Barton Malow
COMPANY

SAFETY MANUAL

CONTENTS

ATTACHMENTS

Attachment A - Contractor Site-Specific Requirements Review Form (2 pages)
Attachment B - Job Hazard Analysis (1 page)
Attachment B1 - Job Hazard Analysis Example Only (6 pages)
Attachment C - Lightning Policy (3 pages)
Attachment D - Contractor Site-Specific Information Form (3 pages)
Attachment E - On-Site Project Safety and Loss Control Program (4 pages)
Attachment F - Emergency Action Plan (7 pages)
Attachment G - Hazard Communication Program (3 pages)
Attachment H - Emergency Evacuation Map (1 page)
Attachment I - Hurricane Preparedness Plan (9 pages)
Attachment J - Traffic Control Plan (3 pages)
Attachment K - Contractor Monthly Incident Summary Report (1 page)
Attachment L - Incident Investigation Report (2 pages)
Attachment L1 - Witness Report (1 page)
Attachment M - Safety Training Roster (1 page)
Attachment N - Daily Pre-Task Plan (3 pages)
Attachment N1 - Daily Pre-Task Plan Trifold (2 pages)
Attachment N2 - Daily Pre-Task Plan 11x17 (2 pages)
Attachment O - Chemical and Substance Inventory List (1 page)
Attachment P - Permit Request Form (1 page)
Attachment Q - Confined Spaces Entry Permit (2 pages)
Attachment R - Excavation Zone Checklist (2 pages)
Attachment S - Lockout/Tagout Program (27 pages)
Attachment T - Guard Rail Removal Permit (1 page)
Attachment U - Hot Work Permit (1 page)
Attachment V - Notice to Commence Steel Erection (1 page)
Attachment W - Dust Mask Request (1 page)
Attachment X - Lockout/Tagout Checklist (2 pages)
Attachment Y - Energized Electrical Equipment Permit (2 pages)
Attachment Z - Energized Panel and Equipment Permit (1 page)
Attachment AA - Lattice Boom Crane - Annual Inspection Form (4 pages)
Attachment AB - Lattice Boom Crane - Monthly Inspection Form (3 pages)
Attachment AC - Lattice Boom Crane - Daily Inspection Form (2 pages)
Attachment AD - Telescoping Boom Crane - Annual Inspection Form (4 pages)
Attachment AE - Telescoping Boom Crane – Monthly Inspection Form (3 pages)
Attachment AF - Telescoping Boom Crane - Daily Inspection Form (2 pages)
Attachment AG - Crane Maintenance Checklist (1 page)
Attachment AH - Critical Lift Plan (3 pages)
Attachment AI - Soil Bearing Chart (1 page)
Attachment AJ - Pre-Demolition Survey (2 pages)
Attachment AK - Daily Equipment Inspection Checklist (1 page)
Attachment AL - Daily Aerial Lift Checklist (1 page)
Attachment AM - Daily Scaffold Safety Inspection Report (1 page)
Attachment AN - Safety Hazard Notification (1 page)
Attachment AO - Hazard Communication Program (5 pages)
Attachment AP - Stretch & Flex Program (12 pages)
Attachment AQ2 - Barton Malow Builders Crisis/Incident Management (1 page)
Attachment AR - Removal/Relocation Planning Form
Attachment AS - Respirator Medical Evaluation Questionnaire (7 pages)
Attachment AT - Respirator User Authorization and Training Record (1 page)
Attachment AU - Supervisors Risk Assessment Form
Attachment AV - Return to Work Confidentiality
Attachment AW - Healthcare Provider's Letter and Statement
Attachment AX - Barton Malow Transitional Duty Return to Work

REVISION TABLE

CHANGE #	DATE OF CHANGE	CHANGES MADE
18.1	2018-01-31	2018 Document Revision: Add Respiratory Protection Program Add Silica Protection & Exposure Control Program Add Respiratory Protection Program Forms Add Revision Table Edit Table of Contents Edit Attachment Table of Contents Edit cover picture
18.2	2018-08-06	Updated: Attachment N – Daily Pre-Task Plan Attachment AK – Daily Equipment Inspection Checklist Attachment AL – Daily Aerial Lift Checklist Updated & Added: Attachment N1 – Daily Pre-Task Plan Trifold Attachment N2 – Daily Pre-Task Plan 11x17 Hoisting & Rigging Section, Added Table A
19.1	2019-05-23	Re-design of manual Re-order of manual sections Terminology changes for consistency Updated: Safety Program Requirements Section: Incident Response, Notification, and Investigation Added: Acronym Section: additional acronyms added Crane Inspections, Maintenance, and Testing Section: requirement for crane operator evaluation PPE Section: eye protection for overhead work requirement, minimum requirement for A4 gloves to be worn by Barton Malow employees. Hazard Communication Section: pictograms added Safety Program Requirements Section: Mobile Technology Use
19.2	2019-07-01	Added: Heat Stress Prevention Program
19.3	2019-10-16	Added: Cold Stress Prevention Program
19.4	2019-12-19	Added: Mobile Elevated Work Platform Program
20.1	2020-02-04	Manual rebrand to reflect new company brand
20.2	2020-07-02	Added: Return to Work policy Updated: Safety Program Requirements - Incident Response

ACRONYMS

ACGIH – American Conference of Governmental Industrial Hygienists
ACM – Asbestos-Containing Material
AHJ – Authority Having Jurisdiction
AL – Action Level
ALARA – As Low As Reasonably Achievable
ANSI – American National Standards Institute
APF – Assigned Protection Factor
ASME – American Society of Mechanical Engineers
ASTM – American Society for Testing and Materials
BBP – Blood Borne Pathogen
BMPs – Best Management Practices
CEHSP – Construction Environmental, Health and Safety Plan
CFR – Code of Federal Regulations
CHA – Contract Hazards Analysis
CPR – Cardiopulmonary Resuscitation
CSE – Confined Space Entry
CWA – Clean Water Act
dB – decibels
dBA – decibels, A-weighted scale
DOP - Di-Octyl Phthalate
FM – Factory Mutual
ECT – Equivalent Chill Temperature
EHS – Environmental, Health and Safety
EPA – Environmental Protection Agency
ESWP – Electrical Safe Work Permit
FHA – Fall Hazard Analysis
FPP – Fall Protection Plan
GFCI – Ground Fault Circuit Interrupter
GHS – Globally Harmonized System
HAZCOM – Hazard Communication
HCP – Hazard Communication Program
HEPA – High Efficiency Particulate Absolute
HPD – Hearing Protection Device
H+R – Hoisting and Rigging
IDLH – Immediately Dangerous to Life or Health
IH – Industrial Hygiene
IPT – Integrated Project Team
JHA – Job Hazard Analysis
LEED – Leadership in Energy and Environmental Design
LO/TO – Lockout / Tagout
mA – milliamps
SDS – Safety Data Sheet
MEWPs - Mobile Elevated Work Platform
NEPA – National Environmental Policy Act
NFPA – National Fire Protection Association
NIST – National Institute of Science and Technology
NPDES – National Pollutant Discharge Elimination System
OEL – Occupational Exposure Limit
OEM – Original Equipment Manufacturer
OSHA – Occupational Safety and Health Administration
PEL – Permissible Exposure Limit
PFAS – Personal Fall Arrest System
PLHCP – Physician or other Licensed Health Care Professional
POC – Point of Contact
POD –Plan of the Day
PPE – Personal Protective Equipment
PtD – Prevention Through Design
RCRA – Resource Conservation and Recovery Act
RFP – Request for Proposal
RMEQ – Respirator Medical Evaluation Questionnaire
RSO – Radiation Safety Officer
SDS – Safety Data Sheet
SLM – Sound Level Meter
SSSP – Site-Specific Safety Plan
SWPPP – Storm Water Pollution Prevention Plan
TLV – Threshold Limit Value
PTP – Pre-Task Safety Plan
TWA – Time Weighted Average
UL – Underwriter's Laboratory
USC – United States Code
WLL – Working Load Limit

MESSAGE FROM THE PRESIDENT

Each day Barton Malow builds people, projects and communities with the goal of sending every worker home unharmed and satisfied with a job well done. Building safe without exception is our commitment and it's embedded in our values of Integrity, Partnership and Empowerment. Together we work each day to provide a safer work environment through pre-task planning, workforce engagement, and standards that go above and beyond OSHA requirements. I urge every individual on a Barton Malow jobsite to be vigilant when it comes to safe work practices. Together we will deliver results through safe practices without exception.

Thank you for your commitment to zero lost time incidents, zero recordables, and zero first-aid incidents.

USE OF MANUAL

SCOPE

This manual contains excerpts from, and references to, numerous regulations, codes, and standards which are not presented in their entirety. Similarly, not all Environmental, Safety and Health subject matter is covered in this manual. Each employer is responsible for ensuring compliance with "all applicable requirements" that govern their work on Barton Malow projects, including any consensus standards incorporated therein by reference. If the manual does not contain information relative to a particular Environmental, Health or Safety topic, the employer must ensure that the governing regulatory provisions or national consensus standards as applicable are implemented as part of their Construction Environmental, Health and Safety Plan (CEHSP). If there is a conflict between requirements, the most stringent should be used. Employers are always encouraged to apply best management practices in all of their endeavors. Nothing in this manual relieves Barton Malow or its Contractors of their own safety responsibilities.

DEFINITIONS + RESPONSIBILITIES

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 authorization to take prompt, corrective measures to eliminate hazards. A Competent Person is also one who has extensive training, knowledge and experience in a particular activity or job function. A Competent Person must be capable of demonstrating the knowledge and skill-sets that match their Competent Person designation.

CONSTRUCTION ACTIVITY

Is any combination of erection, installation, assembly, demolition, or fabrication activities involved to create new construction or to alter, add to, rehabilitate, dismantle, or remove an existing building or facility. It also includes the alteration and repair (including dredging, excavating, and painting) of buildings, structures, or other real property, as well as any construction, demolition, and excavation activities conducted as part of environmental restoration or remediation efforts.

CONSTRUCTION ENVIRONMENTAL, HEALTH, & SAFETY PLAN (CEHSP)

A document prepared by the Construction Subcontractor and submitted to Barton Malow for review and concurrence. The CEHSP describes the Construction Subcontractor's environment, safety and health plan for a particular construction project and the activity hazard analysis(s) for each definable activity/feature of work.

CONSTRUCTION REPRESENTATIVE

Building area engineer, technical monitor, or Owner-delegated Representative authorized to approve and accept work, provide technical liaison, and interpret plans and specifications.

CONSTRUCTION SUBCONTRACTOR

A person, corporation, or other entity, other than Barton Malow, who furnishes labor, supplies, materials, equipment, or services under a construction or similar contract including a task order agreement. A Construction Subcontractor's site tenure may vary depending on the nature of the project, and its employees are not considered a permanent construction force.

CONSTRUCTION SAFETY ORIENTATION CHECKLIST

A form used to document the project relevant Environmental, Health and Safety (EHS) information at the pre-construction meeting. Construction Subcontractors have the responsibility to ensure that the content covered in the checklist/orientation is effectively flowed down to all of their employees and their Subcontractors prior to the start of any work.

ENTRY EMPLOYER

Any employer who decides that an employee it directs will enter a permit space.

GRADED APPROACH

A Graded Approach is recommended to be used for implementing the work, planning and control (i.e. – the CEHSP and accompanying Job Hazard Analysis (JHA)). The level of detail within each CEHSP and corresponding JHA should be based on the size, complexity and risk level of the construction work.

HOLD POINT

A point of defined circumstances (i.e. Excavation Zone Checklist) beyond which a construction activity must not proceed without the approval of a designated authority.

HOST EMPLOYER
The employer that owns or manages the property where the construction work is taking place.

IMMINENT DANGER
A condition or practice that could reasonably be expected to cause death or serious injury, severe property damage, or environmental impairment unless immediate actions are taken to mitigate the effects of the hazard created.

JOB HAZARD ANALYSIS (JHA)
A work control document that identifies the work tasks, hazards and controls of the overall project and provides the basis for the development of the Site-Specific CEHSP.

PREVENTION THROUGH DESIGN (PTD)
The concept of Prevention Through Design (PTD) can be defined as: Addressing occupational safety and health needs in the design process to prevent or minimize the work-related hazards and risks associated with the construction, manufacture, use, maintenance, and disposal of construction materials and equipment.

PRE-TASK SAFETY PLAN (PTP)
A detailed review of the day's work tasks to identify job steps, hazards and controls (See also Safety Huddle).

PROJECT SAFETY OFFICER
An employee of Barton Malow and/or the Construction Subcontractor at the work site who is responsible for assisting in the implementation of the Project Safety Plan and compliance with applicable laws and regulations. The qualifications of the Project Safety Officer must be listed in the CEHSP.

QUALIFIED PERSON
One who by possession of a recognized degree, certificate or professional standing or who by extensive knowledge, training and experience, has successfully demonstrated their ability to solve or resolve problems relating to the subject matter, the work or the construction project.

SAFETY HUDDLE
Interactive meeting between a worker's direct Supervisor and workers to discuss the JHA for the next work task or activity period.

SAFETY STAND DOWN
A site-wide safety meeting to address safety issues.

WORKER
A union tradesman, leased worker, Subcontractor, independent Contractor/Consultant, volunteer, or other individual providing construction services onsite.

SAFETY PROGRAM REQUIREMENTS

APPLICABILITY

These requirements apply to Barton Malow, Contractors, Subcontractors, Sub-Subcontractors, and Suppliers who provide services or materials for construction.

REGULATORY REQUIREMENTS

All Barton Malow projects are subject to regulatory requirements of Federal OSHA and/or State and Local requirements. The enforcement provisions of the Federal Occupational Safety and Health Act (OSHA) apply.

CONSTRUCTION ENVIRONMENTAL, HEALTH AND SAFETY PLAN

Each Contractor on site must ensure that the requirements in this Manual are incorporated into their CEHSP and the Job Hazard Analysis (JHA) developed for this contract. The CEHSP must be submitted in accordance with the contract requirements document and undergo a review and concurrence by the Regional Safety Leader prior to being allowed to start work.

A new CEHSP must be submitted for each construction project, regardless of whether the Contractor has performed prior work onsite. The level of detail within each CEHSP and corresponding JHA should be commensurate with the size, complexity and risk level of the construction project. All affected personnel involved in the work being performed must review the CEHSP and any subsequent changes. The updated CEHSP must be made available for review and concurrence by the Regional Safety Leader prior to work being conducted on the project. The CEHSP must be kept at the worksite and available for review.

TRAINING AND DOCUMENTATION

For all workers on this project, site-specific Environmental, Health and Safety (EHS) orientation training will be required. In addition to Barton Malow's project orientation, each Contractor will conduct an additional Safety Orientation for their employees to ensure they understand the project safety requirements as well as their company's requirements. This training will take place before any work operations take place (i.e. before work). Safety orientation decals will be provided and must be visible while working on the project. An orientation record will be maintained.

For work activities in which specific training is required by safety regulations (e.g., OSHA mandated), the Contractor must maintain records on-site, showing proof of current training records for any particular qualified individual(s). Designated Competent Person(s) are expected to have a higher level of experience, training and qualification. Contractors must have in place a mechanism to verify that the Competent Person(s) knowledge and skillsets match their Competent Person designation (i.e., written test).

Photocopies of training certificates, certification cards, wallet IDs, etc. identifying the individual, the specific training, who conducted the training and the date completed (and/or expiration date) are accepted in lieu of originals. Copies of all training should be provided to the Barton Malow Project Team for review. A company training directory will be stored in the Barton Malow Safety office for review and continual updating. Additionally, Supervisors including Superintendents and Foremen will be required to show proof that they have taken an OSHA 30 Hour construction course.

SAFETY BULLETIN BOARDS

The Project Team will install and maintain a safety bulletin board at the location where the majority of employees report to work. Workers must be advised of the location of the nearest bulletin board. Employees must be responsible for reviewing the bulletin board to keep informed of safety-related information. Safety bulletin boards must be of sufficient size to display and post safety bulletins, newsletters, posters, accident statistics, and other safety educational material.

At a minimum, the safety bulletin board must display:

- OSHA Safety and Health Poster (Your Rights as a Worker)
- OSHA Safety and Health Complaint Form
- Requirements, provisions and number of the Employee Concern Program Hotline (Whistleblower Protection)
- Citations and notices as appropriate
- OSHA 300A form (when required)
- Barton Malow-furnished safety bulletins and publications
- Any applicable permits

Additional items to be posted include:

- Topical Safety & Health posters (home and at work)
- Minutes of safety meetings
- Information on incidents and Lessons Learned
- Hazard communication information
- Results of the safety observations
- EHS Committee minutes

All site signage, stickers, and State and Federal postings can be found on Dirt.
State and Federal Postings
Site Signage and Stickers

INCIDENT RESPONSE

INJURY RESPONSE

For an injury or illness incident to a Barton Malow employee or other persons working under Barton Malow at any tier, a Barton Malow representative immediately available at the site should handle the initial assessment and response. This could be a Barton Malow Safety Professional (if present) or other management representative, such as the Safety Representative, Project Manager, or Superintendent. The Barton Malow representative should see to the following:

1. Call 911 immediately for ambulance/EMT if warranted.
2. Administer first aid as appropriate using the designated first aid/CPR provider or other qualified individual.
3. Give prompt phone or text notification to Barton Malow safety leadership. If the injured or ill individual is not employed by a Barton Malow, also promptly notify and engage the employer's safety or management representatives.
4. If care or diagnosis is necessary beyond first aid but an ambulance is not needed, the individual should be transported to the pre-arranged clinic. The transportation should be done by a Safety Professional or other supervisory personnel of Barton Malow or the employer. Do not let the sick or injured individual transport themselves.
5. Once the individual is en route to the clinic or hospital, provide prompt phone or text notification to the Barton Malow Holdings Risk Management Workers' Compensation Specialist.

