift Plans are required for critical picks, or at the discretion of RC ANDERSEN, and must Include:
    a. Position and configuration of the crane
    b. Outrigger or track surcharges (for mobile cranes)
    c. Location of lifts and lift route(s) from start to finish
    d. Rigging Plan: Detail on load, rigging equipment, lifting devices, hardware, etc. Provide a diagram or sketch.
    e. Detail on load, how to rig it, what rigging is needed. Stamped drawing, if needed
    f. Timeline of all the sequences of all lifts
    g. Weight of each pick
    h. Percentage of crane capacity of crane in that configuration
40. When multiple cranes are on site, all operators shall have direct contact with each other or where required use a dedicated radio channel.
41. When multiple cranes are on site, use radius limiting systems for collision avoidance.
42. When cranes will be moved on ramps or grades, the subcontractor must submit a plan that includes a procedure specified by the crane manufacturer for the specific crane model and crane configuration for the specific angle/length of the ramp and other site-specific elements.
43. Banners may only be placed on cranes when approved in writing by RC ANDERSEN.
44. Tower cranes require 110-volt hard wired aviation lighting with solar back-up.
45. Subcontractor to submit a pick plan with sequence, weight, capacity of crane, and rigging configuration.

5.14 CRANE PREPLANNING AGENDA

1. **Scope of Activity & Date of Pick(s):**
    a. Provide a spread sheet with the following information for each pick:
        i. Date & Time
        ii. Item
        iii. Weight
        iv. Crane Capacity
        v. Percent capacity of crane

2. **Crane Documentation Submittal Review:**
    a. OSHA required Annual Inspection.
    b. Crane lift work sheet.
    c. Operator qualifications, license or documentation as required
    d. Load Chart: High light the capacity at the furthest radius on load chart
    e. Verified load weights: maximum radius and capacity
    f. Site plan/sketch of location of crane and adjacent hazards
    g. Annual inspection for all rigging below the hook lifting devices. (e.g., Spreader Bar)

3. **Name of Assembly/Disassembly Director: both Qualified Person/Competent Person: YES NO**
    a. Name of Qualified Person:
    b. Name of Competent Person:

4. **Crane Configuration:**
    a. Type or Model of Crane
    b. Size of Crane
    c. Length of boom
    d. Length of Jib attachments
    e. Maximum Radius of pick
    f. Configuration for side, back, rubber etc.
    g. Anti-two block device
    h. Weight of Ball and deducts
    i. Capacity of crane at that configuration

5. **Setup (Number of setups/assist crane):**
    a. Locations of setups
    b. Arrival
    c. Police Presence verified by:
    d. Street closure & permits by:
    e. Pedestrian Control & signage and/or flaggers by:
    f. Duration
    g. Underground Utilities identified and located on sketch
    h. Overhead Utilities
        i. Voltage of overhead power lines:
        ii. Verified by utility owner/operator:
        iii. Height distance of overhead power lines during traveling
            1. If less than 20 feet, must follow table T
        iv. Distance during set up
            1. If less than 20 feet, must follow table A
        v. Distance during operation

1. If less than 20 feet, must follow table A

vi. All crew, including dedicated spotter(s) must be trained

i. Mat size and location identified on site plan/sketch.
j. Any special staging requirements
k. Truck holding areas
l. special truck permits or routing requirements
m. Danger tape or barricade pinch points and radius of weights
n. Identify and develop a method of communication so that affected workers stay clear of landing zones and paths of travel.
o. Cranes moving on ramps require a written plan to include crane configuration, slope of ramp and manufacturer's recommendations.

6. Rigging:

a. Weight of heaviest pick: verified by: drawings? Cut sheet? Third Party?
b. Type of slings
c. Identify Points of Attachment
d. Use of hooks, spreaders, shackles, etc.
e. Name of Qualified Riggers: Verify method of evaluation
f. Name of Certified Riggers (for tower crane): Provide Certification(s)

7. Signaling:

a. Name of Qualified Signalperson: Verify method of evaluation
b. Name of Certified Signalperson (for tower crane): Provide Certification(s)
c. Types of signals (Voice or Hand)
d. Method of signals (radio, squawk box, etc.) For radios, coordinate frequency with RC ANDERSEN.

8. Coordination with Air Traffic:

a. Unit : (Emergency Air Transport, etc.)
b. Flight path
c. ETA for incoming
d. FAA Permit
e. Flag, light, etc.
f. Method of communication for laydown/shutdown by whom:

5.15 CRANE REQUIRED DOCUMENTATION

Prior to the arrival of the crane on-site, supply the following documentation:

1. Subcontractors are responsible for all professional engineering services (including, without limitation, utility location and engineering) that may be required to develop and execute a crane lift plan.
2. Annual OSHA Crane inspection
3. Operator NCCCO certification and/or licenses, Employer Qualification Letter.
4. Any other Operator state mandated additional requirements such as current physicals
5. Post assembly inspection completed by the qualified person
6. Street closure permits, if required
7. Specific OSHA required documentation for all trainings and evaluations of operators, signalpersons, riggers, A/D Director, competent and qualified personnel.
8. List all shut down criteria
9. A letter on letterhead shall be submitted stating the following have been trained and/or evaluated:
    a. Crane operator
    b. A/D Director (for smaller cranes the crane operator can be the A/D Director)
    c. Qualified rigger
    d. Competent person to complete shift inspection of rigging hardware and slings
    e. Qualified signalperson
    f. Competent person for crane inspection (might be Crane operator)
    g. Competent person for wire rope (crane hoisting line) inspection (Might be Crane operator)
10. For tower crane:
    a. A pre-assembly and post assembly written inspection completed by the qualified person
    b. A post erection third party written inspection
    c. Hazard Analysis work plan for the assembly, disassembly, and any modification (IE tower section jumps)
11. Subcontractor to submit Lift Plan if required. (See Crane Safety item #34 for details)

Subcontractor Required to Maintain on-going Documentation:

1. Shift inspections
2. Updated annual OSHA inspection
3. Monthly written crane and rigging inspections
4. Required Crane / Lift Personnel Qualification and Documentation.
    a. Employer Certification must be submitted to RC ANDERSEN Crane Coordinator for the following Crane / Lift Personnel.
        i. Assembly/Disassembly (A/D) Supervisor
        ii. Lift Director
        iii. Crane Operator
        iv. NCCCO Or equivalent Nationally Accredited Certification (acceptable to RC ANDERSEN Crane Coordinator, current and for applicable crane)
        v. Physical Card / Medical Examination (acceptable to RC ANDERSEN Crane Coordinator, current and passing – e.g., DOT)
        vi. Local Crane Operator's License (where applicable)
        vii. Rigger
        viii. Signal Person

5. Required Crane Documentation Verification

a.	Crane Plan	RC ANDERSEN review
b.	Post-Erection/Assembly Inspections and Tests	(where applicable)
c.	Passing, current Comprehensive Inspection Report	RC ANDERSEN review
d.	Supplemental Deficiency Correction Report	(if applicable)
e.	Maintenance Log - Most recent three (3) services	(initial visual)
f.	Latest Monthly Inspection Report	(initial copy)
g.	Operating Manual	(initial visual)
h.	Load Chart(s)	(initial visual)
i.	Pre-Shift - Operational Inspection & Test Report	(initial copy, then random visual)
j.	Lift Plan/Critical Lift Plan	RC ANDERSEN review
k.	Power Line Permit	(for work within 20' of Power Lines)
l.	Local Crane License	(where applicable)
m.	Local Equipment License	(where applicable)
n.	Rigging Inspection Log	(initial copy, then random visual)

Tower Crane Anti-Collision/Anti-Encroachment System

Tower cranes must be fitted with "zone control devices" that automatically prevent loads from entering public spaces and other restricted areas when required as determined by RC ANDERSEN. This may also be required to prevent multiple tower crane jib/load-line to tower crane counter-jib contact. The device must also provide an audible warning to operators to avoid tower crane jib to tower crane jib contact.

Crane Access Security

A means of preventing access to crane towers/cabs *must* be provided.

Tower Crane Electrical

1. Plans should be in place for emergency back-up power.
2. The power disconnect for tower cranes must be fitted with a lockable handle, lockable cover and be of a NEMA 3 type.
3. The power cable must be protected from physical damage. Inspections should be made as necessary to ensure adequate clearance at deck openings.
4. The tower crane must be grounded as per manufacturer's specifications.

5.16 CRANES & HELICOPTER PADS

Hold a preplanning meeting with all relevant parties to discuss and document the procedures for operations affected by helicopter landings. Identify a single point of contact to interface between the facility and the jobsite.

THIS IS AN EXAMPLE OF AN INCOMING FLIGHT PROCEDURE WHERE HELIPADS MAY BE AFFECTED. EACH JOBSITE IS TO ESTABLISH A SITE-SPECIFIC PLAN.

1. Facility contacts RC ANDERSEN field personnel who in turn notify crane operator that flight is incoming with estimated time of arrival.

2. Crane operator confirms that the pick can be put on hold and places the boom in an agreed upon safe position to allow the helicopter to land. The crane does not move until helicopter is no longer on pad or until advised by the facility/RC ANDERSEN to start work again.

3. If crane operator is going to take longer than 10 minutes getting into a safe position, he will let the facility/RC ANDERSEN know how long it will take to get into the safe position. The Facility will then determine if flight may be diverted to another facility.

4. **If the crane is in operation and the Facility/RC ANDERSEN cannot make radio contact, the facility is to divert all incoming flights until they can confirm that the crane has acknowledged the incoming flight and the crane is in the safe position.**

5. For long duration jobs, test the radio system on a regular basis (i.e., test radio via contact with crane operator at 7:00 AM and 12 Noon - Monday thru Friday. On days that are **NOT** normal workdays (Sat., Sun., Holiday) a RC ANDERSEN supervisor will notify the facility prior to the crane starting that the crane operations.

6. At the end of the work shift, call the facility to say that the work shift is completed, and the crane has been stowed in a safe position.

7. If on a normal workday (Monday thru Friday), the crane is going to shut down due to weather, lack of work, etc., place the crane in a safe position and RC ANDERSEN must contact the facility to inform them that the crane will not be in operation.

8. When the helicopter pad is closed due to construction activities, only the RC ANDERSEN Superintendent has the authority to give the facility the clearance that the construction activities that closed the pad are complete.

Incoming Flight / Crane Worksheet

RC ANDERSEN Contact Name:		Phone Number:	
Crane Operator's Name:		Phone Number:	
Facility Contact Person:		Phone Number:	
Crane Stoppage Procedure:			
Resume Crane Operation Procedures:			
Authorized By:			

5.17 CRANE & DERRICK SUSPENDED PERSONNEL PLATFORMS

Use of an employee work platform hoisted by cranes is permitted when the following requirements are met:

1. The use of a suspended personnel platform is prohibited unless it can be determined that no less hazardous means of access to the work are available or practical, except for steel erection. Local regulations may apply further restrictions.
2. The use of suspended personnel platform is for personnel travel, not for material transport.
3. The use shall be limited to wind speeds of 20 miles per hour. A qualified person must determine if, considering weather conditions, it is safe to lift personnel.
4. Do not use platforms during high winds, electrical storms, snow or other adverse weather conditions, which could endanger workers.
5. The total load must not exceed 50 percent of capacity at the crane's current configuration.
6. Conduct a test pick for each crane set up or shift.
7. The platform must be hoisted a few inches off the ground with the workers, tools and material and inspected by a competent person to ensure the platform is secured and properly balanced. Before hoisting any personnel, correct any deficiencies found during the trial.
8. Perform a proof test prior to any hoisting.
9. A pre-lift meeting of the operator, signal person, employees to be hoisted and the person responsible for the task to be performed must be held and documented with sign-off and submitted to RC ANDERSEN.
10. Complete and submit to RC ANDERSEN a Crane Lift Work Sheet and test pick for each configuration change or new configuration.
11. Signal Personnel shall be Certified.
12. Subcontractors must have on site documentation of crane lifting capacity.
13. Verify the stability of the footing during the full cycle operational test.
14. Pre-lift plans showing boom angle and maximum intended load should be prepared for each group of lifts.
15. A firm footing, uniformly level with 1 percent, or one foot in 100 feet, should be provided for cranes. Appropriately, use outriggers for cranes during hoisting.
16. The load line on which the platform is suspended should have control load lowering. A "free fall option" should not be used with suspended work platforms.
17. Lifting bridles for platforms shall consist of four legs attached so that stability of the platform is ensured. The bridle shall be secured by a shackle, master link or attached by a closed hook, which cannot be opened due to position of the load on the hook. Eyes must have thimbles and legs should be equally loaded.
18. Enclose the platform with a guardrail system, including a top rail of approximately 42 inches, mid rail and a toe board. The guardrail system should withstand a load of at least 200 pounds applied in any direction.
19. The suspension system shall be designed to minimize tipping of the platform due to movement of employees occupying the platform.
20. Signals should always be visible or audible to the crane operator.
21. Engage all brakes when stationary.
22. Equipment must have properly functioning devices, that is, boom angle indicators, hoist limiting devices, anti-two-block devices and controlled load lowering devices. Do not operate equipment if these devices are not working. Do not attach a personnel platform directly to a luffing jib.
23. The platform must support its own weight and five times the maximum load and meet other structural requirements (e.g., guardrails, welds, grab rails, access gates/doors, headroom, and overhead protection).
24. Post rated capacity on the platform.
25. Hoisting must be in a slow, controlled, cautious manner with no sudden movements.
26. Keep all body parts inside during hoisting, except the signal person giving direction.
27. Secure the platform to the structure before it is exited or entered.

28. When the signalperson is not in the platform, employees being hoisted must be in direct communication with the operator and signal person.
29. Hoisting personnel is generally prohibited near power lines see CFR1926.1400 for details.

5.18 DEMOLITION

REFERENCES:
29 CFR 1926 Subpart T

1. Conduct a preplanning meeting to review the assessment and engineering survey.
2. Prior to the start of demolition, an assessment must be performed to determine occupational health hazards, structural stability issues, environmental, utilities, fire and explosions potentials. Submit survey to RC ANDERSEN Superintendent for review.
3. Demolition of major structural members requires a written engineering survey by a registered professional engineer. The engineering survey must include building characteristics, shoring requirements and demolition sequencing method of procedures. Submit survey to RC ANDERSEN for review.
4. Adjacent buildings or structures that are directly affected must be included in the engineering survey.
5. Identify all utilities, underground and overhead and protected prior to the start of demolition.
6. All utilities that are going to be abandoned must be disconnected, cut and capped before the start of demolition.
7. Pedestrian and road traffic must be redirected, protected, and/or restricted prior to the start of demolition.
8. During the demolition, if any environmental issues arise, refer to RC ANDERSEN's Environmental Management Plan.
9. Maintain access and egress throughout the demolition.
10. Remove debris with a trash chute or a means to ensure proper protection during removal.
11. When explosives and/or blasting are used, strict compliance of OSHA 1926, follow Subpart U.
12. Post signage in areas to clarify limits and/or expectations.
13. Side balling requires prior approval from the RC ANDERSEN Safety Department and possibly the Owner's Representative.
14. Develop a color-coding system to determine when mechanical, electrical, plumbing, nurse call, pneumatic tube system, telephone or data, or structural components (walls, ceilings, etc.) can be demolished. Remember **Red Light / Green Light.**
    a. **Green Paint:** GO indicates items are to be demolished
    b. **Red Paint:** STOP indicated items are NOT to be demolished
    c. Unpainted: STOP indicated items are NOT to be demolished or have not been cleared for demolishing.
15. Mandatory PPE includes 100% use of helmets, appropriate safety eyewear, and cut resistant level gloves. Depending on the task, additional PPE should be identified and required (i.e., Kevlar sleeves).

5.19 DEMOLITION CHECKLIST AND PROCEDURES

Listed below are procedures or guidelines specifically for demolition and associated infrastructure.

Before demolition work starts, the demolition contractor will perform the following tasks:

Submit:

1. Site specific Health and Safety Program including a structural engineering survey by a registered PE.
2. State and local safety and health regulated Demo Permits, Dust Control, Noise Control, Mechanical equipment, Site Specific Safety plans, Licensed Safety Manager, and Fence permits as required.
3. Respiratory Protection Plan, if warranted
4. Site specific engineering survey or demolition plan [1926.850 (a)]
5. Site specific fall protection plan, if warranted
6. Letter or proof of employee fall protection training
7. Inspection/certification of crane [1926.753 and 1926.550]
8. Company letterhead stating competent and qualified individuals on site
9. Daily Pre-Task Planning
10. Weekly Toolbox Talks
11. Weekly Jobsite Inspections

Electric Make safe for demolition:

1. Ensure LOTO is in place, and no live work is performed. All work in compliance with NFPA 70E, State, Federal and local guidelines, Proper PPE required.
2. Obtain JHA for electric make safe. Review JHA with workers and have them endorse it.
3. Physically mark all de-energized circuits at location (switch & receptacles).
4. Tic Trace and identify all energized feeds.
5. Ensure via tic trace, the circuits to be de-energized, protected and will not interrupt business for adjacent tenants.
6. Ensure GFCI power source is available.
7. Lock electric closet door or panels.

Mechanical Make safe for demolition:

1. Ensure that mechanical equipment, moving machinery, steam lines, water lines, gas lines, and other operating systems be de-energized by means of LOTO.
2. Equipment and machinery must be in a zero Mechanical State (ZMS).

General demolition:

1. Verify and coordinate with building engineer that smoke detectors / fire alarms are covered and offline. Obtain a bagging permit.
2. Obtain JHA from demolition contractor and review with workers. Obtain sign off from workers.
3. Ensure adequate fire extinguishers are in place (1 for every 3000 sf. of floor area).
4. Ensure first aid kit for workers is on site.
5. Protection of blinds and convector covers.
6. Filter media installed on return duct and HVAC equipment including fan boxes.
7. Verify Negative air machines (s) are in place and adequate (HEPA fans.)
8. Perform a pre-punch list on all finishes to remain prior to demolition.
9. Install protection of public areas, elevators, and loading dock.
10. Ensure proper PPE use and post required safety sign.
11. Conduct an on-site safety training orientation, identify competent person and review JHA.
12. Identify location of critical room above, below and adjacent to area to avoid flooding.

Topics of Discussion

Environmental issues:

1. Asbestos
2. Written clearance sample results
3. Lead or Lead base paint
4. Mercury
5. PCB's
6. Light bulbs
7. Hydraulic oil
8. Freon or refrigerant needs to be recovered from air conditioning, refrigerators/freezers, and or water fountains
9. Cooling Towers need to be treated
10. Radioactive EXIT signs
11. Fixed fire suppression systems ex. Halon
12. Mold
13. Others

Utility disconnects:

1. Electrical
2. Water
3. Sewer
4. Natural Gas
5. Telephone / Fire Alarm/ Security
6. Others

Fire Protection:

1. Portable fire extinguisher
2. Hot Work Permit System
3. Standpipe/Sprinkler system status
4. Temporary Sprinkler, Temporary fire/smoke, or heat detection
5. Fire watch

Fall Protection:

1. Review plan
2. Review Zero Tolerance Policy
3. Demolition Procedures- Review Demolition Policy
4. Use of shafts or holes in the floor for debris drop
5. Entrance to the building to be maintained and protected

Dust Control:

1. Review plan
2. Respiratory protection requirements

Water leaks inspection:

1. Prior to demolition, identify live sprinkler, tag with danger tape.
2. Identify and confirm all water source(s) are shut off in demo scope and drain systems down.
3. Verify location of sprinkler shut off valves, review with all workers.
4. Post live water plan, review with all workers.
5. Ensure a water crash kit is available consisting of two water barrels, Wet vacuum, funnel, mop and pail are in place.
6. Inspect floor during and after demolition for water leaks upon refill of sprinkler system (if drain down is allowed by building) review area after refill.

5.20 DRIVING SAFETY COMMERCIAL & OFF ROAD

1. GENERAL REQUIREMENTS

a. Driver is trained and has a valid and applicable CDL/driver license
b. Driver is mentally and physically fit and not fatigued or impaired
c. Vehicle is maintained and inspected and suitable for the trip
d. Any loads being transported are properly secured
e. Travel plan is prepared and understood by all
f. Driver will obey local, state, and federal road rules and requirements
g. SEATBELTS shall be worn.
h. No handheld mobile devices are to be used while operating the vehicle
i. Report all accidents to supervisor immediately

2. BE A DEFENSIVE DRIVER

a. Recognize potentially hazardous situations in advance
b. Allow time to safely maneuver past hazards.
c. The defensive driver assumes that other drivers may make mistakes and is on guard in the event an error is made.
d. Steer clear of aggressive drivers.
e. Be courteous, give right-of-way, allow others to merge, or to pass

3. PRE-DRIVE INSPECTION

a. Check lights/flashers, wipers, horn, and mirrors
b. Ensure load is adequately and properly secured for the trip
c. Check your tires for proper tread and tire pressure
d. Test your brakes at low speed
e. Check that you have the proper safety equipment (flares, jack, spare tire, etc.)

4. REDUCED VISIBILITY IN FOG, DARKNESS, RAIN, AND SNOW

a. Reduced visibility conditions include twilight, darkness, rain, snow, and fog.
b. Reduce speed to maintain safe stopping distances
c. Turn on your headlamps (low beam) or fog lamps to increase visibility.
d. Use emergency flashers in extreme conditions.
e. Be prepared to get off road and wait for conditions to improve if necessary.

5.21 DRONES SMALL UNMANED AIRCRAFT VEHICLE/SYSTEM (UAV) & (UAS)

https://www.faa.gov/uas/

https://jrupprechtlaw.com/faas-new-far-part-107-drone-operators-need-know

1. **Operator Certification and Training:**
    a. All operators must provide a copy of their valid FAA Part 107 Remote Pilot Certificate.
    b. Pilots must recertify every 24 months.

2. **Drone Registration and Equipment Standards:**
    a. Drones weighing more than 0.55 lbs. (250 grams) must be registered with the FAA and clearly display their registration number.
    b. Drones must be equipped with mandatory Remote ID technology to broadcast their location and identity in real time.

3. **Operator Manuals:**
    a. Manuals must mandate pre-flight and post-flight inspections, including checks of battery levels, propeller integrity, and weather conditions.

4. **Flight Operational Limits:**
    a. Regulations strictly limit drones to flying below **400 feet** above ground level and maintaining a constant Visual Line of Sight (VLOS) with the operator.
    b. Operations over nonparticipating persons are generally prohibited unless under a covered structure or the drone meets a safety category 1-4 (e.g., Remote ID, weight, parachute, flight duration, propeller guards, AW certification).

5. **Airspace Management:**
    a. Operators must verify airspace restrictions using tools like **LAANC** (Low Altitude Authorization and Notification Capability) or **FAA Drop Zone** for near-instant approval to fly in controlled areas under 400'.
    b. "No-Fly Zones" to be established for specific site areas, including near cranes and power lines.

6. **Emergency Response and Documentation:**
    a. Pilots/Operators must maintain digital logs of every flight, incident, and maintenance activity for potential FAA or OSHA audits.

7. **Insurance Requirements:**
    a. Insurance limits of a minimum of $2M of aviation coverage
        i. Aviation coverage may be added to the Commercial General Liability policy by endorsement
        ii. RC ANDERSEN must be added as an Additional Insured. A Waiver of Subrogation applies.

5.22 EARTHWORK EXCAVATIONS AND TRENCHING

REFERENCES:

29 CFR 1926.650 – 29 CFR 1926.652 and Appendix "A" thru "F" – Excavation
29 CFR 1926 Subpart P – Appendix F/Selection of Protective Systems
Standard Interpretations - Registered Professional Engineer Approval Requirements (Combination Trench Shield/Sloping System Trenches with A Depth Greater Than 20 Feet.
Standard Interpretations - Permissibility of Using Average Excavation Depth to Determine Protective System Requirements for The Excavation
OSHA Construction eTool – Trenching and Excavation
OSHA Directives - Inspection Procedures for Enforcing the Excavation Standard, 29 CFR 1926, Subpart P
OSHA Safety and Health Topics – Trenching and Excavation
OSHA Construction Safety & Health Outreach Program – Excavation
OSHA Technical Manual - Excavations: Hazard Recognition in Trenching and Shoring

1. Subcontractor is responsible to locate all underground utilities and other underground objects on a drawing for review at the pre-planning meeting which is required for all excavation work potentially exceeding greater than or equal to 5'-0" in depth. Proper sloping, benching, shielding or shoring is required before employees are permitted to enter.
2. Where required prior to soil disturbing activities, such as backfilling operations, driving ground rods, auguring, driving fence posts, etc., subcontractor is to submit a ground disturbance permit to RC Andersen.
3. The subcontractor's competent person is to determine the soil type for identification of the proper protective system. If a variation is requested, a registered professional engineer is to approve the protective system in writing.
4. A registered professional engineer's stamp is required to classify any ground conditions as "stable rock".
5. Before employees enter any excavation, it must be inspected a minimum of daily, more frequently if conditions warrant, by the subcontractor's competent person.
6. The Subcontractor is responsible to identify all underground utilities via One Call system (or equivalent) or a private locator. On private property, the services of a private contractor may be required.
    a. Use methods such as electromagnetic, ground penetrating radar (GPR), tomography, vacuum trucks or hand digging, etc. in addition to traditional, required utility location services to locate utilities. Never operate mechanized equipment within two feet (2') of any underground utility.
    b. Conduct a perimeter sweep or similar measures to check for the potential of underground utilities within the site footprint, as applicable.
7. Machine (heavy equipment) disturbance of soil (digging, backfilling, etc.) within twenty-four inches (**24"**) of an underground utility is prohibited on RC ANDERSEN projects. **Check local jurisdiction requirements for greater** safe distance requirements for certain utilities.
8. During excavation, especially in critical utility areas, Subcontractors are required to have a competent person present to identify and manage hazards, such as changing soil conditions, or to stop work.
9. Operators shall wear seat belts at all times.
10. Subcontractor shall submit a written plan for any situation which, OSHA may consider a confined space such as: any excavations 4'-0" or greater, caissons, and underpinning pits, confined spaces requiring air monitoring, full-body harness, full time standby and rescue pre-planning.
11. Where required, identify all excavations less than 6'-0" deep with danger tape as a minimum; greater than 6'-0" by hard barricade. Protection must be commensurate with hazard; snow fencing may be required to minimize an attractive hazard.
12. Ladders or ramps are required for trenches greater than 4'-0" for egress no further than 25'-0" from workers.
13. Ladders must extend 3 feet above surface of the excavation.

14. Workers exposed to vehicular traffic shall wear high visibility vests.
15. Obtain street closures and permits from the subcontractor before start of work when required.
16. Trained flaggers are to coordinate truck egress off and on the site. (comply with city/state certifications)
17. Truck wash station required as needed.
18. Dust & Noise control required.(comply with city/state requirements)
19. Standard or white noise backup alarms are required on all construction vehicles and/or the use of a spotter.
20. Assess de-watering before the start of work, submit a written plan and maintain.
21. A registered professional engineer shall review adjacent structures for structural stability and findings shall be documented in writing. Photographs by a professional photographer of adjacent properties are recommended.
22. Heavy Equipment
    a. Subcontractor shall submit a plan stamped by a registered professional engineer for all ramps for heavy equipment, including anticipated surcharges on adjacent structures.
    b. Separation of Workers and Heavy Equipment – Address in safety orientation, the Site Logistics Plan, and daily PTP.
    c. Operator Certification – Ensure equipment operators hold their employer certifications to operate each make and model of heavy equipment prior to the starting work. Local operator and/or equipment licensing may also be required. Ensure all forklift operators are trained and certified.
    d. In addition to a properly functioning back-up alarm, the use of a trained ground guide and/or a proximity warning device is recommended for all types of heavy equipment while traveling in reverse and in close proximity to personnel.
    e. Complete and record pre-shift equipment inspections using applicable inspection report forms for all heavy equipment. Make inspection logs available upon request to any RC ANDERSEN representative.
    f. Suspension hoisting (“free-rigging") by heavy equipment (other than cranes) is prohibited, except when attachment points and/or hoisting device designed and engineered for use with the specific piece of heavy equipment is used in conjunction with the applicable load chart. Control potentially excessive movements of suspended loads through the use of tag lines, etc.
    g. Ensure “quick-hitch" attachment devices are twin-locking (fail-safe) type and/or have a locking mechanism that prevents unintentional disconnection of an accessory in the event of a primary connection failure. Operators ensure accessories are properly attached by conducting a visual inspection and operational test.
    h. Ensure the load/bucket/forks are grounded and the engine is shut off prior to exiting motorized equipment.
23. A registered professional engineer shall approve protective systems not specified by OSHA or manufacturer tabulated data or those used in a way that are not fully independent from one another.
24. When utilizing water removal equipment, a competent person shall be present while workers are in the trench.
25. Where protective system (OSHA specified sloping or benching in 1926 Subpart P, Appendix B) cannot be maintained, implement a comparable system designed by a registered professional engineer
26. Materials and equipment used for protective systems shall be free from damage and defects that might impair their structural integrity.
27. Utilities and especially electric and gas lines shall be identified and protected from damage.
28. Protect employees from loose rock or soil.
29. Train employees in hazards associated with excavation work per OSHA.
30. Follow EPA/DER requirements per local authorities.
31. Analytical Lab Soils testing may be required if necessary.
32. Hand digging is required in the areas of anticipated or known underground utilities.

33. The tops of sheer walled trenches 6’-0 or deeper, such as trench boxes, are a fall hazard and shall be guarded in accordance with OSHA regulations.
34. The tops of those trench boxes shall be left up a minimum of 42” or other guardrail systems will be required.
35. Blasting, pile driving, and caissons require a separate preplanning meeting.
36. In accordance with OSHA, a fall protective system may be required at excavations 6’-0 or deeper.
37. Tunneling activities will require extensive pre-planning up to and including design by a registered professional engineer.

5.23 ELECTRICAL SAFETY

REFERENCES:
29 CFR 1926 Subpart K – Electrical Safety Requirements
29 CFR 1926.405 – Wiring Methods, Components, and Equipment for General Use
29 CFR 1910 Subpart S – Electrical (29 CFR 1910.301 thru 29 CFR 1910.399 and Appendix
OSHA Publication #3120 – Control of Hazardous Energy: Lockout/Tagout
OSHA Publication #3075 – Controlling Electrical Hazards
OSHA Safety and Health Topics - Control of Hazardous Energy (Lockout/Tagout)
29 CFR 1926.56 - Illumination
Lock-out/Tag-out (OSHA 1910.147)

National Electrical Code (NFPA 70)
NFPA 70 E - Standard for Electrical Safety in the Workplace

The following planning considerations are not all-inclusive as they pertain to the scope of work in the contract; nevertheless, they highlight important safety considerations that must be observed in the performance and execution of the contract. In all cases, adhere to State and Federal requirements. As a minimum, the items listed below must be done when performing electrical work and using electrical power.

1. All electrical work installation and wire capacities, both temporary and permanent, shall be in accordance with the pertinent provisions of the current edition of the National Electrical Code, NFPA 70 E and OSHA 29 CFR 1926 Electrical Standards for Construction, Underwriter's Laboratory and local codes if applicable. Only trained, qualified and licensed personnel shall be permitted to work on electrical / mechanical equipment and installations.
2. Failure to follow 2024 NFPA 70E (Standard for Electrical Safety in the Workplace 2024 is subject to the Zero Tolerance Policy).
3. All extension, power tool and temporary lighting cords are required to be designed for hard or extra hard usage. Cord sets made from Romex, flat cord, lamp cord or other similar cord types are not permitted.
4. Employees shall check the test and re-set functions of GFCI receptacles and/or listed portable GFCI devices where permanent building power is utilized at the start of each shift.
5. All temporary power will be GFCI protected and in compliance with the latest edition of the NEC, OSHA, and other applicable codes, including subcontractor/ owner requirements. This includes all cord and plug appliances/devices. This is not limited to 120 V circuits.
6. GFCI pigtails are required when plugging into permanent power and must be plugged in at the receptacle.
7. Temporary lighting and power drops require a fully jacketed cable assembly, and all wiring/baskets shall be properly supported by the basket. Hang temporary electrical and lighting wiring with non-conductive material.
8. Tri-plex and Quadra-plex installations for temporary power are not permitted.
9. In areas where temporary GFCI receptacles are not available (i.e., renovations), all subcontractors shall use listed portable GFCI devices.
10. Each contractor or subcontractor shall implement their own written Lockout/Tagout program. The site-specific Lockout/Tagout Policy is to be used in addition to individual LOTO programs, for all utility interruptions.
11. A Shutdown/Disruption Request (Utility Interruption Request) is required in advance of the work. Use project or facilities forms and coordinate accordingly, otherwise use form found in this manual.
12. All cord and plug connections shall be listed for the purpose when exposed to wet locations or other measures must be taken to prevent exposure.
13. Repairs to extension and tool cords are not permitted except for the replacement of cord caps by a qualified electrician.

14. The use of UL listed specification grade hard or extra hard duty cord caps is required when replacing the original pre-molded assembly.
15. Trouble lights shall not be used as extension cords.
16. All temporary power panels, SER cables and disconnects shall be labeled, capable of being locked out and properly rated for the circuit it protects, with no open knockouts or missing blanks.
17. A pre-planning meeting is required for all work near high voltage.
18. Hang temporary electrical and lighting wiring with non-conductive material.
19. When possible, extension cords shall be hung in walkways or corridor or protected.
20. The electrical Subcontractor responsible for maintaining temporary power and lighting is also responsible for conducting monthly testing of all GFCI protected outlets and be documented.
21. Label temporary electrical outlets to identify its circuit connection.
22. Extension cord sets used with portable electric tools and appliances will be three-wire type, equipped with three pronged plugs, and will be designed for hard or extra hard usage. 12-gauge wire size is preferred for general use, and 14-gauge cords are the minimum size permitted for single tool use (i.e., a single screw gun). 16-gauge cords are never permitted. Do not use cords with worn, frayed or broken insulation or with loose plugs.
23. All conductors used for temporary power that consist of a raceway of any type, or any type of metal sheathed cable must have ALL splices in a box or conduit body, and all covers installed. CFR 29 1926.405(a)(2)(ii)(H), NEC 590.4(G).
24. Energizing and securing all circuits shall be coordinated with the owner and RC ANDERSEN.
25. Any contractor exposed to electrical hazard will implement the provisions of NFPA 70E ***current NFPA 70E standard*** (Standard for Electrical Safety in the Workplace) including:
    a. Establishing and verifying an electrically safe work condition
    b. Determine all possible sources of electrical supply to the specific equipment. Check applicable up-to-date drawings, diagrams and identification tags.
    c. After properly interrupting the load current, open the disconnecting devices for each source.
    d. Whenever possible, visually verify that all blades of the disconnecting devices are fully open or that draw-out type circuit breakers are withdrawn to the test or fully disconnected position.
    e. Release stored electrical energy.
    f. Block or relieve stored nonelectrical energy in devices to the extent the circuit parts cannot be unintentionally energized by such devices
    g. Apply lockout/tagout devices in accordance with a documented and established procedure.
    h. Use an adequately rated portable test instrument to test each phase conductor or circuit part to test for the absence of voltage.
    i. All subcontractors engaged in electrical work, i.e., elevator constructors, hoist erectors, etc. will be required to submit an Electrical Safe Work Practice Plan which includes the elements of NFPA 70E.
    j. No workers will be allowed to work on energized circuits or equipment prohibited in NFPA 70E.
    k. Any energized work which is justified in accordance with NFPA 70E shall be done with all personal protective equipment as specified in NFPA 70E.
    l. Submit a written procedure; including the PPE matrix of NFPA 70E before energized work is approved.
    m. Submit a written plan of Electrical Safe Work Practices before mobilization.
    n. Submit a list of all qualified persons capable of performing energized and lockout/tagout work verification of certified NFPA 70 E training within the last 3 years.
26. Failure to follow NFPA 70E is subject to the Zero Tolerance Policy.
27. The electrical contractor must always keep electric closet door locked or if door cannot be locked, then panel must be locked with no access given to anyone except RC ANDERSEN and the building management. The electrical contractor will provide and install warning signs with contact information for

accessing the panel for electrical assistance on the door to the electrical room as well as each energized panel within indicating the voltage present in each panel.

28. Identify with a label or sign whether electrical panels and equipment are energized.
29. All splices for permanent wiring shall be enclosed in junction boxes, properly covered, and labeled before they are energized.
30. All permanent and temporary panel boards/switch boards, motor control center, blanks inserted, etc. shall have dead front covers in place before being energized.
31. Do not suspend temporary lighting wiring from piping, such as sprinkler system, water system, or sanitary system.
32. Temporary lights shall be equipped with guards to prevent accidental contact with the bulb or the socket.
33. Outlets exposed to the elements must be rated and designed for the environment.
34. UF, SE, or NM cabling used for temporary electrical power or lighting are not to be located in poured concrete. CFR 29 1926.403(b)(2).
35. General Electrical Safety measures:
    a. Assume all electrical wires and equipment are energized. If existing conditions contain exposed conductors or J- boxes without covers, correct these conditions before anything else.
    b. Do not wear watches, chains, rings or other metallic objects, which could act as conductors of electricity around electrical circuits.
    c. Before leaving the job at lunch or at the end of the shift, test covers, insulators, and equipment to ensure they are free from exposed energy sources.
    d. Ground all electrical equipment whether portable or fixed. Double insulated portable tools do not need to be grounded, but they must be in good condition and inspected before each use by the tradesman. Damaged electrical tools and equipment are not permitted on site.
    e. The Superintendent shall enforce the use of Ground Fault Circuit Interrupter Devices by RC ANDERSEN and subcontractor workers on all electrical tools and extension cords. Use Ground Fault Circuit Interrupters (GFCI) on all wiring systems.
    f. 36. The electrical contractor must have in place a LOTO procedure that must be submitted at the beginning of the job. All electrical workers will be trained in the LOTO procedures, and evidence of the training will be submitted available to RC ANDERSEN upon request.
36. Lockout/Tagout Guidelines:
    a. Notify all affected employees of the impending lockout situation, the reason for it, and estimated start and duration times.
    b. Place equipment or circuits in a de-energized position.
    c. Lockout and tagout all in-line points of control. In most cases, this may be more than one place or more than one lock if several people are working on the equipment.
    d. Lockout verification:
        i. Verify that the locked-out equipment or controls cannot be overridden
        ii. Test the equipment to be certain that the locked-out equipment or circuit is de-energized and not simply malfunctioning.
        iii. Press all start buttons to see if the equipment starts.
        iv. Ensure the system you will be working on is the same one that has been locked out.
    e. Leave all locks and tags in place until work is completely finished.
    f. Do not remove a lock except by the person who placed it there.
    g. Only immediate supervisors are to authorize emergency removal of a lock or tag.
    h. Before restarting the equipment, verify the following:
        i. Remove all tools and other items.
        ii. All machine guards are in place.
        iii. All electric systems are reconnected.
        iv. All employees are clear of equipment.
37. Electric / Bus Room Safety Measures:

a. Do not enter or work in the bus room / electrical closet alone.
b. Do not leave any electrical closet doors open or unattended.
c. Do not carry any tools or materials above your waist while in the bus room.
d. Unless grounded, do not work on any bus, bus structure, cable, or disconnect switch.
e. De-energize equipment before removing and replacing power fuses.

38. Assured Equipment Grounding Conductor Program: All branch circuits, other than those operating at 15/20 amperes 120 Volts nominal, which are not GFCI protected shall be in compliance with the Assured Equipment Grounding Conductor Program [29 CFR 1926.404 (b) (1) (iii)]. This includes all cord sets and receptacles, which are not a permanent part of the building, or structure and equipment connected by cord and plug which are available for use by employee. The requirements included but not limited to the following as detailed in 1926.404 (b) (1) (iii): which includes:
    a. a written description of the program
    b. designated competent person
    c. daily inspection
    d. testing for continuity and correct attachment to be performed:
        i. before first use
        ii. after repairs
        iii. after any incident which may have caused damage
        iv. monthly
    e. Color code tape may indicate quarterly verification of testing as follows:
        i. Jan – Mar: White
        ii. Apr – June: Green
        iii. July – Sept: Red
        iv. Oct – Dec: Orange

5.24 ENVIRONMENTAL MANAGEMENT PLAN

REFERENCES:
EPA Construction Industry Compliance Assistance Center
OSHA Publication – Globally Harmonized System (GHS)
OSHA Publication - Guidance for Hazard Determination
29 CFR 1926.65 and Related Appendices – Hazardous Waste Operation and Emergency Response

1. The purpose of RC ANDERSEN's Environmental Management Plan is the prevention of construction related environmental incidents or exposures to our employees, or vendor employees, the owner's employees, the general public, property or buildings.
2. This plan applies to all construction related work activities contracted to and/or controlled by RC ANDERSEN.
3. The objectives of this environmental management plan are:
    a. Implement and enforce Safety, Health and Environmental Policies and Procedures that will minimize the impact of construction activities.
    b. Conduct regular jobsite inspections on each project to ensure compliance with RC ANDERSEN's environmental management plan.
    c. Staff all RC ANDERSEN jobsites with a RC ANDERSEN Superintendent who is trained to recognize potential environmental hazards associated with typical construction activities.
    d. Conduct monthly safety and health inspections to ensure overall compliance with RC ANDERSEN, local, state and federal regulations, policies and procedures.
    e. Ensure all contractors working on RC ANDERSEN jobsites are advised of this management plan and understand the potential impact of their construction on the overall jobsite, and the public.
4. Before any renovation, demolition of an existing building, or excavation an initial assessment must be completed by an environmental consultant to determine what, if any, environmental hazards are present. A detailed report and test results of the environmental hazards associated with the property must be forwarded to RC ANDERSEN prior to mobilization. The environmental hazard statement must be made available to all RC ANDERSEN lower tier sub-contractors and employees and shall include the exact location and nature of the hazards as well as the owner's abatement plan.
5. Any project with construction adjacent to occupied spaces must consult with the RC ANDERSEN Safety Department and/or an environmental consultant to develop an action plan to properly maintain a separation between occupied spaces and the jobsite. Recommended procedures include maintaining negative pressure within the construction space, tightly sealed separation, door sweeps, wet removal of building materials, etc.
6. Any time an environmental issue arises on a jobsite contact the RC ANDERSEN Safety Department and complete and submit an Incident/Accident Report.
7. A Site-Specific Plan should be developed by the Project Manager for any jobsite with known environmental hazards.
8. When working in occupied buildings, such as healthcare facilities or laboratories a request for environmental clearance must be obtained from the owner before the start of work.

5.25 ENVIRONMENTAL PLANS AND PROCEDURES

1. An initial survey shall be conducted and reviewed during the pre-bid phase of the project.

2. A site-specific hazard assessment shall be conducted by an environmental consultant to identify the nature and location of anticipated environmental hazards.

3. The Safety Department shall be notified as soon as possible and included in the development of a site-specific environmental plan.

4. The services of an outside consultant may need to be obtained to assist in the hazard identification and abatement plan.

5. The site-specific environmental plan should include:
    a. Site survey data
    b. Identified hazard areas
    c. Written abatement plan
    d. Procedures for encountering unexpected hazards
    e. Procedures for workers not involved with the hazard
    f. Training and information distribution on the site
    g. Emergency and Environmental agency contact numbers
    h. Personal Protective Equipment (PPE) Recommendations

6. Conduct meeting with workers, union leaders, subcontractor representatives and safety personnel to inform any individuals associated, in any manner, with the jobsite of the known hazards, the procedures for hazard abatement and procedures for encountering unexpected environmental hazards.

7. RC ANDERSEN Safety Department will inform Risk Management as soon as possible when encountering an environmental hazard.

8. Maintain open lines of communications with all parties to allay unnecessary concerns (including the community if necessary).

9. Determine the criteria for the implementation of a Return-to-Work Plan.

10. Be sure that all documentation is thorough for future reference.

11. Adjust the Plan as needed for each jobsite.

5.26 ENVIRONMENTAL ISSUES ON A TYPICAL CONSTRUCTION SITE

Environmental Issue	Areas Found	Procedure to follow if found
Asbestos (Friable and Non-friable)	Pipe and boiler insulation Ceiling/floor tiles Wallboard/wall shingles Exterior roof material Troweled-on surfacing, i.e., fireproofing, plaster materials Unknown fire materials Pipe gaskets Transit material Found mostly in buildings built prior to 1970-72	- While working in building with asbestos containing material, all material that is suspect must be presumed to contain asbestos until otherwise determined by a Certified Asbestos Inspector. - If Asbestos containing material has been accidentally disturbed, stop work immediately and isolate the suspected area until testing results show the area to be clear. - Material that is presumed to contain asbestos will be considered to be asbestos and must be properly abated by a certified asbestos abatement contractor. - The only exception would be a building that has been certified asbestos free by a certified building inspector. - If the asbestos has been encapsulated or enclosed, these areas must be identified and properly labeled. All work on or near asbestos that has been encapsulated or enclosed must be closely coordinated with the owner. - Random air samples (both area and personal) might be required to assure continued compliance. If positive results are shown, stop until action plan is developed and completed. - If Asbestos Containing Material is present all OSHA, EPA, Local and State regulations will be followed.
Contaminated Soils (i.e., – PCBs, Volatile Organic Compounds, Metals such as Lead, Mercury and Arsenic)	Soils surrounding underground storage tanks Ground surface subject to infiltration by chemicals, oils spills, infectious waste, unknown substances Sand waste used to remove lead containing paint	- If during excavation, any soil shows new indication of contamination, all work must be stop until otherwise advised to continue by an Environmental Consultant and/or the owner. - All found contaminated soil must be properly handled and disposed of in accordance with local/state/federal guidelines.
Dust and debris	Demolition	- The best practice for control of dust from becoming an issue is to ensure all work is done using a water mist. - If work cannot be done wet, an action plan must be developed to contain dust the while the work is being done. - Consider the use of negative pressure and HEPA-filters.
Raw Sewage	Existing building piping system Excavation with unknown or unexpected sanitary sewer	- Precautions shall be taken to prevent exposure to raw sewage - Employers who have employees with a potential exposure on regular basis shall have a blood borne pathogen program and ensure workers are wearing proper PPE and offer the Hepatitis B Vaccination.

Environmental Issue	Areas Found	Procedure to follow if found
		- Employers whose employees have had an unexpected exposure shall complete an assessment and will be required to offer Hepatitis B Vaccination and Post-exposure Evaluation and Follow-up - Develop a clean-up plan
Lead Containing Paint	Painted surfaces both interior and exterior Lead-acid batteries Lead lined sheet rock Banned from paint products in 1978	- Before alterations, sanding or grinding of any painted surfaces in building renovation jobs which might have painted surfaces containing lead, a determination must be made by a certified lead inspector or a certified lead risk assessor, that the area is “free of lead-based paint”. Stop work in the area and isolate the suspected area. - Certified Lead Inspector should take both bulk and/or wipe samples for laboratory analysis or conduct X-Ray Fluorescence (XRF) field test. - All material found to contain lead must be handled and disposed of in accordance with local and state guidelines. - If lead is suspected, all OSHA related standards must be followed until testing results are negative.
Magnetic Fields	Magnetic Resonance Imaging (MRI) Magnetic sources for MRI	- Not an environmental hazard but could be an occupational hazard for any employees with pacemakers, who have had eye injuries with ferrous material, or with metal body plates of any sort. - All metal jewelry, debit/credit cards, and electronic devices must be removed prior to working around magnetic fields. - Be sure area is clearly marked with signage and that workers are aware of the hazards.
Mercury	Thermometers Thermostats Mercury Vapor Lamps Florescent light bulbs	- Any building material that is suspected to contain mercury must be properly disposed of in according to local or state guidelines. - Building fixtures that contain or could possibly contain mercury must be removed intact and stored in approved waste collection containers for proper disposal. - For Spill clean-up procedures contact the owner’s Safety and Health Department and/or RC ANDERSEN’s Safety Department.
Mold (Found in renovation jobs which building material is going to be removed)	Any areas where there is moisture from existing leaks or previous leaks within a building. Wall board (drywall) Insulation Ceiling tile Fire proofing material Any porous organic material	- The first step in stopping mold is to identify and abate the source of water infiltration. -In areas where mold is suspect, all building materials should be removed if possible. - Where all building material cannot be removed, an environmental consultant should be brought in to help determine the extent of the mold and what steps should be taken to eliminate the mold issue.

Environmental Issue	Areas Found	Procedure to follow if found
	(paper, wood, rug fibers)	
Mold (Found in new construction materials)	Normally found in jobs that are not watertight Wall board (drywall) Insulation Ceiling tile Fire proofing material Any porous organic material (paper, wood, rug fibers, etc.)	- The best practice of mold control is by ensuring the building is watertight prior to the start the drywall and insulation. - Where maintaining a watertight building is impractical, develop an action plan to keep supplies of building materials off the floor and covered to keep dry, make sure drywall is hung at least ¼ to ½ inch off the floor, use or DensGlass board instead of drywall products, etc. - To help verify a newly constructed building is mold free, an environmental consultant should be brought in during the building process to take moisture readings of building products and advise what procedures need to be taken when mold is likely.
PCBs (Polychlorinated biphenyls)	Chemicals used in electrical transformers and light ballasts used as cooling agents, common names are Aroclor, Askarel, Elemex, Inerteen, Chlorextol, Pyranol Production halted in 1977	- Light ballasts and electrical transformers must be considered contaminated with PCBs and properly handled and disposed of in accordance with local/state/federal guidelines until otherwise certified and labeled not to contain PCBs. - For Spill clean-up procedures contact the owner's Safety and Health Department and/or RC ANDERSEN's Safety Department.
Silica	Demolition Cutting/coring concrete products Cutting/coring stone/marble products Excavation	- The best practice for control of silica dust from becoming an issue is to perform all work wet. - If work cannot be done wet, an action plan must be developed to contain the silica while the work is performed. - Consider vacuum exhaust of area adjacent to saw blade.
Retention Ponds/Lagoons	Landfills	- Prior to the start of a job, a letter involving the hazards associated with the area must be received in writing. - Develop a plan to address known hazards.
Tanks and Drums	Used for storage of fuel oils, gasoline, acids, toxic chemicals, etc.	- All tanks and drums not associated with the construction activities should be removed prior to the start of work by a certified contractor to an approved location. - If during the construction, tanks (underground or above ground) and/or drums are found, stop work and consult with an Environmental Consultant and/or the owner. - All tanks and drums that are determined to have contaminated materials stored in them must be handled and disposed of in accordance with local/state/federal guidelines.

The above chart is a listing of some typical environmental hazards found on construction sites. Please use this chart as a reference. Any questions on this chart or environmental question should be directed to the RC ANDERSEN Safety Department.

5.27 MANAGEMENT OF ENVIRONMENTAL HAZARDS POLICY

If at any time we encounter Hazardous Materials on an Owner's site, we must review Owner's Contract and Inform Owner of the conditions:

RC ANDERSEN shall first review the applicable terms and conditions of our contract with the owner and then promptly inform the owner in writing of conditions identified.

If the owner is contractually obligated to perform all abatement work, the owner will hire the abatement company, perform the abatement work, and issue RC ANDERSEN a "clean letter" or equivalent documentation prior to anyone returning to work.

The clean letter or equivalent documentation must be posted. – see sample for an acceptable format.

If at any time we become contractually obligated to contract for abatement, please refer to the 'Management of Environmental Hazards Policy' located in the RC ANDERSEN the Policy Hub under Safety.

5.27.1 SAMPLE - ENVIRONMENTAL CLEAN LETTER

(Testing Company Name)

Clean Letter

This clearance approval pertains to the following Address and specifically the containment area defined below:

Description of Environmental Concern: (Type, nature of problem, location):

_____

_____

_____Project Name/Number: _____

Address: _____

_____

[RC ANDERSEN Co.] Project Representative: _____

Description of Containment Area: _____

_____

_____

Based on the abatement observations made by (Testing Company) personnel while on-site and the final sampling results performed on _____, abatement work the above-listed containment area is complete and the area is cleared for normal construction activities.

Prepared by: _____

Name of Testing CO Investigator

Date: _____

5.27.2 ENVIRONMENTAL AGREEMENT OF CONVENIENCE

"The Owner will hire an independent consultant to determine the means, methods, techniques, safety precautions and certify upon completion that the Work was performed properly. Whereas the Contractor does not normally perform this type of Work, but at the Owner's request and as a contractual convenience for the Owner will enter into an agreement with an abatement subcontractor, any recovery of losses and damages by the Owner is limited to that actually recovered from the abatement Subcontractor, and Owner hereby expressly waives, releases and indemnifies Contractor from any and all liability, losses, costs, expenses and damages with the limited exception of that actually recovered from the abatement Subcontractor. The Contractor hereby assigns whatever rights Contractor may have to assert against the abatement Subcontractor for damages suffered by Owner. The Owner hereby accepts the aforesaid assignment."

Where does the **'Agreement of Convenience'** language reside?

1. **In the General Conditions contract AIA A201-2017 section 10.3** *(Hazardous Materials)* – if request is made before the contract is executed. (not typical)

2. **Assumptions and Qualifications (or Clarifications)** – if the contract wording cannot be modified. As & Qs take precedence.

3. **Change Order to the Contract** – Notice or event occurs after the contract is fully executed. The change order must be executed before work can start.

5.28 ENVIRONMENTAL STORMWATER MANAGEMENT

Ref: Summary of Site Stormwater Standards – EPA Summary
Storm Water Pollution Prevention Requirements:

What is NPDES?
The NPDES permit program addresses water pollution by regulating point sources that discharge pollutants to waters of the United States. Created in 1972 by the Clean Water Act, the NPDES permit program is authorized to state governments by EPA to perform many permitting, administrative, and enforcement aspects of the program. Most States have their own permitting requirements for Storm Water. Verify through your local state department of environmental conservation or quality for more information.

What do stormwater discharges from construction activities matter?
When it rains, stormwater over the loose soil on a construction site, along with various materials and products being stored outside. As stormwater flows over the site, it can pick up pollutants like sediment, debris, and chemicals from that loose soil and transport them to nearby storm sewer systems or directly into rivers, lakes, or coastal waters. The municipality, state or EPA construction site operators to make sure they have the proper stormwater controls in place so that construction can proceed in a way that protects your community's clean water and the surrounding environment.

Who needs to get permit coverage?
In general, the National Pollution Discharge Elimination System (NPDES) stormwater program requires permits for discharges from construction activities that **disturb one or more acres**, and discharges from smaller sites that are part of a larger common plan of development or sale. Depending on the location of the construction site, either the state or EPA will administer the permit. Se the webpage for Authorization Status for EPS's Construction and Industrial Stormwater Programs to find out whether EPA or your state is the permitting authority for construction activities. You can also use the EPA "Do I Need a Permit?" flow chart DO I NEED A PERMIT to help determine if and from whom you need to get NPDES permit coverage for your construction activities.

Construction General Permit
Storm Water control is managed through the implementation of a Storm Water Pollution Prevention Plan (SWPPP). These plans are developed and maintained under the direction of the Construction General Permit. The Construction General Permit (CGP) is regulated by your state or the EPS's NPDES permit. Many states have their own unique regulations. The importance of knowing your state's regulations cannot be understated. If you don't know the rules you cannot comply with them. Check with your state's requirements prior to starting any earth disturbing activity. The CGP requires the development of a SWPPP, maintain the erosion control plan with Best Management Practices (BMP)s such as construction entrances, inlet protection and other storm water run-off locations. The CGP allows the Operators on the project to discharge storm water through controls that are outlined in the SWPPP. Each state has large and small construction activities:

1. Small Construction Activity – typically 1 to 5 acres total disturbed area including construction parking, storage areas associated with the project, the development and associated construction activity;
2. Large Construction Activity – more than 5 acres total disturbed area and is required to file a Notice of Intent (NOI) or online (eNOI).

What is an SWPPP?
A Storm Water Pollution Prevention Plan (SWPPP) is the plan that the operator of the site develops to ensure the discharge of pollutants from the construction site is to reduce the maximum extent practicable (MEP). It is

what the permitted operator (permittee) promises the EPA or State Department of Environmental Quality (DEQ) they will do and monitor to control the amount pollutants that will be discharged from the site during construction. (see EPA Stormwater Guide) The SWPPP is a three-legged stool. It has paper trail component, and sediment component, and a component that addresses all the remaining pollutants. Notice of intents, inspections, Notice of Termination etc. are example of the paperwork component. This is one of the most important parts of the SWPPP. It is the paper trail that will prove you did or did not comply. Silt fence, stabilization, rock check dams are examples of the erosion and sediment control component. If your SWPPP call for they and you don't install of maintain them, you will have fail to implement the promises in your SWPPP. Roll of boxes for trash, concrete washout outs, material storage are examples of the last component other pollutants. You must comply with the SWPP program you develop and commit to tis implementation.

5.29 FALL PROTECTION

REFERENCES:
OSHA Publication - Fall Protection in Construction
29 CFR 1926.502 - Fall Protection Systems Criteria and Practices
29 CFR 1926.760 – Steel Erection/Fall Protection
OSHA Sample Fall Protection Plan/Non-Mandatory Guidelines for Complying with 1926.502(k)
29 CFR 1910.66 Appendix C - Personal Fall Arrest System
Fall Protection (OSHA 1926.500-503)

1. RC ANDERSEN six (6) foot rule for all fall protection is required for all fall exposures, meaning a personal fall arrest systems or hard barricades.
2. **The use of controlled access/decking zones, warning/control lines and safety monitors are not permitted.**
3. The Project Team through contracts and purchase orders shall assign responsibilities for the installation, maintenance and daily inspections of fall protection systems to the appropriate parties and enforce their compliance. Emphasis shall be placed on areas of high activity or rapidly changing conditions, multiple trades and where the need for installation and maintenance is most critical.
4. The Project Team shall coordinate fall protection continuity throughout the phases of the project.
5. Subcontractor employees are not to work in unprotected areas without proper fall protection such as the use of a personal fall arrest system.
6. A site-specific fall protection plan should be developed by each subcontractor before employees are exposed to a fall hazard. Plan should include a list of anticipated exposures and anticipated protective systems for each phase of construction.
7. Protect every floor opening measuring more than 2 inch in its least dimension in any floor, roof or platform with a cover or a standard guardrail.
8. All hole covers to support two times the anticipated load, be secured from accidental displacement and be **marked "HOLE"** or painted a specified color.
9. Conventional guardrail systems shall meet the OSHA standards.
    a. Wood guardrail system with 2x4 top-rail at 42" above finished floor, midrail at 21-1/2" and 3 1/2" toe board with a wooden post every 8 feet.
    b. Wire rope cable system to meet at least 42" (+/- 3") above finished floor with 200 lbs. exerted in the downward and outward direction:
        i. Use a minimum 3-inch by 3-inch steel angle iron post.
        ii. Minimum ¼" cable, flagged every 6 feet, with top rail at 42" (+/-3") above finished floor.
        iii. Maintain a deflection of less than 3 inches with posts located at intervals to maintain cable deflection requirements, if required.
        iv. Install turnbuckles at regular intervals, at least one per change of direction and length of cable. Not to exceed **four** (4) bays or 120 feet.
        v. Install cable clamps at each column to prevent a cable from loosening and deflected around the entire perimeter.
        vi. Install a minimum of two cable clamps at the end of each run.
        vii. Posts or points of attachment to be at 42 (+/-3") inches above top of slab to compensate for over-pours, deflections or other discrepancies, which may lead the cable to be lower than 39 inches at any time.
        viii. Do not use wire rope cable systems as anchorage points unless designed with tabulated data from a registered professional engineer and submitted to project team for review. Install post kickers at every change of direction and runs for angle iron posts.

c. Personal Fall Arrest System to include:
    i. Full body harness with shock absorbing lanyard.
    ii. 100% tie-off may require the use of a double lanyard.
    iii. A retractable lanyard may be required in areas where the use of beam straps or other secure anchorage is not easily located.
        1. When using a retractable lanyard, a shock-absorbing lanyard is not permitted.
        2. Retractable lanyards used in the horizontal position must be designed for that use (Class 2)
        3. A retractable is a good alternative for work heights less than 18 feet.
    iv. Anchorage points to support 5000 pounds per person or twice the intended load, unless the system is designed by a registered professional engineer.
    v. Inspect equipment and anchorage points daily by the subcontractor whose employees are using the fall protection system.
    vi. Knots are prohibited in lifelines. Use termination bars for eye splice with thimble.
    vii. Mouse all shackles.
    viii. Fall arrest equipment must be inspected and logged annually.

10. All Subcontractors shall maintain Fall Protection Training Documentation as specified by OSHA and be available upon request.
11. The use of field-designed and field-fabricated horizontal lifelines systems are not to be used as anchorage points unless designed with tabulated data from a registered professional engineer and installed under the supervision of a qualified person. Proof of such design and proper installation must be furnished upon request. The system shall be designed as a whole system, not just the capacities of its component parts. An initial inspection and re inspection procedure shall be developed by the subcontractor and submitted to RC ANDERSEN for review.
12. The use of Pre-Engineered/Pre-Manufactured horizontal lifeline systems must be installed and used in accordance with manufacturer's instructions. Design data and written verification of proper installation must be furnished upon request.
13. Guard every stairway opening, ladder way opening or ladder platform on all exposed sides by a standard guardrail and use offsets or gates at the ladder access opening.
14. Every opening for manholes, pits, hatches, trapdoors, chutes, and skylights shall be guarded by a hole cover or standard guardrail.
15. Every wall opening from which there a is a drop of more than 6 feet, and the bottom of the opening is less than 39 inches above the floor shall be guarded by a standard guard rail.
16. For dedicated/designated Loading Zones which require the removal of any type of fall protection (wooden or cable guardrail systems, windows, and wall panels, etc.):
    a. The immediate area around the loading zone must have a hard barricade in place that meets the requirements of a standard guardrail system to prevent other trades working in the area and/or on that floor from being exposed to a fall hazard.
    b. Removal of any type of fall protection, such as a guardrail system, must be replaced with approved personal fall protection.
    c. Workers in loading zones shall be required to use a full body harness that they continue to wear and remain hooked until they are on the inside of the guardrail system which provides protection from a fall.
    d. Temporary loading zones may use temporary barriers, which restrict the access of workers not engaged in that loading activity.
    e. A 4"x 6" toe board may be required when the possibility exists for motorized equipment to be driven off the edge.
    f. Loading zones are to have the ability to be locked and controlled by RC ANDERSEN.
    g. The guardrail disruption policy shall be enforced per site requirements.

17. Every flight of stairs having four (4) or more risers shall be equipped with stair railings or handrails as specified below:
    a. A stair railing on each open side of the stairway.
    b. At least one handrail.
    c. Enclosed stairways less than 44 inches wide shall have at least one handrail. Enclosed stairways more than 44 inches wide shall have a handrail on each side.
    d. Risers and treads on temporary stairs shall be of uniform height and width.
    e. Permanent steel or metal stairways and landings with hollow pan type treads that are to be filled with concrete or other materials, when used during construction, and filled to the level of the nosing with solid materials.
18. Where Fall Protection must be removed to facilitate the work in progress, the Guardrail Disruption Permit shall be used.
19. Perimeter guardrail systems shall concurrently follow the installation of completed sides and openings of decks and concrete formwork of all types.
20. Perimeter cable shall be installed concurrently as completed sides of decking are installed.
21. Temporary planked or temporary metal-decked floors shall cover all openings.
22. All unused openings shall be covered with plank or metal deck and secured against accidental displacement.
23. An incomplete or leading edge of any temporary floor whether of planking, metal deck or concrete formwork shall not be left unguarded or unattended for extended periods of time due to delay or interruption of the completed installation. In such cases, access to the open end of the floor shall be closed off and protected by wire rope cable or hard barricades.
24. Where subcontractors install fall protection on floors under their control, such fall protection may be left in place to service the long-term needs for Fall Protection of the project, providing that it meets all the requirements of this Section of the Manual.
25. Any work above or beyond guard rail, or on exterior of building requires tool tethers.
26. All subcontractors are required to provide a rescue plan that does not solely rely on the fire department for rescue. Provide necessary training to execute the rescue plan.

5.30 FATIGUE MANAGEMENT

RC ANDERSEN has set the following procedures limiting work hours and controlling job rotation schedules, also known as staff/work balance, to help control worker fatigue. RC ANDERSEN will set work hour limitations and will control job rotation schedules to control fatigue, allow for sufficient sleep and increase mental fitness in an effort to control employee turnover and absenteeism.

1. Every Employee shall have necessary work breaks in order to avoid fatigue. These scheduled breaks will apply to both driving and on-site hours. The following shall be a minimum:
    - 15 Minutes each 2.5 Hours
    - 30 Minutes after 5 Hours
    - 30 Minutes after 10 Hours

2. No Workers shall work more than:
    - 12 hours per day
    - 24 Days Continuous

5.31 FIRE PREVENTION AND PROTECTION

REFERENCES:
29 CFR 1926.150 – Fire Protection
29 CFR 1926.152 – Flammable and Combustible Liquids
OSHA Standard Interpretations - Fire Equipment Training Requirements
29 CFR 1910.157 – Portable Fire Extinguishers
OSHA eTool – Evacuation Plan and Procedures/Portable Fire Extinguishers
OSHA Technical Manual – Section D Fire Prevention and Protection

Subcontractors are responsible to follow the fire prevention and protection procedures when any hot work (including burning, welding, soldering, open-flame or spark producing) activities are taking place, or any other conditions exist which could cause fire and/or smoke. Site Specific procedures developed as required.

1. RC ANDERSEN will provide ABC 20# fire extinguishers to be placed at each stair tower and/or distributed throughout the jobsite and be visible in corridors and/or at the entrance to smaller projects, or as required by local jurisdiction.
2. All areas and equipment where hot work is anticipated is to be reviewed in detail by the subcontractor with the RC ANDERSEN Superintendent or Safety Manager.
3. Cover all voids and openings with fire resistant materials to prevent sparks/smoke from migrating and light test where possible. All protective material shall be fire resistant in occupied facilities or where a potential for fire exists.
4. A 20# ABC fire extinguishers are to be provided by the subcontractor for their own hot work, inspected monthly and annually to make sure they are fully charged and kept where they are visible and readily available. A garden hose is to be used when feasible.
5. Subcontractor shall always provide a fire watch person on duty during burning/welding where combustibles are present. One-hour minimum fire watch is required after hot work is completed. Project specific requirements may be required in addition to the one hour minimum. Each Subcontractor is responsible to notify RC ANDERSEN that the fire watch is complete. The protection will be commensurate with the hazard.
6. The fire watch person is to be trained as to their duties and responsibilities and have no other duties. Fire watch procedures are to be reviewed with the subcontractor by the RC ANDERSEN superintendent or safety manager and thereafter delivered to the fire watch person. Fire watch person should be on the opposite wall or floor below if spark migration is possible.
7. When working in or adjacent to occupied facilities, perform the following:
    a. Review the equipment involved with RC ANDERSEN to establish its function or operation and safety requirements.
    b. RC ANDERSEN Project Team to establish an emergency shutdown procedure.
    c. Obtain written approval of all procedures by the Owner's representative prior to the start of work as required.
    d. Review location of air supply intakes for smoke management.
8. See procedures for Handling of Flammables and Combustibles in this manual.
9. Smoke exhaust equipment shall be provided by the subcontractor in occupied buildings or where otherwise required. Exhaust duct to be coordinated with Owner by RC ANDERSEN project team.
10. A Respiratory Protection Program should be in place when respirators are required.
11. As required, Hot Work Permits shall be completed by the subcontractor and provided to RC Andersen, especially in occupied buildings or as the building is closed in. Coordinate hot work permit with owner facilities management if required. Hot work permit shall be established daily. Weekly permits are available for new construction in the absence of flammable or combustible materials.

12. In some jurisdictions the Fire Code requires fire extinguishers be attached to each burning cart or outfit in addition to a fire extinguisher at the burning location.
13. No open flame or spark producing activity should take place in a combustible atmosphere or where combustible vapors are present.
14. Inspect fire extinguishers monthly and annually to ensure accessibility and serviceability. Monthly inspections can be completed by field staff. Conduct annual inspections by a qualified inspection agency.
15. Construct temporary structures within buildings, such as shanties and storage rooms, of non-combustible material, such as drywall or fire treated plywood stamped “FRT”.
16. Install a dry standpipe for use as a temporary fire connection in all new construction. The system shall be coordinated with the local fire department requirements, have easy access, proper signage, and be maintained to within the floor of the highest poured floor.
17. All tarps are required to use fire retardant material.
18. Fire alarm systems should remain operational in renovations to notify employees when evacuation is required.
19. Install a fire detection system when required by the owner or when working in occupied, historical or otherwise sensitive buildings.

5.32 FIRE WATCH DUTIES

1. Be sure you have a Hot Work Permit before beginning any activity that could cause a fire or smoke incident. See the jobsite Superintendent in advance of burning, welding, etc.
2. A fire watch is required in or adjacent to occupied, completed or historical buildings where any spark producing, or open flame activity could result in a fire or smoke incident.
3. A fire watch should be sure to look at each level a spark might land before the hot work activity begins and take measures to prevent sparks from spreading. Use fire rated blankets, seal all areas and wet down or mist in advance if possible.
4. Be sure to look for air intakes to ensure that smoke will not enter an occupied building.
5. A fire extinguisher should be readily available on each level where a spark could ignite a fire.

6. When the burning or welding begins, stand in a location where you can see sparks on multiple levels, or at the lowest level. Be sure that sparks do not continue down crevices or burn through tarps to lower elevations.
7. The fire watch person should have a radio or telephone to contact his/her foreman and RC ANDERSEN personnel immediately in the event of a fire.
8. Should smoke occur or small fires erupt, the fire watch should make an immediate effort to extinguish the fire while it is small or smoldering. Notify Superintendent and emergency servies ASAP.
9. Train the Fire Watch in the use of fire extinguishers, the above and other site-specific requirements, such as the closest Fire Alarm Pull Station.
10. Fire watch will continue after the completion of hot work for a minimum of one hour or as designed by building or local jurisdiction.

Aim at the base of the fire

5.33 FLAGGER PROCEDURES

REFERENCES:

23 CFR 630 Subpart J – Work Zone Safety and Mobility Policy
Highway Work Zones and Signs, Signal, and Barricades
23 CFR Part 655 Subpart F - Manual on Uniform Traffic Control Devices (MUTCD)

1. Flaggers shall be trained, at a minimum, in all items listed.
2. Flaggers shall wear high visibility reflective vest in compliance with local jurisdictions
3. Flaggers shall use a red or orange (check with state regulations) 24" X 24" flag to signal traffic
4. Flaggers using STOP/SLOW paddle, the paddle must be:
    a. Octagonal in shape
    b. 18-inch minimum size STOP sign on one side
    c. Diamond-shaped SLOW sign on opposite side
    d. Both sides retro-reflective
    e. 72-inch staff (minimum)
5. Flagger shall use their free hand to direct traffic
6. Work zone should be set up with four components:
    a. Advance warning area
    b. Transition area
    c. Activity area
    d. Termination area
7. Never stand in front of traffic to direct vehicles to stop
8. Always face traffic
9. During hours of darkness, illumination of flagger station is required
10. Never walk behind equipment that is backing up
11. Always maintain eye contact with the driver who is backing up
12. Keep intersections clear
13. Coordinate all construction traffic with traffic signals
14. Yield to all emergency vehicles
15. Circle construction vehicles around the block until access is available
16. Get help if additional flaggers are required
17. Communicate your problems/concerns to your supervisor and the RC ANDERSEN safety representative on site
18. Be courteous
19. Keep alert for pedestrians and handicapped persons
20. Use common sense
21. Each jobsite should modify these procedures to meet site-specific needs
22. Flaggers must not:
    a. Give mixed signals
    b. Use profanity or rude gestures
    c. Take chances

5.34 FLAMMABLES & COMBUSTIBLES HANDLING

REFERENCES:

29 CFR 1926.152 – Flammable and Combustible Liquids
29 CFR 1926.155 - Fire Protection and Prevention
29 CFR 1910.106 – Flammable and Combustible Liquids
29 CFR 1910.110 – Storage and Handling of Liquefied Petroleum Gases
29 CFR 1910.1200 – Hazard Communication
OSHA Standard Interpretations - Clarification of Requirements for 1000 Gallon Diesel Storage Tank
OSHA Standard Interpretations - Storage of Flammable and/or Combustible Liquids
29 CFR 1926.21 – Safety Training and Education
OSHA Standard Interpretations Requirements for labels in a language other than English

1. Segregate non-compatible materials, which may create a fire hazard, with a fire barrier rated for at least one hour or separated by 20 feet.
2. Use approved metal safety cans for flammable liquids or materials.
3. Flammable or combustible liquids or materials shall not be stored in areas used for egress.
4. Storage or handling of flammable liquids or gases is prohibited in any location, that could jeopardize egress from the site.
5. Use only approved metal storage cabinets for flammable or combustible liquids or materials and label "Flammable - Keep Fire Away".
6. Vent flammable/combustible storage cabinets to the outdoors.
7. A portable fire extinguisher with a minimum of 20 - ABC rating must be located within ten (10) feet of storage area.
8. Do not refuel equipment indoors with liquids with flash points below 100 degrees (gasoline, propane).
9. Storage of LPG (Liquefied Petroleum Gas) is not permitted within buildings.
10. Use flammable liquids only where there are no open flames or other source of ignition within 50 feet of the operation.
11. Dispensing of flammable liquids requires bonded and grounded containers.
12. Label all containers.
13. All flammables/combustibles shall be stored in metal containers.
14. SDS sheets shall arrive with hazardous materials.
15. Disposal of hazardous materials will comply with Federal, State and local regulatory requirements.
16. Remove flammable and combustible items including dirty rags from the job each day or stored in closed metal containers.
17. At the end of each workday, it will be the responsibility of each subcontractor to make sure all work areas are clean. Remove all trash and debris to dumpsters.
18. Bulk storage location of flammable and combustible gases and liquids is exclusively at the discretion of RC ANDERSEN and/or the Owner.
19. Bulk storage containers shall be stored with a catch basin for spill control.
20. The storage and use of flammables and combustibles shall follow NFPA 30.
21. No more than 5 gallons of flammable or combustible liquids shall be stored in a room outside of an approved storage cabinet. Storage locations must be approved before bringing onto site.
22. "No Smoking/vaping or Open Flame" signs required to be posted within Flammable storage areas.
23. Subcontractors storing and using flammable and combustible liquids at the project site shall review and comply with NFPA, Local Municipal Fire Department rules and OSHA regulations 1926.153 (a) and (g).
24. Subcontractors with bulk or large-scale storage needs shall consult in advance with RC ANDERSEN for assignment of safe storage space and instructions for safe storage.
25. RC ANDERSEN shall strictly enforce subcontractors' compliance with the following requirements:

a. Use only approved U.L. safety cans for handling and storing flammable liquids. Once a drum of flammable liquid is opened, it must be provided with an U.L. ground and bond system, dispensing system and vent bung.
b. Provide adequate ventilation in areas where flammable and combustible liquids are stored or in use. Subcontractors shall comply with Local Municipal Fire Safety Codes and OSHA regulations 1926.55, (a) and (c) and 1926.57 (a) through (3).
c. Use U.L. approved fire extinguisher in areas where flammable and combustible liquids are stored or in use.
d. Keep all areas where flammable and combustible liquids are stored and used clear of debris and sources of ignition.