INCIDENT MANAGEMENT

An "incident" is defined as any workplace injury, illness, disease, or property or environmental damage. It also includes any "near miss" situation where an unplanned risk of the foregoing occurred, even if no injury or damage resulted.

Each Contractor is required to provide prompt verbal and electronic notification for all incidents to a Barton Malow Safety Professional or other Barton Malow representative. Normally this should occur within one hour and in any event before the end of the shift. The Barton Malow project team is required to report all incidents the same day to a Barton Malow Safety Professional, who will in turn report them promptly to Barton Malow safety leadership.

Barton Malow safety leadership, upon receiving notification of the incident, is responsible for the following:

1. Use Alert Media to notify the appropriate Barton Malow management personnel and Barton Malow Holdings Risk Management, as soon as practical and in any event within six hours of the incident.
2. For incidents of unusual severity or publicity, give phone notice to Barton Malow senior business leadership and Barton Malow Holdings Branding + Communications as soon as possible.
3. Notify OSHA or the applicable state agency if required.
4. Assure that Owner notification has occurred, if appropriate, in accordance with project requirements.

If a nurse or other medical provider is assigned to the jobsite, first aid care may be coordinated with that provider by Barton Malow's project supervision and/or Safety Professionals. This on-site medical care should not be extensive or prolonged when the circumstances call for an off-site provider.

Once the injured individual begins to receive care or diagnosis by an off-site medical provider for a work-related illness or injury, the coordination of that care or diagnosis is managed by the following:

1. Barton Malow Holdings Risk Management's Workers' Compensation Specialist and the applicable Third-Party Administrator (TPA):
    a. For employees of Barton Malow.
    b. For persons whose Workers' Compensation (WC) is covered by a Barton Malow CCIP.
2. The employer, its TPA, and its WC insurer:
    a. For subcontractor employees not covered by a Barton Malow CCIP.
    b. For other persons not covered by Barton Malow WC insurance.

Neither Safety Professionals nor jobsite personnel are authorized to manage or direct medical care or diagnosis, beyond appropriate on-site first aid soon after the incident. Costs for medical diagnosis and care for a work-related illness or injury within Barton Malow's responsibility shall be reported to and paid by Barton Malow Holdings Risk Management and/or the applicable insurer. Such costs are not to be paid by the project, individual expense reports, or Barton Malow overhead.

If it is not clear whether an injury or illness that manifests at the work site is work-related, manage it as if work-related until that determination can be made by the employer's safety leadership, with notification to Barton Malow Holdings Risk Management. In any event, ensure that the individual receives appropriate emergency care.

If one Barton Malow entity is working as a subcontractor (or as part of a joint venture) for another Barton Malow entity, assure that notifications are provided to safety leadership of all involved Barton Malow entities.

If Barton Malow is working under a non-Barton Malow Controlled Insurance Program (OCIP or CCIP), follow the safety response and investigation process defined herein (other than coordination of off-site medical care), but also comply with the CCIP's notification procedures. Barton Malow Holdings Risk Management will communicate with the parties responsible for coordinating medical care to assure that the Barton Malow team member is receiving appropriate care.

RETURN TO WORK POLICY

Barton Malow has developed and implemented a Return to Work Policy to establish guidelines in the event one of our team members becomes injured or ill on the job. Barton Malow is committed to making every reasonable effort to return the injured/ill team member to work at the earliest possible time, based on medical approval. The Return to Work Policy is designed to provide temporary transitional assignments for injured/ill team members while they continue medical treatment and/or therapy.

This Policy applies to all Barton Malow team members who have a work-related injury or illness. The work offered to the team member will be within the restrictions set forth by the treating healthcare provider.

Refer to the Return to Work Policy and the Barton Malow Holdings Risk Management's Workers' Compensation Specialist for full details and support for implementation.

INCIDENT INVESTIGATION AND REPORTING

Barton Malow will have oversight over all incident investigations arising from its jobsites or other places of work, or involving Barton Malow personnel or Subcontractors at any tier. All incidents require a prompt, thorough, and objective investigation to determine the root cause. A fully detailed investigation must be provided in writing, using the Scout software or another approved incident reporting form. The report is due within 24 hours of the incident. If that is not feasible due to the complexity or circumstances of the incident, an initial report shall be completed within 24 hours and a final report within 72 hours or as fast as circumstances allow.

If the incident involves a Subcontractor, the Subcontractor's management is responsible to conduct its own thorough and objective investigation and submit a full incident report to Barton Malow within the same time period indicated above. The assigned Barton Malow Safety Professional is responsible for the completion and integrity of Barton Malow's own separate investigation and report. Barton Malow incident reports should normally be created using the Scout software. If that is not used, all relevant information must nevertheless be entered into the Scout database within the same time period.

For recordable incidents and above, a Barton Malow Safety Professional must lead or at least participate in the investigation. Reports for other incidents may be prepared by another responsible member of the Barton Malow project team with review by the Barton Malow Safety Professional.

All incident reports must contain:

- Photographs of the incident
- Identification of all incident causal factors (root and contributing causes)
- Identification and documentation of all corrective actions
- Documentation of closure of all identified corrective actions including any discipline issued
- Accurate and complete reporting of other information called for in the report form

For recordable incidents and above, or as otherwise required by Barton Malow safety leadership, once the complete report has been submitted, an incident review meeting will be held. The purpose of the meeting is to examine and understand the details and causes of the

incident including any corrective actions and process improvements.

At minimum, participants will include:

- Barton Malow Project Manager and Superintendent
- Contractor Project Manager / Superintendent (all tiers)
- Barton Malow Safety Professional
- Contractor Safety Professional

Other participants may be invited where appropriate.

For more serious incidents, including deaths, lost-time injuries to a Barton Malow employee, or other incidents in the discretion of safety leadership, the incident review meeting will be replaced or supplemented by an Executive Safety Review (XSR) in accordance with the XSR Best Method document.

Results of the incident review meeting or XSR will be communicated to the appropriate parties. A summary of the incident, including corrective actions, will be posted on the jobsite's Safety Bulletin Board. Follow up actions from the meeting will be completed, with the closeout documented in writing.

All injuries or occupational illnesses in the U.S will be classified in accordance with applicable law, which is the U.S. Department of Labor Occupational Health and Safety Administration (OSHA) Code of Federal Regulation Recordkeeping Requirements. Incidents outside the U.S. will be classified in accordance with applicable law. Barton Malow safety leadership will make the initial determination of the correct classification for the incident and assure it is entered into the Scout database. Classifications will be updated as necessary based on receipt of new information. Barton Malow safety leadership will confer with Barton Malow Holdings Risk Management before year-end reporting is completed to assure that classifications are accurate based on up-to-date information.

MOBILE TECHNOLOGY USE

The use of mobile technology on a job site creates distractions for the user and other project personnel. As mobile technology usage continues to increase, there is a need to ensure that the project personnel considers the unique hazards created by mobile devices. Mobile devices not only include personal devices but also devices that are used for work-related tasks.

- Do not use mobile phones while operating motorized equipment or vehicles on a job site. Mobile phone usage can occur when the motorized equipment is stationary.
- When in active work locations, do not walk and use a mobile device. If mobile device usage must occur, ensure that you are stationary and in a location where you are visible and/or away from work activities.
- If setting up mobile equipment on-site (testing, surveying, video, etc.) ensure that equipment is visible and that setup does not create additional hazards for the project personnel.
- Usage of mobile devices shall not create additional hazards for users.
- Client and owner mobile device usage requirements may also be applicable and shall be adhered to.


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RETURN TO WORK POLICY

RETURN TO WORK STATEMENT

In an effort to conserve the human and financial resources of Barton Malow, we have instituted a temporary transitional return to work program. This program is designed to minimize the disruption and uncertainty that often accompany occupational and non-occupational related injuries or illnesses for both the employer and for all team members.

While our primary goal is to prevent incidents, we recognize that occasionally they may occur. Our return to work program has been developed to return our most valued asset – our team members – back to work in a smooth and efficient manner.

The success of this program is the responsibility of everyone in the Family of Companies, from top management to every team member. Only by working together can we provide a safe and secure workplace.

We all should be on alert for potential accidents and strive to eliminate them. If they occur, let us work together to minimize the effects. These efforts will benefit us all.

BENEFITS

Barton Malow is encouraged by this temporary transitional return to work program. It is truly a win-win situation for both the injured/ill team member and the Family of Companies for the following reasons:

- Increases team member morale
- Promotes faster physical and mental recovery
- Provides injured workers with the opportunity to maintain their normal earnings
- Promotes an easier transition back to regular job duties
- Provides a sense of security and stability
- Reinforces management's commitment to team member's welfare
- Allows injured/ill team member to maintain a near-normal work schedule and lifestyle
- Promotes a feeling of self-worth

Barton Malow feels that returning to work is the right thing for our team members. We realize benefits from a successful Return to Work process by keeping a stable workforce without having to train new team members or temporary workers.

ELIGIBILITY

The return to work process is available for any team member who sustains a work-related injury in which the severity has or will likely result in that team member's inability to perform his/her normal job tasks. Such an injury is what is referred to as a "days away from work" injury. Such injuries are very costly to Barton Malow, the team member, the families of injured team members, insurance companies, and many other tangible entities.

Team members who are expected to have work restrictions that prohibit them from performing their full job duties will be considered for participation in a temporary transitional work assignment as part of the return to work program. Team members must also meet the following criteria:

- The team member must have had a compensable work-related injury or illness as defined by the governing state's Worker's Compensation law.
- A healthcare provider must release the team member to temporary transitional work.
- The team member must have the potential of returning to his/her original job and in good faith will work towards the goal of returning to work to the full duty of their capacity.
- Team members must be in compliance with the provisions set forth in the union's or Barton Malow's Substance Use & Abuse Policy in the event that the injured team member failed the post-accident drug/alcohol test at the time of the injury/illness.
- Team members must notify their immediate supervisor and/or a team member of the Safety team if they experience difficulties with the transitional work assignment.

GUIDELINES + LIMITATIONS

1. Barton Malow may provide temporary transitional work assignments for any team member who is injured during the course of employment. The ability to accommodate return to work will be based on the restrictions assigned by a healthcare provider and the availability of temporary transitional work.
2. All temporary transitional work assignments may last up to a maximum of 12 calendar weeks. The program period will begin with the date of release to transitional work as established by the healthcare provider and will end upon the removal of the restrictions or at the end of the 12 calendar weeks, whichever comes first. Extensions of the transitional work assignments beyond 12 calendar weeks may be granted, but only after revaluation by the healthcare provider and reassessment of business needs by Barton Malow Workers' Compensation Specialist.
3. The duration of each temporary transitional work assignment is based on medical need. Continuation of an individual's program will require ongoing documentation of medical necessity. All team members will have their transitional work assignments reviewed by their immediate supervisor and Barton Malow's Workers' Compensation Specialist prior to assignment and throughout its duration as needed.
4. Team members will be eligible to utilize Barton Malow's Return To Work process (temporary transitional work) a maximum of two (2) occurrences in a rolling calendar year. This means that team members can return to work on a temporary transitional work assignment two times within the previous 12 calendar months. Barton Malow's Workers' Compensation Specialist will determine any exceptions to this provision.
5. Every effort will be made to make reasonable accommodations to team members at the work site who have sustained a permanent restriction and qualify under the Americans with Disabilities Act, in a manner consistent with ADA, unless such action poses an undue hardship or presents a safety threat.
6. Any team member who misuses this benefit by not following specified procedures, falsifying records, or the like, is subject to discipline, up to and including termination.
7. An offer of temporary transitional work to a team member should be considered in the same manner as any other offer of employment. Failure to accept an appropriate transitional work assignment that conforms to any healthcare provider restrictions/recommendations may affect the payment of indemnity benefits.
8. Whenever possible, physical therapy and medical appointments should be scheduled to cause the least disruption to the productivity goals and work hours of Barton Malow. Any reduction in work time which results from the return to work/transitional work process, physical therapy, or work hardening will be considered days away from work and will be handled as part of the claim.
9. Any supervisor who knowingly requires a team member working in a temporary transitional work assignment to work outside of their healthcare provider restrictions and/or their temporary transitional work assignment is subject to disciplinary action up to and including dismissal. Such concerns should be reported by the affected team member to the Barton Malow's Workers' Compensation Specialist. It is our policy to fully investigate workers' compensation claims that appear to be suspicious in nature, or where excessive lag time between the occurrence and reporting has occurred, or where progress is not being made in the return to work process. Anyone who submits a fraudulent claim will be prosecuted under the law.
10. Any disagreements arising out of this policy should be resolved by contacting the Barton Malow's Workers' Compensation Specialist.

If any terms or provisions contained in this policy are contrary to any of the provisions of a Collective Bargaining Agreement or any applicable law, then to that extent the bargaining agreement and/or law will take precedence.

RESPONSIBILITIES

The entire return to work team is key to ensuring that the injured team member returns to his/her full job duties in a safe and timely manner by regularly monitoring the progress of each team member that participates.

SUPERVISOR

- Continually demonstrate support, commitment and visible involvement to ensure that this program and the associated procedures are followed

WORKERS' COMPENSATION SPECIALIST

- Act as Barton Malow's liaison for all work and non-work-related injuries/illnesses
- Coordinate the entity-wide implementation of the temporary transitional return to work program
- Remain in contact with the injured/ill team member, the healthcare provider, the insurance company, Barton Malow's Safety personnel, and the injured/ill team member's direct supervisor
- Communicate directly with the injured/ill team member unless that individual retains an attorney to represent them in their workers' compensation claim
- Obtain and coordinate all paperwork associated with the injured/ill team member including, but not limited to, documentation of medical care provider visits, OSHA injury and illness log, return to work restrictions
- May request the medical status of the claimant or a medical re-evaluation, as well as an independent medical examination
- Work with the injured/ill team member's supervisor to identify a temporary transitional job when the team member has received restrictions from the healthcare provider. An offer will be made in writing by the Workers' Compensation Specialist to the injured/ill team member. This letter will include a description of duties to be performed and reflect the doctors' restrictions.
    - If the injured team member refuses to accept a return to work offer, notify the insurance company immediately
    - If the injured team member accepts a return to work offer, notify the insurance company
- Contact the insurance company immediately if fraud is suspected on the part of the team member or healthcare provider
- Assist the insurance company in the defense of the claim

INJURED TEAM MEMBER

- Notify supervisor immediately after an incident has occurred
- Seek appropriate medical treatment (supervisor will assist)
- Provide information to the supervisor to be documented in the Incident Investigation Report
- Complete an Injured Worker Statement
- Adhere to drug and alcohol testing requirements
- Report information to the Workers' Compensation Specialist on a timely basis, including:
    - All medical appointments
    - Copies of the diagnosis, treatment, and physical capabilities of consideration for transitional work
    - Changes in medical status
- Maintain regular attendance during the temporary transitional work process
- Only perform those work tasks identified by direct supervisor while working within the restrictions as indicated by a healthcare provider – restrictions should be followed at all times, at work and outside of work
- Attend all medical appointments
- Communicate with individuals involved in your rehabilitation process (claim adjuster, healthcare provider, supervisor, Workers' Compensation Specialist, etc.)
- Limit time away from work by scheduling appointments and therapy outside of work whenever possible
- Cooperate fully with return to work efforts and work with your healthcare provider and your supervisor to return to work on a temporary transitional basis as soon as is safely possible
- Progressively increase transitional duties as written medical information allows
- Cooperate in periodic job performance reviews while participating in a transitional or alternative position
- Obtain a full duty release from the healthcare provider when medically able to return to your full work duties
- Observe all safe work practices

PROJECT MANAGER/SUPERINTENDENT/FOREMAN

- Should demonstrate through daily positive actions and knowledge, his or her support and compliance with the company's safety and health policy including the return to work program
- Facilitate immediate medical treatment for the injured team member as necessary and in accordance with Barton Malow policy (use affiliated/network healthcare providers whenever possible)

- Notify the team member's family or implement the Corporate Crisis Management Plan depending on the severity of the incident
- Communicate regularly with the Workers' Compensation Specialist and Safety personnel to develop an understanding of:
  - The nature of the injury/illness
  - What type of special accommodations are necessary so transitional work can be offered
- Assist Workers' Compensation Specialist with placement of injured team members and establishing temporary transitional work assignments
- When a team member is returned to temporary transitional duty, the supervisor who is overseeing the injured/ill team member will:
  - Welcome back the team member and explain to him/her the duties associated with the temporary transitional position – discuss the details of the Temporary Transitional Agreement with the team member. The transitional return to work agreement will be prepared by the Workers' Compensation Specialist. The project team will discuss the agreement with the injured team member. The agreement must be signed and dated by both the injured team member and his/her Supervisor then returned to the Workers' Compensation Specialist.
  - Communicate the team member's restrictions to the entire staff impacted by this position
  - Oversee the individual's work
  - Communicate with the Workers' Compensation Specialist regularly on the team member's progress with the transitional duties.
  - Ensure restrictions are being followed and accommodations, if necessary, are made in a timely fashion
  - Notify the Workers' Compensation Specialist of any potential workers' compensation fraud
  - Maintain an attitude that creates a workplace that the injured team member wants to return to
  - Demonstrate support and encouragement for team members off work for an extended period - this may be done by maintaining weekly contact, such as a phone call, when appropriate

HEALTHCARE PROVIDER

- Work with the team member, Workers' Compensation Specialist, insurance company claims adjuster and the nurse case manager (when applicable) by providing restrictions for work and indicating whether the team member will be able to return to transitional work in accordance to Barton Malow's policies.