Special Hazards Regarding Lithium Batteries:

1. **Dangers:** Lithium batteries can overheat, catch fire and even explode.

2. **Charging:**
   - Check for nationally recognized certification agency like UL or ETL
   - Use original charger and cable (don't mix and match)
   - Charge on hard, flat and noncombustible surfaces
   - Don't overcharge (buit-in protection required)

3. **Warning Signs:**
   - Be alert for strange odors, discoloration, excessive heat, swelling or unusual noises.

4. **If Fire Occurs:**
   - Dial 911 (fumes are toxic)
   - Use a Class D Fire Extinguisher ONLY
   - Optional: Metal Trash Cans, Fire Blankets or Fire Cabinets/Safes.
   - **DO NOT USE WATER as it causes a violent reaction and/or explosions.**

5.35 GUARDRAIL DISRUPTION PERMIT GUIDELINES

1. Subcontractor foreman to physically review area of upcoming work.
2. Upon determination that the guardrail system needs to be removed or altered, the subcontractor foreman may be required to obtain and complete a Guardrail Disruption Permit to be submitted 24 hours in advance of work to RC ANDERSEN Superintendent.
3. When the subcontractor is permitted by the RC ANDERSEN Superintendent, they may safely remove or alter the existing guardrail system upon compliance with the alternative fall protective requirements set forth.
4. Before the existing guardrail system is removed or altered, a fall protection system capable of protecting every exposed worker must be in place.
5. Before subcontractor workforce enters the unguarded work zone, the workers shall be tied off to an appropriate anchorage point with a personal fall arrest system.
6. If the subcontractor is permitted by the RC ANDERSEN Superintendent, they are to return guardrail system to its original specifications. Qualified workers may be assigned to remove, alter or replace the existing guardrail system.
7. Subcontractor will contact RC ANDERSEN Superintendent when subcontractor work is completed so that a verification inspection can be conducted.
8. The hard barricades shall stay in place until the guardrail system is replaced and verified by a RC ANDERSEN appointed individual who will sign-off on the permit.
9. Permits will be posted at the worksite and maintained in the RC ANDERSEN Superintendent or Safety Manager office.
10. Review all permits to verify accuracy.
11. Anyone who is observed in an unprotected area without proper fall arrest or found in an unprotected area will be immediately removed from the job site.
12. Anyone tampering with the guardrail system without approval and an approved permit will be immediately removed from the job site.
13. Subcontractors who expose their workers to fall hazards through removal of guardrails may be dismissed from the site or have their project leadership replaced.

5.36 GLOVE POLICY

REFERENCES:
OSHA Publication 3157 – A Guide for Protecting Workers from Woodworking Hazards

Objective: The mandatory glove policy is designed to improve the safety of all workers by requiring gloves be worn on our construction sites. However, exceptions can be made when it is determined during pre-task planning that gloves would significantly impair work or create a greater hazard. This policy is in place to minimize hand-related injuries within the construction industry.

Policy Guidelines:

6. **Scope:** This policy applies to all construction sites and associated activities. All staff, employees, contractors, and visitors are expected to adhere to this policy.
7. **Pre-task Planning:** Before commencing any construction task, a pre-task planning session is to be conducted. During this pre-task planning, the potential hazards and necessary safety measures, including glove use, must be addressed. If it is determined that gloves will impair work or create a greater hazard, they may be exempted for that specific task. An exemption must be specifically stated in a written pre-task plan addressing the qualifying issues, approved by the competent person and agreed to by the RC ANDERSEN Superintendent, with limited applicability to performance of that specific work task.
8. **Mandatory Glove Use:** There is no exemption allowed in the following situations:
   - Handling abrasive materials, such as wood, metal, glass, or concrete.
   - When exposed to sharp objects, such as nails, wires, or broken glass.
   - During manual material handling tasks that pose a risk to the hands.
9. **Exemptions:** Gloves may be exempted in situations where they are determined to be unsafe or impair the quality of the work, such as:
   - When gloves could get caught in moving machinery.
   - Where gloves may reduce the worker's dexterity to a dangerous level.
   - Where glove options do not permit the level of quality finish required of the tradesman.
   - If there is a risk of chemical contamination, and gloves could worsen the situation.
10. **Glove Selection:** Proper gloves should be selected based on the task and potential hazards. Gloves may vary in material (e.g., leather, cut-resistant, chemical-resistant), thickness, and design. Workers should be trained on the selection of appropriate gloves. Standard glove is a cut-level 4 or higher.
11. **Training and Awareness:** All employees should receive training on the proper use of gloves, the associated hazards, and how to conduct a pre-task planning session. Additionally, posters and reminders should be displayed at the construction site to reinforce the importance of glove use.
12. **Supervision and Enforcement:** Site supervisors and project management are responsible for enforcing this glove policy. They should regularly inspect work areas to ensure compliance and address any non-compliance issues promptly.
13. **Review and Continuous Improvement:** This policy should be reviewed periodically to ensure its effectiveness and make necessary adjustments based on lessons learned and changing conditions at the construction site. Continuous vigilance, training, and regular reviews are essential to maintain a safe work environment.

Conclusion: The mandatory construction glove policy is in place to prioritize the safety and well- being of all individuals on construction sites. While gloves are typically required, the flexibility of the program allows for exceptions when they would be more detrimental than beneficial.

5.37 HAZARD COMMUNICATION PROGRAM

REFERENCES:
29 CFR 1926.59 – Hazard Communication
CDC - NIOSH Pocket Guide to Chemical Hazards
CDC - Hazard Communication Self-Inspection Checklist
OSHA Safety and Health Topics – Hazardous and Toxic Substances, Additional Information
OSHA Safety and Health Topics – Toxic Metals
Hazard Communication (OSHA 1910.1200)

1. Train all RC ANDERSEN employees in the RC ANDERSEN Hazard Communication Program. Records of the required training are available at each jobsite.
2. Each Subcontractor is required to have a Hazard Communication Program.
3. Confirm all subcontractor employees trained in his/her employee's Hazard Communication Program with written verification as specified by OSHA.
4. Safety Data Sheets (SDS) must be readily available on each jobsite for the products specifically used on that jobsite.

5.38.1 HAZARD COMMUNICATION WRITTEN PROGRAM
(For RC ANDERSEN Employees)

1. This program has been prepared to comply with the requirements of the Federal OSHA. Standard 1910.1200 and to ensure that information necessary for the safe use, handling, and storage of hazardous materials is provided to and made available to employees of the RC ANDERSEN.
2. This program applies only to RC ANDERSEN employees.
3. This program includes guidelines on identification of chemical hazards and the preparation and proper use of containers, labels, placards and other types of warning devices.

4. **CHEMICAL INVENTORY:**
   a. Each jobsite is to maintain an inventory of all known chemicals purchased by RC ANDERSEN for use on the site. When purchasing any potentially hazardous materials, it is the jobsite Superintendent's responsibility to secure an SDS sheet with the product from the supplier.
   b. The SDS sheet of hazardous chemicals brought onto the worksite by RC ANDERSEN will be included in a separate book.

5. **CONTAINER LABELING:**
   a. All RC ANDERSEN chemicals on site will be stored in their original or approved containers with a proper label attached, except small quantities for immediate use. Label even small sprayers or containers to prevent misuse. Identify any container not properly labeled for labeling or proper disposal.
   b. Workers may dispense chemicals from original containers only in small quantities intended for immediate use. After completion of work, return any chemical to the original container or to RC ANDERSEN supervision for proper handling.
   c. Unmarked containers of any size are prohibited.
   d. RC ANDERSEN will rely on manufacturer applied labels whenever possible and will assure that these labels are maintained. Containers not labeled or on which the manufacturer's label has been removed will be re-labeled.

6. **SAFETY DATA SHEETS (SDS):**
    a. Employees working with a potentially hazardous chemical may request a copy of the Safety Data Sheet (SDS). Requests for SDSs should be made to the RC ANDERSEN project team.
    b. SDSs should be available or readily available via fax on the site to provide immediate reference to chemical safety information.

7. **EMPLOYEE TRAINING:**
    a. Employees shall be trained to work safely with hazardous chemicals. Employee training will include:
        i. Methods used to detect a release of hazard chemical(s) in the workplace.
        ii. Physical and health hazards associated with chemicals.
        iii. Protective measures to be taken.
        iv. Safe work practices, emergency responses and use of personal protective equipment.
    b. Information on the Hazard Communication Standard including:
        i. Labeling and warning systems
        ii. An explanation of the Safety Data Sheets (SDS).

8. **PERSONAL PROTECTIVE EQUIPMENT (PPE):**
    a. Required PPE will be available for RC ANDERSEN employees. Any employee issued Personal Protective Equipment but found in violation of PPE requirements shall be subject to disciplinary actions up to and including discharge.

9. **EMERGENCY RESPONSE:**
    a. Report any incident of overexposure or spill of a hazardous chemical/substance immediately to the RC ANDERSEN jobsite Safety Representative.
    b. The foreman or the immediate supervisor will be responsible for ensuring that proper emergency response actions are taken in leak/spill situations.

10. **HAZARDS OF NON-ROUTINE TASKS:**
    a. Supervisors will inform employees of any special tasks that may involve possible exposure to hazardous chemicals.
    b. Review safe work procedures and use of required PPE prior to the start of such tasks. Where necessary, post areas to indicate the nature of the hazard involved.

11. **INFORMING OTHER EMPLOYERS:**
    a. Other onsite employers are required to adhere to the provisions of the Hazard Communication Standard as required by OSHA.
    b. Exchange information on hazardous chemicals known to be present with other employers upon request. Employers will be responsible for providing necessary information to their employees.
    c. Provide other onsite employers with a copy of RC ANDERSEN's Hazard Communication Written Program upon request.
    d. Subcontractors are required to maintain a copy of their SDS sheets on site to be available even if they have no employees on site at the time.
    e. Subcontractors are to submit all SDS sheets to RC ANDERSEN Project Management during the submittal/approval process for record.
    f. In the case where the subcontractor's access to SDSs is from a Fax on demand service, the name, phone number and account number must be available to RC ANDERSEN and their subcontractors.
    g. Failure to comply will result in breach of contract and dismissal from the jobsite.

12. **POSTING:**
    a. RC ANDERSEN has posted information for its employees at this jobsite on the Hazard Communication Standard. More information on the Hazard Communication Standard may be obtained by contacting the Safety Department.
    b. The OSHA requires every employer to have a written Hazard Communication Program describing how the requirements of the standard will be met.
    c. The intent of RC ANDERSEN's Hazard Communication program is to achieve compliance with the OSHA Hazard Communication Standard and use the procedures for implementation by the Project Superintendent at each project.

13. **PROCEDURES FOR HAZARD DETERMINATION:**
    a. All chemicals produced or imported in the United States must be evaluated to determine if they are hazardous. Manufacturers and importers are required to perform the evaluations and report the results on Safety Data Sheets (SDS). Subcontractors who are end users of chemicals are not required to evaluate chemicals unless they choose not to rely on evaluation performed by the manufacturers and importers. Information resulting from such evaluation shall be reported on SDS provided to RC ANDERSEN by suppliers of hazardous chemicals.

14. **PROCEDURES FOR MULTI-EMPLOYER WORKPLACES:**
    a. To comply with OSHA requirements for the hazardous communication program at Multi-Employer Workplaces, RC ANDERSEN shall require each subcontractor to make available the SDS for the materials used on the site.
    b. RC ANDERSEN has Safety Data Sheets (SDS) for hazardous chemicals they use or store at this workplace.
    c. The SDS contains information about precautionary measures taken to protect employees from exposure to the chemicals during normal operation conditions and in foreseeable emergencies.
    d. Subcontractors, employees and their designated representatives may review the SDS and Written Hazard Communications Program during working hours in the RC ANDERSEN field office upon request to the Project Superintendent.
    e. Copies of the SDS and Written Hazard Communications Program will be furnished upon request.

5.38.2 HAZARD COMMUNICATION GHS LABELS

Chemical labels and Safety Data Sheets are the key sources of information for how to safely use chemicals. All chemical labels and Safety Data Sheets will soon be written to follow the Globally Harmonized System (GHS), a worldwide effort by the United Nations to have common ways to describe chemicals and how to use them safely. With GHS, chemical labels and Safety Data Sheets from manufacturers in many counties will offer the same information in the same format.

Chemical Labels that are compliant with GHS must have five things:

ISOPROPYL ALCOHOL 99% ANHYDROUS

UN 1219, ISOPROPYL ALCOHOL

24 Hour EMERGENCY NUMBER 444/555-6666

NET WEIGHT: 32.00 LBS 14.51 KGS

Danger: Highly flammable liquid and vapor. Causes serious eye irritation. May cause drowsiness and dizziness.

PREVENTION
Keep away from sources of ignition - No smoking. Avoid contact with skin and eyes. Avoid breathing mist and vapors. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Take precautionary measures against static discharges.

RESPONSE
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Avoid breathing. Wear protective gloves/eye protection/face protection. Wash hands thoroughly after handling.

STORAGE
Store in a well-ventilated place. Keep cool. Store locked up. Keep container tightly closed. Keep away from sources of ignition - No smoking

DISPOSAL
Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

Red River Chemicals 4568 Front Street Riverdale, Illinois 44444
Emergency Phone Number: 444-555-6666

1. Product Identifier – this gives the name of the chemical, part numbers or other identifiers and the name and address of the manufacturer or supplier.
2. Signal Words that tell us about the hazard level of the chemical. **Danger** is for severe hazards and **Warning** is for less severe hazards. Sometimes there is no signal word, but that does not mean that the product is hazard free.
3. Hazard Statement that describes the type of harm the chemical can cause.
4. Pictograms are symbols that instantly identify the kind of hazard the chemical poses.
5. Precautionary Statements that describe what we need to do to be safe when using the chemical.

PICTOGRAMS

Nine distinct pictograms are part of the Hazard Communication Standard. The pictograms are symbols that show what kind of hazards a chemical has. There can be one or more pictograms on a label depending on the hazards. The pictograms will always be a black symbol on a white background with a red diamond-shaped border.

Health Hazard	**Flammables**	**Oxidizers**
Irritant	**Gasses Under Pressure**	**Explosives**
Corrosives	**Environmental Toxicity**	**Acute Toxicity**

Follow these rules for labeling:

1. Make sure all containers have a proper GHS label
2. If you use workplace labels, make sure that they include the name of the product and information regarding the hazards of the product
3. Replace torn and damaged labels
4. Label smaller workplace containers that have had chemicals transferred into them if they are used during more than one work shift or by more than one employee.

5.39 GHS SAFETY DATA SHEETS

Safety Data Sheets are a detailed source of information for learning about how to safely use chemicals. All Safety Data Sheets will soon be written to follow the Globally Harmonized System (GHS), a worldwide effort by the United Nations to have common ways to describe chemicals and how to use them safely. With GHS, Safety Data Sheets from manufacturers in many counties will offer the same information in the same format.

What is on a Safety Data Sheet?

The GHS has established a standard Safety Data Sheet format. It has 16 sections presented in this order.

Section 1 - Product Identification: This section includes the product name, the part number the Chemical Abstracts Service or CAS number, synonyms or other common names for the product, a short product description and the product type. Section 1 also tells what the product is used for and provides the supplier's name, address and an emergency telephone number.

Section 2 - Hazard Identification: This section provides information on the hazard classification, which includes the GHS signal word (Danger or Warning), one or more pictograms and the hazard statements. Section 2 also details the Precautionary Statements, which include information on Prevention, Response, Storage, Disposal and any other hazards.

Section 3 - Composition and Ingredients: This section identifies the ingredients contained in the product including any impurities and stabilizing additives. The section will show the Chemical Name, Common Names and Synonyms, CAS Number and other unique identifiers.

Section 4 - First-aid Measures: This section shows first aid measures for eye contact, inhalation, skin contact and ingestion. The first-aid section also includes details on immediate and delayed health effects and provides information on when to seek medical help.

Section 5 - Fire-fighting Measures: This section includes recommendations for fighting a fire involving the chemical. Information includes what to do if there is a fire, how to extinguish the fire, what could happen if the chemical burns and what equipment and special precautions firefighters must take.

Section 6 - Accidental Release Measures: This section provides information on what to do if the chemical spills, leaks or is released, how to contain and clean up the released chemical, what emergency procedures to follow and what experts should be brought in to help.

Section 7 - Handling and Storage: This section gives information on safe handling processes, protective measures to take to minimize the risk of the chemical spilling or released and recommendations for safely storing the product.

Section 8 - Exposure Controls and Personal Protection: This section describes the permissible exposure limits to the product, engineering controls needed and what personal protection equipment is required for workers.

Section 9 - Physical and Chemical Properties: This section details the product's physical and chemical properties including information on the product's appearance, color, odor and viscosity. Other important information might be the product's flash point – the temperature that the product will burn; the vapor density – how heavy the vapors are compared to air; the upper and lower explosive limits – the percentage range in air

that the product will burn; and the pH – pH below 2 or above 12 can cause burns to skin, clothing and can be corrosive to materials in the work place.

Section 10 - Stability and Reactivity: This section tells if the chemical can be unstable and cause reactions. It defines what reactions can occur and what conditions to avoid in order to prevent those reactions.

Section 11 - Toxicological Information: This section describes what health effects that exposure to the product can cause. It defines how the product can get into the body, and the symptoms and effects of exposure.

Section 12 - Ecological Information: This section provides information on what impact the product can have on the environment. It may affect water, air and soil quality.

Section 13 - Disposal Considerations: This section tells how to safely dispose the product, ways to recycle or reclaim the chemical and what to do with used and empty containers.

Section 14 - Transport Information: This section gives information on how to ship and transport the chemical by road, air, rail or sea so it remains stable and properly contained.

Section 15 - Regulatory Information: This section covers any other additional regulatory information that may be required for certain products not covered in any other section of the Safety Data Sheet.

Section 16 - Other Information: This last section will include information such as abbreviations or acronyms used in other sections, it lists when the Safety Data Sheet was created or revised and any important changes from previous versions.

Follow these rules for Safety Data Sheets:

1. Make sure you know where to find a Safety Data Sheet if you need one.
2. Ask a supervisor for a Safety Data Sheet if you do not understand the information presented on the product label.
3. Ask for help if you do not understand how to safely use a chemical after reading the Safety Data Sheet.

5.40 HAZARDOUS WASTE OPERATION & EMERGENCY RESPONSE (HAZWOPER)

REFERENCES:

29 CFR 1926.65 Hazardous waste Operations and emergency response – Hazard Communication
CDC - NIOSH Pocket Guide to Chemical Hazards
CDC - Hazard Communication Self-Inspection Checklist
OSHA Safety and Health Topics – Hazardous and Toxic Substances, Additional Information
OSHA Safety and Health Topics – Toxic Metals

Hazardous waste site operations pose a multitude of safety and health hazards to workers, any one of which could result in serious injury or death. Therefore, in an effort to protect workers engaged in construction activities where 29 CFR 1910.20 regulations apply, a Hazardous Waste Operations Health and Safety Plan for associated construction activities will be provided per owner and/or developer consultants.

1. Under OSHA regulation 1910.120, a HAZWOPER (Hazardous Waste Operations & Emergency Response) Program will be in effect **in the event of a chemical or construction material spilled that requires "HAZWOPER Clean up Procedures".**
2. A Safety Data Sheet (SDS) or Chemical Fact Sheet shall accompany all new materials and chemicals brought onto the site.
3. The subcontractor shall review all new Safety Data Sheets and Chemical Fact Sheets.
4. RC ANDERSEN and the Subcontractors at the site shall:
    a. Ensure the appropriate first aid supplies and rescue equipment is available in the event of an emergency.
    b. Ensure all workers designated to use rescue equipment such as respirators, harnesses, air-testing monitors, protective wear such as gloves, boots and suits are trained. Keep written records at the site to document training.
    c. All subcontractors shall submit a copy of their HAZWOPER Training Records to the RC ANDERSEN Project Superintendents when required.
5. Clean all construction material and chemical spills as outlined in Section VII of the Safety Data Sheet and the Emergency Response Section of the chemical Fact Sheet.
6. Notify appropriate City, State or Federal Governmental Agencies in the event of a construction material or chemical spill.
7. All Federal SARA Title III or Local Right-to-Know Laws, recordkeeping and report filing shall comply with Federal laws.
8. Notify the project Account Executive, Project Manager, Superintendent and RC ANDERSEN's Safety Department if any "HAZWOPER Clean Up Procedures" are used.
9. The RC ANDERSEN Project Superintendent shall complete a written Incident Investigation Report in the event a chemical or construction material is spilled that requires "HAZWOPER Clean Up Procedures". A copy of the Incident Investigation Report shall be sent to the O-I-C, Project Executive, Project Manager, Risk Manager and Corporate Safety Director.

5.41 HEATING GUIDELINES FOR TEMPORARY HEAT

REFERENCES:
29 CFR 1926.154

1. Temporary heating devices shall be of an approved type. For example, an UL Listed appliance.
2. Electrical heaters are preferred.
3. For petroleum-based operated heaters such as propane or LPG, fresh air shall be supplied in sufficient quantities to maintain the health and safety of employees. Determination of sufficient quantities of fresh air shall be done with air monitoring.
4. Kerosene heaters shall not be used.
5. Temporary heating devices shall be installed to provide clearance to combustible material not less than 36 inches to the rear and sides.
6. Heaters not intended by the manufacturer for use on wood floors shall not be set directly upon them or other combustible materials. When such heaters are used, they shall rest on suitable heat insulating material or at least 1-inch concrete, or equivalent. The insulating material shall extend beyond the heater 2 feet or more in all directions.
7. Heaters used near combustible tarpaulins, canvas, or similar coverings shall be located at least 10 feet from the coverings. All coverings shall be securely fastened to prevent action by the wind from displacing a loose covering and upsetting the heater or igniting the coverings.
8. Heaters, when in use, shall be set horizontally level, unless otherwise permitted by the manufacturer.
9. Flammable liquid-fired heaters shall be equipped with a primary safety control to stop the flow of fuel in the event of flame failure.
10. A 20lb ABC rated fire extinguisher shall be readily available for use when temporary heating devices are used.
11. Heaters with open flames shall not be used for temporary heating within shanties when personnel are not present. When you leave the shanty, turnoff the heater.
12. Carbon Monoxide (CO) monitoring shall occur inside buildings when open flame equipment is used to ensure appropriate air quality.

5.42 HELMET POLICY

Purpose
The purpose of this policy is to establish guidelines for the appropriate use, design, and maintenance of helmets.

Scope
This policy applies to all employees and subcontractors, required to wear helmets for safety purposes while on worksite. Visitors must wear appropriate head protection when visiting project.

Head Protection Requirements
- Compliance Standards: helmets must be Type 2, class G (2200 volts) or E (20,000 volts) preferred.
- Fit and Condition: Helmets must be properly fitted to the wearer and in good condition, free from cracks, dents, or significant wear.
- Chin straps must be secured.

Usage Guidelines
- Helmets must be worn at all required times.
- Helmets shall be properly secured using chin straps.
- Employees are responsible for the care and maintenance of their helmets.
- Subcontractor is responsible for procuring, issuing, using, and maintaining personal protective equipment.

Enforcement & Non-Compliance
- Failure to adhere to this policy will result in removal from project until workers are properly equipped.

5.43 HOISTS AND ELEVATORS

REFERENCES:
29 CFR 1926.552 – Material Hoist, Personal Hoist and Elevators

1. **GENERAL REQUIREMENTS**
    a. Follow all manufacturer's specifications and recommendations in alignment with structural engineer's specifications regarding tie-back locations, etc.
    b. Inspect unit before transport to the site.
    c. Installation according to manufacturer's specifications.
    d. Post erection and subsequent frequent and regular inspections required.
    e. Operator should conduct a daily inspection using the manufacturer's checklist.
    f. Only qualified and specified personal permitted to run the hoist.
    g. Do not overload the cab.
    h. Fire extinguisher on each landing and hoist car.
    i. Do not use hoist in extreme weather. Check manufacturer's recommendations and local codes.
    j. Post warnings and rated load capacities in the cars and platforms.
    k. Smoking /vaping prohibited on hoists.
    l. Lockout/tagout procedures to be followed during maintenance.
    m. Gates shall be equipped with tamper proof latching device.
    n. The full height of the tower shall be enclosed on the side or sides adjacent to the building with ½ inch wire mesh of No. 14 U.S. Gauge wire or equivalent.
    o. Unused sides of the base of the tower shall be enclosed from ground level to a height 10 feet above the lowest landing.
    p. Roll off, or dock plates used on upper floors shall have a vertical projection attached to their bottom that will prevent the plate from sliding through the gap between the car and the floor landing.
    q. Inspections as required by local jurisdiction.
    r. Doors on each floor must be installed so that they can only be opened from inside the hoist.
    s. Overhead hoists of all types shall be securely fastened and tied back to the supporting structures on which they are mounted in compliance with the manufacturer's and structural engineer's specifications.
    t. Use of counterweights alone to secure hoists is not permitted.

2. **MATERIAL HOISTS**
    a. The rated load capacity and recommended operating speeds of the hoist shall be posted on the car and platform.
    b. The capacity of the hoist shall not be exceeded.
    c. Hoist way entrance shall be protected by substantial gates or bars across the full width of the landing entrance.
    d. Gates shall be equipped with a latching device protected from tampering.
    e. The number of the floor shall be conspicuously posted on each floor at the entrance to the hoist.
    f. A two-way communication system shall be provided between the operator's station and each hoist landing.
    g. An alarm or signal system shall be provided at the operator's station indicating whether the bar or gate at any floor landing is closed.
    h. The top of every material hoist cage or platform shall have overhead protection of 2-inch planking, ¾-inch plywood or other solid material of equivalent strength.

i. The operator's station of a hoisting machine shall be provided with overhead protection of tight 2-inch planking or equivalent.
j. Operating rules shall be established and posted at the operator's station.
k. Car arresting devices shall be installed to function in case of rope failure.

3. **PERSONNEL HOISTS**
   a. Cars shall be permanently enclosed on all sides and the top, except sides used for entrance and exit, which have car doors or gates.
   b. Hoist way doors or gates shall be installed at each floor landing and shall be not less than 6 feet 6 inches high, provided with mechanical locks that cannot be operated from the landing side, and shall be accessible only to persons on the car.
   c. Overhead protection shall be provided.
   d. Car doors or gates shall be provided with electric contacts that do not allow movement of the hoist when door or gate is open.
   e. Cars shall be provided with a capacity sign posted conspicuously on the car.
   f. A call system for the car shall be provided at each landing and the floor number shall be posted at each landing.
   g. Hoist tower shall be anchored to the building or structure at intervals not exceeding 25 feet. In addition to tie-ins, a series of guys shall be installed in compliance with the manufacturer's and structural engineer's specifications.
   h. An emergency stop switch shall be provided in the car and marked "STOP".
   i. A competent person shall inspect and test all hoist functions and safety devices before the hoist is put in service, and at three (3) month intervals thereafter. Written records of such tests shall be maintained at the jobsite.

4. **WORKING ADJACENT TO HOIST**
   a. Any work within 10 feet of a hoist will require a Hoist Proximity Permit to be filled out by the subcontractor.
   b. The permit will be reviewed by the RC ANDERSEN Project Team for:
      i. Type of work platform: aerial lift, scissor lift, swing stage, crane pick (Some operations may require more than 10' clearance)
      ii. Type of work being performed
      iii. Type of material being used (large material may have the potential to rotate into the hoist way)
      iv. Experience of the personnel performing the work: JHA, PTP, and /or additional training
      v. Verify training certifications of the operator(s)
   c. The RC ANDERSEN Project team can allow work to continue with prescribed controls or work to be performed when hoist is shut down
   d. Subcontractor to conduct worker training on working near hoist.
   e. Subcontractor to submit the permit to RC ANDERSEN, amend their site-specific safety manual, conduct a toolbox/training on working adjacent to hoist and site-specific requirements.
   f. Hoist operator shall be informed of all activities to take place within 10 feet of the hoist
   g. Hoist operator shall inform RC ANDERSEN Project Field Team whenever activities take place within 10 feet of the hoist way.
   h. Signage shall be placed on each side of the hoist stating: "KEEP AWAY" – "PERMIT REQUIRED WHEN WORKING WITH 10' OF HOIST

5.44 HOT WORK PERMIT PROCEDURE

The subcontractor shall complete hot work permits using the form provided by RC ANDERSEN.

1. As needed RC ANDERSEN and Building Facilities will review the hot work request and locations.

2. As required by the scope of work a joint walkthrough shall be conducted by both RC ANDERSEN and the subcontractor foreman.

3. Any modifications to permits not identified on the initial walkthrough / joint pre-inspection will be again jointly inspected by the performing subcontractor foreman, trade person performing hot work and RC ANDERSEN.

4. All hot works will be documented and shall identify all subcontractor fire watch personnel, their location and the competent person in charge of said operation. The subcontractor shall be responsible for their specific trade permits.

5. All hot works permits will identify the number of subcontractor fire watch required for the operation. Once the operation starts, if the field conditions change, the competent person will verify or update number of fire watches required and names on actual permits during area reviews.

6. The subcontractor competent person will conduct the initial inspection of hot works within the first hour and hourly thereafter.

7. A dedicated fire watch shall maintain continuous visual observation of all sparks generated during welding operations to ensure fire hazards are immediately detected.

Training

1. All subcontractor personnel performing hot work must be trained.

2. If the RC ANDERSEN Hot Work Procedure is not being followed, immediately stand down all violating subcontractors and trade personnel performing hot work. Retraining will be performed by the subcontractor.

3. Retraining will be required for violating subcontractors performing hot work.

5.45 HOUSEKEEPING

REFERENCES:

29 CFR 1926.25, Housekeeping
OSHA Standard Interpretations "Protection of Impalement Hazards: Rebar and Other Hazards"
OSHA Ergonomics eTool: Electrical, Materials Handling; Staging and Housekeeping
29 CFR 1926.1101, Asbestos
29 CFR 1910, Subpart E, Exit Routes, Emergency Action Plans, and Fire Prevention Plans
29 CFR 1910.141, Sanitation
29 CFR 1926.250, General Requirements for Storage
29 CFR 1910.179, Handling materials - General
OSHA Woodworking eTool, Procedural and Administrative Controls
29 CFR 1926.56, Illumination, Table D-3

1. Poor housekeeping on construction projects creates unsafe walking and working conditions due to tripping hazards and is an ever-present fire hazard due to the flammable and combustible nature of most construction **debris should be removed daily**.
2. The Superintendent shall develop a housekeeping program at the start of the project and assign responsibilities for cleanup and removal of debris as required.
3. The following housekeeping rules shall be enforced:
    a. Make certain that subcontractors understand their contractual obligations for cleanup and removal of their debris. Enforce contractual requirements.
    b. Plan and set up schedules for prompt emptying of rubbish containers.
    c. Full containers shall be removed promptly and replaced with empty containers.
    d. Allow enough time in elevator schedules for rubbish removal.
    e. Hoses, extension cords, welding leads, etc., shall not be laid on the floor in occupied areas outside of construction areas. All such lines shall be hung overhead.
    f. Combustible or flammable debris shall be cleaned up and removed daily. Accumulations of this type of debris are prohibited.
    g. Construction debris shall be cleaned daily up as the work progresses and shall not be permitted to accumulate or remain scattered and strewn about.
4. In no case shall construction debris be permitted to become strewn or accumulated in occupied areas outside of construction areas.
5. The following areas shall always be kept clear of debris:
    a. Walkways
    b. Aisles
    c. Stairways
    d. Ladder ways (6' clearance, if feasible)
    e. Ramps
    f. Loading docks
    g. Elevator lobbies and landings
    h. Entrances to the project
    i. Scaffolds
6. When debris is dropped through holes or openings in a floor without the use of chutes, the area onto which the debris is dropped shall be completely enclosed with barricades not less than 42 inches high and not less than 6 feet back from the projected edge of the opening above.
7. Employees shall not enter the area while debris is being dropped.

8. All debris shall be kept back at least 10 feet from the open sides of floors and at least 6 feet back from the edges of floor openings until cleaned up and removed.
9. Nails may not be left protruding from lumber. Protruding nails shall be pulled, backed out or bent over.
10. Oil and grease spills shall be cleaned up at once.
11. Where sweeping of debris from floors may create dusty atmospheres, sweeping compound shall be used or the floors sprinkled with water, whichever is required to reduce dust in the atmosphere to acceptable levels.
12. Workers shall wear the appropriate Personal Protective Equipment (PPE) such as dust masks and eye protection when sweeping.
13. Where openings to rubbish chutes may permit materials to ricochet or fly out of the openings or where the openings present a falling hazard to employees, the opening shall be equipped with a cover of 3/4 inch plywood or its equivalent or with a 2" x 4" bar across the opening.
14. Covers or bars shall be kept in place when the opening is not in use.
15. Where the openings are large enough to admit a wheelbarrow, a substantial wheel stop shall be installed on the floor in front of the openings.
16. Where employees may be required to enter into chutes or under the bottom discharge of chutes to clear blockages, make repairs to the chute, arrange debris in containers or switch containers, etc., an adequate warning system shall be provided to prevent others from dumping debris down the chute onto employees below.
17. In no case shall the bottom discharge of a chute be left in such a condition as to permit employees to inadvertently walk or enter under the open end. When there is no rubbish container under the chute, the area under the discharge shall be barricaded.
18. Where construction activities take place in occupied areas, outside of regular construction areas, and the work cannot be isolated, only such tools, equipment and materials as may be immediately used shall be permitted. One employee shall serve as flagger to warn occupants of the hazards and direct them away from or around the work.
19. Construction materials and equipment shall not be stored in occupied areas outside of construction areas.
20. Where construction materials, tools, supplies and equipment must be moved through occupied areas, one employee shall serve as flagman to warn occupants of the hazards and direct them away from or around the move.
21. When required, lights shall be installed on chutes. Red for do not dump and green for good to dump, or no dumping when the light is off.

5.46 INFECTION CONTROL RISK ASSESSMENT (ICRA)

1. Infection Control Risk Assessment (ICRA) is a system used within Healthcare facilitates to help reduce the risk of the effects of construction projects on patients. As the Construction Manager on Healthcare Projects both the field and project management should be involved in the planning and the implementation of the ICRA plan developed by the owner and assure accepted procedures are executed by our employees and our subcontractors.

2. Under the *Guidelines for Design and Construction of Hospital and Health Care Facilities* of the American Institute of Architects, Infection Control Risk Assessment (ICRA) must be part of every health care construction project. An ICRA plan should address at least:

    a. the impact of disrupting essential services to patients and employees
    b. patient placement or relocation
    c. effective barriers to protect susceptible patients from airborne dust contaminants such as Aspergillus' species
    d. air handling and ventilation needs in surgical services and other key areas
    e. the domestic water system to limit Legionella and waterborne opportunistic pathogens
    f. protection of patients from demolition, ventilation, and water intrusion following power outages, movement of debris, traffic flow, cleanup, and certification.

3. The process for developing the ICRA plan ideally starts at the early design and planning stages of a project. The owner of the facility is ultimately responsible for the ICRA program. One of the ways an owner can assure that each project has a well thought out plan is by assembling a team with the infection control practitioner, project designer, safety, facilities managers, and the construction manager. The team will then address the impact the construction project will have on the patient population. The owner is responsible to direct RC ANDERSEN's implementation of the program.

4. The plan adopted by the ICRA team is a living document and updated through each phase of the project. During the actual construction, the panel should meet on a regular basis to update the ICRA plan and to assess the risk as construction progresses. The same team approach is required to assure the success of the infection control plan for construction projects.

5. The following is an example of an Infection Control Risk Assessment Matrix of Precautions for Construction & Renovation. The matrix will help determine the level of control needed on each job.

6. During construction and renovation projects, the primary concern of risk managers normally is fire prevention, with secondary emphasis on general safety and exposure to chemicals. Often overlooked is the threat of construction induced air pollution. In hospital and other health-care environments, where the compromised immune status of some patients leaves them more susceptible to infection, this oversight can have dire consequences. Construction procedures that can heighten infection risk in health-care environments include demolition using inadequate barriers, exterior-wall removal and core drilling. Water leakage with mold growth, poor ventilation, and utility outages also can increase risk. No building under construction or being renovated is immune to hazardous conditions, including construction induced air pollution. That is why a risk assessment is important for all projects. Avoiding hazardous conditions requires a formal approach during the pre-construction stages of a project. The risk assessment tool should serve only as a model for developing site-specific assessments. The degree of development depends on the building and the scope of the project. In health care, the ICRA

considers the patients and procedures affected, as well as sterile supply storage, laundry services, the loading dock, the air intakes, and other factors that may impact the risk to patients.

7. For all projects, especially those related to health care, the risks of construction-induced infection should be assessed. A risk assessment should take into consideration:

    a. The patient population
    b. The extent of the project
    c. The duration of the project
    d. The impact of the project on mechanical systems
    e. Whether the space will remain occupied during the project

8. A risk assessment should be started during the concept-planning phase of a project, when scope, location, equipment size, etc. are determined. The internal and external impacts of the project should be considered during the design and development phase, coinciding with space planning and the determination of equipment location and traffic-flow patterns. During the bid process, value-engineering decisions must be carefully examined regarding the potential for fungal growth and indoor-air-quality problems. Although preventive maintenance arising from a risk assessment may be costly, it often is substantially less so than problems related to building acceptance and litigation over water-damage issues. During the implementation phase of a project, amid demolition, reconstruction, cleanup, etc., problems can be minimized in part by providing break areas and bathroom facilities for workers. Commissioning criteria should include the prevention of the installation of water-damaged materials, as well as predetermined ventilation parameters. Identify and communicate the responsibility for project monitoring that includes infection control concerns and risks. The ICRA may be modified throughout the project. Revisions must be communicated to the Project Manager.

9. The following is an ICRA matrix that should be used as a model to evaluate risk.

5.46.1 ICRA MATRIX OF PRECAUTIONS FOR CONSTRUCTION & RENOVATIONS

Step 1:

Using the following table, *identify* the Type of Construction Project Activity (Type A-D)

TYPE A	**Inspection and Non-Invasive Activities**. Includes, but is not limited to: Removal of ceiling tiles for visual inspection limited to 1 tile per 50 square feet Painting (but not sanding) Wall covering, electrical trim work, minor plumbing, and activities which do not generate dust or require cutting of walls or access to ceilings other than for visual inspection.
TYPE B	**Small scale, short duration activities which create minimal dust** Includes, but is not limited to: Installation of telephone and computer cabling Access to chase spaces Cutting of walls or ceiling where dust migration can be controlled.
TYPE C	**Work that generates a moderate to high level of dust or requires demolition or removal of any fixed building components or assemblies** Includes, but is not limited to: Sanding of walls for painting or wall covering Removal of floor coverings, ceiling tiles and casework New wall construction Minor duct work or electrical work above ceilings Major cabling activities Any activity, which cannot be completed within a single work shift.
TYPE D	**Major demolition and construction projects** Includes, but is not limited to: . Activities which require consecutive work shifts . Requires heavy demolition or removal of a complete cabling system . New construction

Step 2:

Using the following table, *identify* the Patient Risk Groups that will be affected. If more than one risk group will be affected, select the higher risk group:

Low Risk	Medium Risk	High Risk	Highest Risk
Office areas	Cardiology Echocardiography Endoscopy Nuclear Medicine Physical Therapy Radiology/MRI Respiratory Therapy	CCU Emergency Room Labor & Delivery Laboratories (specimen) Newborn Nursery Outpatient Surgery Pediatrics Pharmacy Post Anesthesia Care Unit Surgical Units	Any area caring for immune compromised patients Burn Unit Cardiac Lab Central Sterile Supply Intensive Care Units Medical Unit Negative pressure isolation rooms Oncology Operating rooms including C-section rooms

Step 3: *Match* the:

Patient Risk Group (***Low, Medium, High, Highest***) with the planned
Construction Project Type (***A, B, C, D***) on the following matrix, to find the
Class of Precautions (***I, II, III or IV***) or level of infection control activities required.

Class I-IV or Color-Coded Precautions are delineated on the following:

IC Matrix Class of Precautions: Construction Project by Patient Risk

Construction Project Type

Patient Risk Group	TYPE A	TYPE B	TYPE C	TYPE D
LOW Risk Group	I	II	II	III/IV
MEDIUM Risk Group	I	II	IIII	IV
HIGH Risk Group	I	II	III/IV	IV
HIGHEST Risk Group	II	III/IV	III/IV	IV

Note: Infection Control approval will be required when the Construction Activity and Risk Level indicate that **Class III** or **Class IV** control procedures are necessary.

5.46.2 ICRA DESCRIPTION OF REQUIRED INFECTION CONTROL PRECAUTIONS BY CLASS

	During Construction Project:	Upon Completion: Project
CLASS I	. Execute work by methods to minimize raising dust from construction operations. . Immediately replace a ceiling tile displaced for visual inspection	1. Clean work area upon completion of task.
CLASS II	. Provide active means to prevent airborne dust from dispersing into atmosphere. 2. Water mist work surfaces to control dust while cutting. 3. Seal unused doors with duct tape. 4. Block off and seal air vents. 5. Place dust mat at entrance and exit of work area . Remove or isolate HVAC system in areas where work is being performed.	. Wipe work surfaces with disinfectant. . Contain construction waste before transport in tightly covered containers. . Wet mop and/or vacuum with HEPA filtered vacuum before leaving work area. . Remove isolation of HVAC system in areas where work is being performed.
CLASS III	. Remove or Isolate HVAC system in area where work is being done to prevent contamination of duct system. . Complete all critical barriers i.e., sheetrock, plywood, plastic, to seal area from non-work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. . Maintain negative air pressure within work site utilizing HEPA equipped air filtration units. . Contain construction waste before transport in tightly covered containers. . Cover transport receptacles or carts. Tape covering unless solid lid.	1. Do not remove barriers from work area until completed project is inspected by the owner's Safety Department and Infection Control Department and thoroughly cleaned by the owner's Environmental Services Department. 2. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. 3. Vacuum work area with HEPA filtered vacuums. 4. Wet mop area with disinfectant. 5. Remove isolation of HVAC system in areas where work is being performed.
CLASS IV	. Isolate HVAC system in area where work is being done to prevent contamination of duct system. . Complete all critical barriers i.e., sheetrock, plywood, plastic, to seal area from non-work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. . Maintain negative air pressure within work site utilizing HEPA equipped air filtration units. . Seal holes, pipes, conduits, and punctures. . Construct anteroom and require all personnel to pass through this room so they can be vacuumed using a HEPA vacuum cleaner before leaving work site or they can wear cloth or paper coveralls that are removed each time they leave work site. . All personnel entering work site are required to wear shoe covers. Shoe covers must be changed each time the worker exits the work area. . Do not remove barriers from work area until completed project is inspected by the owner's Safety Department and Infection Control Department and thoroughly cleaned by the owner's Environmental Services Dept.	1. Remove barrier material carefully to minimize spreading of dirt and debris associated with construction. 2. Contain construction waste before transport in tightly covered containers. 3. Cover transport receptacles or carts. Tape covering unless solid lid 4. Vacuum work area with HEPA filtered vacuums. 5. Wet mop area with disinfectant. 6. Remove isolation of HVAC system in areas where work is being performed.

Step 4:

Identify the areas surrounding the project area, assessing potential impact.

Unit Below	Unit Above	Lateral	Lateral	Behind	Front
Risk Group	Risk Group	Risk Group	Risk Group	Risk Group	Risk Group

Step 5:

1. Identify specific site of activity e.g., patient rooms, medication room, etc.
2. Identify issues related to:
   a. Ventilation (outages, airflow direction, clean to dirty, etc.).
   b. Plumbing (outages, hand-washing access, work area, flushing, etc.).
   c. Electricity (outages for critical equipment in special-ventilation areas, monitoring, etc.).

Step 6:

Identify issues related to ventilation, plumbing, electrical in terms of the occurrence of probable outages.

Step 7:

1. Identify containment measures, using prior assessment. What types of barriers (e.g., solid-wall barriers) are there? Will HEPA filtration be required? (Note: Renovation/construction areas should be isolated from occupied areas during construction and provide clean-to-dirty airflow with respect to surrounding areas).
2. Identify containment measures, using prior assessment. What types of barriers? (E.g., solids wall barriers); Will HEPA filtration is required?

Step 8: Take into consideration the following:

Work hours: Can or will work occur during non-patient care hours? Contact the nursing supervisor before workers begin to determine the most sensitive patients and coordinate the progress of the project.

1. Do plans allow for adequate number of isolation/negative airflow rooms?
2. Do the plans allow for the required number and type of hand-washing sinks?
3. Does the infection control staff agree with the minimum number of sinks for this project?
4. Does the infection control staff agree with the plans relative to clean and soiled utility rooms?
5. Plan to discuss the following containment issues with the project team such as traffic flow, housekeeping and debris removal (how and when).
6. Potential risk of water damage: Is there a risk due to compromising structural integrity (wall, ceiling, and roof)?

Description of Required Infection Control Precautions by Class

Infection Control Construction Permit		**Permit No:**	
Location of Construction:		**Project Start Date:**	
Project Coordinator:		**Estimated Duration:**	
Contractor Performing Work		**Permit Expiration Date:**	
Supervisor:		**Telephone:**	
CONSTRUCTION ACTIVITY		**INFECTION CONTROL RISK GROUP**	
	TYPE A: Inspection, non-invasive activity		**GROUP 1:** Low Risk
	TYPE B: Small scale, short duration, moderate to high levels		**GROUP 2:** Medium Risk
	TYPE C: Activity generates moderate to high levels of dust, requires greater one (1) work shift for completion		**GROUP 3:** Medium/High Risk
	TYPE D: Major duration and construction activities requiring consecutive work shifts		**GROUP 4:** Highest Risk

	During Construction Project	Upon Completion of Project
Class I	Execute work by methods to minimize raising dust from construction operations. Immediately replace a ceiling tile displaced for visual inspection	
Class II	Provide active means to prevent airborne dust from dispersing into atmosphere. Water mist work surfaces to control dust while cutting. Seal unused doors with duct tape. Block off and seal air vents/exhaust. Place dust mat at entrance and exit of work area Remove or isolate HVAC system in areas where work is being performed.	Wipe work surfaces with disinfectant. Contain construction waste before transport in tightly covered containers. Wet mop and/or vacuum with HEPA filter vacuum before leaving work area. Remove isolation of HVAC system in areas where work is being performed.
Class III	Remove or isolate HVAC system in area where work is being done to prevent contamination of duct system. Complete all critical barriers i.e., sheetrock, plywood, plastic, to seal area from non-work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units. Contain construction waste before transport in tightly covered containers. Cover transport receptacles or carts. Tape covering unless solid lid.	Do not remove barriers from work area until completed project is inspected by the Owner's Safety Department and Infection Control Department and thoroughly cleaned by the Owner's Environmental Services Department. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. Vacuum work area with HEPA filtered vacuums. Wet mop area with disinfectant. Remove isolation of HVAC system in areas where work is being performed.
Class IV	Isolate HVAC exhaust system in area where work is being performed to prevent contamination of duct system. Complete all critical barriers i.e., sheetrock, plywood, plastic, to seal area from non-work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. Critical barriers shall be erected from slab to slab A pre-barrier shall be erected from floor to ceiling with poly to build the permanent critical barrier. Construct an anteroom. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units. Seal holes, pipes, conduits, and punctures appropriately. Construct anteroom and require all personnel to pass through this room so they can be vacuumed using a HEPA vacuum cleaner before leaving work site or they can wear cloth or paper coveralls that are removed each time they leave the work site. All personnel entering work site are required to wear shoe covers. Shoe covers shall be changed each time the worker exits the work area. During dusty and dirty operations, such as demo, workers may be required to wear Tyvek suits. Contain dusty or smoky operations with local exhaust such as smoke eaters and/or control measures such as misting material during demo.	Do not remove barriers from work area until completed project is inspected by the Owner's Safety Department and Infection Control Department and thoroughly cleaned by the Owner's Environmental Services Department. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. Contain construction waste before transport in tightly covered containers. Cover transport receptacles or carts. Tape covering unless solid lid. Vacuum work area with HEPA filtered vacuums. Wet mop area with disinfectant. Remove isolation of HVAC system in areas where work is being performed. See note 3).

5.46.3 ICRA WORKING WITHIN LABORATORY AREAS

SUPERVISOR/MANAGEMENT RESPONSIBILITIES

1. A pre-planning meeting is mandatory.
2. The RC ANDERSEN Superintendent will be responsible for contacting the Administrator and/or the Lab Manager each day/night before work commences in order to inform them on the following items:
    a. Nature of the work
    b. Areas where the work will be conducted for that period and any special protection required
    c. Review clean-up procedures
3. The RC ANDERSEN staff, and the Lab Manager will contact the facility's Safety Department to conduct a walk-through and identify potentially hazardous materials, request for any necessary environmental clearance, and identify any areas that will be prohibited for entrance by employees during the work.
4. Environmental Clearances must be issued by the facility's Safety Department.
5. RC ANDERSEN, the facility's Safety Department and the Lab Manager will be responsible for identifying the following items before the job commences:
    a. Areas where tools will be stored until the end of the project
    b. Location of an area to store an emergency spill cart
    c. Identify protection procedures for equipment

SAFETY PROCEDURES FOR WORK IN A LABORATORY

1. Inform all employees of the hazards associated within the areas they will be working in and notified them of the restricted areas.
2. All areas within a laboratory are to be considered contaminated; therefore, these procedures will always be followed:
    a. Use a designate cart of tools used only for that job. They will be stored in a designated spot within the lab until the end of the project.
    b. Personal Protective Equipment requirements will be determined on a case-by-case basis. Once the required personal protective equipment has been determined, all workers must be provided with and be required to wear the PPE.
    c. Personal protective equipment will be put on before entrance into a lab area. If you must leave the lab area (room where work is in progress) during the workday/night, then the Tyvek suit can be taken off and hung in the room, but the gloves and mask should be discarded in a designated wastebasket located in the lab.
    d. When re-entering the lab, PPE shall be put on before entering the worksite. The Tyvek suit will be put on last after entrance into the worksite.
    e. All personal protective equipment must be changed when moving between rooms. Suits and gloves cannot be worn in the hallways or into other areas without changing.
    f. At the end of the shift, all tools must be wiped down with alcohol or 10% bleach solution and returned to the designated storage area.
    g. While working in the laboratory, all personnel will use the buddy system in case of an accidental spill or other emergency (see Section III for procedures).
    h. Apply protective plastic to any countertop before tools are set down.

EMERGENCY SPILL PROCEDURES

1. There are three types of hazards associated with working in a laboratory: biological, chemical and radioactive. The following steps should be taken in case of an emergency spill while you are working in the areas:
   a. **BIOLOGICAL:** In case of a spill involving biological hazards, the following steps should be taken:
      i. If the potentially hazardous material did not contaminate your clothing, then one employee will wait outside the door while the other reports the incident immediately to the facility's Emergency Phone Number.
      ii. The hospital and or facility personnel will be responsible for cleanup and clearance of the area.
      iii. If the material has contaminated your clothing, then the contaminated outerwear should be removed (use gloved hands). The hospital and or facility personnel will assess the situation and determine further decontamination procedures if necessary.

   b. **CHEMICAL:** In case of a spill involving a chemical, the following steps should be taken:
      i. If the potentially hazardous material did not contaminate your clothing, then one employee will wait outside the door while the other reports the incident to the facility's Emergency Phone Number.
      ii. The hospital and or facility personnel will be responsible for cleanup and clearance of the area.
      iii. If the material has contaminated your clothing, then remove your equipment and immediately flush the area with copious amounts of water for at least 15 minutes. Report the incident immediately to your Supervisor.
      iv. If the incident has caused injury, the facility and/or RC ANDERSEN shall obtain the SDS sheet and escort the employee to the Emergency Room.

   c. **RADIATION:** In case of a spill involving radioactive materials, the following steps should be taken:
      i. If the material has not contaminated your clothing or boots, then one employee will wait outside while the other immediately reports the incident to the facility's Emergency Phone Number.
      ii. If clothing or boots have been splashed, remove affected items using gloves and immediately wash any splashed skin with soap and water. **Do not leave the area.** The other employee not involved in the splash will immediately report the incident to the facility's Emergency Phone Number.

GENERAL RULES:

1. DO NOT TAKE PERSONAL ITEMS INTO THE LAB AREA; I.E., RADIO, IPOD, MP3 PLAYER.
2. DO NOT USE ANY TELEPHONE WITHIN THE LAB.
3. DO NOT SIT AT ANYONE'S DESK.
4. DO NOT EAT IN THE LAB AND DO NOT BRING FOOD INTO THE LAB.
5. DO NOT ENTER ANY ROOM WITHOUT AUTHORIZATION TO WORK AT THAT TIME.
6. DO NOT TOUCH ITEMS OR MATERIALS ON THE LAB COUNTER.

5.46.4 ICRA WORKING WITHIN STERILE ENVIRONMENTS

This includes work adjacent to sterile areas, including the floor above or below, when there are penetrations through the area.

GOALS:

1. Eliminate the exposure to infection created by construction dust, dirt and debris, and workers entering the existing sterile environment.
2. Reduce construction impact on sterile environments.

OBJECTIVES:

1. Adhere to the facility's Infection Control Procedures by isolating demolition and construction from the active sterile environment (including ventilation - negative pressure). This can be done be strictly following ICRA guidelines.
2. Maintain dust free passage of construction personnel, material and equipment through the active sterile environment.
3. Minimize the impact of a construction zone inside the active sterile environment including the effects of noise, vibration and odors.
4. Comply strictly with the standards of acceptable behavior in the hospital environment and enforcement thereof.

REQUIREMENTS:

1. Train all workers in the Facility's Infection Control Policies. As part of that training, the following points will be explained and emphasized:
    a. Germs carried in and on our persons are far more dangerous to individuals involved in surgery (and immunocompromised patients) than anything we can encounter there ourselves.
    b. Surgical suites are STERILE, we are not.
2. **AS A PRECAUTION,** CDC's Bloodborne Pathogen guidelines for Body Substance Isolation (BSI) protection will be in effect for any trades workers involved in demolition or connection of new systems to existing systems, which could cause exposure to any body fluids. When working on existing facility's sanitary piping, waste lines, or medical vacuum lines workers must assume all fluids are contaminated and wear proper personal protection equipment.
3. All equipment, materials and personnel, including tools and carts, will be treated as if they are infected entering a sterile environment. All workers will gown according to Facility policies. All equipment and materials must be dust-free and covered before entering restricted sterile areas.
4. Before carts enter or leave the sterile environment, they will be wiped down and/or vacuumed off with a HEPA vacuum cleaner including the wheels, to prevent the introduction of airborne contaminants into sterile areas.
5. Workers must adhere to the facility's infection control procedures for gowning up prior to entering sterile areas such as wearing bunny suits and/or scrubs, shoe cover or booties, hair covers, and possibly surgical mask.
6. Workers must re-gown, including clean booties, when exiting the construction area and entering the sterile environment.
7. At the completion of the work within sterile areas, all material must be cleaned and removed from the area cleaned. Following the cleaning process, notify the facility to complete a terminal cleaning of the space.

5.47 JOB HAZARD ANALYSIS PROCEDURE

Complete a Job Hazard Analysis (JHA) to identify potential hazards and possible protective measures associated with single tasks already performed on the jobsites. JHA's identify hazards associated with one trade and one task. When multiple trades and/or high-risk activities are going to commence, conduct a pre-planning meeting. The following is an example of a job task.

The first step to a JHA is break down job task into steps. Describe each action taken by the worker to complete the task.

Example for Loading Zone Safety.

SEQUENCE OF BASIC JOB STEPS (List each step of the job in order of occurrence as you watch the worker perform his/her job) Step No.	
1	Worker removes the "removable" wooden guardrail to enter the loading zone
2	Worker wearing a full body harness, ties off to the designated tie off point
3	Worker replaces the "removable" wooden guardrail
4	Worker takes down the wire rope cable guard rail to receive a load
5	Worker replaces wire rope cable guard rail
6	Worker un-ties and removes the "removable" wooden guardrails
7	Worker removes the load and replaces the "removable" wooden guardrail

The second step to a JHA is to identify any hazards associated with each step. Example

POTENTIAL HAZARDS/ACCIDENTS (List any potential hazards associated with each step) Step No.	
1	Outside wire rope cable guardrail is not in place
2	Worker not properly wearing his PPE, Worker incorrectly tying-off to an anchor not suitable for 5000 lbs. strength.
3	Worker does not replace "removable" wooden guardrail
4	The bay used for the loading zone was not isolated from the rest of the floor
5	Worker forgets to reconnect the wire rope cable.
6	N/A
7	N/A

The last step lists the recommended protective measures for each step. Example

RECOMMENDED SAFE JOB PROCEDURES (List recommended protective measures) Step No.	
1	Before removing the "removable" wooden guardrail, ensure wire rope cable guardrail is in place. Ensure the worker is tied off before the wooden "removable" guardrail is taken down.
2	Ensure worker is properly wearing his PPE; ensure the tie-off point meets the 5000 lbs. requirement.
3	Place signage with instruction indicating step by step the process to receive a load
4	The bay used for the loading zone needs to be dogged off prior to setting up the loading zone
5	Place signage with instruction indicating step by step the process to receive a load
6	Make sure worker is aware of loading zone procedures
7	N/A

5.48 LADDER SAFETY

REFERENCES:

29 CFR 1926.1053 - Ladders
29 CFR 1926.1051 – General Requirements/Ladders
OSHA Fact Sheet Safe Use of Stepladders
29 CFR 1910.25 – Portable Wood Ladders
29 CFR 1910.26 – Portable Metal Ladders

1. A 'Ladders Last' approach shall be used by the competent person during pre-task planning to identify other means of access including elevated platforms to protect workers and support safe production. Other alternatives such as mobile elevated work platforms (MEWP), scaffolds, baker staging and podium ladders with railings shall be considered as the preferred option. Ladders to be used only after competent person has determined no other reasonably feasible method is available to perform the task.
2. Do not use ladders with broken/dented or missing steps or rungs, broken or split side rails or other defects.
3. Do not paint any ladders.
4. Do not repair or alter manufactured ladders.
5. Subcontractors should have their name on their ladders.
6. Workers are to use only their employer's ladders.
7. Use A-frame ladders only in the open position, or per the manufacturer's instructions.
8. Secure straight ladders to avoid accidental displacement.
9. Straight ladders on smooth surfaces must have slip resistant feet.
10. Follow the manufacturer's recommendations.
11. A competent person shall inspect ladders for defects, red tag and remove defective ladder from service.
12. Train all workers in ladders as specified by OSHA.
13. Ladders should be stored in a secure position.
14. Do not separate extension ladders and use them as two ladders.
15. Do not use aluminum ladders.
16. Ladders shall extend at least three feet above the exit level.
17. Use only rated portable ladders, at a minimum, Type 1 (Heavy Duty).
18. Fall protection is required when working on a ladder placed closer to a guardrail than the height of the ladder. For example, a ten (10) foot ladder used closer than ten (10) feet from a guardrail will require fall protection in the form of a personal fall arrest system with appropriate anchorage.
19. Do not use ladders in the horizontal position as platforms, runways or scaffolds.
20. Do not use planks and ladders to make a scaffold.
21. Exit from a working area for 25 or more employees or simultaneous two-way traffic requires a double ladder.
22. Side rails of job made ladders shall extend not less than 36 inches above the top landing level, and the space between the side rails at the top 36 inches shall be free of rungs or other obstructions to permit employees to enter or leave the ladder between the side rails.
23. The pitch of the ladder shall be such that the horizontal distance from the top support to the foot of the ladder is about 1/4 of the length of the ladder between the top support and the base.
24. Job made ladders are to comply with ANSI 14.4 standards or designed by a registered professional engineer.
25. Ladder labels must be fully legible.

5.49 LEAD

REFERENCES:
29 CFR 1910.1025 –Lead
OSHA 1926.62
OSHA Fact Sheet Lead Hazards
OSHA Lead in Construction 3142

1. The OSHA Lead Rule requires the construction industry to take steps to prevent workers from exposure to lead levels greater than 50 micrograms per cubic meter of air averaged over an eight-hour period - weighted average (TWA).

2. Preliminary worker protections are required when workers are exposed to lead levels above 30 micrograms per cubic meter as an eight-hour TWA, such as medical monitoring. Once the exposure level exceeds 50 micrograms, contractors would have to employ more extensive worker protection methods, such as supplying respirators. Until determination of the potential lead exposure, through air sampling, is known, proper personal protective equipment shall be used including respiratory protection.

3. The standard sets the same exposure limit that OSHA uses to protect workers in general industry. Among those likely to be affected by the rule according to OSHA are general contractors who build industrial buildings, warehouses and other nonresidential construction.

4. The EPA standard on the Renovation, Repair and Painting Final rule requires both firms to be Certified and an individual on site to be a Certified Renovator for any buildings likely to be occupied by children under age 6 two days per week for at least three hours.

5. RC ANDERSEN Safety Department is responsible to:
    a. Respond to sampling requests or employee inquiries;
    b. Perform frequent and regular inspections of job sites to help project management team manage lead issues;
    c. Recommend resources, such as a third-party industrial hygienist firm who will conduct sampling to determine the presence of lead and potential exposure levels;
    d. Coordinate the training for RC ANDERSEN employees exposed above the action level;
    e. Recommend services of licensed lead abatement contractors for Class C work activities.

6. Project Team is responsible to:
    a. Have a third-party industrial hygiene firm assess conditions and develop a plan of action.
    b. Notify all subcontractors (who in turn will notify their employees) of a potential hazard
    c. Notify all site employees of the purpose and intent of this lead policy and procedures
    d. Conduct periodic inspections of job sites to ensure appropriate procedures and work practices are being followed
    e. Ensure that all employees are trained in the procedures
    f. Contact Safety Department for lead testing resources
    g. Disclose the presence of lead to any contractors conducting work activities which will involve the disturbance of lead-based paint surfaces
    h. Distribute this lead policy to contractors, referencing the pertinent sections or writing the pertinent sections of the policy into job specifications; and

7. Employees are responsible for complying with the procedures identified in this policy.

8. Effected Subcontractors are required to comply with the following:
    a. Contractors and sub-contractors are responsible for complying with the Occupational Safety and Health Administration's (OSHA) Construction Lead Standard 29 CFR 1926.62 and the appropriate sections of this policy.
    b. Subcontractors must determine if any worker is exposed to lead levels above 30 micrograms per cubic meter of air as an eight-hour time -weighted average.
    c. Exposure levels greater than 30 micrograms per cubic meter will require periodic exposure monitoring, biological monitoring (Blood tests) and annual employee training.
    d. When the lead exposure level exceeds 50 micrograms per cubic meter of air as an eight-hour TWA, the permissible exposure limit (PEL), engineering and work practice controls (to the extent feasible) must be implemented.
    e. Provide workers with respiratory protection if exposure limits are not below the permitted limit through engineering and work practice controls, or whenever a worker requests such protection. The rule also requires proper maintenance of respirator evaluation & respirator fit testing.
    f. Subcontractor is responsible to provide protective clothing and equipment to the employee. It must be cleaned, laundered, replaced or repaired as needed when the lead exposure exceeds the PEL.
    g. The rule provides requirements for housekeeping, including vacuuming floors, rafters and other surfaces to prevent accumulation of lead dust. The use of a wet floor scrubber is equally acceptable. Blowing with compressed air is prohibited.
    h. Subcontractors are required to provide hygiene facilities and ensure that workers comply with hygiene practices to reduce lead absorption that accumulates on a worker's body or clothes.
    i. Provide a medical surveillance program to subcontractors under the supervision of a licensed physician. Employee participation is not mandatory.
    j. If a worker's periodic blood test (including a follow-up test) shows a blood lead level at or above 50 micrograms of lead per deciliter of blood, the employee must be removed from the job. Employees with medical conditions that place them at an increased health risk from lead exposure also must be removed from the job. Employees are given up to 18 months of medical removal protection benefits, including maintaining total earnings, seniority and other employee rights.
    k. Workers must be provided with information and training under OSHA's Hazard Communication Standard.
    l. Subcontractors must post warning signs in any work area where leads exposure exceeds the permitted level.
    m. Recordkeeping requirements provide that subcontractors must keep records on exposure monitoring and assessment medical surveillance and temporary medical removals.

5.50 LOCKOUT/TAGOUT POLICY

1. Lockout/Tag-out is an OSHA Standard which requires the blocking of existing systems, which may cause injury or damage, using locks and tags.
2. The responsibility to establish and maintain a site-specific lockout/tagout program belongs to the subcontractor whose scope of work includes systems which could store or release harmful energy, including electrical, mechanical, elevator or escalator systems, etc.
3. Conduct a pre-planning meeting by RC ANDERSEN and subcontractor personnel and be coordinated with existing owner procedures. On large jobs, all electrical subcontractors will need to be included in these efforts.
4. Notify RC ANDERSEN superintendents on all shutdown and startup of all MEP equipment.
5. Use locks with tags identifying the person(s) as the primary means of impairment.
6. Craft foreman will verify impairment before work begins.
7. Owner representative will verify completion of work, and with RC ANDERSEN superintendent and craft foreman, jointly remove all locks and tags.
8. Each worker involved in work requiring the use of lockout/tagout procedures shall be trained in the site- specific elements of the program.
9. A lockout/tag-out log will be maintained by the subcontractor responsible for locking out the system.
10. When there is more than one electrical or mechanical subcontractor on site, only one subcontractor will have the responsibility to energize/turning on circuits or services. Coordination by the RC ANDERSEN Project Team and MEP coordinator will identify the responsible subcontractor.
11. Train all workers affected by lockout/tagout procedures. (Simple & Complex LOTO)

Note: All equipment to be "locked out" is considered energized until zero voltage is verified. This requires the "Safety Review and Checklist" to be filled out and appropriate PPE to be utilized.

GENERAL REQUIREMENTS

1. An Energy Marshal shall determine potential sources of energy for equipment or building services prior to starting work.
2. De-energized the equipment or building service from all energy sources as determined above. Physically secured the device(s) used to de-energize the equipment or service shall be in the "safe" position and a danger tag and lock affixed.
3. Check the equipment or service to verify a "zero energy state." Equipment or services shall not be re-energized until all affected personnel are notified and are cleared, and the system has been checked out by a Qualified Person.
4. *NOTE:* Energy source is defined by OSHA to include any electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy source that could cause injury to employees.

SPECIFIC REQUIREMENTS

1. ***Notification:*** Prior to commencing work, RC ANDERSEN's superintendent and all affected trade contractors shall be notified of any shutdown of equipment to buildings services.
2. ***Determination of energy sources:*** With due consideration to the scope of work, all potential energy sources to the area or work shall be determined in advance by a Qualified Person. Special caution must be given to:
    a. Multiple energy sources
    b. Residual energy
    c. Remote startup of equipment

De-Energization and Lock out

1. **Electrical:**
    a. Service disconnects and switches to the equipment or line upon which work is to be performed shall be opened (switch off) then locked in this position to prevent accidental engagement.
    b. Install a "Danger" tag and lock to the switch. This tag is to be dated and signed by the supervisor requesting the lock out.
    c. Where more than one crew or craft performs work on the system, each crew foreman shall affix a tag and lock on the disconnect.
    d. Use multiple lock out devices.
    e. Lock keys shall be in the safe possession of the individual using the lock.
    f. Do not use combination locks, must follow requirements of Complex LOTO.

2. **Mechanical:**
    a. All electrically powered pumps, valves and control devices in the system upon which work is to be performed shall be placed in the "safe" condition, then locked out and tagged in accordance with the electrical tag out/lock out procedure above.
    b. Mechanical isolating devices should also be used;
    c. Valves shall be placed in the "safe" position, and tagged and locked in this position, where possible.
    d. Slip blinds ("pancakes") may be required on systems without mechanical valves.
    e. Where more than one crew or craft performs work on a system, each crew foreman shall affix a tag and a lock to the physical isolating device.
    f. A competent person to ensure a “Zero Energy State” shall check systems and equipment upon which work is to be performed.
    g. Drain process equipment, vessels and piping prior to penetration.
    h. Flush or purge systems that have contained corrosive, toxic or flammable substances prior to starting work.

Note: CAUTION! All equipment to be “locked out” is considered energized until zero voltage is verified. This requires the “Safety Review and Checklist” to be filled out and appropriate PPE to be utilized.

Release from Lock Out

1. No system shall be re-energized until all tags and locks are removed and the system has been inspected to ensure safe operation, locks and tags shall only be removed by authorized personnel. Notification to all parties that may be affected by re-energization of system.

Note: CAUTION! A competent person shall verify that the system is energized.

Operation of a circuit breaker or switch the first time after installation or completion of maintenance in the equipment requires appropriate arc flash PPE per NFPA 70 E 130.5(C)

5.51 MATERIAL MANAGEMENT

1. Subcontractors are responsible for all their equipment and materials for the duration of their contract.
2. Subcontractors shall manage their material from time they enter the site until the material is installed or placed in the jobsite dumpster.
3. Subcontractors shall keep all their material adequately secured and mobile.
    a. Mobile: Carts, racks, gang boxes, racks on wheels, pallets and dunnage that allow a pallet jack to move material is also considered mobile.
    b. Non-Mobile: Any large material that cannot be palletized or placed on a cart or box. Subcontractor shall obtain approval of the RC ANDERSEN Superintendent or subject to just in time delivery.
    c. Trash and debris: Are considered material and must be mobile. Trash and debris must be placed in a mobile containers or buggies.
4. Subcontractors storing material on site shall consult in advance with RC ANDERSEN for assignment of storage space and instructions for safe delivery routes as well as storage.
5. RC ANDERSEN shall designate and assign safe locations for bulk storage of materials.
6. Separate and segregated areas for bulk storage of compressed fuel gases, flammable and combustible liquids shall be designated and assigned outside of buildings.
7. Subcontractors shall review and comply with Local Municipal Agency requirements and OSHA regulations 1926.151, (a) and (b) which are applicable to safe material storage.
8. Special consideration shall be given by subcontractors to those regulations for segregation, clearance and methods of storing and stacking materials.
9. RC ANDERSEN shall strictly enforce subcontractors' compliance with the following material storage requirements:
    a. Material stored in buildings under construction shall not exceed the maximum safe load limits of floors.
    b. All material shall be kept back at least 10 feet from the outer perimeter of open floors and at least 6 feet back from interior floor openings and open shafts.
    c. Material shall not be stored in aisles and passageways, on loading docks or in such a way as to block exits. Material shall be kept well back from the entry to hoists.
    d. Materials stored in tiers shall be stacked, racked, blocked, interlocked or otherwise secured to prevent sliding, falling or collapse.
    e. Cylindrical material such as pipe, unless in racks, shall be stacked and blocked to prevent falling or spreading of the stack.
    f. Materials shall not be stored on scaffolds in excess of that needed for immediate use.
    g. Materials shall not be stored on top of any overhead protection.
    h. Materials shall not be piled or leaned against guardrails. Materials stored adjacent to guard rails shall not be piled higher than the guardrails.

5.52 MEWPS

REFERENCES:
29 CFR 1926.453 – Aerial Lifts
29 CFR 1910.67 - Vehicle-mounted Elevating and Rotating Work Platforms

1. All contractors shall develop a safe use program specific to MEWP's that shall include:
    a. Site risk assessment to identify hazards, evaluate risk, develop control measures and communicate with affected persons (see ANSI A92.22.6.1);
        i. Identify the task to be undertaken
        ii. Select an appropriate MEWP
        iii. Assess the risk associated with the task
        iv. Identify control measures
        v. Identify safe work procedures
        vi. Rescue from height: training shall be provided to all occupants, and personnel involved in rescue.
        1. Ensure a safe and timely rescue for:
            a. System failure
            b. Fall from platform when using a fall arrest system
            c. Platform entanglement
            d. MEWPs which have been tipped beyond their center of gravity
            e. Illness/ injury event
        2. The subcontractor shall communicate the results of the risk assessment to the entities involved before a job starts and periodically throughout a long-term job.
            a. Selection, provision and use of a suitable MEWP and work equipment associated with it;
            b. Access, preparation and maintenance of the site, as required, to include an assessment that the support surface is adequate to support the weight of the MEWP;
            c. MEWP maintenance including inspection(s) and repairs as required by this standard and by the manufacturer;
            d. Only trained and authorized personnel can operate and/or occupy the MEWP;
            e. Familiarization of authorized MEWP operator(s) with the specific MEWP to be used;
            f. Inform the operator of local site requirements and warn and provide the means to protect against identified hazards in the areas where the MEWP will be operated;
            g. Have trained and qualified supervisor(s) to monitor the performance of the work of the operator to ensure compliance with provisions of this standard;
            h. Prevention of unauthorized use of the MEWP;
            i. Safety of persons not involved in the operation of the MEWP; and
            j. Documentation required in clause (ANSI A92.22.4.4)
2. Subcontractor and its operator shall ensure a copy of the operation manual is in the weather-resistant compartment on the MEWP
    a. Subcontractor shall ensure the operator reads and understands the manufacturer's operator's manual or has it explained to him/her.