INSURANCE COMPANY CLAIMS ADJUSTER

- Manage the workers' compensation claims.
- Assist in obtaining the restrictions from the provider as needed.
- Provide timely contact and follow-up with the team member, healthcare provider, Workers' Compensation Specialist and the nurse case manager, as necessary.
- May also provide assistance and strategies for handling difficult claims and help spot trends due to past claims experience.

NURSE CASE MANAGER

- Provide case management services and assist team members during the injury/illness period.
- Speak with the healthcare provider, as necessary, to evaluate work status and provide feedback to the team member, Workers' Compensation Specialist and the insurance company's claims adjuster.

LOCATION OF TRANSITIONAL DUTY

Every effort will be made to accommodate the team member within the team member's originating location/area without negatively affecting production. If that is not possible, this priority of placement will occur:

- Current job – same location
- Modified job – same location
- Different job – same location (pending qualifications/approval)
- Different job – different location (pending qualifications/approval)
- Different job – off-site

COMPENSATION AND BENEFITS

Team members performing transitional work will be paid during the temporary transitional work period. Any pay differentials to which the team member is entitled will be calculated and paid through the claims process. All full-time team member group benefits and payroll deductions will continue.

Attachment AV - Return to Work Confidentiality
Attachment AW - Healthcare Provider's Letter and Statement
Attachment AX - Barton Malow Transitional Duty Return to Work

DISCIPLINARY REQUIREMENTS

APPLICABILITY

The requirements of this section apply to Barton Malow employees and the employees of Subcontractors and Sub-Subcontractors who provide services for construction on the job site. Client, Owner, and employer requirements may also be applicable and can supersede these requirements.

DISCIPLINE OF EMPLOYEES

Each Contractor must advise employees and Subcontractors that unsafe acts or conditions must not be tolerated and that violators will be subject to the following:

Whenever an employee is found to be in violation of the rules contained in this manual, disciplinary actions are required and must be enforced by the Project Safety Team, Supervision, and/or Owner's Representative. In general, these actions range from verbal to written warnings with temporary or even permanent expulsion from the site should violations continue. The following procedures for disciplinary actions may differ slightly from those of Subcontractors, however, these procedures supersede those of Subcontractors if there is a disagreement on enforcement.

A progressive discipline program is described below:

CLASS 1 VIOLATION (SERIOUS OR LIFE THREATENING)

- A Class 1 violation could potentially cause death, serious injury, or property damage. Examples include any serious violations of the following program elements:
    - Failure to report an injury
    - Fall Protection
    - Control of Hazardous Energy (Lockout/Tagout)
    - Energized Electrical Work
    - Confined Space
    - Trench and Excavation
    - Cranes Hoisting and Rigging
    - Fire Prevention.

- A Class 1 violation must result in suspension from work without pay for three consecutive workdays and safety training related to the violation and/or reorientation. Any additional Class 1 violations will result in immediate and/or permanent removal from the project.

- Any Barton Malow employee or Contractor employee who is terminated from the project must not be permitted to return to the same project for another Contractor or to a different Barton Malow project.

- The project team may determine that the workers' actions warrant immediate and/or permanent removal from the project.

CLASS 2 VIOLATION (LESS SERIOUS OR NON-LIFE THREATENING OFFENSE)

- A Class 2 violation would not potentially cause death, serious injury, or property damage. Examples would include: not wearing a hardhat (no serious overhead hazards), safety glasses, failure to complete the Job Hazard Analysis (JHA) process, etc.

- A Class 2 violation must result in a verbal documented or written warning. The second warning will result in suspension from work without pay for three consecutive workdays and safety training related to the violation and/or reorientation. Any additional Class 2 violations will result in immediate and/or permanent removal from the project.

- Any Barton Malow employee or Contractor employee who is terminated from the project must not be permitted to return to the same project for another Contractor or to a different Barton Malow project.

- An employee who violates safety requirements may be charged with a violation regardless of whether his or her action was intentional. It is the employee's obligation to know the pertinent safety requirements. It is the respective Contractor's responsibility to respond to its employees' requests for information and/or work situation.

DISCIPLINE OF SUPERVISORS

Supervisors, including trade Foremen, must take responsibility for enforcing the safety requirements. Each Supervisor must administer disciplinary action(s) to subordinate employees as required. Depending on the circumstances, violations by subordinate employees may justify issuing a violation against the Supervisor as well. For example, a Supervisor who observes a violation and does not attempt to correct it may also be cited for a violation.

DISCIPLINE OF CONTRACTORS

A written Safety Hazard Notification may be issued against a Contractor that is not complying with project safety requirements, applicable law, or does not appropriately manage safety of its employees. This notification may be based on any of the following:

- One or more serious violations or incidents.
- Excessive frequency of less serious violations and/or incidents.
- Failure to comply with all applicable federal, state, and project specific safety requirements.

Barton Malow must review the violating Contractor's safety program and meet with the Contractor's management, including an officer of the Contractor. The meeting must determine the measures that will be required for the Contractor to continue to work on site. Depending on the seriousness, appropriate contractual remedies may include notice of contractual default, withholding payment, suspension of work, requiring a change of Contractor personnel, or termination of the Contractor.

FAILURE TO REPORT AN INCIDENT OR VIOLATION

Failure to report an incident or a safety violation is considered a Class 1 violation. Workers will receive discipline as described above. In addition, the employer may be issued a Safety Hazard Notification which requires that a corrective action plan be submitted.

SUBSTANCE ABUSE AWARENESS

APPLICABILITY

The requirements of this section apply to Barton Malow employees and the employees of Subcontractors and Sub-Subcontractors who provide services for construction on the job site. Client, Owner, and employer requirements may also be applicable and can supersede these requirements.

Barton Malow Company and its affiliates (collectively "Barton Malow" or "Company") have a longstanding commitment to provide a safe, healthy, productive and drug-free work environment. Recognizing that inappropriate use of alcohol and other substances pose a threat to the health and safety of Barton Malow's employees, clients, Subcontractors and joint venture partners and to the security of the company's equipment and facilities, Barton Malow has adopted a substance use and abuse policy that balances its respect for individuals with the need to maintain an alcohol and drug-free environment.

This policy outlines the practice and procedure designed to address instances of alcohol and drug use in the workplace.

COVERED EMPLOYEES: This policy applies to all full-time, part-time, temporary, intern, contract and non-bargaining trade employees of Barton Malow. Bargaining trade employees will be subject to the collective bargaining agreement in effect during the relevant time period.

CONTRACTORS, SUBCONTRACTORS AND JOINT VENTURE PARTNERS: All Contractors, Subcontractors and joint venture partners that work on projects managed by Barton Malow will be required to have a substance abuse policy in place for their employees that is comparable to Barton Malow's policy. In the event of a conflict between policies, Barton Malow's policy will govern. This requirement will be included in all Barton Malow contracts and purchase orders.

DEFINITIONS

"**ILLEGAL DRUGS**" in this policy means: (a) inhalants and controlled substances; (b) any drug which is not legally obtainable; and (c) medications containing a controlled substance, which are used for a purpose or by a person for which they were not prescribed or intended or in amounts which exceed the prescribed dosage.

"**LEGAL DRUGS**" are defined as prescribed drugs and over-the-counter drugs which have been legally obtained, are being used only for the purpose for which they were prescribed and/or manufactured and in the prescribed amounts, and are being used by the person for whom they were prescribed.

"**UNDER THE INFLUENCE**" means appearance, speech, behavior, or bodily odor which causes a superior to reasonably suspect the employee to be impaired by alcohol, illegal drugs or legal drugs.

"**IMPAIRED**" is defined as: (a) the deterioration of an individual's judgment and a decrease in his/her physical ability due to alcohol, illegal drugs or legal drugs; (b) and/or the inability of a person to perform the essential functions of his/her job duties due to alcohol, illegal drugs or legal drugs; (c) and/or having a blood alcohol level exceeding .04%; (d) and/or testing positive for a legal or illegal drug that exceeds the following cut-off concentration level:

- Amphetamines, including Methamphetamine, Ritalin, Ecstasy – 1,000 ng/ml;
- Barbiturates – 300 ng/ml;
- Benzodiazepines – 300 ng/ml;
- Cannabinoid – 50 ng/ml;
- Cocaine – 300 ng/ml;
- Methadone – 300 ng/ml;
- Opiates – 2,000 ng/ml;
- Phencyclidine – 25 ng/ml.

PROHIBITED ACTIVITIES

Barton Malow employees are strictly prohibited from:

- Possessing or consuming any alcoholic beverage while: (a) on the job; (b) on Company property (except during a Company-sanctioned social function in which the Company provides or permits alcoholic beverages); (c) on client property (except during a client-sanctioned social function in which the client provides or permits alcoholic beverages); (d) in vehicles during work hours; or (e) in a Barton Malow-owned vehicle at any time.
- Engaging in the unlawful or unauthorized manufacture, distribution, dispensation, possession, sale, transfer, storage, concealment, transportation, promotion, or use of a controlled substance, illegal drug, alcoholic beverage or drug related paraphernalia.
- Reporting for work or working while under the influence of alcohol or with illegal drugs in the employee's system.
- Using a legal drug or medication: (a) without a prescription in the employee's name written by a physician; and/or (b) in amounts that exceed the dosage identified on the prescription; and/or (c) in amounts that impair the employee's ability to perform his or her job.

Such conduct is also prohibited during non-working hours to the extent that, in the opinion of the management of the Company, it:

- Impairs the employee's ability to perform his or her job.
- Affects the Company's reputation, threatens its integrity or interferes with a client relationship.
- Is considered illegal and/or unlawful conduct as defined by local, state or federal law.

AUTHORIZED TESTING

PRE-EMPLOYMENT TESTING: All applicants will be required to pass a Company paid substance abuse test for the presence of illegal drugs before being hired by Barton Malow. The pre-employment testing applies to all applicants, whether full-time, part-time, temporary, intern, contract and nonbargaining trades.

REASONABLE SUSPICION TESTING: An employee shall submit to a drug test and/or alcohol test if there is reasonable suspicion or cause to suspect (including but not limited to based on the employee's appearance, speech or behavior) that the employee is under the influence of alcohol, illegal drugs or legal drugs.

POST-ACCIDENT TESTING: An employee shall submit to a drug and/or alcohol test if such employee: (1) suffers an occupational on-the-job injury; (2) is suspected of causing or contributing to a serious work accident; and/or (3) is involved in a reportable accident while operating equipment or driving a motor vehicle.

- On-the-job injuries are defined as injuries occurring during a serious or potentially serious accident or incident where: (a) safety precautions were violated; (b) negligent or careless acts were performed; (c) the employee(s) failed to wear prescribed personal protection equipment; and/or (4) the employee failed to follow prescribed safety rules.
- A reportable accident is defined as: any accident which results in the death of a human being or bodily injury to a person who, as a result of the injury, immediately receives medical treatment away from the scene of the accident; or total damages to all property aggregating $1000.00 or more, based upon actual costs or reliable estimates.

In all cases of post-accident testing, testing should be taken within eight (8) hours of the accident. It is the employee's responsibility to notify his/her Supervisor of all incidents.

FOLLOW-UP TESTING: An employee shall submit to an unscheduled follow-up drug test or alcohol test if, within the previous 24 months, the employee has done any of the following:

- Voluntarily disclosed a drug and/or alcohol dependence or other problem.
- Entered into or completed a rehabilitation program for drug or alcohol abuse.
- Failed or refused a drug test or alcohol test.
- Been disciplined for violating this rule.

AUTHORIZED TESTING (CONTINUED)

RANDOM TESTING: Barton Malow reserves the right to randomly test its employees at any time. Selection of employees for random testing will be conducted through the use of a neutral selection process.

REFUSAL TO PARTICIPATE: An individual who refuses to participate in substance abuse testing pursuant to this policy will be considered insubordinate and will be discharged.

TESTING

Barton Malow may test, at the identified cut-off levels, for any or all of the following:

- Alcohol
- Amphetamines, including Methamphetamine, Ritalin, Ecstasy – 1,000 ng/ml
- Barbiturates – 300 ng/ml
- Benzodiazepines – 300 ng/ml
- Cannabinoid – 50 ng/ml
- Cocaine – 300 ng/ml
- Methadone – 300 ng/ml
- Opiates – 2,000 ng/ml
- Phencyclidine – 25 ng/ml

Applicants and employees will be given an opportunity prior to and after testing to provide any information which they consider relevant to the test, including a list of all legal drugs they have taken recently, a list of prescribed drugs and an explanation of the circumstances for the use of these drugs in writing. This information is confidential and will be only released to management.

Barton Malow will pay the cost of the initial and confirmation drug tests it requires of employees and applicants. An employee or applicant will pay the cost of any additional drug test not required by Barton Malow.

PENALTIES

NEW HIRES: If a person given a conditional offer of employment fails or refuses to submit to the pre-employment drug test, interferes with a test procedure, or tampers with a test sample, the conditional offer of employment will be rescinded. The person is removed from all applicant pools and is disqualified from re-applying for a period of three years.

EMPLOYEE SELF-REPORTING:

- **REPORTING:** An employee who voluntarily discloses a problem with legal drugs, illegal drugs or alcohol will not be disciplined for such disclosure if, and only if, the problem is disclosed before the occurrence of any of the following:
    - For reasonable suspicion testing, before the occurrence of an event that gives rise to reasonable suspicion that the employee has violated this rule.
    - For random testing, before the employee is selected to submit to a drug or alcohol test.
    - For post-accident testing, before the occurrence of any accident that results in post-accident testing.
- **EMPLOYER ACTION:** For those employees who voluntarily seek help for an abuse problem, Barton Malow shall permit the employee an immediate leave of absence to obtain medical treatment or to participate in a rehabilitation program. Employees can use earned sick and vacation time or may be granted an unpaid leave of absence for rehabilitation. Satisfactory performance remains a requirement, even if chemically dependent employees seek medical help.
- **LIMITATION:** An employee may take advantage of subsection (b) no more often than one time while employed at Barton Malow.
- **VIOLATION OF POLICY:** An individual who tests positive for an illegal drug or is under the influence of alcohol will be subject to disciplinary action, up to and including termination. Similarly, a second occurrence for needed rehabilitation, while a Barton Malow employee, will result in disciplinary action, up to and including termination.

USE OF LEGAL DRUGS

Prescription and over-the-counter drugs are not prohibited when (a) taken in standard dosage and/or according to a physician's prescription, and (b) the employee is not under the influence of the legal drug during work hours.

Any employee using legal drugs that may affect job performance or alter his/her behavior must consult with his/her physician regarding the effects of such legal drug use, the effects on the employee's ability to perform his/her assigned duties and whether the medication may interfere with the safe performance of his/her job. Upon reporting to work, the employee should provide his/her Supervisor with written documentation to support the employee's legal drug use and fitness for duty or any restrictions imposed while taking the prescribed drug.

If the use of a legal drug could compromise the safety of the employee, fellow employees or the public, it is the employee's responsibility to use appropriate personnel procedures (i.e. call in sick, use leave, request change of duty, notify Supervisor) to avoid unsafe workplace practices. To the extent possible, the Company will make reasonable accommodations for the employee to work within his/her restrictions per the Barton Malow Return to Work Program.

No employee may be -under the influence of a legal drug during work hours. If an employee, Subcontractor's employee or a joint venture partner employee tests positive on a drug test for a prescription drug or medication, said individual may not return to work without the following:

- Evidence of a current, valid prescription for the exact prescription drug or medication written by a physician in the employee's name.
- Any work restrictions imposed by the physician while taking said prescription drug or medication.

LOCAL SUBSTANCE ABUSE SCREENING PROGRAMS

Certain states or municipalities may require employees to conform to specific regional substance abuse screening programs. For instance, the State of Michigan's MUST program will take precedence over Barton Malow's own Substance Abuse policy. Additionally, a client's requirements, as it may pertain to substance usage on their property, will take precedence over Barton Malow's substance abuse policy. Bargaining trade employees will be subject to the collective agreement in place for their work at the project.

NOTIFICATION

- **EMPLOYEE NOTIFICATION:** Any employee who is convicted of a criminal drug violation in the work place must notify Barton Malow in writing within five calendar days of the conviction.
- **NOTIFICATION TO AUTHORITIES:** Barton Malow reserves the right to notify appropriate law enforcement officials regarding employees who engage in conduct and activities which violate this policy.

AMENDMENT TO POLICY

Barton Malow reserves the right to unilaterally amend this policy at its sole discretion.

VISITORS

APPLICABILITY

The requirements of this section apply to all on-site vendors and visitors who are on a Barton Malow project.

Barton Malow and its Contractors and Subcontractors must be responsible for ensuring that all on-site vendors and visitors follow the established safety procedures in this document. Barton Malow Project Teams must post signs accordingly in conspicuous places to notify vendors and visitors of these safety procedures. Vendors must provide proper personal protective equipment (PPE) for their employees and will enforce their use whenever on the project site. Vendor's non-compliance will not be tolerated.

All visitors must be required to wear hard hats and sturdy shoes while on a project site. Tennis shoes, sandals, open toe and high heel shoes are strictly forbidden. Eye protection is mandatory and ear protection must be worn where warranted. All personnel on site must wear a high visibility outer garment.

Enforcement of these policies regarding vendors and visitors is the responsibility of each Contractor and Subcontractor. The responsibility to communicate these policies lies with the Contractor with whom the visitor/vendor is meeting.

Also, it will be a requirement that each Contractor will meet and escort any visitors and/or vendors that have not attended Site Orientation. No vehicles will be allowed onsite without permission.

SITE SECURITY

Contractors and Subcontractors are responsible for directing their employees and vendors to use specified gates as required. Contractors are responsible for securing their own equipment, office trailers, and storage areas. Equipment should be properly secured in storage trailers or sheds. Care should be taken to eliminate all fire sources. Fuel reserves should be locked.

VIOLENCE + WEAPONS

APPLICABILITY

The requirements of this section apply to Barton Malow employees and the employees of Subcontractors and Sub-Subcontractors who provide services for construction on the job site. Client, Owner, and employer requirements may also be applicable and can supersede these requirements.

Barton Malow is committed to maintaining a workplace free from threats or acts of intimidation and violence. A professional demeanor must be maintained at all times. Any reported incident must be thoroughly investigated. If an employee is observed in violation of this policy, termination of employment may result.

INTIMIDATION: A physical or verbal act toward another person, the result of which causes that person to reasonably fear for his or her safety or the safety of others.

THREAT OF VIOLENCE: A physical or verbal act that threatens bodily harm to another person or damage to the property of another.

ACT OF VIOLENCE: A physical act, whether or not it causes actual bodily harm to another person or damage to the property of another.

Workers will be held accountable for aggressive behavior. Workers are required to report all "threatening" behavior to his/her direct Supervisor who will then report it to the Barton Malow Project Team. All reports of aggressive or potentially violent behavior will be investigated and, if verified, appropriate, responsive action will be taken. Such action could include:

- Monitoring of the situation
- Taking appropriate disciplinary action, including termination.
- Warning of identified targets of the potential harm.
- Reviewing and, if appropriate, upgrading security measures.
- Consulting with local law enforcement officials.

Firearms, ammunition, or other weapons are prohibited at a Barton Malow workplace, including a jobsite or a parking lot. Knives are permitted for legitimate construction purposes.

CONTRACTOR SAFETY REPRESENTATION REQUIREMENTS

APPLICABILITY

The requirements of this section apply to all Contractors who provide services for construction on the job site. Client, Owner, and employer requirements may also be applicable and can supersede these requirements.

Worker safety and health programs must be integrated into other related site-specific worker protection activities and within the integrated safety management system. There must be an open and continuous line of communication between Barton Malow and their Contractors to discuss any unsafe acts or conditions that may arise during the project. Each Contractor has accountability for the safety of the project and must allocate the resources necessary for implementing all required safety-related codes and contract/subcontract requirements. Each Contractor must:

- Follow all site-specific Environmental, Health and Safety (EHS) requirements and associated permits as defined by this manual.
- Establish EHS flow-down requirements in all subcontracts.
- Implement the appropriate requirements of this manual into their Construction Environmental, Health and Safety Plan (CEHSP).
- Provide qualified safety representation as follows:

# OF EMPLOYEES	# AND TYPE OF SAFETY REPRESENTATIVE	MINIMUM QUALIFICATIONS
Less than 40 employees	designated Safety Representative	OSHA 30 Hour for Construction or Safety Trained Supervisor designation. This individual must be full time on the project and in a supervisory capacity.
40 to 79 employees	1 full-time Safety Representative	OSHA 30 Hour for Construction, or other recognized, accredited construction safety designation such as Certified Health and Safety Technician.
80 to 149 employees	2 full-time Safety Representative	OSHA 30 Hour for Construction, or other recognized, accredited construction safety designation such as Certified Health and Safety Technician.
150 employees or more	1 additional for each 100 employees	OSHA 30 Hour for Construction, or other recognized, accredited construction safety designation such as Certified Health and Safety Technician.

*Proposed safety staff will be evaluated by Barton Malow prior to mobilization.

- Monitor the workplace for unsafe conditions and take immediate action to correct unsafe conditions, acts, and other deficiencies identified during inspections.
- Perform necessary personal exposure monitoring.
- Coordinate and conduct pre-job planning with field Supervisors, and others, as required.
- Conduct a daily walk-around safety inspection. Instruct all employees, initially and periodically, on matters pertaining to employee safety and health rights, protections, obligations, and responsibilities.


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EMERGENCY ACTION PLAN

APPLICABILITY

The requirements of this section apply to Barton Malow employees and the employees of Subcontractors, Sub-Subcontractors, visitors, and vendors who provide services for construction on the job site. Client, Owner, and employer requirements may also be applicable and can supersede these requirements.

Each Project Team must develop an Emergency Action Plan (EAP). The plan will be revised as necessary as construction operations progress. The Emergency Action Plan must consist of the following:

- Owner requirements and procedures.
- Barton Malow crisis management and site logistics protocols.
- Coordination with local emergency response personnel.
- Communicated to all first-line Supervisors.
- Be posted throughout the jobsite and communicated to workers during the Safety Orientation and weekly safety meetings.

MEDICAL EMERGENCY

During the Safety Orientation, workers will be given information on how to summon medical assistance in case of a medical emergency. Workers are to be instructed not to move an injured worker before medical assistance arrives unless the injured worker is in danger of further injury.

Workers should know the following information:

NON-LIFE THREATENING EMERGENCY CLINIC:

- Name of treatment facility
- Phone Number
- Treatment facility address
- City
- State
- Zip

LIFE THREATENING EMERGENCY:

- Name of treatment facility
- Phone Number
- Treatment facility address
- City
- State
- Zip

In case of a fire, workers will evacuate their work area immediately and report to the project's designated location where a head count will be taken.

Workers will not attempt to put a fire out unless they have received special instruction. After reporting the fire, workers will evacuate the work area and report to the pre-determined assembly area that was stated during the Safety Orientation.

SEVERE WEATHER

Should weather conditions, such as severe thunderstorms, lightning (**Attachment C - Lightning Policy**) or tornadoes develop around or near this project, workers will follow the direction of their immediate Supervisor. Work in areas where hurricane activity is possible will have a contingency plan in place. Workers may be directed to a safe area where they will remain until weather conditions improve. For thunderstorms, report to project's designated area until the threat passes. Workers will be notified by cell phone, audio and word of mouth.

SITE-SPECIFIC EMERGENCY EVACUATION PLAN

Project Management will ensure the project-specific EAP is communicated to all workers during orientation. Specific emergency procedures and emergency phone numbers will be posted in lunch areas, near all telephones and on project bulletin boards.

Barton Malow Safety Leaders will routinely assess Project Management, Supervisors, Contractors and workers to ensure that adequate knowledge of the project emergency action plan exists.

Each Contractor will provide the Barton Malow Safety Leader with their emergency contact numbers.

HURRICANE PREPAREDNESS

Any project where the threat of hurricanes presents itself, will watch for advanced warnings and implement provisions to prepare the jobsite when one is approaching. (**Attachment F - Emergency Action Plan**)

HOMELAND SECURITY

Should a Severe Condition "Red" threat advisory be issued indicating a terrorist attack occurrence or the severe risk of a possible terrorist attack, the Barton Malow Project Management Team will determine whether the project should evacuate all workers or shelter them at the project.

Barton Malow Project Management Team will communicate to workers and contractors all known information of the threat and of the crisis management plan.

Should a bomb threat be called in, evacuate to the nearest mustering point at the project's designated area for a head count.

CRISIS MANAGEMENT PLAN

When an incident or crisis takes place on the jobsite, contact the Regional Safety Leader immediately. Steps for jobsite personnel to handle a crisis or an incident can be accessed via the wallet size crisis card or the crisis management chart (**Attachment AQ - Crisis Incident Management**).

The Safety Leadership Team Member will direct the flow of information and communication to necessary individuals including setting up an all-hands crisis conference call if necessary. The officer-in-charge or corporate resources will manage all media inquiries in the event of an incident or crisis.

In the event that the media does contact the jobsite directly, the following statement should be used:

"My name is _____ and I am the _____ for Barton Malow. Our first priority is the welfare of the workers. Due to the current emergency, we do not have verifiable information at this time. Please give us time to gather facts and take care of our responsibilities. In the meantime, please remain in the safety area. Thank you for your cooperation."

CONSTRUCTION HAZARD IDENTIFICATION + CONTROL PROCESS

APPLICABILITY

The requirements of this section apply to all Contractors' construction work activities onsite. This section provides the requirements for establishing a method for identifying, controlling, and documenting hazards associated with all work activities and communicating this information to all workers.

GENERAL REQUIREMENTS

The Contractor is responsible for understanding the scope of work in sufficient detail to ensure that the work is effectively planned for each definable work activity, the hazards associated with the work are identified and the planned protective measures are implemented. This must be accomplished utilizing methods in the section below. Hazards identified in the JHA must be addressed in the CEHSP.

COMMON SAFETY HAZARDS

Construction jobsites are unique, dynamic work environments. However, there are certain hazards and safety concerns common to many or all sites:

- Slip, trip and fall hazards must be carefully managed. Walkways, parking lots, heavily traveled paths, and work areas including platforms must be free from ice, snow, water, oil and debris.
- Back strains can result from lifting boxes or other objects.
- Injuries associated with lifting and carrying building materials, tools, and equipment are very prevalent in the construction industry. Proper lifting techniques are important in preventing injuries to the back and other types of sprains or strains.
- Repetitive motion injuries such as carpal tunnel syndrome may occur from keyboard use or other office activities if proper ergonomic practices are not followed.
- Appropriate care must be taken to assure the safety of individuals having special vulnerabilities or health needs, including persons with disabilities and pregnant women.
- Employees who have issues that could affect safety for themselves or others must notify their Supervisor. Examples include: dizziness, trouble breathing, bad back, fainting spells, or drowsiness from medication.

JOB HAZARD ANALYSIS

Use **Attachment B - Job Hazard Analysis (JHA)**. Each Contractor must complete a JHA for their scope of work. Barton Malow will review the JHA before work commences.

At a minimum, a JHA must consist of the following:

- Detailed job steps, hazards and actions to eliminate or minimize hazards.
- Use the form provided in the attachments or equivalent.

PRE-TASK SAFETY PLAN

Use **Attachments N-N2 - Pre-Task Safety Plan**. Each Contractor work crew will complete a Pre-Task Safety Plan (PTP) for the day's work operations. The PTP must comply with the following minimum requirements:

- Conducted by the Foreman or craft lead designated by the Foreman, provided however, that the Foreman reviews all Pre-Task Safety Plans/safe plan of action to ensure that they are appropriate, complete and accurate for the subject task(s).
- Documented in writing.
- Conducted for every job prior to the start of work or when the job task changes.
- The PTP must be reviewed and revised whenever work conditions or crew membership experience change that may affect the ability to safely complete the work.
- All crew members must participate at the job location in a Safety Huddle to review the PTP.
- Safety Huddles will be held at the beginning of the work shift.
- Include hazards and precautions identified in applicable JHA.
- Be readily available at the jobsite (posted and/or placed where crew members have knowledge of its location) and turned into Barton Malow's Project Team the next morning for review.
- The Contractor must make the PTP available in a local language that crew members can understand.

To assist Contractors who are unfamiliar with the JHA or PTP process, training will be available. Workers will be introduced to the process during the project orientation. The Project Management Staff (including Subcontractors) will periodically audit PTP forms and participate in daily Safety Huddles to show support, and monitor effectiveness.

WORKER TRAINING

The Contractor must ensure that affected workers are made aware of the foreseeable hazards and the protective measures described within the PTP prior to beginning work on the task. Workers will have the required safety training as specified in this safety program, OSHA safety and health regulations and all other applicable documents. The Barton Malow Site Orientation in no way relieves the Contractor from their orientation and training obligations.

RECORD OF TRAINING

Evidence of regulatory training must be provided by the employer to the Barton Malow Project Team before work starts and as onsite training is given. An outline of required training records is located in the Site- Specific Requirements. The Contractor must ensure that workers acknowledge being informed of the hazards and protective measures associated with assigned work activities and understand those requirements. Each worker involved in that work must sign the PTP prior to performing work.

CONTRACTOR RESPONSIBILITIES

The provisions of this procedure apply to the development and implementation of the Contractor's Hazard Identification and Control program. The Contractor (all tiers) must be responsible for implementing an effective Hazard Identification and Control program that:

- Identifies, evaluates, and controls potential and existing hazards in the workplace through the JHA process.
- Incorporates the controls into the PTP pre-job safety planning process.
- Determines that engineering devices, administrative controls, and PPE are available, appropriate, tested, and utilized by employees.
- Determines employees are trained as required.
- Manages and notifies Barton Malow when there are changes related to the work scope, materials, and/or processes that may introduce new or different hazards to the project.
- Develops, implements, and/or adheres to the JHA and other pre-job planning documents required by this manual.
- Provides training to employees in safe work practices.
- Documents all required training and provides a copy to the Barton Malow Project Team.
- Provides required PPE, training employees on how to use the equipment and enforcing its use in the field.

ORIENTATIONS, MEETINGS, + INSPECTIONS

APPLICABILITY

The requirements of this section apply to Barton Malow employees and the employees of Subcontractors and Sub-Subcontractors who perform construction activities on the job site. Client, Owner, and employer requirements may also be applicable and can supersede these requirements.

EMPLOYEE SITE ACCESS AND ORIENTATION

All workers will complete a Site Orientation before starting work on the project. The Site Orientation will include the following:

- Project purpose
- Site description and layout
- Site-specific safety requirements
- Review of safe work practices
- Emergency Action Plan
- Disciplinary program
- Parking

The Site Orientation will be conducted by the Barton Malow Safety Leader or their designee. Each meeting will include participation by a Project Manager or Superintendent to reinforce the importance of the message.

Parking will be in a designated area. Barton Malow reserves the right to tow improperly parked and/or marked vehicles. Local police or Owners may run dogs through the parking lots and Barton Malow controlled construction sites depending upon agreements with the Owner.

WEEKLY PROGRESS MEETINGS

The Project Team will designate a weekly meeting time where the next week's work operations will be reviewed. Each Contractor who will be performing work will have a Foreman or Superintendent attend the meeting. Each Contractor will review their upcoming work operations with the group to identify key safety factors, areas of coordination or interference, or other points needing clarification. A copy of the Job Hazard Analysis (JHA) for the upcoming work will be provided to the Project Team.

AUDITS AND INSPECTIONS

At a minimum, weekly documented safety audits must be performed to evaluate compliance with the project EHS Plan and applicable regulations. Note: Contractors may choose to institute more stringent requirements. Audits will be completed by Contractor supervision (Superintendent, Project Manager) and submitted to Barton Malow Project Team at time of completion. Deficiencies noted must be corrected, or have an action plan for correction attached. Results must be reviewed at the start of the weekly progress meeting or equivalent meeting on a weekly basis. Records of audit reports, findings, and corrective actions must be submitted weekly and retained through project closeout.

SAFETY HUDDLES

Safety Huddles must be held each shift prior to the start of work activities, after mid-shift break (lunch), at the end of shift for sign out, and

anytime there is a significant change in work scope. Records for these huddles, documenting the meeting content and attendance, must be maintained and a copy will be turned into the Barton Malow Project Team for review. All workers must acknowledge the information disseminated by signing the PTP.

At a minimum, Safety Huddle discussions must include:

- Planning for the day's work activities.
- Changes in work practices or environmental conditions.
- Required equipment/system daily inspections.
- Previous days incidents, near misses, lessons learned and/or other relevant issues as applicable.
- Other ongoing activities that may have project EHS implications.
- New or modified site-wide procedures or requirements.

All lower-tier Subcontractors must identify all planned tasks onsite. The level of detail must be appropriate to define all tasks that may present a hazard to people, property or environment. The listed task(s) must include the corresponding, previously reviewed JHAs or reference the applicable section from a current health and safety plan or program. If the task proposed does not have a corresponding JHA, then a new JHA will need to be developed and reviewed prior to the work moving forward. The completed JHA must be submitted to the first tier Subcontractor for review against conflicting operations, regulatory hold points, required permits and acceptable level of detail. Upon approval by the first tier Subcontractor, the approved JHA is then submitted to Barton Malow for review and work authorization. Once work authorization is received, each Contractor must develop a PTP and conduct a Safety Huddle with each work crew member prior to the start.

SAFETY WALKS

A management representative of each Contractor will participate in a weekly safety walk of the project. Participants will evaluate compliance with the Construction Environmental, Health and Safety Plan (CEHSP) requirements by observation and conversation with workers. Barton Malow will establish the meeting time and location.

MONTHLY MEETINGS

A project safety committee will be established and each Contractor (regardless of level) will have a designated representative. Committee members will consist of a craft level employee along with the designated safety representative for the Contractor. The Barton Malow Safety Team will facilitate the meetings. A record of each meeting, documenting the meeting content and attendance, must be maintained. Meeting information should be communicated to project employees via weekly meetings, safety walks, or other project-wide meetings.

At a minimum, monthly safety meetings must include a review of the following items:

- Job-related issues and concerns.
- Environmental, Health and Safety issues, concerns, findings, and training.
- Applicable lessons learned.
- Incident investigations conducted since the last meeting.

OUTSIDE INSPECTIONS

Safety inspections may be conducted by outside parties, including the Owner, insurance carriers, OSHA, or other regulators. All Contractors must inform Barton Malow immediately if any outside party is onsite to conduct an inspection. All Contractors must provide appropriate cooperation with OSHA representatives and other third party inspectors who have legitimate authority to conduct a safety review.