3. Modifications shall only be made with prior written permission from the manufacturer. If written permission from the manufacturer cannot be obtained, permission may be granted by an equivalent analysis and approval from a licensed engineer.
4. A frequent inspection is required if the MEWP has been out of service for a period longer than three months and shall be conducted in accordance with ANSI A92.22.5.3
5. Owners of the MEWP shall ensure an annual inspection is performed by a qualified person no later than 13 months from the date of the prior annual inspection.
6. At the beginning of each shift, the subcontractor shall ensure, and the operator shall perform a prestart and functions test that comply with ANSI A92.22.5.5. Including information found within the manufacturer's operators manual. All manufacturer operator's labels should be present and legible.
7. Before and during use of the MEWP, the subcontractor shall ensure, and the operator shall perform a workplace inspection in the area in which the MEWP is used shall be checked for possible hazards
    a. Inspect floor area for obstructions, floor openings, hole covers and levelness before use.
    b. If clearance or visibility is limited, provide a spotter to assist.
    c. Subcontractors and operators shall ensure that sub-surface voids shall be taken into consideration when determining the adequate strength required to support the MEWP in its operating configuration.
    d. Hazards identified in A92.22.6.5.
8. Before moving the MEWP, the operator shall visually inspect the area around the platform and ensure that persons in the work area are aware of the movement of the MEWP.
    a. The operator shall;
    b. Maintain clear view of the area continuously in the direction of movement
    c. Travel with the platform positioned at the lowest safe position for the conditions
    d. Move at speeds that are appropriate for safe operation
    e. Provide for the safety of any others in the work platform
    f. Do not lean on or place objects on the work platform control panel
    g. Do not run equipment over hole covers without explicit written confirmation that the cover will support two times the intended load.
9. Inspect overhead clearances, especially for electrical hazards before use
10. When raising the lift, ensure hands are inside the railings and be aware of overhead obstructions
11. Labels shall be posted.
12. All MEWP shall require self-closing gates in lieu of safety chains. All gates (previously chains) shall remain closed during use.
13. Care shall be taken to prevent rope, electric cables and hoses, etc., from becoming entangled in the MEWP or adjacent structure or object. Subcontractors shall avoid these applications, if possible, and operators shall take precautions to avoid entanglement during operation.
14. Climbing by occupants on the toe board, mid-rail or top rail for achieving additional height or reach is prohibited. Platform should be able to be raised to the required work level.
15. Lifts shall have manufactured anchorage points and occupants are required to use a full body harness and tie-off. Occupants shall use self-retracting lanyard which cannot exceed 6 feet in length.
16. Do not use the MEWP as a lifting device unless specifically approved by the manufacturer.
17. Carrying/handling materials larger than the platform on the platform shall be prohibited unless approved by the manufacturer.
18. Do not exceed any of the rated forces allowed by the manufacturer, such as rated horizontal forces and dynamic and impact loads from operations.
19. Tools, equipment or material must be in the basket and cannot exceed load rating of platform.
20. Materials on the platform shall always be secured to not pose a drop hazard, including while moving the MEWP.

21. Dismount lift via built-in ladder. Never climb through or over the guardrail. Always maintain 3 points of contact, facing the vehicle when entering and exiting.
22. Alteration of equipment requires manufacturer's written approval.
23. All personnel that directly supervise MEWP operators shall receive training as defined in ANSI A92.24.7.5
24. All contractors shall designate a qualified person to monitor, supervise and evaluate operators on a regular basis to ensure the proficiency. Operators shall be retrained as per ANSI A92.22.6.4 upon:
    a. Expiration of the operator's valid training period
    b. Deterioration of the operator's performance
    c. The operator's extended period of time with no operation of a MEWP
    d. The introduction to new or significantly different MEWP technology.
    e. The operator has been involved in an accident or near miss with the MEWP.
    f. Evaluation will be accomplished through visual observation, at a minimum, which shall be documented for retention by the user.
25. MEWPS shall not operate in wind speed conditions beyond the maximum allowed by the manufacturer
26. All contractors shall identify and set up controls for potential hazards caused by operations on or near public roads as identified in ANSI A92.22.6.4.1 and ANSI A92.22.6.8.4.2
27. When other moving equipment and vehicles are present, all contractors shall direct, and operator shall comply with the requirements for special precautions to be taken to comply with local ordinances or safety standards established for the workplace. Warnings, such as but not limited to flags, roped-off areas, flashing lights, traffic cones and barricades, shall be used as appropriate.
    a. Stay at least 10 feet away from power lines with any part of the body, conductive object or any part of the MEWP.
    b. If work requires working nearer than 10 feet, stop and consult a qualified person with respect to electrical transmission and distribution to have appropriate measures taken.
28. If working or approaching closer than explained above, it shall only be done by a qualified person with respect to electrical transmission and distribution.
29. All contractors shall ensure that proper ventilation is provided in enclosed areas where internal combustion powered equipment is used. Proper ventilation requirements shall be determined by a qualified person.
30. Shut down the MEWP engine during fueling. Fueling shall be done in a well-ventilated area free of flame, sparks or other hazards that may cause fire or explosion.
31. Comply with the requirements to charge batteries in a well-ventilated area free of flame, sparks or other hazards that may cause fire or explosion. It is recommended to plug the extension cord into the vehicle first, then into the outlet. Unplug from the outlet, then from the vehicle to prevent potential arcs and sparks near the batteries.
32. Comply with the requirement that the MEWP shall not be used for electrical grounding to earth when welding structures alongside it unless specifically approved by the manufacturer.
33. Exiting or entering a MEWP at height shall only be permitted through a procedure provided by manufacturer or qualified person that address items listed in ANSI A92.22.6.8.33
34. Do not use MEWP as a jack, prop, or tie to support itself, other structures or machines unless the subcontractor obtains written approval from the manufacturer for the use of the MEWP for that purpose or obtain a written procedure from an engineer for each specific case where a MEWP is used for that purpose.
35. The MEWPs should be parked in a secure location. Keys shall be removed. The work platform shall be lowered to its stowed position and the brakes applied. The MEWP shall not be left unattended in the elevated position unless approved by the manufacturer.

36. The subcontractor shall ensure that supervisors, operators, and occupants are trained, qualified, and authorized for the intended use, safe operation, inspection, maintenance, and familiarization of equipment as required by ANSI A92.24
37. The subcontractor shall ensure that MEWP operator provides instruction or otherwise ensure all occupants have a basic level of knowledge to work safely on the MEWP. Occupant knowledge shall comply with ANSI A92.24.7.4
38. Prior to user's authorization of an operator to use specific model of MEWP, the user shall ensure the operator is familiarized on the following, and as specified by the manufacturer. When authorized, self-familiarization can be achieved.
    a. identification of the location for the manual(s) storage
    b. requirement for confirmation that the required manual(s) specified by the manufacturer are with the MEWP
    c. purpose and function of the controls specific to the model of MEWP to be used
    d. features, limitations and devices
    e. operating characteristics specific to the model of the MEWP
39. The guardrail system of the MEWP is the primary fall protection for occupants. When required to use personal fall protection, either fall restraint or fall arrest, operators and occupants shall comply with the instructions provided by the manufacturer regarding anchorages.
    a. All Group B (Booms) MEWP operators and occupants shall use personal fall arrest or fall restraint systems at all times.
    b. When using fall protection harnesses and lanyards inside the lifts, the lanyard, including self-retracting, shall not exceed 6 feet in length. This OSHA requirement is to prevent workers from climbing out of the lifts.
40. Do not operate on grades, slopes, ramps, or cambers exceeding those for which the MEWP is rated by the manufacturer.
41. Look overhead for hazards while elevating. Maintain adequate clearance from all pipes, lights, duct work, etc. Use a spotter if necessary. Keep hands and arms inside the confines of the lift to prevent against crushing.
42. When a MEWP is to be operated in conjunction with a crane or some other moving equipment, the subcontractor shall ensure the MEWP operation is properly planned and a safe system of work developed and coordinated with operation of the other moving equipment. The operator shall be instructed in how to deal with any foreseeable emergencies.
43. When operating a MEWP adjacent to an active hoist, a permit must be obtained from RC ANDERSEN.
44. Always ensure the work area surrounding the MEWP is clear of persons, equipment, and material before any movement is performed.

5.53 PANDEMIC PLAN GUIDELINES

Resources
Information on infectious diseases: (CANADA) 1-833-784-4397 or phac.info.aspc@canada.ca
Public Health Agency of Canada website Canada
Center for Disease Control website (USA) https://www.cdc.gov/
World Health Organization website worldwide https://www.who.int/

What is a pandemic?

A pandemic is the worldwide spread of a new disease. Pandemic occurs when a new disease emerges and spreads around the world, and most people do not have immunity. Many viruses that have caused past pandemics typically originated from animal influenza viruses. Some aspects of pandemic diseases can appear similar to seasonal influenza while other characteristics may be quite different. For example, both seasonal and pandemic influenza can cause infections in all age groups, and most cases will result in self-limited illness in which the person recovers fully without treatment. However, typical seasonal influenza causes most of its deaths among the elderly while other severe cases occur most commonly in people with a variety of medical conditions. For both seasonal and pandemic diseases, the total number of people who get severely ill can vary. However, the impact or severity tends to be higher in pandemics in part because of the much larger number of people in the population who lack pre-existing immunity to the disease. When a large portion of the population is infected, even if the proportion of those infected that go on to develop severe cases is small, the total number of severe cases can be quite large.

Prepare to Implement Basic Infection Prevention Measures

For most employers, protecting workers will depend on emphasizing basic infection prevention measures. As appropriate, all employers should implement good hygiene and infection control practices, including:

1. Frequent and thorough hand washing, including by providing workers, customers, and worksite
2. visitors with a place to wash their hands. If soap and running water are not immediately available,
3. provide alcohol-based hand rubs/hand sanitation stations containing at least 70% alcohol.
4. Avoid physical contact and maintain social separation as recommended by CDC.
5. Trade Partners are to stay home if they are sick.
6. Cover coughs and sneezes.
7. Provide the workspace with appropriate waste receptacles.
8. Shift work may be implemented to meet social distancing guidelines. Trades may be asked to explore whether they can establish policies and practices, such as flexible worksites (e.g., telecommuting) and flexible work hours (e.g., staggered shifts), and separation of work groups to increase the physical distance among employees and between employees and others if state and local health authorities recommend the use of social distancing strategies.
9. Maintain regular housekeeping practices, including routine cleaning and disinfecting of surfaces, equipment, and other elements of the work environment. Follow the manufacturer's instructions for use of all cleaning and disinfection products (e.g., concentration, application method and contact time, PPE).

Implement Workplace Controls

Occupational safety and health professionals use a framework called the "hierarchy of controls" to select ways of controlling workplace hazards. In other words, the best way to control a hazard is to systematically remove it from the workplace, rather than relying on workers to reduce their exposure. During an outbreak, when it

may not be possible to eliminate the hazard, the most effective protection measures are (listed from most effective to least effective):

1. Engineering controls such as physical barriers are effective at reducing exposures.
2. Administrative controls such as not allowing sick employees or workers to enter the project.
3. Safe work practices (a type of administrative control), and PPE help reduce contact exposures.

Glove and face protection when handling trash and contact surfaces help reduce exposures dramatically. There are advantages and disadvantages to each type of control measure when considering the ease of implementation, effectiveness, and cost. In most cases, a combination of control measures will be necessary to protect workers from exposure to pandemics.

Engineering Controls

Engineering controls involve isolating employees from work related hazards. In workplaces where they are appropriate, these types of controls reduce exposure to hazards without relying on worker behavior and can be the most cost-effective solution to implement. Engineering controls for certain viruses can include but not limited to:

1. Installing high-efficiency air filters.
2. Increasing ventilation rates in the work environment.
3. Installing physical barriers, such as clear plastic sneeze guards.

Administrative Controls

Administrative controls require action by the worker or employer. Typically, administrative controls are changes in work policy or procedures to reduce or minimize exposure to a hazard. Examples of administrative controls include:

1. Encouraging sick workers to stay at home.
2. Minimizing contact among workers, clients, and customers by replacing face-to-face meetings with virtual communications and implementing telework if feasible.
3. Establishing alternating days or extra shifts that reduce the total number of employees in a facility at a given time, allowing them to maintain distance from one another while maintaining a full onsite work week.
4. Discontinuing nonessential travel to locations with ongoing outbreaks.
5. Training workers who need to use protecting clothing and equipment how to put it on, use/wear it, and take it off correctly, including in the context of their current and potential duties. Training material should be easy to understand and available in the appropriate language and literacy level for all workers.

Project Temperature Screening Guide

If screening of all persons entering the project must take place, this will include asking the questions on the health check questionnaire, providing orientation as applicable and performing temperature scans.

A screening table or desk will be set up where visitors are able to maintain 6 feet (or as required) distancing rules and are protected by masks or face coverings per mandate.

The site manager or individual selected to screen is to ensure the answers to the questionnaire are responded to with a negative response, if a positive response to any one question is provided the individual should not be allowed to enter the project and they should seek assistance from their immediate supervisor or employer.

Temperature scans on the forehead area may be taken from each individual and should an individual's scan read [TBD – as mandated] or higher the worker will be asked to move aside and wait for 2 minutes to climatize whereupon another temperature scan can be taken. If the reading still exceeds the [mandated temperature maximum] the worker cannot be allowed to enter the project and must contact his/her employer for self-monitoring or self- isolation protocols. Only the names of individuals who show symptoms of a fever are to be documented and safely stored for privacy rights. (Recordkeeping may vary by State, Province or Country).

The individual assigned to perform the screenings must wear personal protective equipment as recommended, but in the absence of regulatory direction this will include nitrile gloves, N95 mask, and a face shield while performing screening functions and sanitizer should be readily available on the screening table for anyone to use. Self-screening may be set up for some areas or sites if permitted by the controlling authority.

- Workers who pass the screening test must wear a face covering while on site.
- Workers must also maintain 6 feet distancing while on site, when this is not possible face coverings or masks must be worn by all individuals in proximity.
- Staggered hours should be implemented for larger workforces where necessary to safely accommodate with the implementation of the screening process.
- Should State, provincial or jurisdictional mandates change or differ from ours whether increased or decreasing we will review and adjust our plan accordingly.
- COVID-19 and any other infectious disease is a form or biohazard and must be treated with the utmost care. We must also remember that these viruses and diseases to not discriminate

JOBSITE SANITIZATION MEASURES

- Hand Sanitizer
- Cleaning and Disinfecting
- Regular cleaning of worksite equipment

Steps for Communication and Reporting

Communication reporting steps may change based on your region or State.

STEP 1
Gather Information

STEP 2
Assess Risk & Determine Recommended Actions

STEP 3
Report the case information and follow company guidance

STEP 4
For confirmed/suspected cases - coordinate with Human Resources and Safety

STEP 5
Clean/disinfect affected facilities if needed (determined by Human Resources and Safety) Follow CDC Guidance

STEP 6
Work with employee to determine appropriate telework or leave status

STEP 7
ASSESS RETURN TO WORK FOR EMPLOYEE FOLLOWING CDC GUIDANCE AND DOCTOR'S RECOMMENDATIONS

5.54 PERSONAL PROTECTION EQUIPMENT (PPE)

REFERENCES:
29 CFR 1926 Subpart E – Personal Protective and Life Saving Equipment
OSHA Publication #3252 - Worker Safety Series/Construction
Standard Interpretations - Clarification of using ANSI Z358.1 as guidance to comply with 1910.151(c)/Eyewash and Safety Showers

1. Personal Protective Equipment is a worker's last line of defense against injury and illness.
2. When engineering controls and work practices may not successfully limit exposures, it is the policy of RC ANDERSEN that subcontractors provide a complete Personal Protective Equipment Program and training, along with the necessary protective equipment to fully protect their workers.
3. Each subcontractor is responsible for procuring, issuing, using, and maintaining personal protective equipment as required in this Section.
4. Each subcontractor shall see that foremen issue required equipment to employees and instruct the foremen to enforce its use.
5. Each subcontractor shall provide for regular inspection of the equipment to see that it is in safe working condition, properly fits and is provided proper care and maintenance.
6. The following is a guideline of Personal Protective Equipment (PPE) use:
    a. **HELMETS:**
        i. A minimum ANSI-approved Type II helmet shall be worn **at all times.**
        ii. Subcontractors are responsible to provide their employees with helmets.
        iii. Visitors must obtain visitor head protection at the RC ANDERSEN trailer.
        iv. Chin Straps to be secured at all times
    b. **CLOTHING:**
        i. Long pants must be worn to the ankle, no shorts.
        ii. Shirts must have sleeves, no tank tops or muscle shirts.
        iii. High visibility reflective clothing is required around heavy equipment, exposure to traffic or when required by project specifications.
        iv. Florescent clothing as required by the project. Hospital renovations are generally exempt from high visibility clothing per Owner request.
    c. **WORK BOOTS:**
        i. All workers are required to wear industrial quality work boots with ankle support.
        ii. Visitors must wear sturdy work boots, no open-toe shoes or high heels.
        iii. Boot guards required during jackhammer activities.
    d. **EYE PROTECTION:**
        i. ANSI-approved Z87.1 eye protection or equivalent 100%.
        ii. Selection of the type of eye protection shall be based on 29 CFR 1926, Subpart E, Table E-1.
        iii. The use of welding shields must be integrated with helmets.
        iv. Dark glasses shall not be worn indoors.
        v. Goggles may be required for a specific task including overhead drilling.
    e. **FACE PROTECTION:**
        i. Face shield required when exposed to grinding, chop saw work, overhead chipping, masonry saws, chemical handling and other activities as required.
        ii. Eye protection must be worn when using face shields.
    f. **HAND PROTECTION:** See Hand Protection (Glove Policy) in this manual.
        i. Appropriate cut-level gloves required when working.

ii. Kevlar or equivalent arm gauntlets shall be worn during demolition and when working above ceilings.

g. **HEARING PROTECTION:**
   i. When noise exposures exceed 85 decibels, a Hearing Conservation Program is required.
   ii. A Noise Management Plan to reduce exposures including substitution, time, distance, shielding, and PPE should be implemented when dosimetry measurements exceed or are likely to exceed 85dB.
   iii. Subcontractors are required to provide their employees with training and hearing protection when noise exceeds OSHA action levels.
   iv. Excessive noise may require Boundary Noise Monitoring

h. **RESPIRATORS:** See Respiratory Protection Section in this manual.

i. **VESTS:**
   i. A high visibility vest, shirt, or jacket shall be worn when working around heavy equipment or as specified by the site.
   ii. Appropriate DOT high visibility clothing shall be worn when in traffic and/or directing traffic.
   iii. Every worker, visitor, and vendor will wear high-visibility attire at all times.

j. **TEMPERATURE EXTREMES: HEAT and COLD STRESS:** OSHA considers Heat Priority Days when the heat index for the day is expected to be at 80 f. or greater. Heat related illnesses are possible as temperatures reach 80^0 F, especially when coupled with high humidity. Heat related illnesses or fatalities are more frequent amongst workers who have not acclimated to the weather and are performing strenuous work, working in direct sunlight or where other radiant heat sources are present (i.e., mechanical or steam rooms).
   i. Subcontractors shall develop a written heat injury & illness program on heat hazards and working in hot environments that includes an acclimatization process, training and heat monitoring.
   ii. Workers exposed to extreme temperatures (>94 degrees F) should be trained on the accumulating and residual effects of working in hot environments and be vigilant for symptoms after they leave the worksite.
   iii. Subcontractors shall adopt provisions for the workforce such as: earlier start times, gradually increased workloads for new workers, frequent breaks, worker rotation, access to drinking water and/or electrolyte rich beverages, cooling towels, heat appropriate PPE and/or cooling stations, shade, etc.
   iv. Subcontractors shall monitor ambient temperatures and levels of work exertion at the site and use the NIOSH Table 6-2 (see following page) to assess Work/Rest schedules or use the Wet Bulb Globe Test.
   v. Subcontractors shall consider engineering controls such as increased ventilation, cooling fans, exhaust fans, blocking sources of radiant heat, etc.
   vi. Subcontractors shall document weather conditions relevant to heat-related hazards.
   vii. Subcontractors shall be aware that parts of the jobsite may be experiencing more extreme temperatures and the employer shall evaluate and plan for that space and activity.
   viii. Subcontractors are encouraged to use OSHA-NIOSH Heat Safety Tool App.

Heat stress takes place when your body's cooling system is overwhelmed. It can happen when heat combines w/other factors such as: hard physical work, fatigue, dehydration, and certain medical conditions. Heated or cooled sheltered areas should be available for extreme temperatures

Heat stress symptoms: Heat rash; itchy red skin, Heat cramps; painful muscle cramps, Heat exhaustion; high body temperature; weakness or feeling faint; headache, confusion or irrational behavior, nausea or vomiting, Heat stroke; no sweating (hot, dry skin), high body temperature, confusion, or convulsions, Get immediate medical help.

Precautions when working in hot, humid conditions: Increase the frequency and length of employees rest breaks, provide cool drinking water near workers and remind them to drink a cup every ½ hour. Caution workers about working in direct sunlight, Buddy system.

Cold Stress: When cold blood vessels constrict decreasing the blood flow to your extremities. This helps your critical organs stay warm, but your extremities are at risk for frostbite.

Frostbite: When flesh freezes blood vessels are damaged. The reduced blood flow can lead to gangrene. The first sign of frostbite is skin that looks waxy and feels numb.

Wind chill: Accelerates heat loss – sometimes to a dramatic extent. For example, when the air is -30C, with no wind, there is little danger of skin freezing, with 10 m/h wind skin can freeze in a min, with 20m/h wind skin can freeze in 30 seconds.

Precautions to prevent cold stress: Wear several layers of clothing, wear gloves, take warm, high calorie drinks and food, employees to take warm-up and rest breaks in a heated shelter. Encourage hydration, stop work if improperly clothed, encourage additional rest breaks.

k. **TRAINING:** Each employee shall be trained by his employer in at least the following:
   i. When and What PPE is necessary
   ii. How to properly put on, take off, adjust and wear PPE.
   iii. The limitations of the PPE.
   iv. The proper care, maintenance, useful life and disposal of the PPE.
   v. An employee shall be retrained when he demonstrates a lack of understanding. Other circumstances which may require re-training include, changes in job requirements.
   vi. Heat and cold related hazards and illnesses including symptoms of heat illness or hypothermia, how to report, first aid or medical attention, how to contact emergency personnel, prevention, proper clothing for extreme environments, and the importance of hydration.
   vii. Training should address the hazard that certain medications can increase the risk of heat and cold stress (e.g., amphetamines, diuretics, antihypertensives, anticholinergics and antihistamines, as well as illegal drugs and alcohol).

Table 6♦2. Work/rest schedules for worken wearlng normaJ! work clothing·

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92	No:rmail.	Normal	Normal
99<	Normal	Normal	Normal
94	Normal	Normal	Normal
95	Nonnal	Norma.]	45/15
96	Normal	Normal	45/15
97	Normal	Normal	40/20
98	Norma1	Normal	35/2S
99	Normal	Normal	35/25
100	NormaJ	45/lS	3W30
lOl	Normal	40/20	30,/.30
102	Norm.al	35125	25135
103	Normal	J0!YO	20f41l
104	[1]orm.a.l	3'0/:W	2-0/411
105	ormal	25/35	15/45
W6	45/15	20/4()	Caution*
10r7	4.-0/20	15/45	Caution*
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5.55 PILE DRIVING REQUIREMENTS

REFERENCES:
29 CFR 1926.603 Pile Diving Equipment

1. See the Crane requirements in this Manual.

2. Provide stop blocks to prevent the hammer from being raised against the head block.

3. Provide guards across the top of the head block to prevent the cable from jumping out of the sheaves.

4. Provide fixed leads with ladder, and adequate rings or similar attachment points so that the elevated worker may engage his safety harness lanyard to the leads. If leads are provided with platforms, such platforms shall be protected with standard guardrails.

5. Secure pressurized hoses to the hammer with an adequate length of one-quarter (1/4) inch diameter chain or cable to prevent whipping in the event the joint at the hammer is broken.

6. Provide safety chains, or equivalent means, for each hose connection to prevent thrashing around in case the hose coupling becomes disconnected.

7. Keep employees clear when piling hoisted into the leads.

8. Employees working aloft on the mast 6 feet above the ground shall fall protected with a personal fall arrest system.

9. Other ANSI standards may apply as required.

5.56 POWERED INDUSTRIAL TRUCKS

REFERENCES:
29 CFR 1926.602
29 CFR 1910.178

1. Powered industrial truck equipment such as forklifts, lulls, petty-bone lifts, on construction site require operator training in accordance with 1910.178(l). The term powered industrial truck is defined in the American Society of Mechanical Engineers, ASME B56.1 (formerly the ANSI B56.1 standard) as a "mobile, power propelled truck used to carry, push, pull, lift, stack, or tier material." Consider prime movers and powered buggies to be industrial trucks.
2. Only trained personnel may operate a powered industrial truck. Upon request, the subcontractor must provide to RC ANDERSEN a copy of the training and/or license.
3. Electric equipment is required inside buildings. Use of diesel or propane fueled engines requires pre planning. Scrubbers & maintenance records are required. Area to be adequately exhausted and air monitored by subcontractor.
4. Mechanical equipment used on interior spaces shall require a listing and description of all proposed equipment to be used, including the scope of equipment work and positioning of equipment on the existing structure. The subcontractor shall provide a description of equipment to include calculations by a registered design professional signed, sealed, and submitted to RC ANDERSEN showing the adequacy of the existing structure to support loads imposed by such equipment. If more than one piece of equipment is proposed to be used at the same time, the effect of the simultaneous loads imposed on the existing structure shall be described and investigated.
5. Lift trucks, stackers, etc., shall have the rated capacity clearly posted on the vehicle to be clearly visible to the operator.
6. No modifications or additions, which affect the capacity or safe operation of the equipment, to the equipment allowed without the manufacturer's written approval.
7. If two or more trucks working in unison lift a load, the proportion of the total load carried by any one truck shall not exceed its capacity.
8. All high lift rider industrial trucks shall be equipped with overhead guards.
9. Always wear seat belts.
10. Inspect all powered equipment in accordance with the manufacturer's recommendation.
11. Do not permit unauthorized personnel to ride on powered industrial trucks.
12. Protect all moving parts from accidental contact.
13. Fuel equipment in areas away from open flames and areas not vapor sensitive.
14. When working near edges, install wheel stop protection to prevent the vehicle from driving off the floor.
15. Be aware of workers on foot especially at blind corners.
16. Assess the following:
    a. Floor surfaces and/or ground conditions where the vehicle will be operated
    b. Composition of probable loads and load stability
    c. Load manipulation, stacking, unstocking
    d. Pedestrian traffic
    e. Narrow aisle and restricted place operation
    f. Operating in classified hazard locations
    g. Operating the truck on ramps and other sloped surfaces that would affect the stability of the vehicle
    h. Other unique or potentially hazard environmental conditions that exist or may exist in the workplace
    i. Operating the vehicle in closed environments and other areas where insufficient ventilation could cause a buildup of carbon monoxide or diesel exhaust.

5.57 PRE-TASK PLANNING (PTP)

All subcontractors are responsible for conducting a Pre-Task Plan (PTP) at the start of each workday. All workers are required to attend. In the event a worker arrives late the foreman shall be responsible to ensure the PTP is reviewed and understood.

Subcontractors may use their own company PTP form. The minimum information represented shall include the following;

1. Date
2. Company Name
3. Supervisor's Name
4. Person's name completing the PTP (if different than supervisor)
5. List of tasks to be performed
    a. Review experience and knowledge of task
    b. Number of personnel assigned to task
6. List of hazards associated for each task
7. List of tools and equipment required for each task
    a. Identify if training is required
    b. Ensure certificates of license are current (if applicable)
8. Review jobsite conditions
    a. Lighting
    b. Access/Work at height
    c. Hazards
    d. Other trades working in area
    e. Weather
9. Sign-In form for attendees (First Last Name, Signature)
10. Misc. or Comments

5.58 PROPANE LIQUIFIED PETROLEUM GAS (LPG)

REFERENCES:
29 CFR 1926.153

1. LPG is not to be stored inside any building.
2. Protect LPG containers from vehicular traffic.
3. A corral is required for LPG cylinder storage.
4. Storage area to be preferably paved, but level and free from combustible material including weeds and grass for a radius of 10 feet.
5. Concrete barriers are required if LPG is exposed to vehicular traffic.
6. Size piping and regulators according to NFPA 58 and Manufacturer's recommendations.
7. Support and protect all above ground piping from physical damage.
8. Test piping systems for leaks. Do not test with a flame.
9. Check with local regulations to determine if permit is required.

5.59 RESPIRATORY PROTECTION

REFERENCES:
29 CFR 1910.134 – Respiratory Protection and Appendices
29 CFR 1940.134 Appendix C - Respirator Medical Evaluation Questionnaire (Mandatory)
OSHA eTool – Respiratory Protection
CDC/NIOSH Safety and Health Topic: Respirators
OSHA Safety and Health Topics – Respiratory Protection Additional Information
OSHA eTool – Respiratory Protection Change Out Schedule Flow Charts

RC ANDERSEN Personnel

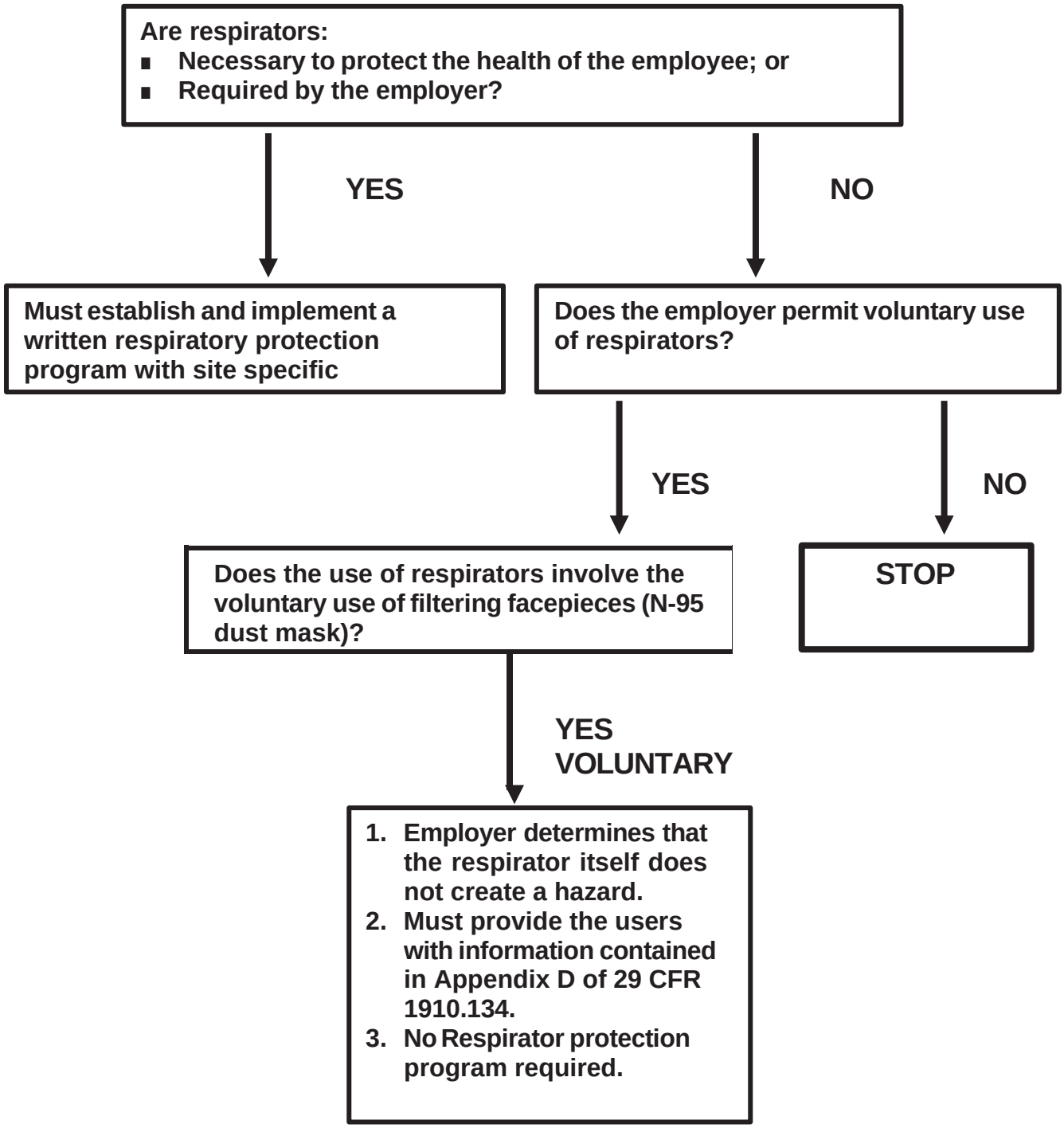
1. Selection of Respirators: Each jobsite in conjunction with the RC ANDERSEN Safety Department will determine the need for respiratory protection, by reviewing the tasks to be performed, the possible contaminate(s), and the level of engineering or administrative controls. Once the need for respiratory protection is determined, the RC ANDERSEN Safety Department shall determine the selection of the proper respiratory protection based on the potential exposure.
2. Medical Clearance for Respirator Use: Any employee, who is required to wear respiratory protection, shall be required to complete a respiratory questionnaire. A physician or other licensed health care professional will review the questionnaire (PLHCP). Only employees who receive approval of a PLHCP can wear a respirator, with the exception of a filtering facepiece respirator. Questionnaires are available from the RC ANDERSEN Safety Department.
3. Training and Fit Testing: The RC ANDERSEN Safety Department shall coordinate training on the use, maintenance, and limitations of respirators to all employees required to wear respiratory protection. Perform a fit testing prior to the start of the task requiring respiratory protection.
4. Record Keeping: The RC ANDERSEN Safety Department shall maintain fit testing and training records for each employee.

Subcontractors

1. Subcontractors are to submit a site-specific written respiratory program.
2. A preplanning meeting is required prior to the start of work. Subcontractors who must engage in activities requiring respiratory protection must comply with OSHA regulations pertaining to respirator use. Provide documentation to RC ANDERSEN upon request.
3. Avoid exposure to lead fumes by lead abatement prior to hot work when possible; otherwise, respond appropriately. Exposure to lead dust requires containment and respirators. See Lead in this manual.
4. Subcontractors allowing use of NIOSH-approved filtering facepiece respirators (N-95) on a voluntary basis for nuisance dust, shall implement certain precautions to be sure that the respirator itself does not present a hazard. Voluntary respirator use shall be managed in accordance with 29 CFR 1910.134 Appendix D.

5.59.1 RESPIRATOR USE REQUIREMENTS FLOW CHART

29 CFR 1910.134(c)



5.59.2 RESPIRATOR PROTECTION PROGRAM OUTLINE

Feasible engineering controls must be applied before respirators are used.

1. **A RESPIRATORY PROTECTION PROGRAM WILL INCLUDE:**
    a. Written program
    b. Respirator selection procedures
    c. Medical evaluations
    d. Fit testing procedures
    e. Emergency procedures
    f. Training
    g. Program Evaluation
2. **WRITTEN PROGRAM:**
    a. Each written program must be tailored to site specific conditions.
    b. Subcontractors must document all relevant information pertaining to their hazardous atmospheres including monitoring results.
3. **VOLUNTARY USE:**
    If respirators are not required, employees may voluntarily wear a respirator for their own comfort, even if the amount of a hazardous substance does not exceed the limits set by OSHA standards. Voluntary respirator use shall be managed in accordance with 29 CFR 1910.134 Appendix D.
4. **NIOSH APPROVED N95 MASKS:**
    OSHA has determined there are no medical limitations on the use of these respirators. Subcontractors only need to provide a copy of Appendix D of the standard to employees voluntarily using dust masks.
5. **PROGRAM ADMINISTRATION:**
    a. The employer must designate a program administrator who is qualified by appropriate training or experience that is commensurate with the complexity of the program.
    b. Administrator to oversee program and conduct required evaluations of program effectiveness.
6. **RESPIRATOR SELECTION:**
    a. Respirators must be selected based on hazard.
    b. Respirators must be certified by NIOSH and used within the limitations of that certification.
    c. Respirators must be acceptable to and fit the users.
    d. Work conditions (e.g., heat, physical exertion) must be considered.
    e. Communication needs should be considered.
7. **EXPOSURE EVALUATION:**
    a. Respirator hazards must be identified and evaluated by air monitoring.
    b. Subcontractors must make “a reasonable estimate” of the employee exposures anticipated to occur, including those likely to result in reasonably foreseeable emergencies.
    c. Where an evaluation is not possible, IDLH conditions must be assumed.
8. **FOR GASSES AND VAPORS:**
    a. Sole reliance and “warning properties” is no longer permitted as a basis for determining canister/cartridge changes.
9. Canister/cartridge changes must be based on available information and data that describe the service life of the sorbent elements against the contaminant present.
10. **MEDICAL EVALUATION:**
    a. Questionnaire or medical examination.
    b. Before an employee begins work a fit tested is required to use the respirator in the workplace.
    c. Note: Medical evaluations/examinations are no longer required on a periodic schedule, but on:

d. The appearance of medical signs or symptoms.
e. A change in workplace conditions.
f. The recommendation of program administrator or PLHCP.

11. What is a PLHCP?

a. A Physician or other Licensed Health Care Professional authorized to evaluate an individual's medical ability.

12. FIT TESTING:

a. Annually and prior to initial use.
b. Whenever a different size, style, model or make of respirator is used.
c. Changes in physical condition that could affect respirator fit.

13. MAINTENANCE AND CARE OF RESPIRATORS:

a. Employer is required to provide for the cleaning, disinfecting, storage, inspection and repair of respirators used by employees.

14. BREATHING AIR QUALITY AND USE:

a. Type 1 Grade D breathing air.

15. IDENTIFICATION OF FILTERS, CARTRIDGES AND CANISTER:

a. All filters, cartridges and canisters must be labeled and color-coded with the NIOSH approved label.
b. The label must not be removed and must remain legible.

16. TRAINING AND INFORMATION:

a. Comprehensive and conducted annually
b. Training Program
    i. Why the respirator is necessary
    ii. How improper fit, usage or maintenance can adversely affect respirator fit
    iii. Respirator limitations and capabilities
    iv. Emergency use
    v. Respirator donning
    vi. Respirator seal check
    vii. Respirator maintenance and storage
    viii. How to recognize medical signs or symptoms that may limit or prevent the effective use of respirators
    ix. Provisions of the respirator standard

17. PROGRAM EVALUATION:

a. Employers must conduct evaluations of the workplace to ensure the written program is being properly implemented and ensure employees are using the respirators properly.
b. The evaluations are to be conducted as often "as necessary".
c. Employers must audit respirator use in the workplace with sufficient frequency to ensure that continuous successful implementation of all written respirator program elements is being achieved.

18. RECORDKEEPING:

a. Medical records (1910.1020), fit testing until next fit test and current written respirator program.

5.60 RIGGING REQUIREMENTS

REFERENCES:

29 CFR 1910.184 - Slings
29 CFR 1926.552 – Material Hoist, Personal Hoist and Elevators
29 CFR 1926.753 – Hoisting and Rigging
29 CFR 1926.953 – Material Handling
29 CFR 1926.251 - Rigging Equipment for Material Handling
OSHA Guidance on Safe Sling Use
OSHA Standard Interpretations - Rigging Equipment/Custom-Designed Accessories
OSHA Standard Interpretations - Load-Testing; Custom-design Rigging Accessories & ASME Standards
OSHA eTool – Steel Erection/Hoisting and Rigging

GENERAL:

1. Review job requirements prior to lift.
2. Use only approved slings, chains, cables and accessories.
3. Know the weight of the heaviest pick and the rated capacity of the slings.
4. Use only slings that exceed the anticipated weight of the heaviest pick.
5. Custom designed lifts, clamps or lifting accessories must be designed, marked to indicate the safe working load and proof tested to 125% of their rated load.
6. Use approved, rated skip pans for loose parts and small material.
7. Do not overload skip pans so that loose parts can dislodge during the lift.
8. Provide capacity on the skip lift plan.
9. Store rigging equipment properly (loosely coiled in a dry place away from sunlight).
10. Use rigging equipment only for the activity for which it is intended.
11. Inspect rigging equipment prior to each use to ensure that it is safe to use.
12. Remove defective equipment from service.
13. Do not load rigging equipment in excess of its recommended safe working load.
14. Remove rigging equipment from the immediate work area, when not in use, so as not to present a tripping hazard to employees.
15. Do not use makeshift fasteners, formed from bolts, rods, wire, etc.
16. Do not secure wire rope cables by knots for any purpose.
17. Wire rope cables, used in hoisting, lowering or pulling loads, shall consist of one continuous piece without knots or splices.
18. Use only manufactured assemblies for rigging devices.
19. Hooks used for lifting shall be equipped with a working safety latch.
20. Pelican hooks can be used for shaking out loads but not for lifting overhead.
21. Lifting above occupied buildings shall have 2 stories unoccupied during the lift or use 300lb/sq. ft scaffold. When actively engaged in crane activities a crane's load should never be hoisted, lowered or swung over any occupied building. If a load must travel over an occupied building the top two floors where the load will travel must be vacated, or overhead protection with a design live load of 300psf is provided, or another equally effective means. Please note;
    a. Occupants would only have to clear the area(s) while a load is traveling over the occupied space(s).
    b. The crane load's path of travel dictates what areas are too be kept clear while the load is traveling.
    c. You do not necessarily have to clear the entire floor, however signage, contract employees and or other equally effective means would have to be put in place to designate the restricted area(s) during overhead crane activities.

INSPECTIONS:

1. All inspection criteria must follow 29 CFR 1926.251.
2. Document initial rigging inspection then reinspect all materials and rigging equipment before each use.
3. A competent person designated by the employer shall inspect slings, all shackles, attachments and rigging equipment for damage or defects before each use.
4. Remove damaged or defective slings from service. (This means whenever any visible cuts in nylon slings or when chains or chokers are cracked or split, kinked, bird caged, etc.)
5. Hooks, rings, links, couplings, shackles or attachments shall have the rated capacity at least equal to the slings, chain or cables.
6. Rigging equipment shall be manufactured and tagged appropriately. Do not use homemade or makeshift equipment.
7. Rated capacity shall be marked by the manufacturer on the sling, chain, cable, shackle or hook.
8. All rigging equipment shall be identifiable as to their use, capacity and manufacture via a tag. Chain slings must also have a logbook with periodic and annual inspections recorded.
9. Do not use wire rope if, in any length of eight diameters, the total number of visible broken wires exceeds 10% of the total number of wires, or if the rope shows other signs of excessive wear, corrosion or defect. Any broken wire or deformation in the eye of a wire rope sling is not acceptable and shall be removed.
10. Do not shorten nylon slings with knots, bolts, or other makeshift devices.
11. Protect slings from sharp edges and use softeners as appropriate.
12. Do not shock load.

RAISING AND LANDING MATERIALS:

1. Know the weight of the material to be lifted, the capacity of the crane and the appropriate slings and rigging hardware and the structural integrity of the landing zone.
2. Be sure truck motor is off and wheels chocked before rigging.
3. Be sure the material to be rigged is stable and evenly distributed before lifting.
4. Keep hands, feet and fingers clear of the load as the slings are being tightened.
5. Only one worker should be signaling the operator at a time.
6. Land materials on blocking without pinching or catching the slings.
7. Keep walkways and egress clear when landing materials.
8. Be sure the load is stable before you remove the slings (chock pipe if necessary).
9. Do not pull a sling from under a load if the load is resting on a sling.
10. Use tag lines to move and position loads.
11. Do not stand under loads or direct loads over other workers.
12. Ensure loads are landed on structurally stable areas, capable of supporting the load.

TRAINING REQUIREMENTS:

1. Qualified Riggers shall be trained on the materials, methods, equipment, techniques, communication and other items as is necessary for safe performance of their specific tasks.
2. All local criteria for cranes and rigging shall be applied.
3. Each employer shall submit in writing the list of Qualified Riggers.
4. Qualified rigger requirements vs. certified rigger:
    a. 1926.1401 “qualified rigger” is defined as: *a rigger who meets the criteria for a qualified person*. In addition, the definition for a **“qualified person” is *a person who is identified by their employer and, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training and experience, successfully demonstrated the ability to solve/resolve problems relating to the subject matter, the work, or the project.***
    b. A qualified rigger is required:

i. during assembly/disassembly of cranes,
ii. when employees are engaged in hooking, unhooking, or guiding the load,
iii. in the initial connection of a load to a component or structure and
iv. when employees are within the fall zone.

c. Certified Rigger, by an accredited agency, shall meet the definition of a Qualified Rigger

5. The employers must verify the training and evaluation of each Rigger either through:
   a. A worker who has been trained and demonstrated competence through oral or written and practical testing by a third party such as the local Joint Apprentice Training Committee (JATC) might meet the definition of a Qualified Rigger.
   b. A Certified Rigger, by an accredited agency (such as NCCCO or CIC), shall meet the definition of a Qualified Rigger,
   c. The employer must verify the competence of the Qualified Rigger. Documentation must be available upon request.
   d. If a rigger demonstrates lack of knowledge, the employer must not allow the individual to continue working as a signal person until retrained and a reassessment confirms that the individual meets the Qualification Requirements.

5.61 SAFETY INSTALLATION MAINTENANCE

1. Maintenance of all safety systems and installations are to be included in the contract documents and assigned to the appropriate trade.

2. Safety rules and regulations established for the project site require certain safety installations to be provided by RC ANDERSEN and/or its subcontractors. Such installations may include, but not be limited to the following:
    a. Guardrails, toe boards and stair rails
    b. Covers for floor holes and openings
    c. Safety Nets, both horizontal and vertical
    d. Overhead protection
    e. Temporary fire protection systems
    f. Signs and Posters
    g. Temporary lighting
    h. Rubbish Containers
    i. Communication systems, signals and alarms
    j. Gates and Bars
    k. Toilets

3. Subcontractors and their workers shall respect all such installations and fully cooperate in their maintenance. Where an employer must remove or relocate safety installations to facilitate the work, the employer shall provide an alternate means of protection for its employees during the work.

4. Where safety installations must be removed or relocated on a large scale, or for extended periods, or permanently, or the subcontractor does not have the means of reinstallation, the subcontractor shall make advanced arrangements for coordination with RC ANDERSEN. All subcontractors shall instruct their workers on this requirement.

5.62 SCAFFOLD SAFETY

REFERENCES:

29 CFR 1926 – Subpart L/Scaffold
29 CFR 1926.454 – Scaffold Training Requirement
29 CFR 1910.28 – Safety Requirements for Scaffolding
29 CFR 1926 – Subpart L Appendix A thru E
OSHA Standard Interpretations - The Difference Between Maintenance & Construction; Scaffold Inspection Requirements; And Definition of Periodic Scaffold Inspection
OSHA Safety and Health Topics - Scaffolding
OSHA eTool - Scaffolding
OSHA Publication #3150 - A Guide to Scaffold Use in the Construction Industry
OSHA Publication #3252 – Worker Safety Series, Construction
OSHA Slide Presentation – 1926.450 Subpart L, Scaffold
Standard Interpretations - Training Qualifications for The Competent Person Inspecting Scaffolds

General Requirements:

1. All components of a scaffold system shall be from a single manufacturer. Components from different manufacturers shall not be intermixed unless a Competent Person verifies they fit without force and the resulting scaffold is structurally sound.
2. Review major scaffolding projects involving multiple trades for proper buy-out, including inspections, alterations and trainings.
3. Trades using RC ANDERSEN scaffolding require waivers. Subcontractors will otherwise manage their own waivers. See Scaffolding Release Form in this manual.
4. Pre-planning may be required for scaffold usage, depending on the size and complexity of the scaffold.
5. Training is required for all trades working on scaffolding in the elements specific to that scaffold. Competent person training, erector training, and user training will be required per task.
6. Erectors shall be trained and competent in scaffold erection.
7. Subcontractors shall submit in writing a feasibility assessment for providing fall protection during erection and dismantlement.
8. A competent person must inspect scaffolds daily. Written verification is required.
9. Use ladders to access scaffolds not designed for climbing.
10. Scaffold erection for pedestrian protection shall be designed and inspected by a Registered Professional Engineer and shall demonstrate adequate design capability to protect the public from anticipated overhead hazards.
11. Scaffolds designed by RPE shall be inspected by same to verify scaffold was built as per design and specifications. Additional/periodic inspections and/or scaffold modification as required.
12. Fully plank all working levels.
13. Guardrail systems should be in place for scaffold exceeding 6'-0 or PFAS is required.
14. A guardrail system shall consist of the following:
    a. Toprail at 42" or X-bracing placed at 38"- 48" above work platform
    b. Midrail at 21" or X-bracing placed at 20"- 30" above work platform
    c. Toe boards are required.
15. Protect scaffolds from electrical hazards. Ground scaffolds as required.
16. When erecting scaffolding within 20 feet of energized electrical lines, a pre-planning meeting with a JHA is required. Erect no scaffold within 10' of un-insulated power lines OR only after the utility company has notification that the lines have been de-energized, relocated or insulated.

Uninsulated Line Voltage	Minimum Distance
300v to 50kv	3 feet
More than 50kv	10 feet plus .25 inches or each 1kv over 50kv

17. The use of a tagging system is required on all scaffolds above one frame.
18. The tagging system shall indicate green for fully compliant scaffolding; yellow for scaffolding that is non-compliant in identified areas and may require additional fall protection. Do not use scaffolding tagged red.
19. When required, stair scaffold systems shall be engineered and stamped by a registered professional engineer. Examples are: Multiple trades, or when the stairs to be moved by a crane.

Supported Scaffolds:

1. Erect scaffold on mudsills and base plates.
2. Per Scaffold Industry Association (SIA) Standards, feet are required on all scaffolds.
3. Guy and brace scaffold at a 4:1 ratio where horizontal members support both inner and outer legs.
4. Shall be erected plumb, level and square.

Rolling / Baker Scaffolds:

1. To prevent racking, install horizontal diagonal bracing (except baker scaffolds).
2. Apply wheel brakes when being used.
3. Rolling scaffolds shall be securely pinned together and should always be fitted with horizontal diagonal bracing as recommended by the manufacturer.
4. Scaffolds with working platforms above 6 feet in height shall have guardrails on all open sides and ends of the platform as specified by OSHA
5. Scaffolds on stairs or in stairwells shall have leveling base plates installed.
6. Scaffolds with the working platform above 6 feet shall use a self-supporting ladder for worker access and shall have a gate.
7. Scaffolds shall use outriggers when height of the working platform exceeds 4 times the base.
8. Fully plank working platforms.
9. Do not use spackle buckets or a ladder on top of a scaffold.
10. Baker type scaffolding with locking type picks is preferred.
11. Subcontractors' personnel shall not be permitted to ride scaffolds unless the floor remains clear of trash, material, debris, is free of floor openings and meets CFR 1926.451(e)(7)(I)(ii)(iii)(iv).

Suspension Scaffolds or Swing Scaffolds:

1. Preplanning is required to determine the roof capacity, installation, counterweight formula, anchorage capacity, access and other relevant issues. Written documentation is required.
2. Before use, a competent person shall evaluate all direct connections.
3. Counterweights shall be non-flowable and secured by a mechanical means to prevent displacement.
4. Install tiebacks perpendicular to the face of the wall otherwise, two tiebacks are required.
5. Secure tiebacks to structural elements, which have been determined to withstand the dynamic load of the scaffold upon slippage.
6. Inspect wire rope daily for damage.
7. A minimum of three double fisted/unisex wire rope clips shall be used according to the manufacturer's recommendations and re-tightened to the manufacturer's recommendations after the initial loading. Daily inspections required.
8. Protect all wires and lifelines from damage and abrasion.
9. Personal Fall Arrest System with vertical lifeline and rope grab system required at all times unless an equivalent protective system is used. Do not use shock-absorbing lanyards with rope grabs.

5.63 SIGNALING REQUIREMENTS

REFERENCES:

29 CFR 1926.1419 - .1422 Subpart CC – Cranes and Derricks in Construction

GENERAL:

1. A Qualified Signal person is required when:
    a. the operator is not in full view of the load area or load travel, or
    b. when the travel view is obstructed or whenever the operator or load handler determines one is needed,
    c. when operating within less than 20 feet of energized electrical lines acting as a Spotter
2. Qualified Signalpersons can use hand signals, voice, and audible signals.
3. Always use ANSI Standard signals unless they do not meet the needs of the lift.
4. Agree on non-standard hand signals ahead of time. New non-standard signals must be equally effective and comply with a national consensus standard.
5. Signals must always be appropriate to the conditions and the ability to transmit them maintained.
6. Operations must stop if interference interrupts transmission of signal.
7. Only one person can give signals at a time, except when a safety problem requires an emergency stop.
8. Give all signal directions from the operator's perspective.
9. If one signal person is signaling for more than one crane/derrick, they must be able to identify the one to which they are signaling.
10. Test signaling devices before operations and use dedicated channels.
11. Operators must be able to receive signals hands-free.
12. Voice signals must be coordinated and include three elements in this order:
    a. Function, direction
    b. Distance and/or speed
    c. Function, stop command
13. Communication must be in a common language.
14. Post hand signal charts near the operation or on the vehicle.

TRAINING REQUIREMENTS:

1. A Qualified Signalperson shall:
    a. Know and understand the type of signals used.
    b. If hand signals are used, the signal person must know and understand the Standard Method for hand signals.
    c. Be competent in the application of the type of signals used.
    d. Have a basic understanding of equipment operation and limitations, including the crane dynamics involved in swinging and stopping loads and boom deflection from hoisting loads.
    e. Know and understand the relevant requirements of § 1926.1419 through § 1926.1422 and § 1926.1428.
    f. Demonstrate, through an evaluation process, that he/she meets the requirements above through an oral or written test, and a practical exam.
2. The employers must verify the training and evaluation of each Signalperson either through:
    a. **Third Party Qualified Evaluator:** A worker who has been trained and demonstrated competence through oral or written and practical testing by a third party such as the local Joint Apprentice Training Committee (JATC) shall meet the definition of a Qualified Signalperson after the employer verifies the training and evaluation. Documentation must be available upon request.

b. **Employer Qualified Evaluation:** A worker who has been trained and demonstrated competence through oral or written and practical testing. Documentation of such evaluation must be available upon request.
c. Each employer shall submit in writing the list of Qualified Signalpersons, upon request.
d. Certified Signalperson, by an accredited agency (such as NCCCO or CIC), shall be the definition of a Qualified Signalperson.
e. If a signalperson demonstrates lack of knowledge, the employer must not allow the individual to continue working as a signal person until retrained and a reassessment confirms that the individual meets the Qualification Requirements.

5.64 SILICA EXPOSURE PREVENTION PROGRAM

OSHA 1926 Construction Silica Crystalline
OSHA 1926.1153 Respirable crystalline silica Table 1

Silica Exposure Prevention Program

1. Contractors shall ensure that employees are not exposed to Respirable Crystalline Silica (RCS) in excess of 50 ug/m3 over an 8-hour workday as a TWA (time weighted average), adhere to OSHA Table 1, and develop a Written Exposure Control Plan (WECP).
2. When contractors are unable to comply with Table 1, they must follow the guidelines Alternative Exposure Control Methods which includes measuring and monitoring the amount of exposure over an 8-hour period and protect workers from over exposure, or contractor may use historical data.
3. The WECP is to list all tasks employees perform that could expose them to RCS dust, a description of the engineering controls, work practices and respiratory protection used to limit employee exposure, a description of the housekeeping, and procedures to restrict access to protected work areas. The plan shall include exposures generated by other subcontractors.
4. The WECP shall include an Exposure Assessment according to CFR 1926.1153, conduct scheduled air monitoring as specified by OSHA 1926.1153. Employees are to be notified of the exposure assessment within 5 working days.
5. Contractor shall provide a competent person trained in RCS hazard recognition, prevention, control or abatement. Competent person shall know the health hazards associated with exposure to RCS and have the knowledge and authority to create, implement, execute and communicate the WECP. Additionally, the competent person shall know the appropriate respiratory protection required if necessary.
6. Contractors using Table 1 shall provide vacuum tools, apply water flow rates or a means of exhaust to minimize visible dust.
7. Housekeeping and sweeping (or vacuuming) shall be conducted in a manner that does not create dust.
8. SDS sheets shall be available for all manufactured products which contain silica.
9. Contractor shall offer free medical exams, including chest x-rays and lung function testing every three years for workers who are required by the standard to wear a respirator for 30 or more days per year. Employer shall provide all required information to the Physician or Other Licensed Healthcare Professional (PLHCP) as required by the standard.
10. All workers who could be exposed to Respirable Crystalline Silica (RCS) shall be trained in all aspects of the Written Exposure Control Plan (WECP).
11. Silica training shall include at a minimum the following information:
    a. What is Respirable Crystalline Silica (RCS)
    b. The health hazards associated with exposure to RCS
    c. Workplace tasks and conditions which could result in exposure to RCS
    d. Methods to protect against exposure and how to implement methods effectively.
    e. Selection, proper use and limitations of PPE.
12. Contractors shall maintain records which shall be available and include training records, copies of the WECP, air monitoring data, objective data, medical surveillance records for each employee covered under this section and special meeting minutes with attendance sheets.
13. Contractors shall maintain air monitoring data and shall include: the date of the measurement for each sample; the task monitored; sampling and analytical methods used; number, duration, and results of samples taken; identity of the lab that performed the analysis; type of PPE worn by the monitored; name, SSN, job classifications of all employees represented in the monitoring; and ensure that exposure records are maintained and made available in accordance with 29 CFR 1910.1020.

5.65 STEEL ERECTION

REFERENCES:

29 CFR 1926 Subpart R and Appendix A thru H
29 CFR 1926.501 – Duty To Have Fall Protection
Standard Interpretations - Permissibility of Guardrail Systems Other Than Safety Cables in Steel Erection
OSHA eTool – Steel Erection
OSHA Compliance Directive - Inspection Policy/Procedures for Steel Erection Standards for Construction
OSHA Standard Interpretations - Clarification of "Controlling Contractor" Duties
OSHA Standard Interpretations - Wire Rope Clips; Safety Latches on Large Crane Hooks; Assembly for Hanging Scaffolds; and Horizontal Lifeline Design

1. The erection subcontractor shall develop a site-specific erection plan that includes the name of the qualified rigger, qualified signalperson and competent person. See crane requirements of this manual.
2. Conduct a preplanning meeting with the steel erector, crane operator and other subcontractors as necessary before the start of the job. Coordination of overhead loads is critical.
3. All ironwork activities to follow the six (6) foot rule with the use of hard barriers or personal fall arrest systems.
4. The steel erector is not to erect steel unless a written notification has been received indicating that the concrete in the footings, piers and walls or the mortar in the masonry piers and walls has attained either 75% of the intended minimum compressive design strength or sufficient strength to support the loads imposed during steel erections. Submit documentation to RC ANDERSEN project team in writing.
5. RC ANDERSEN is to ensure that adequate access roads and laydown areas are firm, properly graded, drained, and readily accessible for the safe storage and operation of erector's equipment.
6. Do not create overhead hazards.
7. Connect all pieces with a minimum of two bolts.
8. Metal decking will not be laid unless it is secured by the end of the day.
9. Hot work permits are required as necessary.
10. Install wire rope cable at the perimeter for top rail and midrail with high visibility flags every six (6) feet. Provide cables with turnbuckles at each elevation to facilitate maintenance. Three (3) cable clamps are required at each column and end of run.
11. Maintain wire rope cable used for guardrail system to meet at least 42" (+/- 3") above finished floor with 200 lbs. exerted in the downward and outward direction.
    a. Wire rope cable system:
        i. Use a minimum 3-inch by 3-inch steel angle iron post.
        ii. Minimum 3/8" standard wire rope cable, flagged every 6 feet, with top rail at 42" (+/-3") above finished floor. (May be substituted with minimum 1x19, ¼" aircraft cable).
        iii. Maintain a deflection of less than 3 inches with posts located at intervals to maintain cable deflection requirements, if required.
        iv. Install rated turnbuckles at regular intervals, at least one per change of direction and length of cable. Not to exceed **four** (4) bays or 120 feet.
        v. Install cable clamps at each column to prevent a cable from loosening and deflected around the entire perimeter.
        vi. Install a minimum of three (3) cable clamps at the end of each run.

vii. Posts or points of attachment to be at 42 (+/-3”) inches above top of slab to compensate for over-pours, deflections or other discrepancies, which may lead the cable to be lower than 39 inches at any time.
viii. Do not use wire rope cable systems as anchorage points unless designed with tabulated data from a registered professional engineer and submitted to project team for review.
ix. Install post kickers at every change of direction and runs for angle iron posts.

12. Subcontractor must provide training on OSHA Subpart R and for other activities such as 6-foot fall protection, scaffolds, ladders, excavations, etc.
13. Workers cannot climb or slide columns, unless connecting.
14. Install protect at all deck openings as decking installation is in progress.
15. Safety nets are not accepted as a means of fall protections.
16. Once steel erection of a floor/area is completed and the area scheduled for turnover to other trades such as the concrete contractor, the area is first inspected by the RC ANDERSEN project team to assure the fall protection is installed correctly; all debris and trip hazards have been removed. Following the inspection of the floor/area, a Custody of Fall Protection letter shall be drafted and sent to all contractors on the jobsite.
17. Subcontractor is responsible to inspect all work areas daily.

5.66 SWING SCAFFOLD PREPLANNING AGENDA

1. **Location or elevation for setup:**
    a. Type of scaffold:
    b. Manufacturer:
    c. Roof Conditions:
    d. Parapet structurally sound:
    e. roof protection required:
    f. type:

2. **Swing Setup:**
    a. method for loading materials:
    b. crane:
    c. fall protection required on roof:
    d. details:

3. **Swing Configuration:**
    a. stabilization by:
    b. cornice hooks, parapet clamps, etc. with engineer stamp approval of parapet wall required
    c. use blocking
    d. Outrigger beams:
        i. load rating label required
    e. tie backs anchored to:
    f. use “J” style twin base saddle clamps (“Fist Grips”)
    g. do not use “U” style cable clips
    h. hoist motor rating
        i. motor load label required

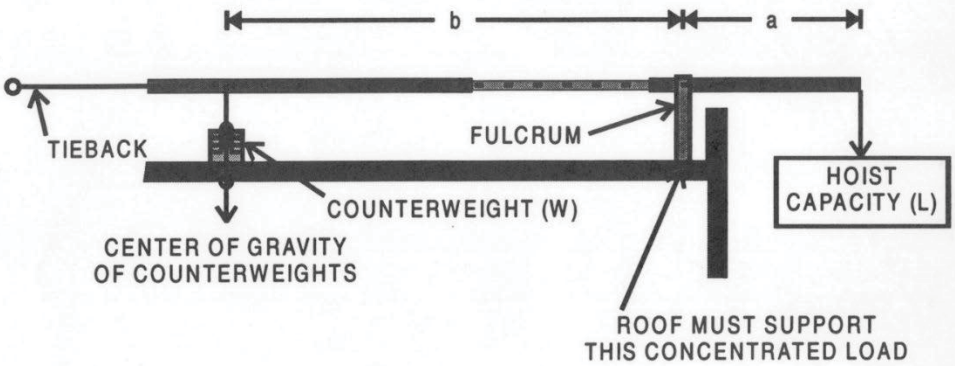
4. **Counterweights:**
    a. type:
    b. secured from accidental displacement by:
    c. load formula:
    d. required counterweight load:
    e. maximum intended load:

5. **Fall Protection:**
    a. full body harness:
    b. anchorage points:
    c. method of attachment:
    d. protect lifeline from abrasion by:
    e. type of rope for lifeline:
    f. rope grab:

6. **Assured equipment grounding conductor program required for other than 120V per OSHA**
7. **Inspection required before each shift:**
8. **Access to Scaffold:**
9. **Training:**
10. **Competent Person:**

5.67 SWING STAGE SCAFFOLD COUNTERWEIGHT FORMULA

COUNTERWEIGHT FORMULA



W = COUNTERWEIGHT
L = LOAD CAPACITY OF HOIST
a = ARM REACH
b = BACKSPAN DISTANCE (Distance between the fulcrum point and the center of the counterweights)
4 = Safety Factor (4:1)

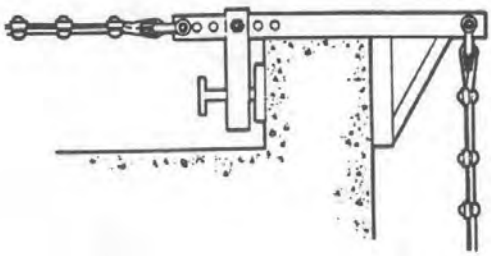
NOTE: Counterweights must be a nonflowable material, and they must be attached to the outrigger beam

Always use taut tieback wire ropes capable of holding the full load.

$$W = \frac{(La)4}{b}$$

PARAPET CLAMPS

Parapet clamps grip the parapet. The parapet holds the total weight of the suspended and the support systems and therefore can only be used with a parapet strong enough to take the load and large enough to fit the clamp.



5.68 TOOL SAFETY (HAND AND POWER TOOLS)

HAND AND POWER TOOL REFERENCES:
29 CFR 1926 Subpart I – Tools – Hand and Power

1. Read the manufacturer's instructions before use.
2. Inspect all tools before each use.
3. Use tools for the job for which they were intended.
4. Tools in disrepair shall be tagged and removed from service.
5. Do not remove guards from tools.
6. Do not use tools with broken handles.
7. Protect from shock, power tools must;
    a. Have a 3-wire cord plugged into a grounded receptacle
    b. Double insulated
    c. Powered by a low-voltage isolation transformer
8. Do not carry by cords
9. Ensure cords do not present a tripping hazard
10. Do not wear loose clothing
11. Keep tools clean
12. Compressed air hoses shall have safety clips at connections.
13. Compressors require a breakaway valve.
14. Training required before using a powder-actuated tool.
15. Chisels with mushroomed heads are not to be utilized.
16. Do not use electric tools with damaged cords. Remove tools from service.
17. Tools that may be subject to a fall to a lower level should be tethered.

ABRASIVE GRINDING:
29 CFR 1926 Subpart I – Abrasive wheels and tools

1. Read the manufacturer's instructions before use.
2. Inspect all tools before each use.
3. Do not remove the wheel safety guard.
4. Select the right size and right type of abrasive wheel.
5. Before mounting an abrasive wheel, inspect closely for damage to ensure they are free from cracks.
6. Do not overtighten the spindle nut.
7. Ensure the spindle speed doesn't exceed the maximum speed marked on the wheel.
8. For pedestal or bench grinders, keep work rests not more than 1/8th in from wheel surface to prevent the work from being jammed between the wheel and the rest.
9. Use eye protection and face shields when operating with abrasive wheels.

PNEUMATIC TOOLS:

1. Inspect tools and hoses before use.
2. Compressed air hoses shall have safety whips at connections.
3. Compressed air shall not be used for cleaning purposes except where reduced to less than 25 psi and then only with effective chip guarding and PPE.
4. Ensure the air fuse (break away valve) is in place on the compressor.

5.68.1 TOOL SAFETY (POWDER ACTUATED TOOLS)

REFERENCES:
29 CFR 1926.302 Tools – Hand and Power

1. Follow the manufacturer's instructions.
2. Only properly trained, qualified operators shall use powder actuated tools. Each subcontractor shall maintain a listing of qualified operators, and provide upon request.
3. Powder actuated tools shall be kept in their respective cases when not use.
4. Test tools before each use to ensure that safety devices are in proper working condition, that the tool is clean, that all moving parts operate freely, and that the barrel is free of obstruction.
5. Removed from service and tag unsafe any tool not in working order or that develops a defect while in use. Do not use such tools until competent, trained personnel make repairs.
6. Prior to the testing of any powder-actuated tool, employees shall ensure that tool is not loaded.
7. The operator and assistant must wear safety eyewear 100% during powder actuated tool operation.
8. Wear full-face shields if there is danger of flying plaster, wood, metal or concrete.
9. Do not carry a loaded tool on the work site.
10. Leave tools unloaded until ready for actual use.
11. Do not point the tool at anyone, whether loaded or unloaded, and hands shall be kept clear of the muzzle end.
12. Powder actuated tools shall never be stored or used in explosive atmospheres, near highly flammable materials, or in any area where non-sparking tools are required.
13. Hold the tool firmly against and perpendicular to the surface to which it is applied.
14. Consult the manufacturer's recommendations if there is any doubt about the fastening application.
15. It is not recommend shooting into very hard or brittle materials such as cast iron, glazed tile, surface hardened steel, glass block, live rock, face brick, hollow tile and similar materials.
16. To prevent flying hazards, no object shall be driven without first ensuring it will not pass completely through the material being driven into. Fasteners driven by standard velocity tools should not be driven directly into masonry materials closer than one-half (½) inch from the corner edge. Low velocity piston tools using fastener shank diameters of five thirty-seconds (5/32) of an inch or less may be driven no closer than two (2) inches from an edge in masonry or one-quarter (¼) inch in steel. Fasteners should not be driven into a spalled area such as where a previous fastener has failed, or into a very rough concrete or through pre-drilled or pre-punched holes.
17. In the event of a misfire, do not remove tools from the working surface for at least 15 seconds. Remove the cartridge from their tool before lifting it from the surface.
18. In the event of jamming, miss-fire or obstruction in the bore of the tool, follow the manufacturer's recommendations for clearing.
19. Never clear an obstructed bore by firing another cartridge or stud and cartridge assembly.
20. For the applications requiring the fastening of clips, brackets, tracks, etc., special shields, use fixtures or adapters.
21. Use only fasteners specially designed and manufactured for use in powder-actuated tools.
22. Install warning signs and barricades in areas where there is extensive use of powder-actuated tools. Signs shall identify by type of hazard present and shall limit access to these areas.
23. Consult with the manufacturer's recommendation for disposal of expended shots or misfires.

5.69 TRAFFIC CONTROLS

REFERENCES:
23 CFR 630 Subpart J – Work Zone Safety and Mobility Policy
Highway Work Zones and Signs, Signal, and Barricades
23 CFR Part 655 Subpart F - Manual on Uniform Traffic Control Devices (MUTCD)

1. Each employer shall assign trained personnel as a flagger to direct vehicular traffic under their control.
2. Such personnel shall be instructed in the proper procedures of traffic controls per local laws.
3. Where construction vehicles entering or leaving the jobsite are required to perform unusual maneuvers in the public way, which may interrupt the normal flow of pedestrian or other vehicular traffic, one or more flagger as required, shall be used to safely control the traffic.
4. In all cases, where construction vehicles enter or leave the job site by backing up, a flag person shall be used to safely control pedestrian and other vehicular traffic.
5. Construction vehicles backing up on the job site shall be equipped with back-up alarms or have a flagger in attendance.
6. Construction vehicles entering or leaving the job site shall travel at reduced speeds commensurate with safety for pedestrians and other vehicular traffic.
7. All construction operations involving workers, construction vehicles, and equipment in the public way, which are not static or fixed, but are changing or fluid, shall be attended by one or more flaggers as required to safely control pedestrians and other vehicular traffic around the operations.
8. All construction operations involving workers, construction vehicles, and equipment in the public way, which are fixed or static, shall be protected by one or more of the following traffic control devices as required to safely control pedestrians and other vehicular traffic around the operations:
    a. Warning signs
    b. Barricades
    c. Flashing Light Signals
    d. Warning Flags
    e. Traffic Lane Cones
9. Signs and lights shall be placed ahead of construction operations to allow pedestrians to heed the warnings. Flags, Barricades and Traffic Lane Cones shall be so placed as to create clearly defined lanes of traffic to permit the safe flow of traffic in accordance with the MUTCD .
10. In all cases where flaggers control pedestrians and vehicular traffic, they shall receive instructions in the type of work, traffic controls required, and proper signaling of traffic.
11. Flaggers shall wear high visibility PPE and use a flag to signal traffic.
12. Where construction operations take place in pedestrian walkways or create safety hazards over pedestrian walkways, the walkways shall be closed, and pedestrian traffic routed to safe, alternate walkways.
13. Close walkways with barricades and warning signs clearly posted at the points of closure, warning of the hazard and clearly indicating the alternate walkway.
14. Consult with the local department of transportation to change street striping, lane changes or lane closures.

5.70 UTILITY SHUT DOWN PROCEDURES

1. Utilities include all mechanical, plumbing, or electrical services within a facility and incoming services to a facility. Examples are electrical, HVAC systems, natural gas, medical gas and vacuum system, laboratory gas supply systems, sewer, storm water plumbing, domestic and fire protection water supply, fire suppression systems, elevator service, nurse call systems, fire detection systems, intercom and telephone systems.

2. Submit all shut down requests in writing using the Request Form, or the owner request form, as specified by the jobsite superintendent.

3. Follow owner shutdown procedures which will take precedence, if applicable.

4. After the utilities are shut down, proper lockout/tagout procedures are to be followed. (See Lockout/Tagout section of this manual).

5. In occupied buildings or partially turned over buildings where shutting down or energizing utilities will affect the occupied areas, no utilities can be shut down or energized without authorization of the owner. In most cases, the owner's representatives are responsible to complete the actual shut down and/or the energizing of utilities.

6. Remember, the owner owns his own systems.

7. We need to locate and test all isolation valves in advance. In occupied buildings, this process should be scheduled for after hours

8. Prior to any work, that may accidentally interrupt live systems, (mechanical, electrical, sewerage, hydraulic, pneumatic, etc.); the Project Superintendent shall review and coordinate the work with the representative utility company, authority or Local Municipal Agency and with trades doing the work. Implement proper safeguards as required to prevent accidental interruption of such systems. Work requiring review and safeguards may include demolition and any blind penetration of floors, walls and ceilings.

9. Identify, locate and verify all live systems whether they are mechanical, electrical, sewerage, hydraulic, pneumatic, etc.

10. Follow LO/TO procedures for re-energization.

5.71 WATER - WORKING OVER OR NEAR WATER

REFERENCES:
29 CFR 1926.106

1. Provide to employees working over or near water or where the danger of drowning exists, a U.S. Coast Guard-approved life jacket or buoyant work vests.

2. Prior to and after each use, inspect the buoyant work vests or life preservers for defects that would alter their strength or buoyancy. Do not use defective units.

3. Ring buoys with at least 90 feet of line shall be provided and readily available for emergency rescue operations. Distance between ring buoys shall not exceed 200 feet.

4. At least one lifesaving skiff shall be immediately available at locations where employees are working over or adjacent to water.

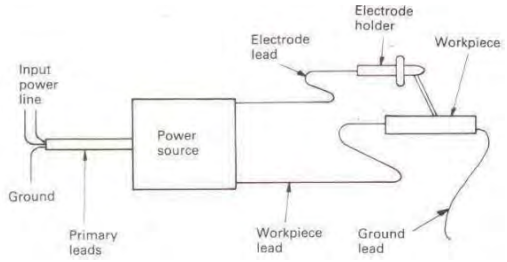
5.72 WELDING

REFERENCES:
OSHA Publication 3151 – Personal Protective Equipment
OSHA eTool General Safety and Health – Hot Work/Welding
29 CFR 1910.253 – Oxygen-Fuel Gas Welding and Cutting
29 CFR 1926 – Subpart J. Welding and Cutting: 1926.350 through 1926.353
1926.34 Means of Egress
1926.35 Emergency Action Plans
OSHA 1926.1126 Chromium Subpart Z

This procedure establishes the practices and the equipment to be used when performing cutting and welding operations to adequately protect life and property. This procedure covers all electric welding, oxy-acetylene fusion welding and cutting, brazing, welding, electric resistance or induction welding, forge and flow welding. See Fire Prevention and Protection in this manual.