General guidelines are as follows:

- Contact Regional and Business Unit Safety Leadership.
- Verify that the safety inspector has proper identification and signs the visitor log.
- Confirm the reason and authority to conduct the inspection.
- Notify Contractors and make the jobsite available to the inspector.
- Accompany inspector at all times.
- Document what happened and was observed during the inspection.
- Correct deficiencies as required.
- Notify the Barton Malow Safety Leader and Project Manager regarding results; in the case of major issues, provide immediate notification.

REPORTING

WEEKLY ENVIRONMENTAL, HEALTH AND SAFETY (EHS) REPORT

Weekly EHS reports must be compiled and maintained by the designated project personnel as part of the project record and made available for review by the Project Management Team. The weekly EHS report must be available by each Tuesday for the previous week's activities. This report may be maintained as a hard copy report (on-site) or on an electronic server. The report must contain the following information as applicable for the week:

- Brief summary of significant EHS activities.
- Listing of man-hours, incidents and incident statistics.

STRETCH AND FLEX PROGRAM

- This activity will be introduced at Safety Orientation to all attendees.
- The Stretch and Flex Program increases flexibility, improves range of motion of your joints, improves circulation, promotes better posture, relieves stress and may prevent injury.
- All employees working on a Barton Malow job site will participate in the Stretch and Flex program. **(Attachment AP - See Stretch and Flex Leaders Guide)**
- Stretch and Flex will be performed at the start of each work shift. It should be performed in tandem with the Safety Huddle, Tool Box Talk meeting or other meeting prior to the start of the shift.


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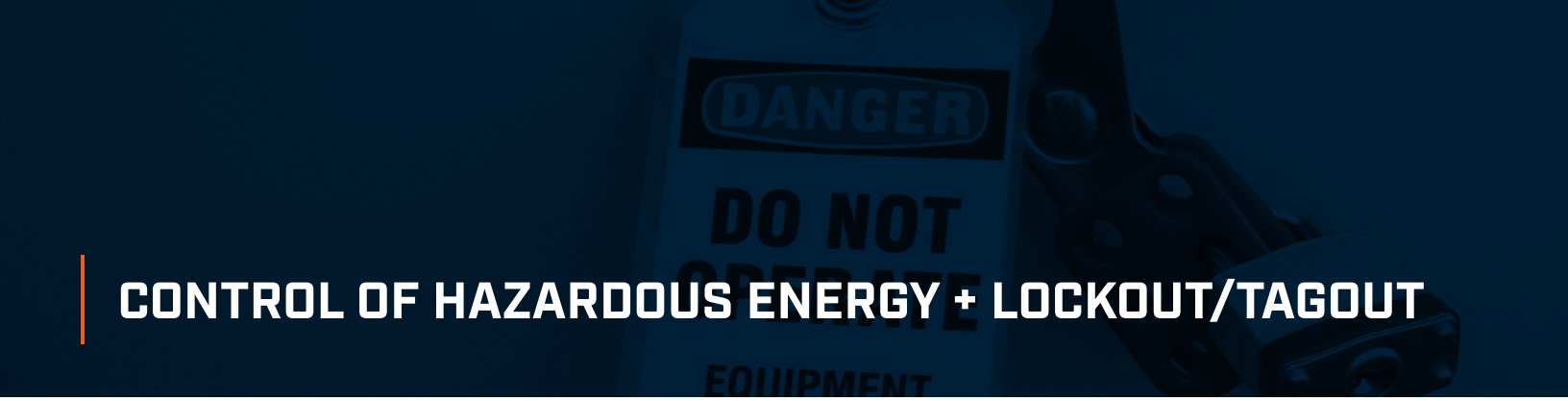


CONTROL OF HAZARDOUS ENERGY + LOCKOUT/TAGOUT

APPLICABILITY

The requirements of this section apply to work and activities where the unexpected or unintended release of hazardous energy or start-up of machines, equipment, and systems could cause injury to personnel or property. This section applies to Barton Malow employees and the employees of Subcontractors and Sub-Subcontractors who provide services for construction on the job site. Client, Owner, and employer requirements may also be applicable and can supersede these requirements.

PURPOSE

The objective is to primarily prevent and secondarily mitigate injuries and mishaps associated with:

- Initial and subsequent energizing of installed and modified equipment: "power-on".
- Checking, testing, adjusting and repair of installed and modified equipment.
- Initial and subsequent testing and start-up of subsystems, systems and plants (commissioning).
- Intentional or unintentional energization or activation of equipment.
- Interphase with existing equipment and the operations of other parties.
- Failures to properly assess and isolate energy sources.

EXPOSURE

Failure to properly identifying and isolate energy sources is one of the most common causes for workplace incidents that involve hazardous energy. The primary concern is for the hazardous release of energy, hazardous contact with electrical and mechanical energy, and any other hazardous forms of energy - potential or kinetic. Energy in this context includes, but is not limited to:

- **Electrical energy** is the most common form of energy used in workplaces.
- **Hydraulic energy** involves contained, pressurized liquids.
- **Pneumatic energy** is associated with pressurized air.
- **Chemical energy** is released when a substance undergoes a chemical reaction.
- **Mechanical energy** usually involves motion equipment elements: rotating, reciprocating, etc.
- **Stored energy** sources describe components that retain residual energy hazards even after main sources have been locked out: springs, storage vessels, capacitors, compressed air, etc.
- **Radiation** may be defined as energy traveling through space. Both ionizing and non-ionizing radiation can be harmful.
- **Gravitational energy** is a potential energy when an unrestrained elevated object or component can move or drop.

MANAGEMENT PRACTICES

There is a wide variation in the scope of work and the complexity of projects and construction environments. Sometimes Barton Malow is the Subcontractor, other times we are the Construction Manager. Often, we are working under the Lockout/Tagout (LOTO) of the Owner or their designee. A Subcontractor may be the lead on LOTO. A commissioning specialist may be hired to manage turn-over and testing and then operate as the Tagging Manager. The environment may be complex, but the exposure may be simple. On large multi-employer

work sites, coordination with other affected parties and workers is paramount. Management systems need to be applied and procedures implemented recognizing that one program or procedure does not fit all situations, and situations may vary in complexity on the same project. Systems and procedures need to be compliant with regulations and the essential standards and requirements for LOTO.

The management of this exposure begins with the Construction Hazard Identification and Control Process within this Safety Manual. The following guidelines and standards apply to all LOTO procedures:

- Controls and management systems should clarify rather than confuse.
  - Simple situations and systems should not be complicated by complex controls.
  - Control systems should simplify complex situations.
  - Control systems must be readily understandable and verifiable.

- A LOTO coordinator / tagging manager is required for all projects to ensure:
  - The care, custody, and control of LOTO is firmly established for each involved area, system or unit and assigned to either Construction, Commissioning or Operations.
  - A lead individual is designated over each phase.
  - Work controls clearly communicate the status of equipment and systems including: Unit having control (Construction, Commissioning, or Operations), Specific party within the unit with current custody (Subcontractor, vendor, etc.), and Power status of equipment or systems: energized 480v, air, hydraulics, etc.
  - Processes are established for each phase to ensure that transitions and turnovers are planned and safely executed. Turn overs may be very simple. Approvals and sign-offs occur. Construction removes their control lock or tag. A new tag reflects the changed status: "power is on, turned over for commissioning". Turn-overs may be complicated and require the involvement of multiple parties, differing LOTO systems, shared custody and control, and roles and responsibilities for all three principal units.
  - Control systems and procedures (LOTO), and planning and communications systems are established and understood, including for example: Requiring control locks and tagging on all panels and main disconnects regardless of whether workers are assigned. Requiring that all disconnects and isolation devices are tagged / locked in the off position upon initial power-on. And, all devices remain "off and tagged" during commissioning until a specific device needs energy Communication methods to convey real-time information to all affected parties: boards, placards, tags, data-bases, barricading and signs, pre-job briefings, etc. Identification and naming of Tagging Authorities. Developing LOTO procedures.

- The Authority Having Jurisdiction (AHJ) over LOTO must be identified in the planning process Owner, Original Equipment Manufacturer (OEM), Subcontractor, General Contractor, Commissioning Manager, etc.)

- The AHJ over the LOTO is responsible for:
  - Evaluating personnel for qualifications to be designated a "Tagging Authority", and to submit their evaluation to the lead person over the phase of the work. Personnel must not perform "tagging duties" unless they are on the project's list of tagging authorities.
  - Designating the tagging authority for the involved LOTO.
  - Assessing and evaluate the hazards and exposures to be controlled.
  - Determining the appropriate control system and procedures to be used.
  - Communicating to all involved parties on the hazards and control measures.
  - Supervising the application of the LOTO control system throughout the duration of work.

- Prior to assigning roles or duties, and prior to performing work under LOTO, the training and knowledge of involved personnel must be evaluated to assure that:
  - AHJ, Tagging Authorities, and Lead-persons have the requisite knowledge and skills.
  - The purpose and functions of LOTO are understood by authorized and affected workers.
  - Training is developed and implemented before assigning workers.

- Provisions will be made for audit, inspection, and enforcement measures.

EXPOSURE

LOTO and performing work under LOTO must be conducted in accordance with applicable regulations, craft best-practices, and local requirements (such as owner stipulations). Requirements within this Safety Manual, this section, and the attached LOTO Program and LOTO Guides must be followed.

The following standards apply to all work and activities associated with hazardous energy:

- The standard for energy isolation and control is "zero mechanical / zero energy state" safety systems, interlocks, E-stop, safety circuits, logics, programs or other safety controls or guards associated with systems and equipment will not be bypassed, removed, or modified.
- When checking, repair, adjusting, testing, commissioning, or troubleshooting cannot be done in zero state or require other modifications or bypasses, the following apply:
    - The need for accommodations will be addressed in pre-planning processes.
    - Accommodations will not be made simply for convenience or efficiency.
    - Accommodations will not be made for categories of work or workers. (LOTO applies to commissioning millwrights and electricians, etc.)
    - Determinations will be made by Competent Persons / subject matter experts.
    - The work plan will be specific to the accommodations being made and the conditions under which the work is performed including exposure specific controls.
    - Additional protocols may apply: notification to safety, JHAs, area controls and signs, work permits, notifications, LOTO program impacts.
    - Properly instructed, Qualified Persons must be assigned: typically tradespersons, craftpersons, engineers, technicians and OEM or vendor specialists.
    - Maximum allowable levels of protection shall be maintained; deviations will be minimized, and work practices will be prescribed. Examples (among many): Work requires LOTO for mechanical system work, but technicians need control power for systems debugging. Control power is allowed, all other power remains isolated and controlled (LOTO) We allow power to a fixture but not the associated robot. Limit the robot to teach-mode; additional persons have an "enable control". Gate-door is bypassed to allow access but does not remain bypassed after the completion of the authorized work.
    - Some accommodations for testing, checking, adjustments and verification do not require a case-by-case authorization as they encompass standard work practices for the trades or technicians involved. Examples include "loop-checks" by commissioning technicians, bumping and adjusting drive system with a guard off when done by a Millwright.
- Each exposed person will have individual lock(s) attached to LOTOs.
    - Name and employer must be on or attached to the lock.
    - Barton Malow does not use a tag-only system. Exceptions include when necessary and offering equivalent protection or when the Owner requires a tag system.
- LOTOs will only be executed (isolating energy and placing locks and tags) by tagging authorities or under their direction (skilled trades, technicians), or by the "authorized" persons they designate.
- LOTOs must be verified, and the Tagging Authority must sign-off before assigning workers.
    - Verification includes using test equipment for electrical exposures, and test equipment, gauges or other indicators for other energy exposures.
    - If conditions change, the LOTO is modified, or any other situation present concerns, the verification process for LOTO should be repeated.
- Executed LOTO shall be readily recognizable and easily understood.
    - Expectations must be communicated in advance.
    - Enforcement and disciplinary systems apply. LOTO violations are typically serious and cause for removal. A progressive approach may be applied for less serious violations.

- Only Competent or Competent-Qualified Persons will be assigned to tasks and responsibilities.
- "Power-on" of equipment and systems must be communicated to affected parties and persons in advance. "Power-on" procedures must be developed and communicated.
- Rigid application of standards and administrative practices are not always practical or necessary to achieve protection. For example:
  - The work may be under the direct supervision of a Millwright General Foreman who is a Competent-Qualified Person. And, the work is on a relatively simple, existing system with a LOTO schematic immediately available (such as a CNC machine in an auto plant.) The crew can easily and directly lock-on. There is no real benefit to producing Logs or
  - Isolation Records as the information is immediately available.
  - A "Graded Approach" (see definitions) applies to energy isolation and control provided: Convenience and schedule are not the primary justification. Competent-Qualified Persons are involved through the entire process of development, approval, and implementation. The reliability of protection and the level of protection are: Equivalent or substantially equivalent. Compliant with applicable regulations. Pre-planned and approved in advance and reflected in JHAs, PTPs, SSSPs, coordination meetings (PODs), and similar. Evaluated and approved by a qualified Barton Malow Safety Professional.
  - Basic standards of safety, incident avoidance, care-custody-control, communication, and required competencies are not undermined.
  - Contractors may use their own documented and proven programs: For work they are directly performing. For work they are directly controlling (Subcontractors and vendors) Within coordination, authorization and planning processes.

ENERGIZED ELECTRICAL WORK

Work on energized electrical systems is prohibited unless there is no reasonable alternative course of action, and prior authorization has been given by the appropriate Barton Malow authority. When that determination is made by the owner, the Owner or Owner's Representative must submit a letter to Barton Malow stating why the electrical circuits cannot be de-energized. If energized electrical work must be performed on hazardous circuits, the Contractor must perform the work in accordance with their electrical work plan. LOTO will be maintained to the extent possible. A permit will be issued from Barton Malow's Project Team or Owner's Representative once all safety precautions have been met and signoffs have been obtained. See also: **Electrical Safety**.

EXCEPTION: Taking voltage, current measurements and verification of zero energy using standard test equipment, such as voltmeters and current probes, is permitted on energized electrical systems when performed in accordance with the Contractor's electrical safety plan and requirements of **NFPA 70e**.

BUILDING EQUIPMENT AND SYSTEMS LOCKOUT/TAGOUT

Prior to conducting any work which requires LOTO within an existing building or that interfaces with an existing utility system, the Contractor must first notify Barton Malow. This includes LOTOs that occurs on building construction temporary and/or permanent electrical power tie-ins at the point of supplied power distribution. Barton Malow in conjunction with the property Owner must control, coordinate and approve LOTO work being conducted on these equipment/systems and must ensure that the Contractors are aware of and comply with the requirements of the LOTO program. When Owner equipment/system specific procedures are available, they must be provided to the Contractor and incorporated as part of the lockout/tagout procedure for the project.

EXCAVATING AND DEMOLITION

Excavation and demolition work is not exempt from LOTO programs and procedures; the above sections and related attachments apply. Additional specific requirements and standards also apply to excavation and demolition work: refer to applicable regulations and sections of this manual.

REMINDER: The Emergency Action Plan must include provisions for unintended events with utilities.

EXCAVATING AND TRENCHING

IDENTIFICATION

Identification, location, and control of underground utilities often requires a combined effort of utility companies, property owners, and Project Managers, Contractors, and Craft Supervisors. Whenever feasible, pre-construction should determine if the property or facility has reliable data and if the owner is prepared to provide identification, location services and verification services. Data mining and field investigations may be required of Contractors, and the project should be planned / proposed accordingly. Additional measures

may be required such as ground penetrating radar, hydro-excavating, other presence sensing systems, and exploratory work methods. Identifying, locating and isolating utilities should be closely coordinated and accurately communicated. Assigned, responsible authorities must be designated and actively involved: see LOTO sections above. (Verbal systems of communication may not be relied upon.) Energy isolation and control requires verification. When energy isolation devices are involved the exposed workers shall be signed-on. When air gaps are used, they must be visible, identified and tagged.

DEMOLITION

There is a wide variation in the scope and complexity of demolition work with our various projects and construction environments. With the exception of new construction on a greenfield project, there is almost always some exposure to demolition. By its very nature demolition requires energy isolation and control. Some of this work will fall under a project's standard LOTO procedures for industry and construction. But, demolition may also simplify the exposure and the control measures. An entire facility or main section of a facility can be isolated and controlled, and the isolation is immediately visible and verifiable. However, when selective demo is involved, the process may become more complicated and involved.

With an isolated facility (or subsection thereof), Barton Malow must still follow the fundamentals of identification, status, control and verification. If isolation devices are in use for any type of energy, or whenever energy of any type remains, care-custody-control must be determined and procedures must be followed to protect authorized and affected workers. Examples:

- The overhead, exterior power lines are gapped (disconnected), but the main gas feed is controlled by an isolation device (valve or blank).
- Certain systems remain "on" to support work such as power to a bridge crane.
- Temporary power systems must be identified and marked accordingly.

With selective demolition, mishaps can occur when utilities to be removed, to remain, or to be relocated are not properly identified and isolated. For example, several conduits run alongside each other and one is to remain. If all conduits are de-energized and we demo all conduits, we have a problem. If the one to remain is "live" then we have two big problems: possible hazardous contact and an interruption in service. If all of the several conduits are to be removed, but one of the several is not isolated and controlled, we have a problem. **Attachment AR - Removal/Relocation Planning Form** includes procedures and forms for removing and relocating utilities and energy systems. The attached procedures should be used, or one substantially equivalent should be developed and implementing.