1. All welders must have helmets with hoods attached directly to helmets.
2. All grinding shields must be attached directly to helmets.
3. No repairs are permitted in the last ten feet of the working end of a a stinger cable.
4. All connections to the welding machine must be protected (shielded) to prevent shock exposure.
5. All welding lead connections must be taped or restrained from separating to prevent shock exposure.
6. Subcontractor is responsible to ensure proper ventilation and smoke exhaust/capture for work within closed-in buildings.
7. Work within occupied building, historical buildings, or areas requiring special attention will require a mandatory three (3) hour fire watch.
8. Prior to the start of welding within an occupied building, historical buildings, or areas requiring special attention, the areas must be inspected by the RC ANDERSEN Field staff and/or the Owner.
9. Pipelines containing gases or flammable liquids, or conduits containing electrical circuits, shall not be used as a ground return.
10. Welding screens shall be used to protect employees and other persons from the direct rays of the arc.
11. Fire extinguishing equipment shall be immediately available in the work area and shall be maintained in a state or readiness for instant use by the subcontractor.
12. A full-time fire watch is required for all welding activities in the presence of combustibles.
13. Prior to welding within a confined space, a preplanning meeting must be conducted, and confined space requirements (in this manual) must be followed.
14. Welding surfaces with toxic coatings shall be stripped of all toxic coatings for a distance of at least 4 inches from the area of heat application, or the employees shall be protected by proper respiratory protection.
15. When inert-gas metal-arc welding is performed on stainless steel, adequate local exhaust ventilation or airline respirators in accordance with the requirements of Subpart E shall be used to protect against dangerous concentrations of welding fumes and gases.
16. Welders and assistants performing any type of welding, cutting, or heating shall be protected by suitable eye protection equipment in accordance with the requirements of OSHA 1926 Subpart E.
17. All tarps used on the jobsite that may be exposed to sparks or open flames must be made of fire retardant/flame resistant material.
18. During welding operations, the welder shall report to their direct supervisor any unexpected fluctuations in current or loss of welding arc.
19. Subcontractor is responsible to inspect work piece and ensure it is grounded prior to starting work. Grounded means work piece is directly connected to building steel via observable solid connection. If the connection is not visible then a grounding cable will be utilized to create a visible source. Welding

Machine has two (2) leads. The work lead shall be clamped to the work piece. The electrode lead shall hold the welding rod used for welding on work piece. The following graphic shows how an ARC welding job is to be setup.



Ground lead can be to the building steel or cable connecting work piece to building steel.

RESTRICTED AREAS:

1. Welding and cutting operations are prohibited in or near areas or equipment containing flammable vapors, dusts, or liquids, on or in closed tanks or other containers that have held flammable liquids until all fire and explosive hazards have been eliminated.
2. Under no circumstances are welding or cutting operations to be performed in or on containers, drums, tanks, or other vessels containing combustible or flammable liquids, or other substances of a similar dangerous nature.
3. When it is desired to use drums as trash containers, the head should be cut out with a drum cutter and never burned out.

SPRINKLER PROTECTION:

1. If the work to be performed is within a building equipped with an operative sprinkler system, the sprinkler system must not be made inoperative during cutting and welding operations unless specific permission is granted by superintendent, or his designated representative.
2. Should sprinklers be within three feet of the welding torch, suitable protection by baffle or fire-retardant wrapping must be used to prevent fusing. A wet rag on the head is another option.

FLOOR AND MATERIAL PROTECTION:

1. The basic precautions for fire protection in welding and cutting operations are:
    a. When practical, remove the object to be welded, or cut, to a safe location designated for such work.
    b. If the object to be welded or cut cannot be readily moved, all movable fire hazards in the vicinity shall be taken to a safe place at least thirty feet from the cutting or welding protection.
    c. If the object to be welded or cut cannot be moved and if all fire hazards cannot be removed then after the combustible floors have been swept clean, they should be protected by flame proof tarpaulins or the equivalent or, if practical, the area may be wet down.
    d. Wherever there are floor openings or cracks in the flooring that cannot be closed, an examination should be made to ascertain that there are no highly combustible materials on floors below which would be exposed to sparks that might drop through the floor. The same protection should be observed with regard to breaks or holes in walls, open doorways, and open or broken windows.
    e. In grassy areas, the vegetation shall be cropped closed to the ground and well wet before cutting and welding operations are completed.
    f. **CAUTION!** Ordinary waterproof tarpaulins must not be used. This type of tarpaulin would add to rather than retard a fire.

PERSONNEL AND THEIR PROTECTION:

1. In all cases, operators of welding and cutting equipment shall be competent personnel, certified by the local jurisdiction where applicable.
2. All equipment shall be placed so that it is clear of passageways, ladders, and stairways.
3. Helmets or hand shields shall be used during all arc welding or arc cutting operations and shall be arranged to protect the face, neck and ears from direct radiant energy from the arc.
4. Welder goggles or other suitable eye protection shall be used during all gas welding or cutting operations.
5. Welders' gauntlet gloves, sleeve protectors, and aprons shall likewise be used by the operator. Suitable barriers, protecting screens, and warning signs should be used to protect the public or others not involved in the welding or cutting operations.

5.72 WORKING IN OR AROUND OCCUPIED BUILDINGS

1. All construction activities taking place in or close to occupied structures create special safety hazards.
2. RC ANDERSEN project teams must be aware that occupants are unfamiliar with construction processes and that special controls are required for the safety of the structure and its occupants.
3. RC ANDERSEN project teams shall review in advance all construction work in occupied structures that may create safety hazards for the occupants or the structure with the facility manager.
4. RC ANDERSEN project teams will coordinate work controls and sequencing with facilities management so that occupants can be notified to minimize hazards and disruptions to operations.
5. Where subcontractors perform work in occupied structures that may require any of the controls set forth below, the work shall not proceed without approval of the Superintendent at least 24 hours in advance of the work.
6. Superintendents shall implement the following controls as required:
    a. Environmental Controls:
        i. Where occupants may be exposed to excessive noise and vibration, alternate methods and equipment may be employed.
        ii. Tools, machinery and other construction equipment with special mufflers and sound silencing accessories are available for use in such circumstances.
        iii. Where feasible, the work may be scheduled to off hours so that occupants are not adversely affected by the work.
        iv. Where occupants may be exposed to welding flashes, laser beams, or other forms of radiation, the work shall be screened.
        v. Where occupants may be exposed to contaminated atmospheres due to gases, vapors, fumes, dusts, mists, or odors, the work shall be isolated from occupied areas by temporary closures, or the affected areas ventilated by natural or mechanical means as required to reduce the exposure.
        vi. Where occupants of the structure may be exposed to the build-up of flammable or combustible atmospheres, natural or mechanical ventilation shall be employed to reduce the exposure.
        vii. Sources of ignition in the affected areas shall be eliminated.
        viii. See section Fire Prevention and Protection for other requirements.
        ix. The use of equipment powered by internal combustion engines inside of closed structures requires pre planning and approval. Area to be adequately exhausted and air monitored by subcontractor.
7. Where fire or smoke alarms may be set off due to construction activities, the RC ANDERSEN project team shall coordinate the work with the building management to prevent false alarms. Coordination may require the temporary isolation or shutting down of alarm systems. Where smoke, fumes, odors, etc. from construction activities may be dispersed into occupied areas through air intakes, air handling systems, etc., the RC ANDERSEN project team shall coordinate such activities with the facilities management to control the hazard. Coordination may require the closing of intakes or shutting down air handling systems
8. Closures and Barricades:
    a. Construction areas and activities in occupied structures shall be isolated from occupied areas by the installation of temporary partitions, fences, barricades or other means as required to prevent unauthorized or inadvertent entry by occupants.
    b. All temporary closures shall be free of projections that may present tripping hazards to occupants, or upon which they may become snagged, impaled or bumped into.
    c. Install doors equipped with locking devices at all points of entry to construction areas and keep closed and locked during non-working hours.
    d. Keep gates closed at the point of entry to construction areas or control areas by a flagger.

SECTION 6: PROJECT SAFETY FILE DOCUMENTATION & CHECKLISTS

BLASTING CHECKLIST

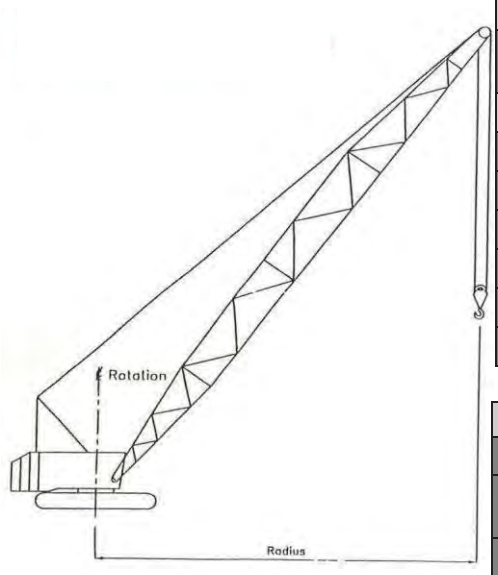
Work Operations Checklists shall not be considered all-encompassing as they relate to Federal, State and local regulations or manufacturer's specifications and requirements. They are only intended as a guide in pre-planning and coordinating work operations. It is each employer's responsibility to address the hazards associated with their scope of work.

Company Name:

Project:	Date:

Yes	No	N/A	
General			
			Has a written survey been conducted of all adjacent improvements and underground utilities?
			Have seismic or vibration tests been conducted?
			Have all the applicable project permits been obtained?
			Has there been a check for radio frequency hazards and are signs posted at all entrances and exits?
			Has a competent person been named to direct demolition and blasting and will they always be on site whenever work involves explosives?
			Are the operators and supervisors licensed?
			Are all local laws and regulations observed?
			Has security and theft protection been provided?
			Is there proper protection of and continuous accounting for all explosives?
			Are only trained and authorized employees allowed in or near areas where explosives are being handled, transported, or used?
			If any explosives have been lost, stolen, or tampered with, have the appropriate authorities been notified?
Transportation of Explosives			
			Is there a written procedure for the transport of fuses and explosives?
			Are all motor vehicles transporting explosives marked or placarded with warning signs required by OSHA and DOT?
			Are motor vehicles transporting explosives attended at all times?
			Are passengers prohibited from riding in any vehicle transporting explosives?
			Are blasting caps transported in separate vehicles from other explosives?
Fire & Explosion Protection/Prevention			
			Is smoking/vaping prohibited and are "No Smoking/vaping" signs posted in areas where explosives are being handled, transported, or used?
			Are work operations that produce sparks or flames prohibited within 100 feet of any explosive material?
			If electrical detonators are used, have two-way radios been restricted from or near the demolition site?
Handling & Storage			
			Are manufacturer's instructions for the safe handling and storage of explosives available and being followed?
			Instead of storage of explosives, have arrangements been made with the supplier for daily delivery and pickup of unused explosives?
Blasting			
			Is blasting conducted between sunup and sundown?
			Is there an audible alarm or warning to be sounded to warn of the impending blast and to signal an all clear after the blast?
			Is blasting occurring as soon as possible after loading is complete?
			Are all workers being cleared from the area before a blast is fired?
			Has the competent person conducted an inspection of the area and surrounding rubble to determine if all charges have been exploded before allowing workers to return?
			Are blasting mats or other containment available to control debris?
Additional Sources of Information:			
29 CFR 1926.900, Subpart U – Blasting and the Use of Explosives			

CRANE LIFT WORK SHEET



Weight Information	
Weight of Heaviest Load:	
Deducts	
Jib:	
Ball & Hook:	
Load & Block:	
Wire Rope:	
Rigging:	
TOTAL:	

Personnel Information	
Operator:	
Operator Credentials:	
Rigger:	☐ Qualified ☐ Certified
Signalperson:	☐ Qualified ☐ Certified

CRANE OPERATOR EVALUATION FORM DOCUMENTATION

Operator's Name:		
Operator's Employer:		
Evaluators Name:		
Make:	**Model:**	**S/N#:**

Configuration of Equipment (please provide a description of the equipment's configuration at the time of evaluation such as attachments, boom length, counterweight set-up, etc.)
Task(s) Performed (please provide a description of the task(s) performed by the operator during the evaluation such as hoisting formwork, personnel basket, concrete bucket, multi-crane pick/lift, blind pick/lift, etc.)
With respect to equipment that the candidate will operate, I have evaluated the candidate and have determined that he/she: **i. has the skills necessary to operate the equipment safely for the assigned task(s);** **ii. has the skills and knowledge as well as the ability to recognize and avert risk; and** **iii. can apply the equipment's load charts and the manufacturer's procedures.**

Evaluator's Signature:	**Date:**

Note: Retraining must be provided in relevant topics for each operator when the performance of the operator, or an evaluation of the operator's knowledge, indicates that retraining is necessary. When retraining is required, the employer must re-evaluate the operator with respect to the subject of the retraining.

CRANE SET-UP / LIFT PLAN

See Last Page for additional Instructions/Clarifications

Date:	
Subcontractor/ Rigging Company:	
Responsible Person/Contact:	
Crane Company:	
Responsible Person/Contact:	
Project:	**Lift Location:**

1. Crane Information:					
Make:		Model:		S/N #:	
Size (Tons):					
Type:	[ ] Hydraulic [ ] Friction [ ] Lattice [ ] Truck [ ] Tower [ ] All Terrain [ ] Crawler				
Boom Length:		Jib Used? YES / NO		Length:	
Load Line # of Parts:		Lift Block Capacity:			
Will outriggers be fully extended? If not, please explain:					
Will Lift Plan be based on 360° chart? If not, please explain:					
Will this plan require more than one crane, either for a dual-lift or for material handling? Please explain:					
Will crane(s) need to "walk" with loads? If so, please explain:					

Lifts in the following categories are considered **Sensitive Lifts** and require development of a detailed lift plan that must be reviewed by the Safety Department: a) Lifts over personnel occupied areas (i.e., buildings, sidewalks, etc.); b) Any lift where the payload weight is 20 tons or greater; c) Lifts requiring the crane to be set up over or adjacent to underground building structures, transportation tunnels, retaining walls,(i.e., parking garages, etc.); d) Lifts where any part of the crane or load encroaches onto or over highway, roadway or railroad rights of way, unless the corridor is shut down to traffic; and e) Drifting operations, i.e., crane lifts where the load is drifted sideways by external means Lifts in the following categories are considered **Critical Lifts** requiring review by the Safety Department: a) Lifts exceeding 75% of crane rated capacity; b) Lifts requiring two or more cranes or additional equipment assisting in lifting simultaneously (tandem); c) Lifts using any type of equipment to transfer a worker within a personnel basket; d) Lifts with helicopters over areas defined by the FAA as "congested areas". Which are defined as areas people utilize or inhabit (e.g., non-wilderness areas); e) Unusual or complex lifts that exceed any site-specific requirements Subcontractors conducting a criterial lift must: a) provide Annual Inspection Certificate satisfying OSHA requirements and submit to RC ANDERSEN before the crane arrives on site. Cranes used for critical lifts shall have an annual inspection within the past three (3) months; b) submit a detailed lift plan reviewed by a Master Rigger.

2. Load Characteristics:		
Will this plan cover more than one pick?		
Description of Load(s):		
Dimensions of Max Load. Provide information on both the HEAVIEST and the LARGEST volume load:		
Weight of Max Load: How was this determined? Please insert or attach calculations?		
Location of load Center of Gravity: How was this determined?		
Maximum Boom Length Required	Minimum Boom Angle Required	Maximum Radius Required
Will any load be upended? If so, please explain WHY and HOW - multi-drum, dual crane, lift/block/lift, etc. (**provide a detailed sketch and documentation from manufacturer supporting such use):		

3. Rigging Information:	
List Rigging Components. Please be specific – number, type, size, length, capacity, differing pick configurations. Sketches help.	
Minimum Capacity Component (describe, and show capacity):	
Worst Case Weight of All Rigging:	
Will a Lifting Beam or other similar component be used? Please provide capacity, PE certification, and drawing.	
Other Weights to be Considered to Determine Gross Load:	
Max Load:	
Rigging:	
Jib:	
Jib Hook:	
Hook Block:	
Load Line:	
Other:	
Maximum Gross Load:	

4. Crane Location/Clearances:
a. Provide a to-scale plot plan showing crane location, adjacent buildings, pipe racks, and other significant obstructions within load swing radius. Indicate direction and span of swing.
b. Provide a to-scale elevation depicting crane, adjacent structures (property / structure)
c. What is the horizontal distance from the crane center pin to the nearest structure?
d. What is the minimum clearance from boom to highest point of structure during a pick?
e. What is the minimum clearance from load to highest point of structure during a pick?
f. What is the minimum distance from boom to load during a pick?
g. Will the load or any part of the crane be over any active structures, property, tanks, or equipment during a pick?
h. Have underground site utilities, sidewalk vaults, storm drains been identified and located?
i. Will outriggers be located over underground utilities? If so, please explain protective measures to be taken:

j. Describe signaling procedure – who will be responsible for signaling? Will hand or radio signals be used?

5. Summary "Worst Case Lift Scenario":				
Max Radius	Min Boom Angle	Max Gross Load	Max Chart Capacity	% of Capacity Max Gross Load/Max Capacity

6. Attachments Provided (All must be checked):				
Plot Plan w/Crane Location	Elevation Plan	Load Calculations	Rigging List	Crane Charts (including any applicable Notes)
3rd Party Annual Inspection Report	Operator's License Number and expiration date	Rigging Diagram (spreader beams, eccentric CG, chain falls, multiple pick points, etc.		

Be sure you have considered the following (all must be checked or marked N/A):

The Following Items are in the Crane Cab:				
Hand Signal Chart	Fire Extinguisher	Complete Load Capacity Charts with Notes	3rd Party Annual OSHA Inspection Report	Completed Daily/Shift Inspection Sheet
Operators Manual	State / City Crane License/Registration	All other required paperwork, equipment	Other:	
heck the Following:				
Anti-two Block Operational	. Overhaul Ball Capacity Marked	Wedge Socket/Becket Properly Installed	. Backup alarm working	. All warning placards in place
Boom Angle Indicator Functioning Properly	. Boom High Limit Functioning Properly (lattice boom)	No broken or fogged glass	. Boom light/beacon if boom is higher than 200'	. FAA Permit Application/Approval
Slings and Rigging Inspected	. All wire rope inspected	Chains and chain slings have capacity tags	. All hooks inspected for wear and deformation	. Safety Latches in Place
Dunnage/Blocking Available to Secure Loads	. Demolition Plan Submitted and Reviewed (if applicable)	Bracing/ Temporary Supports Available for Use (will loads need to be secured during demolition?)	. Wind Speed Meter	. Other:

Be prepared to confirm the following additional items:				
1. Crane Configuration in Compliance with Lift Plan	2. Maximum Radius Confirmed (MEASURED) Without Load	3. Maximum Load Confirmed Prior to Achieving Maximum Radius	4. All Pick Points Vertically Above Load Center of Gravity	5. Taglines to be Used
6. Outrigger Floats & Dunnage Installed (Minimum 3'X3'x4") Size:	7. Copy of the Demolition Plan in the Cab of Crane (if applicable)	8. Lift Area and Equipment Inspected	9. Counterweight Swing Radius Barricaded	10. Load Swing Radius Barricaded
11. Outriggers Fully Extended Position: Computer Set at:	12. Lift Plan and Crane Permit in Cab of Crane	13. Lift Plan and Crane Permit Reviewed with Rigging, Erection or Demolition Crew	14. Other:	

1. In addition to this plan, a “Crane Use Permit” required by local codes and standards will be required for each set-up location.
2. A copy of the Daily Crane Use Permit is attached for your reference.
3. Non-compliance with any part of this plan or Crane Use Permit will be grounds for immediate cessation of work and possible permanent removal from the site.

ALL sections MUST be filled out before ANY crane may be brought to its work location (see instructions). Subcontractor/Rigger and Operator are Responsible for the Accuracy of all Calculations and Inspections. Contractor Review is to Ensure Completion of Form ONLY. Use Attachments for Continuations/Explanations. Please Reference Section Number.			
Signatures			
Crane Company Responsible Person:	Name: Signature:	Subcontractor/Rigger Responsible Person:	Name: Signature:
Phone #:		Phone #:	
Contractor Project Rep:		Signature:	
Contractor Safety Rep:		Signature:	

Instructions/Guidance

1. Lifts requiring movement of the crane with the load, personnel platforms, upending loads, work over occupied facilities or work involving encroachment on public rights of way will also require a Plan.
2. For miscellaneous picks such as material and tool movement, panel work, etc., a Lift Plan will not be required where anticipated loads, including all rigging and manufacturers deducts, are ***multiplied by a factor of two*** and the sum does not exceed 75% of chart capacity for that crane at that radius.
3. Submit this plan at least 48 hours prior to mobilization. For those lifts not requiring a Lift Plan, a Crane Use Permit must still be executed prior to crane operations (day of use). Where a Lift Plan is not required due to, calculations in item 3 above, attached the calculations to the Crane Use Permit.
4. This Planning Process has three parts:
    a. **In-Depth Lift Plan** (may not be required in all instances – see above)
    b. **Crane Use Permit** (required EVERY TIME a crane is used)
    c. **Daily Inspection Form** (***Crane Safety Review*** if using Contractor form) (required EVERY DAY a crane is used)
5. Base the plan on “worst case” combination of load weight and lift radius for a specific crane configuration in a specific location.
6. The Lift Plan may be valid for more than one day, if the configuration, location, maximum expected load and maximum expected radius do not change. Crane Use Permits must be updated whenever configuration changes.
7. The Plan must be COMPLETE – see Section 6 for required Attachments. Sketches will be acceptable in many instances, and the required Elevation Plan may be sketched onto Crane Range Diagram for ease of preparation.
8. All rigging devices MUST be certified as to their capacity. Custom-fabricated devices (lifting beams, spreader bars, etc.) may be acceptable with proper PE stamp or proof testing as required by applicable standards. Capacities shall be marked and legible on all such devices.
9. Review work not anticipated in the plan that may arise due to site conditions (moving equipment, loading materials onto floors, etc.) with Contractor prior to hoisting.

RC ANDERSEN

SAFETY 360° EVERYBODY | EVERYWHERE | EVERYDAY

CONFINED SPACE CHECKLIST

Job Number:		**Date:**	
Job Name:		**Name:**	
Address:		**Contractor:**	
Entrant Training:	☐	**Attendant Training:**	☐

ENTRANT: *(Do Not Enter until the following are in compliance)*	
Space is flushed and cleaned	☐
Space is isolated and locked out properly	☐
Space is atmospherically tested for proper oxygen levels	☐
Space is atmospherically tested for presence of flammable gases and toxins	☐
All electronic equipment is inspected, and ground fault protected	☐
All personnel entering vessel must be logged into and out of the vessel on the entry permit	☐
All cords, power cables etc. are to be kept neat and off from vessel bottom	☐
Atmospheric "sniff tests" to be performed at least once per shift	☐
No entry into vessel unless fresh air ventilation is present a. Keep all flammable material in proper container. (i.e., cups, rags, wood, etc.) b. Entry attendant to be present always c. Have continuous contact with attendant d. Remove cutting torches, hoses and rose buds from vessel when not in use	☐
Keep fire extinguisher inside vessel	☐
If you sense a problem, exit the vessel at once	☐
Aware of any potential hazards of space	☐
ATTENDANT: *(Do Not Enter until the following are in compliance)*	
Stay at designated hole watch location	☐
Keep vessel entry log and air testing equipment	☐
Know the emergency phone number for your location	☐
If a problem arises, call for help first. Do not enter space	☐
Maintain visual contact if possible	☐
Listen/watch for any potential problems in vessel	☐
Maintain continuous communication	☐
Be sure vessel is kept clean of flammable debris	☐
Have fire hose/extinguisher present near entry location	☐
Only allow authorized personnel to enter vessel	☐
Know how to disconnect power entering vessel	
Keep a properly working flashlight	
Warn all unauthorized persons not to enter	

ACKNOWLEDGEMENT OF TRAINING:

I have been trained on the proper procedures for confined space vessel entry and outside attendant duties.

Entrant/Attendant Signature:		**Date:**	
Confined Space Authorizing Supervisor:		**Name:**	

CONFINED SPACE ENTRY PERMIT

Entry Log

LOCATION	DATE	START TIME	FINISH

CONFINED SPACE DEFINITIONS

CONFINED SPACE:
Large enough to bodily enter; and
Has limited means for entry and/or exit; and
Not designed for continuous human occupancy

A "**PERMIT REQUIRED**" **CONFINED SPACE** has hazards such as:
1. Contains or potential to contain a hazardous atmosphere
2. Contains material that has the potential to engulf and entrant
3. Has an internal configuration that could trap or asphyxiate entrant
4. Contains any other recognized hazards

If none of the Permit Required hazards exist after verification of the Atmospheric Monitoring section, then this space can be classified as a Non-Permit Required Confined Space by the Competent Person. ***File "CS Log" only***.

DESCRIPTION OF TASK(s)

DESCRIPTION OF CONFINED SPACE

DESCRIPTION OF HAZARDS IN THE SPACE (CHEMICAL, PHYSICAL, AND OTHERS)

ATMOSPHERIC SAMPLING/MONITORING CONDUCTED BY

NAME (Signature)	TITLE

ATMOSPHERIC MONITORING REQUIRED PRIOR TO AND CONTINUOUSLY DURING PERMIT-ENTRY

MONITORING INSTRUMENT MANUFACTURER AND MODEL#	LAST FACTORY CALIBRATION DATE:	PRE-ENTRY CALIBRATION *(bump test in fresh air)* INITIAL IF COMPLETED:

AIR TESTING

Atmosphere must be continuously monitored.	ACCEPTABLE RANGES		RESULT AM PM	RESULT AM PM	RESULT AM PM	RESULT AM PM	VENTILATION
	MINIMUM	MAXIMUM					
1. Oxygen	19.5%	23.5%					When initial readings are outside acceptable ranges: *CONTINUOUS FORCED AIR VENTILATION FROM A CLEAN SOURCE IS REQUIRED*
2. Combustible	0%	10%LEL					
3. H2S	0%	5 ppm					
4. CO or Other: _____	0%	__ %PPM					
5. Temperature							

DESIGNATE ENTRY TYPE:

☐ PERMIT-REQUIRED ☐ ALTERNATE ENTRY ☐ RECLASSIFIED TO NON-PERMIT

PERMIT REQUIRED ENTRY PROCEDURES

RESCUE AND EMERGENCY PROCEDURE PLANNING ***[Get Rescue Services enroute before starting any rescue]***

☐ NON-ENTRY RESCUE - lifeline, safety harness and mechanical means for vertical rescue

☐ ENTRY RESCUE - Emergency Services should be informed of the date and time of the entry. Encourage Rescue Services to preview the location. Procedures for summoning Rescue Services in Place. *(Response time is critical!)*

SAFETY EQUIPMENT

□ 4 GAS DETECTOR *(CHARGED & CALIBRATED)* □ HARNESS W/ TRIPOD / MECH /RETRIEVAL □ FIRE EXTINGUISHER □ INTRINSICALLY SAFE / NON-SPARKING □ RESPIRATORS (Specify):	□ FACESHIELD/GOGGLES □ GLOVES □ COVERALLS OR CHEM CLOTHING □ COM M UNIC AT ION S □ OTHER:	□ HELMET □ LIGHTING □ BARRIERS AT ENTRY □ GFC I

ISOLATION OF MECHANICAL, ELECTRICAL, PHYSICAL, OR CHEMICAL ENERGY SOURCES

Measures might include blanking or blinding; removing sections of lines, pipes, ducts; a double block and bleed system; lockout / tagout; blocking or disconnecting all mechanical linkages; isolation barriers

□ Notapplicable □ Yes (specify): _____

HAS SPACE CONTAINED LIQUIDS, GASES OR SOLIDS OF TOXIC, CORROSIVE OR IRRITANT NATURE?

□ No □ Yes *(If Yes, review and attach SDS to this permit)*

SPECIAL INSTRUCTIONS/EQUIPMENT

PERMIT ACKNOWLEDGEMENT

NAME(s) OF ATTENDANT(s)

NAME(s) OF AUTHORIZED ENTRANTS

ENTRY SUPERVISOR SIGNATURE:

The job described above has been reviewed and will be accomplished in accordance with requirements specified herein.

Entry Supervisor (Print and Sign) _____

ALTERNATE ENTRY PROCEDURE *[Atmospheric Hazards ONLY] 1926.1203(e)*

*Permitted where the **only** hazard posed by a permit space is an actual or potential hazardous atmosphere* and we can demonstrate that **continuous forced air ventilation** alone is sufficient to maintain that space safe for entry. Air monitoring results must support that continuous forced air ventilation will maintain safe atmospheric levels for the duration of the entry.

Alternate Entry Requirements:

□ Permit is complete and posted near the entry point
□ Continuous forced air ventilation to the breathing zone
□ NO Hazardous atmosphere detected *(complete **Air Testing** section)*
□ Continuous Air Monitoring in place
□ Physical hazards are eliminated, isolated or nonexistent
□ Fall protection or barrier around entrance

* An attendant and mechanical retrieval device are not required under this section when safe access and egress are available

As the **competent person**, I certify that the space described in this permit has been made safe for alternate entry, on the date listed above.

NAME: DATE:

RECLASSIFICATION TO NON-PERMIT 1926.1203(g)

□ ALL HAZARDS ELIMINATED OR ISOLATED □ PRE-ENTRY AIR MONITORING CAPTURED ABOVE

***FORCED AIR DOES NOT CONSTITUTE HAZARD ELIMINATION [See ATERNATE ENTRY PROCEDURE ABOVE]*

As the **competent person**, I certify that the space described in this permit has been made safe reclassification, on the date listed above.

NAME: DATE:

EMERGENCY

CALL: □ 911 or □ _____

PERMIT CANCELLATION

□ ENTRY OPERATION COMPLETE □ ALTERNATE ENTRY COMPLETE □ NON-PERMIT SPACE □ TERMINATED FOR SAFETY REASONS

RC ANDERSEN

SAFETY 360°

EVERYBODY | EVERYWHERE | EVERYDAY

DEMOLITION CHECKLIST AND PROCEDURES

DEMOLITION CHECKLIST AND PROCEDURES			
Job Number:		**FLOOR:**	
Job Name:		**Subcontractor:**	
Address:		**City:**	

Listed below are procedures or guidelines specifically for demolition and associated infrastructure

Before demolition work starts, the demolition contractor will perform the following task:

		ITEMS REQUIRED TO BE SUBMITTED:
☐	1	Site specific Health and Safety Program including a structural engineering survey by a registered PE
☐	2	Respiratory Protection Plan, if warranted ☐ **YES** ☐ **NO**
☐	3	Site specific engineering survey or demolition plan [1926.850 (a)]
☐	4	Site specific fall protection plan, if warranted **YES** **NO**
☐	5	Letter or proof of employee fall protection training
☐	6	Inspection/certification of crane [1926.753 and 1926.550]
☐	7	Company letterhead stating competent and qualified individuals on site
☐	8	Weekly Toolbox Talks
☐	9	Weekly Jobsite Inspections
		ELECTRIC MAKE SAFE FOR DEMOLITION
☐	1	Ensure LOTO is in place and no live work is performed. All work in compliance with NFPA 70E, State, Federal and local guidelines, Proper PPE required.
☐	2	Obtain JHA for electric make safe. Review JHA with workers and have them endorse it.
☐	3	Physically mark all de-energized circuits at location (switch & receptacles).
☐	4	Tic Trace and identify all energized feeds.
☐	5	Ensure via tic trace, the circuits to be de-energized, protected and will not interrupt business for adjacent tenants.
☐	6	Ensure GFCI power source is available.
☐	7	Lock electric closet door or panels.
		MECHANICAL MAKE SAFE FOR DEMOLITION
☐	1	Ensure that mechanical equipment, moving machinery, steam lines, water lines, gas lines, and other operating systems be de-energized by means of LOTO.
☐	2	Equipment and machinery must be in a zero Mechanical State (ZMS)**.**
		GENERAL DEMOLITION
☐	1	Verify and coordinate with building engineer that smoke detectors / fire alarms are covered and offline. Obtain a bagging permit.
☐	2	Obtain JHA from demolition contractor and review with workers. Obtain sign off from workers.
☐	3	Ensure adequate fire extinguishers are in place (1 for every 3000 sf/or state and local laws, codes, and regulations ex. NYC 1 for every 1500 sf).
☐	4	Ensure first aid kit for workers is on site.
☐	5	Protection of blinds and convector covers.
☐	6	Filter media installed on return duct and HVAC equipment including fan boxes.
☐	7	Verify Negative air machines (s) are in place and adequate (HEPA fans.)
☐	8	Perform a pre-punch list on all finishes to remain prior to demolition.
☐	9	Install protection of public areas, elevators, and loading dock.
	10	Ensure proper PPE use and post required safety sign.
	11	Conduct an on-site safety training orientation, identify competent person and review JHA.
☐	12	Identify location of critical room above, below and adjacent to area to avoid flooding.

TOPICS OF DISCUSSION
Environmental issues:
ASBESTOS
Written clearance sample results
Lead or Lead base paint
Mercury
PCB's
Light bulbs
Hydraulic oil
Freon or refrigerant needs to be recovered from air condition, refrigerators or freezers
Cooling Towers need to be treated
Radioactive EXIT signs
Fixed fire suppression systems ex. (Halon)
Others
UTILITY DISCONNECTS
Electrical
Water
Sewer
Natural Gas
Telephone / Fire Alarm / Security
Others
FIRE PROTECTION
Portable fire extinguisher
Hot Work Permit System
Standpipe/Sprinkler system status
FALL PROTECTION
Review plan
Review Zero Tolerance Policy
Demolition Procedures – Review Demolition Policy
Use of shafts of holes in the floor for debris drop
Entrance to the building to be maintained and protected
DUST CONTROL
Review plan
Respiratory protection requirements
WATER LEAKS INSPECTION
Prior to demolition, identify live sprinkler, tag with danger tape
Identify all water source is shut off in demo scope and drain the system down
Verify location of sprinkler shut off valves, review with all workers
Post live water plan, review with all workers
Ensure a water crash kit is available consisting of two water barrels, wet vacuum, funnel, mop and pail are in place
Inspect floor during and after demolition for water leaks upon refill of sprinkler system (If drain down is allowed by building/state and local laws, codes, and regulations)
Local laws, codes, and regulations might require Fire Guards to patrol the impaired area every hour. One FG for every 50,000 sq. ft. (This could apply to standpipe, sprinkler, fire alarm systems)

DEMOLITION SURVEY PRIOR TO DEMO

Demolition Survey Subcontractor Requirement			
Job Number:		**Date:**	
Job Name:		**Subcontractor:**	
Address:		**Competent Person:**	
Floor of Demo:		**Location of floor:**	

Document to be signed by Competent Person of the Demolition Subcontractor

To:

Subject: Engineering Survey by Competent Person employed by the Demolition Subcontractor:

Re:
(Enter Address, floors, areas, etc.)

I have been designated as the onsite Competent Person and I am responsible for planning the means and methods of the demolition work. As the designated Competent Person for the project located I conducted a thorough engineering survey of the structure and the referenced demolition areas to determine the condition of the structure, framing, floors, slabs, walls, hung ceilings, false ceilings, etc. to guard against the unplanned collapse of any portion of the structure.

During the demolition, we will comply with OSHA 29 CFR 1926 and, more specifically, the rules and regulations of Subpart “T” Demolition.

Name of Demolition Competent Person:
Signature of Competent Person:
Subcontractor:

Date:

DECK TURNOVER

FALL PROTECTION CUSTODY CHECKLIST

Location			
Job Number:		**Date:**	
Job Name:		**Subcontractor:**	
Address:		**Competent Person:**	

Item		Description	Results
1		All holes as defined by OSHA are covered with an OSHA compliant hole cover	Yes No N/A
2		Decking is free of trash and debris	Yes No N/A
3		All decking is fastened and ready for inspection	Yes No N/A
4		All pour stop is complete	Yes No N/A
5		Stud welding activities are complete on current floor and floor above	Yes No N/A
6		Access to floor installed by trade other than Iron Worker must have either:	Yes No N/A
	6a	Extension ladders, 2 must be installed prior to 20 workers on the floor	Yes No N/A
	6b	Double gang ladder	Yes No N/A
	6c	Stairs with guardrail installed	Yes No N/A
	6d	Scaffold stair tower	Yes No N/A
7		Wire Rope Guard Rail	Yes No N/A
	7a	Minimum ¼" cable with 2 clamps at each end with appropriate spacing, torque, and tail	Yes No N/A
	7b	Top rail must be installed at 42" (+/- 3") above finished floor	Yes No N/A
	7c	Maintain deflection of less than 2" with posts located at interval to maintain cable deflection requirements.	Yes No N/A
	7d	Install turn buckles every 120' or 4 bays and not to exceed 1 change in direction	Yes No N/A
	7e	Install 2 sets of turn buckles for every shaft opening larger than 30sft opening	Yes No N/A
	7f	Install post kicker at every change in direction. Kicker to align with wire rope direction	Yes No N/A
	7g	Flag top rail, at minimum, every 6'.	Yes No N/A
8		Shaft debris netting install within _____floors	Yes No N/A
9		Loading Zone(s) is coordinated with turnbuckle placement	Yes No N/A
10		Other	

Steel Contractor Competent Person Signature	

GROUND DISTURBANCE EXCAVATION PRE-EXCAVATION CHECKLIST

PRE EXCAVATION CHECKLIST			
Project:		**Location:**	
Competent Person:		**Date:**	

CHECK BOX THAT APPLIES		
1. Review existing utility drawings		
2. Call 811 “Dig Safe” or equivalent		
3. Review dig safe/utility drawing to ensure all utilities have responded		
4. Utilize owner facility personnel to mark utilities on privately owned land		
5. Use Ground Penetrating Radar where necessary		
6. Mark/flag all underground services		
7. Post 811 ticket number or equivalent		
8. Hand dig within 18” -24” of services		
9. Other		
10. Other		
COMMENTS		

EXCAVATION DAILY INSPECTION CHECKLIST

DAILY EXCAVATION INSPECTION SHEET			
Project:		**Location:**	
Competent Person:		**Week:**	

SOIL TYPE / PROTECTIVE SYSTEMS (Check Box that applies)
IDENTIFY TEST METHOD:

☐ Soil Type A ☐ Soil Type B ☐ Soil Type C

☐ SLOPING ☐ BENCHING ☐ SHORING ☐ SHIELDING

Y=YES / N=NO / NA=NOT APPLICABLE	M	T	W	TH	F	S	SU
1. Is the cut more than 4' in depth?							
2. Is the cut more than 20' in depth?							
3. If so, approved by a Registered Professional Engineer?							
4. Excavation face free of cracks?							
5. Means of Egress every 25 Feet?							
6. Adjacent structures stabilized?							
7. Is there exposure to vehicle traffic / mobile equipment?							
8. Does mobile equipment have warning system?							
9. Excavation properly barricaded?							
10. Is there water in the cut?							
11. Is equipment operating in the cut?							
12. Is there any potential for hazardous atmosphere?**							
13. Has atmospheric monitoring been done?							
14. Is the spoil 2' or more from the edges of excavation?							
15. Does the shield extend at least 18" above surrounding areas?							
Y=YES / N=NO / NA=NOT APPLICABLE	**M**	**T**	**W**	**TH**	**F**	**S**	**SU**
16. Is the depth of the cut more than 2' below the bottom of the shield?							
17. Are walkways over excavation at least 20" wide and 2' past both edges?							
18. Are they equipped with guardrails?							
19. Is emergency equipment required?							