Guidelines and key features of a planning and identification procedure include:

- Information / Request System (**see Attachment S - Lockout/Tagout Program**).
- Identification of disconnects and isolations (**see Attachment AJ - Demolition Survey**).
- Information, tagging and labeling system (e.g. color coding).
- Verification and sign-off before work is authorized.
- Instruction to workers on the procedures and control systems.
- PTP planning and pre-work briefings.

ELECTRICAL SAFETY

APPLICABILITY

The requirements of this section apply to Barton Malow employees and the employees of Subcontractors and Sub-Subcontractors who perform construction activities on the job site. Client, Owner, and employer requirements may also be applicable and can supersede these requirements.

GENERAL REQUIREMENTS

Contractors must identify the electrical hazards associated within each definable feature of work and establish the controls necessary to maintain an acceptable level of risk. To assist in the evaluation of electrical hazards, Contractors must employ an Electrical Hazard Analysis (**see Attachment Y - Energized Electrical Equipment Permit**) consistent with requirements of **NFPA 70E, Standard for Electrical Safety in the Workplace** for shock and arc flash hazards. The identified hazards and control measures must be documented in the associated Job Hazard Analysis (JHA) or other work control document that provides an acceptable level of hazard identification and control for the associated task or work sequence. The safe electrical work practices that are employed must prevent electric shock, burns, arc flash or other injuries that could result from either direct or indirect electrical contact. This may include specialized training, observing required approach distances, and the use of appropriate PPE consistent with the requirements of OSHA and **NFPA 70E**, as applicable.

PERSONAL PROTECTIVE EQUIPMENT

Contractors are responsible for identifying, providing and maintaining their own PPE. Maintenance of PPE includes the required testing and certification. Records of such testing must be turned into the Barton Malow Safety Leader or assigned designee.

QUALIFIED ELECTRICAL WORKER

Only qualified workers who maintain the necessary skills and knowledge related to the construction, operations of electrical equipment and the associated hazards are permitted to work on electrical systems. A Qualified Electrical Worker is a person who has skills and knowledge related to the construction and operation of the electrical equipment and installations, and has received safety training on the hazards involved. The Contractor must be responsible for documenting the qualifications of the Qualified Electrical Workers"utilized on the project.

GROUND FAULT CIRCUIT INTERRUPTER (GFCI) PROTECTION

GFCIs will be used on 120-volt circuits as specified below:

- In damp or wet (standing water) work areas.
- For temporary power (e.g., extension cords) during construction, remodeling, maintenance, repair or similar activities. Outdoor receptacles must be enclosed with weatherproof (preferably metal) covers.
- When using portable, electric hand tools and equipment with cord/plug connectors.

USE OF AN ASSURED GROUNDING PROGRAM IS PROHIBITED.

The users of the GFCIs must test portable GFCIs using the test button provided before each use. If the GFCI breaker fails the test, tagout of service with a "DANGER – DO NOT USE" tag and (if portable) remove from service. Tripped circuit breakers may not be re-energized until it has been determined that the equipment and circuit can be safely re-energized. Do not reset or operate temporary or permanent construction circuit breakers unless you are a qualified member of the electrical Contractor onsite and you have proper knowledge of the system.

FLEXIBLE CORDS AND CABLES

Use UL-listed flexible cords suitable for conditions of and location of use. Flexible cord sets used with grounding-type equipment must contain an equipment grounding conductor. Protect flexible cords and cables from damage. When possible, hang extension cord sets, welding leads, etc., overhead to avoid tripping hazards and damage caused by foot traffic and equipment. Avoid sharp edges, pinching, or improper storage. Cords sets that are damaged must be removed and discarded or repaired by a Qualified Person.

LOCKOUT/TAGOUT

Contractors must ensure that electrical systems and equipment are effectively isolated, locked out, and tagged out in accordance with the requirements of the Control of Hazardous Energy and LOTO of this manual prior to performing any work on or near the energized systems. Contractors must make all feasible efforts to effectively isolate, lock and tagout energized electrical systems and equipment in order to avoid performing Hazardous Energized Electrical Work as defined below.

HAZARDOUS ENERGIZED ELECTRICAL WORK

Hazardous Energized Electrical Work is defined as "work performed on or close to exposed parts of electrical systems and equipment operating at greater than 50 volts to ground, or less than 50 volts to ground where the current exceeds 5mA, creating the potential for explosion or injuries due to electric arcs." Controls may still be required for energized work on non-hazardous circuits to protect against secondary hazards such as a startle or involuntary reactions from contact with low voltage high current sources. These would include circuits operating at 50 volts and less with a short circuit current of greater than 0.5ma or energy greater than 0.25 joules.

EXCEPTION

Taking voltage, current measurements and verification of zero energy using standard test equipment such as voltmeters and current probes is permitted on energized electrical systems when performed in accordance with the Contractor's electrical safety plan and requirements of NFPA 70e. Contractors must ensure that a second worker is present when hazardous energized electrical work is performed. The second worker functions as a safety observer and does not participate in the actual work. This worker must be trained in cardiopulmonary resuscitation and be prepared to initiate other emergency response procedures. They must have the same PPE on if they are in the area where the energized work is taking place.

EQUIPMENT + TOOLS

APPLICABILITY

The requirements of this section apply to Barton Malow employees and the employees of Subcontractors and Sub-Subcontractors who perform construction activities on the job site involving equipment and tools. Client, Owner and employer requirements may also be applicable and can supersede these requirements.

EQUIPMENT INSPECTION

All equipment will be inspected for deficiencies prior to being placed into service on the project. Inspections must comply with Regulatory and Manufacturer requirements.
Identified deficiencies must be corrected prior to using the equipment. Inspections must be documented and turned into the Barton Malow Project Team. Each piece of equipment will be given a site identification number for tracking purposes. See **Attachment AK - Daily Equipment Inspection Checklist**.

Remember, all equipment needs to be inspected prior to use.

HEAVY EQUIPMENT

Heavy equipment on site should meet all state and federal safety requirements. The equipment should be used only as intended and should be maintained in safe operating condition at all times while on site.

- Only persons who are trained and qualified by testing certification, or otherwise, may be allowed to operate moving equipment such as fork trucks, excavators, bulldozers, etc.
- The operator is responsible for the safe operation of the equipment at all times.
- Only authorized persons must be permitted in the cab or on the equipment.
- Follow operating and maintenance procedures as specified by the manufacturer.
- All dozers, loaders, tractors, end loader backhoes, and other equipment with an obstructed rear view must have functioning backup alarms.
- Rollover protective structures must be used for all material handling equipment.
- Operators must inspect the equipment and the area where work is to be performed before each shift.
- Equipment in operation must be attended at all times.
- Helpers must remain in sight of or in communication with the equipment operator.
- Riding on loads, fenders, running boards, sideboards, and gates, or with legs dangling over the ends or sides of trucks is prohibited.

TOOLS AND USE INSPECTION

All hand, pneumatic and power tools will be kept in good condition with regular maintenance. Tools are to be operated according to manufacturer's instructions and guidelines. PPE appropriate for the hand, pneumatic or power tools will be worn at all times. Tools must be inspected for defects prior to each use. Inspections must comply with regulatory and manufacturer requirements. Guards and safety devices must not be modified or removed.

Tools MUST be detached from the energy source powering them before changing blades, wheels, bits, etc.

EXCAVATIONS

APPLICABILITY

The requirements of this section apply to all Contractor's and lower-tier Subcontractor's excavation operations and activities onsite. Refer to **Attachment R - Excavation Zone Checklist**.

EXCAVATION PLAN

The Contractor is responsible for submitting to Barton Malow an Excavation Plan for review and concurrence prior to any disruption of ground, excavation, or trenching on this project. This plan must show the proposed boundaries on a site map including depth of the affected areas and the safety precautions required.

Barton Malow and the Contractor will verify the Excavation Plan with the appropriate means including zone observation, as built drawings, hand locate, local or other utility locator, communication with owner's representative, hydro excavation, and/or ground penetrating radar to ensure proper precautions regarding existing underground utilities. Refer to Item 2 in **Attachment R - Excavation Zone Checklist** .

UTILITY LOCATES

Location service requirements must be identified in the Contractor's excavation plan and must be performed prior to Barton Malow authorizing the Excavation Zone Checklist. The Construction Representative will verify that the Contractor has located and identified all underground services with appropriate color coded markers.

When the Contractor is responsible for the underground utility location and identification, public utility locates can be coordinated through the State recognized utility location and identification process. Some utility locates on private property may require a private utility location company to complete. Barton Malow can provide drawings with approximate location of existing utilities and structures to aid in marking the utilities in some instances.

If there is any uncertainty as to the degree of safety protection anticipated on underground electrical power lines, the electrical service should be de-energized first with a planned outage arranged and coordinated through Barton Malow.

POT HOLE OR HYDRO EXCAVATION VERIFICATION

The Barton Malow Representative or assigned representative must work directly with the Contractor who will hand dig or otherwise safely pot hole (daylight) to verify the location and depth of the various utilities and underground project and/or lines which may conflict with the excavation activity.

When the Contractor excavating activities are within four feet of underground services, the Barton Malow Representative or designated representative will be physically present for onsite monitoring to ensure compliance.

CONFINED SPACES

When the configuration of an excavation is such that the excavation is deemed to be a confined space, the provisions of Barton Malow's confined space program will apply and a Confined Space Permit would be needed. **(refer to Attachment Q - Confined Space Entry Permit)**

Some excavations can become confined spaces.

TRAINING REQUIREMENTS

Contractor excavation Competent Person(s) that are trained and knowledgeable about soils analysis, the use of protective systems, identification of existing and predicable excavation hazards and the requirements of **OSHA Subpart P, Excavation, Trenching and Shoring** will be considered as meeting the necessary excavation Competent Person training for working onsite. The Contractor must provide proof of such training as requested by the Barton Malow Project Team. The Contractor is required to provide a qualified and Competent Person at the job site when excavation work is ongoing. The Contractor must ensure that the Competent Person(s) can demonstrate that their knowledge and skillsets match the excavation and protective system(s) that are in place. In addition, all Contractors working in or around excavations must receive general excavation hazards awareness training.

UNDERGROUND SERVICES/UTILITIES

A potential hazard onsite is the presence of underground services and structures such as utility lines (water, electric, sewer, gas, or communication), tanks, various gas and liquid process piping, and sewers. If these services or structures are damaged in any way as a result of excavation activities, there may be injury or death to workers, contamination or interruption of services, disruption of processes, and expensive delays. Appropriate steps must be taken by the Contractor to assure the protection of underground utilities.

RESPONSIBILITIES

The Contractor is responsible for the following:

- Obtaining an approved **Attachment R - Excavation Zone Checklist** from Barton Malow.
- Barricading and posting appropriate signage.
- Making all excavations safely accessible by means of ladders every 25 ft. or earthen ramps before work starts.
- Providing fall protection as necessary.
- Monitoring/daily inspections of excavation, trenching and shoring operations.
- Designating a Competent Person who has had the training to act in this position and providing the Competent Person the authority to effectively discharge their duties. Record of Competent Person Training shall be given to the Barton Malow Project Team.
- Ensuring the requirements of this section are effectively communicated and enforced with lower tier Subcontractors.
- Investigating and reporting to Barton Malow all incidents involving excavations, trenching and shoring.
- Supplying design from a registered Professional Engineer for all excavations over 20 feet deep.

A Competent Person must be present when performing excavation work.

FIRE PROTECTION + PREVENTION

APPLICABILITY

Barton Malow or the Fire Protection Contractor must be responsible for the development and implementation of a fire protection program to be followed throughout all phases of the construction project. This program must apply to all Construction Contractors' and lower-tier Subcontractors' Fire Protection activities performed onsite.

WORKING WITH OPEN FLAME, WELDING, CUTTING OR GRINDING

The following requirements apply to Contractors conducting activities with open flames, welding, cutting, or grinding and other flame/spark producing tasks, hereafter referred to as "Hot Work".

- The Contractor must perform Hot Work in accordance with the Hot Work Permit System. **(Attachment U - Hot Work Permit)**
- Barton Malow must ensure that all lower-tier Subcontractors understand and comply with the requirements of the permit system.
- Contractor personnel who perform fire watch duties must be qualified and provide proof of training documentation. Individual(s) performing fire watch duties must be proficient in the use of fire extinguishers.
- Alternatives to performing Hot Work (e.g., saw cutting instead of grinding wheel or torch cutting; crimp-type pipe fittings instead of soldered fittings) should be used where practical.
- Hot Work should be performed in Contractor shops or designated areas (e.g., pre-approved weld booths or shop areas) where practical.

Storage and handling of compressed gases will include:

- Valves, regulators and hoses removed with valve caps on securely.
- Secured upright at all times, including during transportation.
- Never laid flat or lifted on someone's shoulder.
- Fuel and oxygen cylinders secured and separated by a minimum of 20 feet.
- Empty cylinders stored separate from full cylinders.
- Flash arrestors must be located at the torch and at the regulator.

HOT WORK PERMIT SYSTEM

The Contractor will be responsible for providing all the required training, materials, and PPE to conduct all Hot Work.

Prior to the start of any Hot Work activity, the Contractor must perform a walk-down of the work to facilitate thorough hazard identification and control. The Contractor is ultimately responsible for compliance with the requirements of the permit.

HOT WORK LOCATION SELECTION HIERARCHY

The location of Hot Work must be determined by utilizing the following priority list:

- If work must be conducted onsite, combustibles must not be located within 35 feet of the work area.

- If work must be conducted onsite and combustibles cannot be removed from within 35 feet of the work area, fire barriers such as screens or blankets must be used to protect combustibles.
- Protect openings in walls, floors, roofs, and ceilings where sparks can travel beyond the work area to inaccessible or unprotected areas. Openings or cracks in walls, floors, roofs or ceilings within 35 feet of the Hot Work location must be tightly covered with fire-retardant or noncombustible material to prevent the passage of sparks to adjacent areas.
- Beware of heat conduction through penetrations. Hot Work that is performed on pipes or other metal that is in contact with combustible walls, partitions, ceilings, roofs, or other combustibles, must not be undertaken if the work is close enough to cause ignition by conduction.

FIRE WATCH

The Contractor must establish a fire watch to protect the safety of workers and assets. The fire watch observes staff conducting the welding, cutting, or grinding operations and monitors adjacent areas. The worker assigned to this task of fire watch must have fire extinguishing equipment readily/immediately available.

A fire watch is required for all Hot Work and may be required on multiple levels.

The fire watch must observe the Hot Work area for 30 minutes (60 minutes for roof work) after the completion of Hot Work. For overhead work, a fire watch may be necessary on multiple levels. The fire watch may not be assigned any other duties during Hot Work operations. The fire watch must stop work if sparks travel beyond the area that fire watch can observe. Individuals assigned to fire watch duties must:

- Be a qualified, trained and understand the requirements of the Hot Work permit system.
- Be knowledgeable about fire and emergency reporting procedures and fire alarm pull box locations in buildings, if applicable.
- Have emergency communications, such as cellular phones or radios, available when working in remote or outside areas.
- Be trained in the use of fire extinguishing equipment.
- Prior to leaving the site, the fire watch must verify that the possibility of fire does not exist.

Fire watch observation times:

-30 min.
typical Hot Work

-60 min.
Hot Work performed on roofs.

FIRE PROTECTION EQUIPMENT

Fire protection equipment must be sufficient for the hazards present. At a minimum, an appropriately rated fire extinguisher is required to be conspicuously located. Fire extinguishers will be certified annually, inspected monthly and must be readily available in the immediate work area. Free access must be maintained at all times to all exits, fire alarm boxes, fire extinguishing equipment, and any other emergency equipment. Free access means clear of all obstructions. Site protection fire extinguishers must not be used as Hot Work fire extinguishers unless an emergency warrants its use. If a fire extinguisher is discharged for any purpose, it should be reported to the Barton Malow Safety Leader. Each temporary building and trailer (shops, field offices, storage boxes, etc.) will have its own appropriately sized and located ABC class fire extinguisher.

Hot Work areas require a dedicated fire extinguisher.

HOT WORK PROTECTIVE CLOTHING

Contractors must ensure that the personnel protective clothing selected for Hot Work minimizes the potential for ignition, burning, trapping hot sparks and electric shock as identified in **ANSI Z49.1, sections 4.3 and E4.3**. This includes skin, face, eye, ear, and clothing protection. Hard hat face shields are to be worn at all times over safety glasses.

HOT WORK REQUIRED INSPECTIONS

In addition to the fire watch requirements, the Contractor's authorized worker/permit holder must inspect the work area a minimum of once per day to verify compliance with permit requirements. Additionally, responsible Contractor personnel must also perform periodic inspections to ensure continued compliance with the requirements of the permit. When inspections identify unsafe conditions or the scope of work departs from that defined in the permit, the Hot Work must be stopped immediately.

HOT WORK OUTDOORS

The Contractor must ensure that vegetation and other combustibles are removed, cut back, or otherwise protected to prevent ignition during Hot Work outdoors. A high level of caution must be exercised to prevent grass fires.

FIRE PROTECTION SYSTEM OUTAGES AND IMPAIRMENTS

Contractors performing work must plan their work and take the necessary steps to minimize outages or impairments of fire suppression, detection, or alarm systems. When outages are necessary to perform a particular scope of work, they must be coordinated and approved by the Barton Malow Project Team. When Interim Life Safety systems will be interrupted, hazardous work operations such as Hot Work will be evaluated.

EXITS AND EXITS ACCESS

The Contractor must ensure that a clear path of at least 44 inches is maintained to exits on indoor projects. Exits must be marked by a visible sign. Access to exits must be marked by visible signs in all cases where the exit or way to reach it is not immediately visible to the occupants.

FLAMMABLE AND COMBUSTIBLE LIQUIDS STORAGE

Flammable and combustible liquids must be stored in approved containers and cabinets, such as those that are Underwriters Laboratory (UL) or Factory Mutual (FM) listed, and quantities must be limited to minimize fuel loading in accordance with National Fire Protection Association (NFPA) Codes. These cabinets should be grounded. Rags used to apply flammable liquids are to be disposed of in a self-closing, approved safety containers designed for that use. Containers must be labeled as to contents and hazard. Any onsite fuel tanks should be stored in a double walled tank with appropriate measures taken to prevent spills from migrating offsite.

SMOKING/WILDFIRE

Smoking is permitted in designated areas ONLY. All Contractors will be responsible for housekeeping of identifiable trash including cigarette butts. Contractors must supply a nonflammable butt can for their work areas that is routinely cleaned out to prevent fires. There will be NO SMOKING on or in any part of the project buildings and flammable storage areas. Due process and control must be employed to prevent grass fires. Open fires are prohibited.

HOUSEKEEPING/TRASH

Barton Malow's policy on housekeeping is that all equipment, tools, and materials will be stored, stacked, or set up to prevent an incident or injury. The area will be a clean and orderly work place. All Contractors will be responsible for housekeeping of their identifiable trash. The Contractor must continuously police their work area as work progresses and maintain good housekeeping daily. Common garbage and other waste must be disposed of each day. Containers must be provided for the collection and separation of waste, trash, oily or used rags, and other refuse. Containers used for garbage and other oily, flammable, or hazardous wastes, (such as caustics, acids, harmful dusts or similar materials) must be equipped with covers. Chemical agents or substances, which might react to create a hazardous condition, must be stored and disposed of separately.

Project Management, Supervision, Workers, vendors and third party persons will maintain all work locations in an orderly and clean manner at all times.

Tire wash areas will be located by each entrance to help eliminate mud and dirt tracked onto public streets. Onsite mud and dirt will be removed continuously during the workday. The following are the minimum housekeeping requirements for projects:

- Access walkways, roadways, and fire lanes will not be blocked with material, tools, ladders, scaffolds, welding leads, air hoses or electrical cords.
- Electrical extension cords, light stringers, air hoses, and welding leads will be elevated above walkways a minimum of seven feet or the area marked with signage stating: "TRIP HAZARD."
- Covered protection should be in place to protect cords that cross walkways and roads.
- Welding rods, nuts, bolts, and washers will be kept in proper containers.
- Shackles, slings, chokers, ladders, and safety equipment will be removed from the work area when not needed and properly stored.
- Trash containers will be placed at appropriate locations.
- All nails/screws will be removed from scrap/lumber immediately and swept up daily.
- Rubbish, trash, and debris will be removed as needed from the work area and at least daily.
- Materials may have to be positively secured depending on the structure design and elevation.

HOISTING + RIGGING

APPLICABILITY

The requirements of this section apply to all Contractors' hoisting and rigging activities. The complete **OSHA 1926 Subpart CC Crane Standard** is to be considered a part of this program. The equipment covered under this procedure includes devices and associated equipment such as slings, ropes, and chains, which provide mechanical assistance in raising and lowering a load. This includes either power or manually operated equipment.

SPECIFIC REQUIREMENTS/PERMITS

All Contractors (regardless of tier) must use a hoisting and rigging program that meets or exceeds the provisions of this section and OSHA standards. All equipment brought on site must be in a new or like-new condition free of hydraulic or oil leaks.

OPERATOR TRAINING AND CERTIFICATION

Contractors who provide and operate equipment, as part of a construction project or similar activity will be in compliance with all applicable parts of **OSHA 1926 Subpart CC** and must provide:

- Proof of Training/Certification: Prior to operating a crane, the operator will provide a copy of their crane operator certificate to Barton Malow.
- This certification/license must be current for the crane type they will be operating. (i.e., Mobile Crane Operator, Tower Crane Operator). Certification will be provided by one of four approved agencies: NCCCO, NCCER, CIC or OECP.
- Medical Requirements: Crane operators must complete a medical certification examination at least every three years in accordance with **ASME B.30.5**. A valid medical card must be provided to document this requirement.

HOISTING AND RIGGING OPERATING REQUIREMENTS PLANNING

The Contractor must evaluate and plan operations in advance. A Competent Person must identify the hazards and determine the controls necessary to maintain an acceptable level of risk through the JHA process. A Hoisting and Rigging Lift Plan is required for complex and critical lifts. This plan must be documented and given to Barton Malow for review.

CRITICAL AND COMPLEX LIFTS

The Contractor must utilize a Hoisting and Rigging Lift Plan or other Barton Malow-accepted equivalent plan to document critical and complex lifts. All critical and/or complex lift plans require the review and concurrence of Barton Malow.

Hoisting of personnel with a crane or derrick is not allowed except with the authorization of Barton Malow under emergency conditions.

Any revisions to the procedure must be reviewed and approved though the same cycle as the original procedure.
Critical Lifts are defined as lifts for which any of the following conditions exist:

- The weight of the lift exceeds 75% of the crane's rated capacity in the configuration that will be used during the lift.
- Lifts involving non-routine or difficult rigging arrangements or where loads will require exceptional care in handling because of size, weight, close-tolerance installation or high susceptibility to damage.
- If the item being lifted were to be damaged or upset, it could result in a release of hazardous material into the environment or the release of airborne concentrations that could exceed established occupational exposure limits.

- The item being lifted is unique and, if damaged, would be irreplaceable or not repairable and is vital to a system, or project operation.
- The cost to replace or repair the item being lifted, or the delay in operations of having the item damaged, would have a negative impact on the construction project to the extent that it would affect project commitments.
- The item, although non-critical, is to be lifted above or in close proximity to a critical item or component.

Complex Lifts are defined as lifts that present logistical difficulties or lift coordination complications, thus requiring a higher level of planning and execution. Complex lifts may involve the following:

- A lift involving multiple cranes.
- Axial rotation of an object in the vertical plane or other complex movement of the load.
- A lift where the behavior of the load, while in suspension, is questionable.

PRE-LIFT MEETING

Before the Critical Lift is performed, a pre-lift meeting with all participating personnel must be held. During the meeting, the critical lift procedures must be reviewed and questions must be resolved before the lift takes place. The following items must be reviewed:

- The scope and sequence of work.
- Roles and responsibilities.
- Hazards and controls.
- Other relevant information identified in the Hoisting and Rigging Lift Plan.

When performing lifts designated as critical and/or complex, this meeting must be documented.

COMMUNICATION

The Contractor will use OSHA standard hand signals or voice/radio communications during the course of crane operations. The signal person will have completed required training and a copy will be given to the Barton Malow Safety Manager.

AREA ACCESS CONTROL

The Contractor must cordon off or manually control the lift area to prevent access by unauthorized workers by deploying barricades and warning signs and/or utilizing personnel to monitor and control access to the area. The Contractor must cordon off the swing radius area for mobile cranes with warning tape or other barricade apparatus, such as fencing.

PROTECTION OF PEOPLE

Do not place people in jeopardy by moving a suspended load over people or an occupied section of a project. Work beneath a suspended load is prohibited unless the load is supported by cribbing, jacks, or a solid footing that safely supports the entire weight. All personnel must remain clear of moving and shifting loads. Occupied areas that are underneath the arc radius of the path of travel of the hoisted loads must be vacated during the hoist. Notification of the path of travel should be discussed with the crew and adjoining workforce before any lift is lifted. An audible signal (air horn) will be sounded to let personnel know a lift is about to be flown.

RATED LOAD CAPACITY

The rated load capacity of monorails and other structural elements, such as jibs, must match, at a minimum, the rated load capacity of a hoist placed upon it. Know the weight of the object being lifted or use a dynamometer or load cell to determine the weight. If the weight of the load is unknown, a minimum 50% safety factor must be employed. This means that the crane or hoist, slings, and rigging hardware must have twice the capacity of the estimated load. Fully extend outriggers or reduce the cranes rated load capacity as directed and allowed by the crane manufacturers operating manual.

ELECTRICAL DISTRIBUTION LINES

Watch for overhead electrical distribution and transmission lines and maintain a safe working clearance from energized electrical lines of at least 20' or as required by Table A - Minimum Clearance Distances (see below). Any overhead wire must be considered to be an energized line unless proven otherwise by a Competent Person. Exercise caution when working near overhead lines having long spans as they tend to move laterally or vertically due to the wind, which could cause them to breach the safety zone. The safety zone must be marked before work around them proceeds.

ENVIRONMENTAL FACTORS

Environmental factors, such as weather and terrain can adversely affect a lift. When performing outdoor lifts, the following environmental factors must be considered:

HIGH WINDS

Lifts must be suspended if prevailing wind conditions may adversely affect the lift. As a general rule, this applies to wind speeds of 25 MPH or more. However, based on the nature of the load–such as size, surface area, or fragility–a lower wind speed limit may warrant suspension of a lift. The operator and/or lift master must evaluate behavior of the load in prevailing winds and the stresses placed upon equipment to the extent necessary to safely complete the lift.

BURIED LOADS

Check surface conditions to determine if the load may be buried. Do not use Hoisting and Rigging (H+R) equipment to "break loose" a load that is buried. This subjects equipment to severe and unintended loads. All loads should be placed on dunnage to prevent this.

GROUND CONDITIONS

Check ground conditions around the hoisting equipment for proper support, including settling under and around outriggers, ground water accumulation or other similar conditions. Geotechnical drawings and ground pressures should be reviewed to insure proper setup.

TABLE A - MINIMUM CLEARANCE DISTANCES

VOLTAGE (NOMINAL, KV,ALTERNATING CURRENT)	MIN. CLEARANCE DISTANCE (FT.)
Up to 50	10
Over 50 to 200	15
Over 200 to 350	20
Over 350 to 500	25
Over 500 to 750	35
Over 750 to 1,000	45
Over 1,000	As established by the utility owner/operator or registered professional engineer who is a Qualified Person with respect to electrical power transmission and distribution.

Note: The value that follows "to" is up to and includes that value. For example: over 50 to 200 means up to and including 200kV.


DensGlass
Sheathing

CRANE INSPECTIONS, MAINTENANCE, + TESTING

APPLICABILITY

The requirements of this section apply to all Contractor's owned and/or rented cranes.

CRANE INITIAL INSPECTION

Prior to being placed into service, all Contractors' owned and/or rented cranes must undergo an initial third-party inspection at their own cost. Cranes that will be onsite less than five days will be exempt from this independent third-party inspection. An accepted checklist must be utilized to document these inspections. When qualified third-party inspections are performed, a copy of the third-party inspection must be submitted (which will satisfy the crane physical inspection portion of the checklist) to the Barton Malow Safety Representative. Barton Malow may elect to oversee the Contractor's initial inspection of the crane. All crane inspection deficiencies must be identified and documented and the safety implications must be determined. The Contractor must maintain the original copy of the inspection report and provide a copy to the Barton Malow Safety Representative. The crane owner must take immediate action to correct the identified deficiencies.

DAILY PRE-OPERATIONAL INSPECTIONS

Operators must visually inspect the following items each day or prior to first use if the hoist has not been in regular service (Records are required):

- Functional operating mechanisms for maladjustment interfering with proper operation.
- Deterioration or leakages in lines, tanks, valves, drain pumps and other parts of air systems.
- Hooks for cracks, deformation, latch engagement, and damage from chemicals.
- Hoist rope for significant wear, kinking, crushing, bird-caging, corrosion, or broken strands or wires.
- Hoist chains, including end connections, for excessive wear, twist, distorted links interfering with proper function, or stretch beyond manufacturer's recommendations.
- Primary hoist upper-limit device for proper operation.

DEFICIENCIES

Operators or other designated, qualified workers must examine deficiencies and determine whether the equipment should be removed from service or if a more detailed inspection is required.

MONTHLY INSPECTIONS

Cranes active on the site for periods extending beyond one month must receive monthly documented inspections. The Competent Person must at a minimum visually inspect the following items for damage, wear, or other deficiency that might reduce capacity or adversely affect the safety of the crane:

- Critical items such as brakes and crane hooks
- Hoist ropes

Signed and dated inspection records must be kept on file and a copy must be turned into the Barton Malow Project Team. Before the crane is returned to service, correct deficiencies that could reduce its capacity or adversely affect its safety.

ANNUAL INSPECTIONS

Annual crane inspections must conform to the requirements identified in **OSHA 1926 Subpart CC** and as recommended by the manufacturer. A copy of the annual inspection will be provided to Barton Malow prior to placing the crane into service.

MAINTENANCE

A preventive maintenance program must be established and based on the recommendation of the crane manufacturer. If equipment maintenance procedures deviate from published manufacturer's recommendations, the alternate procedures must be approved in advance by the manufacturer or another Qualified Person and be kept readily available. A copy of dated maintenance records should be turned into the Barton Malow Project Team. Replacement parts must be at least equal to the original manufacturer's specifications.

RATED LOAD TEST

Prior to initial use, all cranes in which load sustaining parts have been modified, replaced, or repaired must be load-tested by a qualified inspector or under the direction of that inspector. All rated load tests must be performed in accordance with manufacturer's recommendations.

RIGGING SAFETY REQUIREMENTS RIGGING COMPONENT PROCUREMENT

Rigging components must be obtained from reliable sources and must be rated for applications. Do not use damaged or suspect rigging.

All rigging components must be clearly marked with the applicable Working Load Limit (WLL) and manufacturer's tag.

STORAGE AND MAINTENANCE

Rigging equipment must be stored and maintained in accordance with the manufacturer's recommendations. Protect rigging hardware from weathering and harsh environments. Rust, corrosion, and/or UV damage can degrade rigging performance. Any rigging equipment found in dirt, water or mud must be removed from the project.

LABELING

Rigging hardware must be labeled for identification purposes with the manufacturer's tag.

RIGGING SAFE WORK PRACTICES

Ensure that the following safe work practices are utilized when rigging a load:

- Riggers should meet the training qualifications set forth in the new crane standard **OSHA 1926 Subpart CC**. Proof of this training should be turned in to the Barton Malow Project Team prior to rigging activities taking place.
- Determine the weight of the load. Do not guess. The weight of the load must be within the rated load capacity of the rigging. Tags must be affixed with capacities clearly legible.
- Determine the proper size for slings and components. Refer to the manufacturer's literature. Select slings so that the rated load capacity is adequate when the appropriate de-ratings are applied based on sling angle and/or hitch angle considerations (choker angle de-rating).
- Verify that shouldered eyebolts are installed in accordance with the manufacturer's recommendations. Beware of side pull applications. Eyebolts must be de-rated when subject to side loads.
- Do not use shoulderless eyebolts for lifting purposes.
- Use safety hoist rings (swivel eyes) as a preferred substitute for eyebolts when possible.
- Pad sharp and small diameter edges to protect slings. Machinery foundations or angle-iron edges may not feel sharp to the touch but could cut into rigging when under load. Dense foam, tire rubber, or other dense, pliable materials may be suitable for padding.
- Do not use slings, eyebolts, shackles, hooks, or other hardware that appear to have been cut, welded, brazed, or is otherwise suspect.
- Determine the center of gravity and balance the load before moving it. Keep the attachment points of rigging accessories as far above the center of gravity as possible.
- Lift the load initially just a few inches to test the rigging and balance.
- Place blocks beneath loads prior to setting down the load to allow removal of the sling, where applicable.

Remember to inspect all rigging devices prior to use.

INSPECTION CRITERIA FOR SLINGS, BELOW-THE-HOOK LIFTING DEVICES AND RIGGING HARDWARE PRIOR TO USE INSPECTION

At the beginning of each shift or prior to use, the Competent Person must visually inspect the rigging equipment (slings, below the hook devices and rigging hardware) in accordance with the appropriate ASME/ANSI standard or according to the manufacturer's instruction (whichever is more stringent.) Defective rigging equipment must be removed from service and destroyed to prevent reuse.

PERIODIC INSPECTIONS

Rigging equipment must be inspected periodically in accordance with the appropriate ASME/ANSI standard or according to the manufacturer's instruction, whichever is more stringent. This inspection must be performed by a qualified inspector and have a documented inspection history, with records readily available.

PERSONNEL PLATFORM LIFT PLAN

The use of a man basket to hoist workers onto a platform is prohibited, except when the use of a conventional means of reaching the work area, such as a ladder, scaffold, or man lift, would be more hazardous or is not possible because of structural design or worksite conditions. Personnel lifts must be properly planned and executed. Barton Malow must authorize this type of activity in advance of the lift.

PRE-LIFT MEETING

A pre-lift meeting must be conducted prior to initiating a personnel lift. All workers involved in the work activity must attend the pre-lift meeting, including, man basket occupants, and the operator.


DANGER
WARNING

STEEL ERECTION

APPLICABILITY

The requirements of this section apply to all Contractors' and lower-tier Subcontractors' steel erection activities. No steel erection will begin without a written Notice to Commence Steel Erection.

FALL PROTECTION

Workers engaged in steel erection activities including but not limited to connecting, decking, and bolt up, are not exempt from Barton Malow's 100% fall protection requirements when working from surrounding elevations of six feet or greater. Barton Malow reserves the right to impose lower fall protection requirements depending upon the work to be performed and the perils in the work area.

Perimeter safety cables installed by the steel erector will remain in place unless otherwise instructed by Barton Malow. The steel erector will coordinate cable installation with Barton Malow to ensure span lengths are appropriate for future work (no more than two bays or 60 feet per turnbuckle, and a turnbuckle per cable around mechanical openings). NO ONE must dismantle perimeter cable without **Attachment T - Guard Rail Removal Permit**.