** ***If yes, then operate under confined space procedures.***

Corrective Action Items

Please indicate any corrective action *items* from the above list. Use additional pages if necessary. **LINE #**	**CORRECTED BY**	**DATE**

EMPLOYEE NAME: (Print)	Signature	DATE:

FALL PROTECTION CUSTODY

CUSTODY OF FALL PROTECTION

Job Number:		**Date:**	
Job Name:		**Subcontractor:**	
Address:			

In accordance with 29 CFR 1926 OSHA Construction Standards, Subpart R, Steel Erection, 1926.760 (e) (1) (2) Fall protection provided by the steel erector shall remain in place where steel erection activity has been completed, to be used by other trades, only if the controlling contractor or its authorized representative inspects and accepts the area.

RC ANDERSEN or _____authorized representative has inspected and accepts control and responsibility of the Fall Protection installed/provided

By: (the steel erector) in the area of _(the floor/area) and directs the above steel erector to leave the fall protection in place.

RC ANDERSEN and the Steel Erector have performed an inspection of the above area/floor and believe the area at the time of the inspection to comply with the OSHA standards under Subpart M and Subpart R general specifications.

OTHER TRADES MAY NOW WORK ON THE FLOOR/AREA WITH THE FOLLOWING GUIDELINES:

Do not use the guardrail as an anchorage point for fall protection

Do not tie cords, hoses, welding lead, etc. to the guardrail

No subcontractor may remove, cut or manipulate the guardrail system at any time without the permission of RC ANDERSEN.

Use fall protection if working close to the perimeter and working on a ladder or other platform that puts the worker above the guardrail.

Work outside or through the guardrail system requires fall protection.

Lines of demarcation have been established to warn of leading edges, not open to other trades during steel erection activities.
Do Not Enter.

Regardless of the construction manager's obligations set forth in Subpart R, OSHA steel erection standards, the responsibility for continued compliance and proper maintenance of the guardrail system is in the scope of work set forth in (steel subcontractor) contract. Therefore, each entity has continuing contractual obligations. RC ANDERSEN looks forward to working with you to ensure these requirements are met.

Sincerely,

RC ANDERSEN/Authorized Representative

GUARDRAIL DISRUPTION PERMIT

GUARDRAIL DISRUPTION PERMIT			
Job Number:		**FLOOR:**	
Job Name:		**Superintendent:**	
Address:		**City:**	
Requesting date /time of disruption:		**Subcontractor Requesting Permit:**	
Anticipated date/time of completion of work		**Foreman requesting Permit:**	
Anticipated duration of disruption:		***PERMIT CLOSURE*** *Date/Time Verification* ____ *Name of RC ANDERSEN Verified by (Sign below)*	
Approved by: (Print)			
Date Approved:			

Anyone that alters or removes any part of any guardrail system **MUST FIRST OBTAIN AUTHORIZATION FROM THE RC ANDERSEN SUPERINTENDENT.** This is a ZERO TOLERANCE POLICY and will result in immediate removal from the job.

Purpose for removing, altering or changing the guardrail system:				
Location of the guardrail system to be adjusted:				
Elevation:	☐ North	☐ South	☐ East	☐ West
Column line coordinates:				
Name of subcontractor competent person who is trained & competent in the provisions of support in CFR 26 1926:				
Identify appropriate anchorage point:				
Check boxes that apply and complete separate checklist forms:				
Beam clamp ☐	**beam strap** ☐	**lanyard** ☐	**harness** ☐	**self-retractable** ☐ **lanyard** ☐
Anyone removing, repairing, or replacing the guardrail system must be fall protected the entire time by wearing a full body harness with proper anchorage before entering the exposed area. Before the guardrail system is removed, fall protection for all other workers in the area must be provided by a hard barricade.				
What type of alternative temporary fall protection is provided by the subcontractor?				

Once the disruption is completed, the guardrail system must be re-installed by an approved sub-contractor and inspected by subcontractor competent person:	
Name of subcontractor competent person who inspected the re-installed guardrail:	
Print name:	**Signature:**
Name of fall protection trained personnel to be working in the disrupted area:	
Review Date:	**By:**

HOIST PRE-ERECTION CHECKLIST

CONSTRUCTION HOIST PRE-ERECTION SAFETY MEETING CHECKLIST

Location			
Job Number:		**City:**	
Job Name:		**Address:**	

Subcontractors			
Name:		**Phone:**	
Email:		**Fax:**	
Name:		**Phone:**	
Email:		**Fax:**	
Name:		**Phone:**	
Email:		**Fax:**	
Name:		**Phone:**	
Email:		**Fax:**	

Individuals listed below should attend this meeting and be responsible for items discussed

☐ Truck Company Rep	☐ Hoist Erector Rep.	☐ Crane Operator	☐ RP Engineer
☐ Project Superintendent	☐ Site Engineer	☐ Labor Foreman	☐ Project Manager
☐ Safety Manager	☐ Traffic Control Rep	☐ Electrical Rep	☐ Safety Department
☐ Hoist Lessor	☐ Hoist foundation sub	☐ Crane Rep	☐ Other

All Parties

- ☐ Obtain emergency contacts for all parties, who do we contact in case of an accident
- ☐ Ensure that all employees attend the site orientation and have the required training (i.e., fall protection, flagger Certification, etc.)
- ☐ Discourage the use of cell phones when critical tasks are being performed.
- ☐ Consider if after hour security is needed for laydown area to protect against theft.
- ☐ Review site plan to be sure no underground services interfere with the area selected to position the erection crew.
- ☐ Hold a brief Safety Meeting at the area the hoist is to be erected and share all information with the erection crew. Review your emergency plan during this meeting.

Hoist Erector

- ☐ Review erection sequence.
- ☐ Inform Crane operator of all load weights and check for adequate load chart on erection crane.
- ☐ Provide critical lift plan (>75% capacity) and reviewed by safety manager.
- ☐ If mobile Cranes are used check Mobile Crane outrigger footing (plate as necessary).
- ☐ Erection zone barricaded with “danger tape and sign” to prevent unauthorized personnel entry.
- ☐ Fall Protection Plan is in place. Identify and approve appropriate tie off points.
- ☐ Erectors should make sure that all connection points are tight, and that entire machine is in good working order and properly working according to manufacturer’s specification.
- ☐ All workers must wear hard-hats, reflective vests, safety eyewear and boots adequate for construction site.
- ☐ Fire prevention measures should be in place in case of hot work such as welding, cutting, etc.
- ☐ Use approved method to get onto or off trucks while rigging loads. Use ladder, steps, etc. (Do Not Jump)

- ☐ Hoist Post Erection Certification.

Truck Erector

- ☐ Drivers must wear hard-hats, reflective vests, and boots adequate for construction sited.
- ☐ Move trucks into position for unloading, remove tie downs and stay away from truck until it's unloaded.
- ☐ Any potential traffic restrictions (time of day, day of week, local activities such as holidays, embargo, etc.)
- ☐ Review the trucking route (sharp corners, public interruptions, staging, etc.)
- ☐ All special permits in place

Crane Representative

- ☐ Ensure the ground is safe for crane setup: underground (e.g., water lines) and overhead conditions (e.g., power lines). Plate outriggers as necessary (mark areas to place outriggers)
- ☐ Engineer sign off or City official sign off required
- ☐ Check weight of each lift against lad charts.
- ☐ Notify competent person of area needed to be clear to assemble erection crane. Discussion should cover crane certifications and inspection records: operator, riggers, signal personnel certifications; overhead or underground utilities (e.g., overhead power lines); ground conditions (e.g., soft soil); coordination with other trades working in the area; outrigger placement; crane positioning with respect to the erection area; outrigger placement; pinch points with counterweights; access to trucks to unload crane components; and area congestion
- ☐ Inform the crane operator and oiler that they are responsible for ensuring that all involved in assembly/disassembly of the erection crane use all PPE and adhere to all safety precautions.
- ☐ Discuss the type of rigging that will be used, rigging owner, rigger and signaler qualification, and related topics.

All Parties

- ☐ Pedestrian Safety
- ☐ Ensure that the hoist foundation is poured and finished per design, and has attained its required strength before hoist installation.
- ☐ Locate a travel path for trucks to give them the best route to/from the work area.
- ☐ Ensure that electrical disconnect and power are available before work commences.
- ☐ Verify that the connection points between the hoist and the building are installed per the structural engineer's approved design.
- ☐ When erection team is finished, make sure all safeguards are working, including all floor intercoms and floor door limit switches. Subcontractor to verify that all safety devices are installed and checked for proper operation.
- ☐ Conduct a final pre operation walkthrough with all parties involved to ensure safe operation of the hoist. Look for items such as hoistway protection, gaps between landing area and floors, and related issues.
- ☐ Ensure that bolt re torque is scheduled per manufacturer specifications.
- ☐ Provide a make-/model-specific self-inspection checklist.
- ☐ Verify make/model operator training, including that for back-up operators (during breaks).

Notes

HOIST PROXIMITY PERMIT

Subcontractor:		
Subcontractor Competent Person:		
Subcontractor Spotter when lift is being moved:		
Area of work:		
Date of Permit:		
Make, Model and size of lift:		
RC ANDERSEN Representative:		
Hoist Operator Name:		
Hoist Operator Notification Date:		
Date of Request:	**Start Time:**	**End Time:**

Description of work:
Equipment to be used in proximity of hoist:
Workers trained in use & fall protection:
Will this work require the worker or equipment to be within 10 feet of any hoist?
Will this work require the worker of equipment to be within the required safe distance of any overhead hazards?
If yes to either question, RC ANDERSEN needs to make special arrangements to coordinate this work.

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HOT WORK PERMIT

Seek an alternative/safer method if possible!

Before initiating hot work, ensure precautions are in place as required by NFPA 51B and ANSI Z49.1.
Make sure an appropriate fire extinguisher is readily available.

This Hot Work Permit is required for any operation involving open flame or producing heat and/or sparks. This work includes, but is not limited to, welding, brazing, cutting, grinding, soldering, thawing pipe, torch-applied roofing, or chemical welding.

Date	Hot work by (contractor):
Location/Building and floor _____	Name (print) and signature of person doing hot work
Work to be done _____	I verify that the above location has been examined, the precautions marked on the checklist below have been taken, and permission is granted for this work.
Time started _____ Time/Date completed _____	Name (print) and signature of RC Andersen permit-authorizing individual
PERMIT EXPIRES: Date: _____ Time: _____	

D Available sprinklers, hose streams, and extinguishers are in service and operable.

D Hot work equipment is in good working conditions in accordance with manufacturer's specifications.

D Special permission obtained to conduct hot work on metal vessels or piping lined with rubber or plastic.

Requirements within 35 ft of hot work

D Flammable liquid, dust, lint, and oily deposits removed.
D Explosive atmosphere in area eliminated.
D Floors swept clean and trash removed.
D Combustible floors wet down or covered with damp sand or fire-resistive/noncombustible materials or equivalent.
D Personnel protected from electrical shock when floors are wet.
D Other combustible storage material removed or covered with listed or approved materials (welding pads, blankets, or curtains; fire-resistive tarpaulins), metal shields, or noncombustible materials.
D All wall and floor openings covered.
D Ducts and conveyors that might carry sparks to distant combustible material covered, protected, or shut down.

Requirements for hot work on walls, ceilings, or roofs

D Construction is noncombustible and without combustible coverings or insulation.
D Combustible material on other side of walls, ceilings, or roof is moved away.

Requirements for hot work on enclosed equipment

D Enclosed equipment is cleaned of all combustibles.
D Containers are purged of flammable liquid/vapor.
D Pressurized vessels, piping, and equipment removed from service, isolated, and vented.

Requirements for hot work fire watch and fire monitoring

D Fire watch is provided during and for a minimum of **1 hour** after hot work, including any break activity.
D Fire watch is provided with suitable extinguishers and, where practical, a charged small hose.
D Fire watch is trained in use of equipment and in sounding alarm.
D Fire watch can be required in adjoining areas, above and below.
D Yes D No Per the PAI/fire watch, monitoring of hot work area has been extended beyond 1 hour.

JOB HAZARD ANALYSIS FORM

JOB HAZARD ANALYSIS			
Project Name:			**Project Number:**
Project Address:			**Work Task Location/ Floor:**
Work or Task Description:			
Prepared By:			
Subcontractor:			**Subcontractor's Supervisor:**
Date for Work in this JHA:			**Date Prepared:**
PPE Required:			
Task #	**JOB TASKS**	**POTENTIAL HAZARDS**	**CONTROLS/ PROCEDURES**
(Use additional sheets if needed)			
EMPLOYEE SIGNATURES *(Use back of page)*			

MEWP PERMIT

Location			
Job Number:		**Date:**	
Job Name:		**Subcontractor:**	
Address:		**Competent Person:**	

Information	
Type of lift: ☐ Scissor ☐ Boom	Permit #
Location of Lift	
Floor:	Location:
Rental Agency:	Rental contact numbers:
Manufacturer:	Model:
Weight of the unit:	Serial #:
Last Inspection:	Next Inspection Due:
Checklist	
☐ Pre-Planning	☐ Proof of Training
☐ Unit Manual with Machine	☐ Test Controls before each use
☐ Warning labels posted on machine	☐ All Handrails/Self-Closing Gates in Place
☐ Full body Harness for Boom Lifts & Scissor Lifts	☐ Proximity of Electrical Hazards
☐ Path of Travel Clear of Debris & Floor Holes	☐ Full body harness required with appropriate tie off point:
☐ Other:	

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NFPA 70E ELECTRICAL SAFETY REVIEW & CHECKLIST

Location			
Job Number:		**City:**	
Job Name:		**Address:**	

Sub-Contractor Performing Work Around Electrical Hazards			
Name:		**Phone:**	
Email:		**Fax:**	
Name:		**Phone:**	
Email:		**Fax:**	

Part 1: To be completed by the requester

Description of circuit/equipment /job location:
Description of work to be done, include voltage
Justification of why the circuit/equipment cannot be de energized until the next scheduled outage:

Energy Marshall:			

☐ Verification that the requirements of most current NFPA 70 E requirements are met and reviewed by contractor performing the work

Part 2: To be completed by the qualified personnel performing the work

Description of the Safe Work Practices to be employed: (Contractors JHA and/or Method of Procedure to provide the information for review and include items 2-7 listed below)
Determination of Shock Protection Boundaries: Limited and Restricted
Results of the Arc Flash Hazard Analysis: Incident Energy Level:
Determination of the Arc Flash Protection Boundary
Necessary PPE to safely perform the assigned task: Shock and Arc Flash protection:
Means employed to restrict the access of unqualified persons from the work area: What type and how?:
Describe the emergency procedure for the scope of work: Incident and equipment contingency plans.
Completion of a Job Briefing including discussion of any job-related hazards: ☐Yes ☒No
Has the client / property manager been notified of the scope of work? ☐Yes ☐No
Proof of Training of NFPA 70E Training within the last 3 years? (Submit w/forms) ☒Yes No ☒Proof
of First Aid/CPR Training within the last 2 years? (Submit w/forms) ☐Yes ☒No

Signatures Required:

person responsible for the work being performed		**Date:**	

Disclaimer RC ANDERSEN is not responsible for any damages to the equipment from the event of an electrical incident being perform under this authorized permit.

☐ Check box if a detailed job hazard analysis (JHA/MOP) been completed for the above detailed work?
☐ **Check box if you agree the above-described work can be performed within the most current NFPA 70E Standard. If no, return to requester.**

Notes:

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Part 3: Energized Work/LOTO Checklist (Items checked should be included in JHA and/or Method of Procedure)

Reviewed by all parties responsible for the completion of the work described in the ESP

Date:	
Address:	
Start Time:	
Completion Time:	
Panel Location:	
Other:	

Personal Protective Equipment (PPE)

☐ Electrically rated tools and equipment (e.g., helmets)	☐ Eye Protection100%
☐ Face Shield / Hood	☐ Arc Rated (AR) Jacket
☐ Arc Rated (AR) Bibs	☐ Electrically Insulated Gloves
☐ Insulated Mats	☐ Insulated Blankets
☐ Insulated Sleeves	☐ Hearing Protection
☐ Insulated Tools need to meet testing req based on ASTM Std (NFPA ?0E, 250.2 Std)	☐ Remove all conductive wearables (wedding rings, jewelry, etc.)
☐ Additional Required PPE	☐ Other:
☐ Arc Rated (AR) Clothing	

Identify:

☐ The hazards	☐ Number of people needed to do the job
☐ The voltage levels involved	☐ The shock protection boundaries
☐ Any "foreign" (secondary source) voltage source	☐ Potential for arc flash (flash- hazard analysis)
☐ Any unusual work conditions	☐ Flash protection boundary

Ask & Know:

☐ Understand scope of work?	☐ Can back feeds on the circuits be worked on?
☐ Can the equipment be de-energized?	☐ Who else needs to know? Communicate!

Review the Following:

☐ Job plans	☐ Safety procedures
☐ Single-line diagrams and vendor prints	☐ Workers involved are familiar with the scope
☐ Lock / Tag / Test Voltage / Try	☐ Use the right tools and equipment, Including PPE
☐ Install and remove grounds	☐ Install barriers and barricades

Prepare for an Emergency:

☐ How is the equipment shut down in an emergency?	☐ Where are the closest fire extinguishers?
☐ Are radio communication available?	☐ Where is the nearest phone?

All Parties:

☐ Has the electrical system been Metered? ☐Yes ☐No
☐ Have reports been sent to the engineer for approval? ☐Yes ☐No
☐ Who is the emergency back-up person?
☐ Who is CPR trained and AED available? Nearest
☐ Medical Facility with contact information:

Note: All persons engaged in the performance of the work described herein must comply with OSHA (occupational safety and health administration) electrical safety related work practices (29 CFR part 1910.331 through .335), all other OSHA workplace safety regulations, state and local laws, codes, and regulations applicable to the work (including but not limited to those published by the National Safety Council and National Fire Protection Association), and all safety requirements of the building owner and its agents and/or representatives.

Name of electrically qualified person:		**Date:**	
Name of electrically qualified person:		**Date:**	

RESPIRATOR APPENDIX D RECORD

OSHA REGULATIONS (29 CFR 1926.103) REQUIRES ANYONE WHO USES A RESPIRATOR OR A DUST MASK WHEN IT IS NOT REQUIRED UNDER THE STANDARD TO READ THE FOLLOWING:

Appendix D, Section 1910.134 (Non-Mandatory) Information for Using Respirators When Not Required Under the Standard.

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

Employees should do the following:

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

2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging identifying respirator designation and protection factor.

3. Wear the correct respirator for atmospheres containing contaminants. For example, a respirator designed to filter dust particles will not protect you against gases, vapors or very small solid particles of fumes or smoke.

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

I have read, acknowledge and understand the above and will comply with the requirements.

Name:	
Signature:	

ON-SITE SAFETY REPRESENTATIVE / COMPETENT PERSON

All direct subcontractors and sub-tier contractors are to complete this form, submit to RC ANDERSEN and keep on file at the project.

The employee named below has been designated as the on-site OSHA competent person for the below named contractor. The competent person has the education and experience to enable him / her to recognize hazards and the authority to take necessary actions to correct those conditions related to their contract scope and limited to work under their care, custody and control in the following applicable areas.

Subparts	Title	Applicable Y/N	Subparts	Title	Applicable Y/N
1926.20	Job Site Inspections		1926.453	Aerial Lifts/Operations	
1926.50	First Aid		1926.603	Pile Driving/Signalman	
1926.53	Ionizing Radiation		1926.650	Excavations/Inspection	
1926.54	Lasers		1926.651	Excavations/Design	
1926.55	Industrial Hygiene		1926.700	Concrete Inspections	
1926.1201 sup AA	Confined Spaces		1926.754	Iron Work/Supervision	
1910.65	HAZWOPER		1926.800	Tunnels/Inspection	
1926.101	Hearing Protection		1926.803	Compressed Air/Senior	
1926.155	Fire Protection		1926.501	Fall Protection	
1926.251	Sling/Wire Rope Inspections		1926.850	Demolition	
1926.302	Powder-Actuated Tools		1926.900	Blasting Program	
1926.354	Welding - IH		1926.950	Power Transmission	
1926.400	Equipment Grounding		1926.955	Live Line Bare Hand	
1926.451	Scaffolding		1910.134	Respiratory Protection	
1926.500	Roofing		1926.1101	Asbestos	
1926.1400	Certified Operator		1926.62	Lead	
1926.1400	Qualified Rigger		1926.25	Housekeeping	
1926.1400	Certified Signal Person		1926.51	Sanitation	
1926.1400	Cranes Inspections		1926.417	Lockout/Tagout	
1926.552	Hoists/Inspections/Tests		1926.400	Electrical	
1926.1153	Respirable Crystalline Silica				

Job Number:	
Job Name:	
Address:	
Subcontractor:	
Sub PM Name:	
Sub PM Signature:	
Competent Person:	
Signature:	
Comp Person Cell Phone	
Date:	

SAFETY ORIENTATION RECORD

The undersigned is provided the information on the following requirements:

1. **RC ANDERSEN Safety Orientation Guide**
2. **Review of site regulations**
3. **Emergency procedures**
4. **Emergency telephone numbers**
5. **Personal protective equipment**
6. **Fall protection and fall hazards**
7. **Smoking & tobacco prohibited on site**
8. **Proper work attire**
9. **Electrical safety**
10. **Proper conduct**
11. **Housekeeping**
12. **Accident reporting procedures**
13. **Reporting any hazard**
14. **Electronic cigarettes & similar devices prohibited on jobsite**

TRAINING	
Fall Protection	
MEWP	
Scaffolds	
OSHA 10/30	
CPR/First Aid	
SST Card	

Issue the undersigned employee, from their employer, the following safety equipment with instructions as to their proper use (when and as required):

1. **Helmet**
2. **Eye protection**
3. **Work Boots**
4. **Cut-level 4 Gloves**
5. **High visibility clothing**
6. **Hearing Protection/Repirators**

I have received the orientation as indicated above. I am aware of, understand, and agree to comply with the safety rules and other policies and procedures for the RC ANDERSEN project named below. I understand that all instructions that I have been given. "Site specific safety orientation" is provided in cooperation with the client. This orientation is specifically intended to provide workers with information regarding the mandatory safety requirements established for this job site. It is not intended to provide task or craft specific training nor is it intended to provide training in the use, care, selection or inspection of tools, material, personnel protective safety equipment or any other safety equipment. Training in those items is the sole responsibility of your employer or the employer's designated representative. It is also expressly not our intent to provide safety equipment, tools or materials. If, after this orientation, you do not believe that you or your coworkers are appropriately trained or equipped to work in accordance with the safety mandates established for this job or that your tools and equipment are inappropriate, unsafe or substandard, you are urged to contact your employer immediately, before beginning work in the field.

Silica Awareness:

1. **Subcontractor shall provide silica training to ensure employee can demonstrate knowledge and understanding of health hazards associated with exposure to respirable crystalline silica, specific tasks hazards associated with exposure to RCS, and measures that can be implemented including engineering controls, work practices and respirators to be used.**

Asbestos Awareness:

1. An asbestos survey is available from the owner for the floors where we are working.
2. **ONLY those floors and/or areas that have been cleared can be accessed by RC ANDERSEN and sub-contractors.**
3. If the subcontractors work requires going into those areas, STOP and do not proceed. Alert the RC ANDERSEN project team. RC ANDERSEN will take the necessary action as required.
4. **UNDER NO CIRCUMSTANCES SHOULD THE SUBCONTRACTOR CONTACT, HANDLE, CLEAN-UP OR REMOVE ANY SUSPECT ACM.**
5. If, the sub-contractor encounters any material that is visibly suspect material, STOP and do not proceed. Alert the RC ANDERSEN project team.

Date:			**Job Number:**		
Job Name:					
Subcontractor:					
Name of Employee:			**ID Sticker #**		
Date of Birth			**Last 4 Digits of SS#:**		
Employee Address:					
Home Phone Number:			**Emergency Contact:**		
Signature:			**Person Conducting Orientation**		
Circle One:	APPRENTICE	FOREMAN	JOURNEYMAN	PROJECT MAN	

7 STEP POST INCIDENT REVIEW MEETING

Attendees	Name	Affiliation	Phone Number
Project Manager			
Superintendent			
Asst./Area Supt.			
Project Safety Supt.			
STI Safety Director (if. App.)			
STI AE/VP/AM (if. App.)			
Prime Tier Principal (if. App.)			
Prime Tier Safety Rep. (if App.)			
Subcontractor Principal			
Subcontractor Foreman			
Subcontractor Safety Rep.			
Injured Person			
Other:			
Other:			
Other:			

Meeting Agenda

1.	Re-emphasize the commitment to a zero-accident, "Safety 360º" philosophy.
2.	Restate the purpose of the meeting (identify causal and contributing factors, prevent recurrence and communicate corrective actions to all contractors).
3.	Chronology of Events:
4.	Identify Contributing Factors: Identify Root Cause:
5.	ement Plan (Prevention of Recurrence) *, Principal to walk the project weekly for next 30 days)* *, Safety Stand down to review incident and corrective actions)* *., Emphasize worker empowerment and responsibility for workers)* *., Weekly training to review safety (attendance records))* Person(s) and completion deadlines assigned? Follow-up meeting required? Y / N
6.	Communication to Prevent Re-occurrence
7.	Disciplinary Actions? (*off-line discussion*)

Notes:_____

_____

RC ANDERSEN Project Manager:
Superintendent:
Subcontractor Rep:
RC ANDERSEN AE/VP/AM:

STEEL ERECTION NOTICE TO COMMENCE

NOTICE TO COMMENCE STEEL ERECTION			
Project Number:		Date:	
Project Name:		Competent Person:	
Steel Erector Subcontractor:		Address:	
Contact Name:			

You are hereby authorized to commence steel erection activities with the following notifications:

Concrete in footings, piers, and walls, and mortar in masonry piers and walls has attained, based on the appropriate ASTM standard test for field cured samples either 75% of the intended minimum compressive strength, or sufficient strength to support the loads imposed during steel erection.	Name of testing agency: Attached testing reports:
Repairs or modifications were made to anchor rods/bolts: Yes ☐ No ☐ Locations of repairs/modifications:	Approval by: (Structural Engineer of Record): Approval in writing? Yes ☐ No ☐ (attach) Date approved: As built drawings available? ☐ Yes ☐ No

You are notified of your responsibility to: (Initial each)

	Initials:
Indicate to what material laydown areas are needed and intended routes of transferring materials. Only those designated laydown areas will be utilized, and responsibility to maintain laydown areas will be limited to those that are designated.	
Preplan all overhead hoisting operations to prevent traveling loads over other contractor personnel, and to coordinate hoisting activities with other contractors to minimize impacts on other operations.	
Provide a written site-specific erection plan if any part of your operations will deviate from the published OSHA Standard.	
Conduct documented daily inspections of all cranes, forklifts, and other hoisting equipment utilized in steel erection activities.	
Designate a qualified trained rigger(s) to inspect all rigging equipment (Submit record of training) Name of qualified rigger:	
Maintain on the project written proof of training for all employees engaged in connecting, bolt- up, multiple lift rigging procedures, exposure to falls, equipment operation, and as required by any other specific standard.	
Assure that all columns are properly anchored.	
Maintain and require the use of fall protection equipment for all employees exposed to fall elevations of **4 feet** or greater as directed in the project Incident Prevention Program.	
Maintain required fire protection/prevention equipment appropriate to the type of work operation and hazards involved.	
Meet all other requirements of the Project Safety Program, GE Safety Requirements, Published OSHA Standards, and the requirements of local regulations.	

Project Manager/Superintendent

Steel Erector Subcontractor

SUBCONTRACTOR SAFETY CHECKLIST

DATE:	PROJECT LOCATION:	NAME (S)OF PERSON CONDUCTING INSPECTION:

"Y" Indicates compliance. **"N" Indicates non-compliance and requires immediate correction.**
"NA" item is not applicable at the project. **"CA" Corrective action – Initials of responsible contractor to complete.**

Planning and Documentation	**Yes / No / NA**	**Comments**	**CA**
Toolbox Talk, PTP (Daily Huddles), JHA's in place			
Project orientation provided each shift			
First-aid supplies available & qualified first aider on site			
Safety 360 Posters in place			
Safety bulletins, rules, regulations, emergency #, etc. posted			
Utility shutoff identified			
General Safety	**Yes / No / NA**	**Comments**	**CA**
Slip, Trip & Fall hazards identified, marked or abated			
Overhead hazards identified			
Adequate ventilation in work areas			
Adequate lighting provided and maintained in work areas			
Sharp objects properly disposed of or protected			
Proper storage of tools and materials			
Adequate trash containers provided & areas clear of debris			
Personal Protective Equipment	**Yes / No / NA**	**Comments**	**CA**
Helmets worn by workers at all times			
Protective eyewear used (100%)			
Appropriate respirators/masks used when required			
Proper work boots worn by all employees			
Appropriate hearing protection used when required			
Proper protective clothing used when required			
Kevlar sleeves used for demo and above ceiling work			
Appropriate cut-level gloves in use			
Fire Protection and Prevention	**Yes / No / NA**	**Comments**	**CA**
Fire suppression equipment available and inspected monthly			
Flammable and combustible materials stored properly			
Flammable liquid stored in approved safety cans			
Safety cans have self-closing lids and flame arresters			
Flammable containers properly labeled			
Tools: Hand and Power	**Yes / No / NA**	**Comments**	**CA**
Hand tools in good condition and free of visible defects			
Guards in place			
Electric tools double insulated or properly grounded			
Power cords on electric tools in safe working condition			
Powder actuated tools: operators certified			
All belts, chains, sprockets and pulleys properly guarded			
Welding and Cutting (Hot Work)	**Yes / No / NA**	**Comments**	**CA**
Welders and fireguards are properly certified			
Fireguard in place with 20lb fire extinguisher and hot work permit			
Combustible material cleared from welding area (35 ft radius)			
O2 & Acetylene bottles separated & secured by 20 ft./ rated wall			
Utilize welding/cutting shields and proper signage			

Scaffold is equipped with guardrails when required (over 6 ft.)			
Scaffold is constructed with base plates and mudsills or wheels			
Proper access is provided, stairs or ladders			
Scaffold wheels are locked when in use			
Working platform is fully planked with OSHA grade planks			
Scaffold inspected & tagged at start of each shift			
GFCI or assured grounding in use			
Extension cords free of visible defects			
Temporary lighting properly guarded			
All live circuits and panels clearly posted			
Lockout / Tag out procedure being followed			
Workers exposed to a fall 6ft or more have proper fall protection			
Fall protection used at unprotected edges greater than 6’			
Lanyards secured to proper anchorage			
Lifelines secured to proper independent anchorage			
Retractable lanyards in MEWP			
Guard rails and handrails in place			

Ladders are free of visible defects			
Ladders Last - other options determined infeasible?			
Ladders proper height for work			
Workers do not overextend reach of ladders			
A-frame ladders used in open position			
Workers do not use top two steps of A-frame ladders			
Workers do not climb back of A-frame ladders			
Straight ladders secured and extend 36 inches above landing			
Stored ladders must be secured or laid down			
Fencing provided where necessary			
Warning signs posted where necessary			
Flag persons used to direct pedestrian and vehicle traffic if needed			
Evacuation plans posted			
Paths of emergency egress kept clear			
Rescue equipment and team available			
Sheeting, shoring and bracing in place (excavation greater than 5’)			
Sloping and bracing where necessary (excavation greater than 5’)			
Ingress/egress provided (greater than 4’) at least every 25’			
Guardrails in place (excavation greater than 5’)			
Spoils two feet from excavation			

NOTE: Based on the results of this inspection, all causing, exposing and contractors responsible for correcting deficiencies and non-compliance will be contacted in writing to perform necessary corrective actions.

Comments:	
Signature:	

UTILITY SHUT DOWN & RE-ENERGIZING REQUEST FORM

Revise this form, as jobsite conditions require.

UTILITY SHUT DOWN LOCATION			
Job Number:		**Date:**	
Job Name:		**Subcontractor:**	
Address:		**Sent To:**	

ALL SHUTDOWNS SHOULD HAVE AT LEAST A 10-DAY NOTICE EXCEPT FOR EMERGENCIES. APPROVAL OR DISAPPROVAL SHOULD BE RETURNED SIGNED AND EITHER APPROVED OR DISAPPROVED MARKED ON IT WITHIN (48) HOURS.	
☐ Emergency	☐ Routine
☐ Warning Line	☐ Safety Monitor
Distribution:	

FLOORS, AREAS OR BUILDINGS EFFECTED BY THIS SHUT DOWN (INDICATE ROOM NUMBER PER PLANS:	
Date of Shutdown:	Start Time:
Date of Completion:	Back on at:
Reason for Shutdown:	

OPERATIONS & MAINTENANCE		
Facilities Notified:	☐ Verbal	☐ Written
Comments:		
Approved by:	Date:	

RE-ENERGIZING LOCATION			
Job Number:		**Date:**	
Job Name:		**Subcontractor:**	
Address:		**Sent To:**	

ALL RE-ENERGIZING SHOULD HAVE AT LEAST A 10-DAY NOTICE EXCEPT FOR EMERGENCIES. APPROVAL OR DISAPPROVAL SHOULD BE RETURNED SIGNED AND EITHER APPROVED OR DISAPPROVED MARKEDON IT WITHIN (48) HOURS.	
Emergency	Routine
Warning Line	Safety Monitor
Distribution:	

E-ENERGIZING (INDICATE ROOM NUMBER PER PLANS:	
Date of Re-energizing:	Start Time:
Date of Completion:	Back on at:
List steps to be performed identifying responsibility to individuals: (create separate document)	List Accountability of all parties and verification process

OPERATIONS & MAINTENANCE		
Facilities Notified:	Verbal	Written
Comments:		
Approved by:	Date:	

Location			
Job Number:		**Date:**	
Job Name:		**Subcontractor:**	
Address:		**Sent To:**	

VISITOR RELEASE

This is an active construction site and as such has inherently dangerous conditions. As a condition to be permitted lawful access to the site, you must sign and acknowledge a Waiver of Liability as set forth below. No persons shall be granted access to the site without wearing proper boots, a hard hat and protective eye gear. Furthermore, no such person shall be allowed on site unless they are accompanied by a duly authorized agent of the Owner.

By signing below, you, on your own behalf and on the behalf of your heirs, successors and assigns, are granting a full and complete Waiver and Release of Liability towards and in favor of the Owner, RC ANDERSEN, all of its subcontractors, and all of their employees, agents, partners, successors and assigns, for any and all bodily injury or property damage sustained during your presence on this Project site by whatever cause. YOU ARE WAIVING IMPORTANT LEGAL RIGHTS BY SIGNING THIS WAIVER. YOU ARE ASSUMING THE RISK OF INJURY TO PERSON AND PROPERTY BY YOUR PRESENCE ON THIS SITE. A copy of this Waiver may be given to you upon request. Valid photo identification must be presented for verification purposes before signing this form.

SITE VISITOR CHECKLIST

1. All visitors to the site must report to the reception area before entering the site.
2. All visitors are required to sign a Release Form and obtain a visitor sticker before entering the site.
3. The following items must be observed during a site visit:
    a. Head protection, gloves, eye protection, cut-level gloves, high visibility vest and appropriate sturdy work boots 100%;
    b. All warning signs and barricades must be obeyed;
    c. Do not stray from the approved path for ingress and egress;
    d. Do not enter areas with inadequate lighting;
    e. Be aware of and stay clear of any overhead hazards;
    f. Smoking/vaping is prohibited;
    g. Do not touch or walk on welding leads, wires, piping ductwork, conduit or other construction materials of any kind;
    h. Climbing on ladders or scaffolds is prohibited;
    i. Do not lean on or reach beyond any handrails or barricades;
    j. Be aware that walking surfaces will be uneven or have other impediments not present in a finished product and that extreme care should be taken with each step;
    k. Report any hazards to a RC ANDERSEN representative.

In consideration of permission granted to the undersigned to enter and inspect the premises:	
Name of Project:	
Print Name:	
Date:	
Signature:	
Form of ID:	
Witness:	
Name of Company:	
Reason for visit:	