TRAINING

Training records indicating workers have received required steel erection and fall protection training will be maintained at the project and available for review by Barton Malow.

STEEL DELIVERIES

All steel deliveries will be coordinated with the Barton Malow Project Team to ensure traffic around the project is controlled. No deliveries must be unbound until inspected and deemed secure by a Qualified Person. A ladder will be used to access all truck beds.

HOISTING AND WORKING OVERHEAD

Design criteria for any multi-lift device must be available for review by Barton Malow. Work will be planned that no load will be swung over the public, other workers, or occupied structures. Notification of the path of travel should be discussed with the Hoist and Rigging crew and adjoining workforce before any lift is lifted. An audible signal will be sounded to let personnel know a lift is about to be flown. During bolt-up activities all steps will be taken to protect workers below from falling objects. The Contractor must cordon off the erection area to prevent access by unauthorized workers by deploying barricades appropriate for the exposure.


Barton
Malow

FALL PROTECTION PROGRAM

APPLICABILITY

The requirements of this section apply to all Construction activities which require personnel to work or potentially be exposed to unprotected heights of six feet or more. Additionally, all workers who are constructing a leading edge above surrounding elevations of six feet or greater must not be exposed to unprotected heights without fall protection. Barton Malow reserves the right to impose lower fall protection requirements depending upon the work to be performed and the perils in the work area. All employees and Contractor employees must be protected from falling by 100% continuous fall protection, guardrail systems, safety net systems, or personal fall arrest systems. No exceptions are allowed.

FALL PROTECTION PROGRAM

Contractors providing services onsite must have in place a Fall Protection Program that ensures effective fall protection system(s) are in place anytime workers are exposed to falls at heights of six feet or more. All work will be planned with the intent to eliminate identified fall hazards through Prevention Through Design. Workers exposed to fall hazards that cannot be eliminated will be equipped, trained and given periodic refresher training in fall protection to minimize the adverse effects of accidental falls. When working at heights less than twenty feet and utilizing Personal Fall Arrest Systems (PFAS), individuals will utilize retractable units, restraining devices or positioning devices.

FALL PROTECTION PLAN

Contractors must develop and submit a Fall Protection Plan (FPP) to Barton Malow for concurrence prior to the start of work. The plan must be prepared by a Qualified Person or Competent Person for the Contractor and developed specifically for the activity and/or project where the work will occur, and must be available to Barton Malow for review. The FPP must be documented and contain the following elements at a minimum:

- Project/Job location/date(s).
- Project/Job description.
- Name of the Contractor Fall Protection Program Administrator, Qualified Person and the Competent Person is responsible for fall protection on this site/project.
- Fall Hazard Analysis (FHA) conducted for each activity or similar activity type/grouping associated with the project. (Note: For projects that cannot identify all activities that will require fall protection during the life of the project, the Contractor must ensure that a FHA is performed, reviewed and accepted as required by Barton Malow and attached to the project Site-Specific Fall Protection Plan prior to performing the work).
- Identify the means to be utilized for the prompt rescue of employees in the event of a fall as necessary.
- Provide verification of training certification for personnel affected by the FPP including proper daily inspection criteria.
- Signature of the Competent Person preparing the plan and the Contractor Site Safety Representative.
- Document how the requirements of this plan will be passed down to workers and lower-tier Subcontractors.

FALL HAZARD ANALYSIS

A Fall Hazard Analysis (FHA) must be conducted for each activity or similar activity type/grouping prior to the start of work and must be included in the FPP or as part of the Job Hazard Analysis (JHA) for the subject activity and/or definable feature of work. The FHA must be performed by a Competent Person and/or Qualified Person. This analysis must identify one or more methods to eliminate or mitigate fall hazards. The analysis must be comprehensive, thorough, and address the following elements:

- Describe the fall hazards associated with the proposed activity.
- Identify the controls that will be in place to eliminate or mitigate the fall hazard. The controls must achieve 100% continuous fall protection. The selection of controls must be in accordance with the Fall Protection Hierarchy of Control and Mitigation Methods.
- As necessary, identify the means to be utilized for the prompt rescue of employees in the event of a fall.

The Contractor may perform this analysis by using a separate form, or this analysis may be conducted and included as part of the JHA prepared for the subject project/activity. The FHA and/or JHA must be revised and resubmitted to Barton Malow when they are no longer applicable.

FALL PROTECTION HIERARCHY OF CONTROL AND MITIGATION METHODS

The Contractor must incorporate the following hierarchy of control when selecting methods to eliminate or mitigate fall hazards:

- **HAZARD ELIMINATION:** First consider eliminating fall hazards. This might involve moving the work surface to ground level or changing a task so that workers do not approach the fall hazard.
- Implementing Prevention through Design, Prevention through Planning in designing the project.
- **PASSIVE FALL PROTECTION:** Take actions that isolate or effectively separate the hazard from workers, such as installing floor coverings or handrail/guardrail systems.
- **FALL RESTRAINT**: Establish a travel restraint system that prevents a worker from accessing a position from which he or she could fall.
- **FALL ARREST:** Configure a PFAS designed to arrest a fall after it has begun.
- **ADMINISTRATIVE FALL PROTECTION SYSTEM:** Controlled access zones, and safety monitors are not allowed.

FALL PROTECTION EQUIPMENT SYSTEM REQUIREMENTS

Fall protection equipment and systems must be used in accordance with the manufacturer's recommendations and the requirements of this procedure. Misapplication or use of this equipment in a way contrary to those requirements is prohibited. A Competent Person must supervise the work and verify that the fall protection system is properly established and maintained. Contractors will submit all engineered documentation on horizontal lifelines to Barton Malow for review and approval. All horizontal lifelines will be installed under the direct supervision of a Qualified Person.

PERSONAL FALL ARREST SYSTEM STRENGTH REQUIREMENTS

Contractors must ensure that the strength and testing requirements for personal fall arrest systems, components and subsystems must comply with the provisions of **ANSI Z359.1**, Safety Requirements for PFAS, Subsystems and Components. All other applicable fall protection equipment and system requirements must at a minimum meet the requirements of **ANSI A10.32** Standard for Personal Fall Protection used in Construction and Demolition Operations.

PERSONAL FALL ARREST SYSTEM (PFAS) INSPECTIONS & STORAGE ROUTINE INSPECTION

PFAS equipment must be inspected by the worker using the equipment prior to each use. Equipment inspections must follow the guidelines established by the manufacturer. Damaged or questionable equipment must be immediately removed from service and tagged accordingly. Equipment that cannot be repaired must be destroyed.

PFAS equipment must be inspected prior to each use.

POST-FALL INSPECTION

PFAS equipment must be inspected by the worker using the equipment prior to each use. Equipment inspections must follow the guidelines established by the manufacturer. Damaged or questionable equipment must be immediately removed from service and tagged accordingly. Equipment that cannot be repaired must be destroyed.

EQUIPMENT STORAGE

Fall protection equipment and PFAS components must be stored in a manner that protects it from exposure to adverse conditions, such as ultraviolet light or harsh weather, that could result in damage or diminished performance and/or other specific requirements established by the manufacturer.

All fall protection equipment must be stored as recommended by the manufacturer.

SAFETY NET SYSTEMS

The use of safety net systems as the means of fall protection will require prior approval of the Barton Malow Project Team.

PORTABLE LADDERS

Barton Malow encourages the use of platform ladders onsite. These ladders provide a larger working surface to aid in better balance and positioning. Fall protection is not required when using portable ladders in compliance with the following requirements:

- Portable ladders must be set up and used in accordance with OSHA and manufacturer requirements and be a minimum Type I, Heavy Duty Classification. Light and medium duty class ladders are prohibited.
- Extension ladders must be tied/secured off to prevent displacement.
- Ladder users must maintain three-point control (three limbs maintain contact on the ladder), and that their body remains centered between the side rails.
- Tools and materials may not be hand carried while using a ladder.
- Ladder users are not subject to a fall to a level lower than the base of ladder they are working from.
- By accessing the ladder, you have not negated the protection of adjoining fall protection such as guard rails. Should you negate the existing protection, fall protection would be required.

TYPE IAA
375 POUNDS
Special Duty, Professional Use

TYPE IA
300 POUNDS
Extra Heavy Duty, Industrial Use

TYPE I
250 POUNDS
Heavy Duty, Industrial Use

GUARD RAILS

If any component of a guardrail system must be removed, the Barton Malow Project Team must issue **Attachment T - Guardrail Removal Permit**. Any Contractor that must remove a fall protection system in the course of their work will be responsible for immediately replacing and restoring the protective system. Removal of guard rails without a permit is a violation of the project's disciplinary program up to and including termination.

TRAINING REQUIREMENTS

Contractors that are trained in accordance with the requirements identified in OSHA will be considered as meeting the necessary fall protection training requirements for working at a Barton Malow project. The Contractor must provide proof of such training as requested by the Barton Malow Project Team.

PERSONAL FALL ARREST SYSTEM (PFAS)

The Contractor must ensure that a PFAS is employed when conventional systems are not feasible to achieve 100% continuous fall protection at working heights of six feet or more. If a PFAS or conventional fall protection systems is not feasible, this justification must be documented in the fall hazard analysis and reviewed before work starts by Barton Malow's Project Team.

HEARING CONSERVATION

APPLICABILITY

The requirements of this section apply to all construction activities which may expose Contractor's employees to high-noise levels. Contractor's employees are to follow the requirements of the hearing conservation program as required.

REGULATORY REQUIREMENTS

Approved hearing protection will be worn as specified in posted areas and while working with or around high-noise level producing machines, tools, or equipment. A good rule to follow is: When you must raise your voice to be heard, you need hearing protection. Exposure to impulsive or impact noise will not exceed 140dB noise level. Barton Malow's Hearing Conservation Program must meet or exceed requirements in the OSHA standard:

- American Conference of Governmental Industrial Hygienist (ACGIH), "Threshold Limit Values for Chemical Substances and Physical Agents and Biological Indices," 2005.
- **OSHA 1926.52, Occupational noise exposure**.

CONTROL MEASURES

Barton Malow uses a hierarchy of control measures to reduce noise levels as low as feasible. The order of precedence for mitigating hazards establishes the actions to be considered, in an order of effectiveness, to achieve intended risk reduction.

A hearing conservation program is required if workers are exposed to a TWA noise level of 85 dBA or higher over an 8 hour work shift.

The hierarchy is as follows:

- Elimination or substitution of the hazards.
- Engineering controls.
- Work practices and administrative controls that limit worker exposures.
- Personal protective equipment (PPE).

Every feasible effort must be made to "engineer out" noise exposures greater than or equal to an 8-hr timeweighted average (TWA) sound level of 85 decibels (dBA) on the A-weighted scale prior to using personal hearing protection as a noise attenuation device. When controls are not feasible or fail to reduce noise to acceptable levels, hearing protection must be required. Additionally, if work is to be performed in an environment that is suspected to exceed the allowable noise exposures, mandatory hearing protection requirements must be implemented.

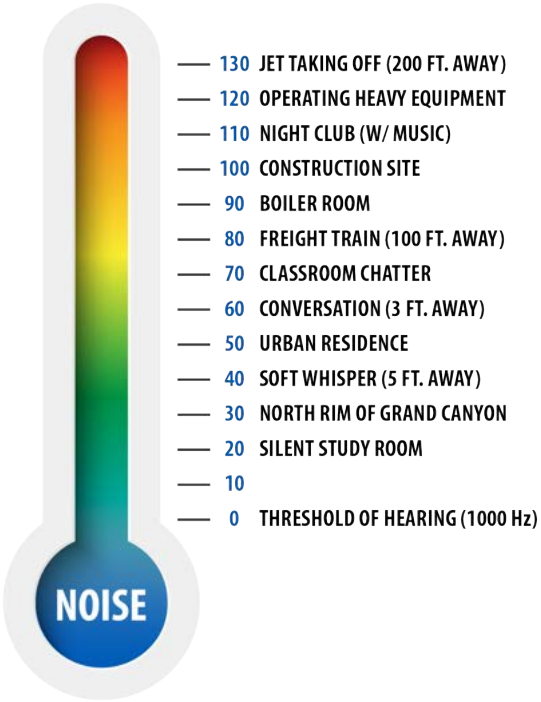
NOISE EVALUATION

The Contractor must survey and evaluate suspected high noise areas and work efforts. Employees may observe surveys and evaluations, and the results must be made available to employees. Contractors must control employee exposures when noise levels exceed 85 dBA as an 8-hr TWA, or if impact/impulse noise exceeds 140 dBA. Maximum allowable noise exposure must not exceed the permissible noise exposures shown in 29 CFR 1910.95 or the ACGIH TLV's. Noise exposure must be determined without regard to hearing protection provided.

HIGH NOISE AREA POSTING

High noise areas must be posted with appropriate warning signs at all entrances.

TYPICAL SOUND LEVELS (dBA)



INDUSTRIAL HYGIENE

APPLICABILITY

The requirements of this section apply to all Contractors' activities regarding industrial hygiene matters as they relate to the construction activities unless otherwise specifically exempted by Barton Malow. This section defines the requirements and responsibilities for anticipating, recognizing, evaluating, and controlling employee exposures to chemical, physical, and biological agents encountered during construction activities. The Contractor Industrial Hygiene (IH) program must address the following elements (as applicable to the project):

Noise	Sanitation
Lead	Safety Showers and Eyewash Apparatus
Hazardous Materials	Personal Exposure Monitoring
Hexavalent Chrome	Ionizing Radiation
Contractor Work Control	Respiratory Protection
Asbestos	Blood-borne Pathogens
Site Dust	Temperature Extremes
Lasers	Other Significant Hazards Project-related

The Contractor must provide personnel adequately trained/qualified to manage and implement their IH program to a level required for the scope of work.

GENERAL REQUIREMENTS

IDENTIFICATION OF HEALTH HAZARDS

The employer must identify and document, as part of the Job Hazard Analysis (JHA), existing and potential physical, chemical and biological health hazards. The JHA should include any additional hazards revealed by supplemental site information provided (e.g., site characterization data, as-built drawings, information regarding adjacent operations, etc.); and should be kept updated to reflect significant changes in exposure potential, new information, monitoring data, etc.

CONTROL MEASURES

The employer's IH program must require that controls are implemented to eliminate or reduce employee exposures to below recognized occupational exposure limits (PELs and TLVs). Employers should strive to maintain exposures to As Low as Reasonably Achievable (ALARA). Control measures to eliminate or reduce industrial hygiene-related exposures must be identified during the Pre-Task Plan (PTP) process and detailed in the JHA.

The implementation of control measures must follow the following hierarchy:

- Substitute to a less hazardous material if possible.
- Use engineering controls.
- Use administrative controls.
- Use PPE.

EXPOSURE ASSESSMENT

The employer must perform monitoring as necessary to document employee exposures to chemical and physical hygiene hazards. Negative exposure assessments are encouraged even when not specifically required by a substance-specific standard. Exposure assessments may be performed using various methodologies (integrated sampling, direct-reading instrumentation, modeling, etc.), as appropriate for the material(s) of concern, the site conditions and the type of data needed.

CONTROL OF HAZARDOUS MATERIALS

A hazardous material is any substance that presents a physical or health hazard to humans. Hazardous material exposures should be maintained at the lowest exposure levels practical. A chemical must not be used in any situation unless an individual has information indicating how the material can be used safely. Control measures to prevent overexposure to chemicals must be incorporated into the JHA as necessary.

CARCINOGEN CONTROL

The Contractor must make every attempt to substitute less hazardous substances for any carcinogenic material (as defined by OSHA.) If hazardous materials containing carcinogenic components are used, the Contractor must ensure that exposures are eliminated or effectively maintained As Low as Reasonably Achievable (ALARA).

Where the Contractor's use of carcinogens may impact any Barton Malow project workers, Barton Malow or the property Owner may impose additional, specific controls upon the Contractor.

WORKSITE DUST CONTROL

Dust control must be addressed as part of the JHA. Outdoor areas to be cleared for construction must be limited to keep dust generation to a minimum. Fugitive dust emissions resulting from grading and/or wind must be controlled. Construction of permanent roadways and parking areas should be scheduled during the early stages of a project.

During construction renovation activities, barriers are to be installed as needed to prevent dust migration from construction areas to other occupied space. Sufficient equipment must be kept at the jobsite to control dust whenever a nuisance or hazard occurs. Indoors, dry sweeping is discouraged.

SANITATION

Housekeeping must be maintained on a daily basis. All work areas, shops and offices must be kept clean to the extent the nature of the work allows. Walking/working surfaces must be maintained, so far as practicable, in a dry condition. Waste receptacles that do not leak and may be thoroughly cleaned and maintained in a sanitary condition must be used. All sweepings, wastes, refuse, and garbage must be removed in a timely and sanitary manner. Cleaning and sweeping must be done in a manner, which minimizes the contamination of the air with dust or particulate matter. Building entrances and openings must be maintained to minimize the entry of vermin.

TOILET FACILITY

Adequate chemical toilets are available on the jobsite for use by workers. Chemical toilets must be serviced often enough to prevent overflowing and the creation of an unsanitary condition or nuisance. Toilets must be maintained in good repair so as to prevent leakage of the contents to the surrounding ground, floor, or other portions of the structure. Separate toilets will be available for females which will be locked and keys available for controlled use. Hand washing facilities or hand sanitizing units will be provided for all workers on site.

DRINKING WATER

Every day Contractors will provide fresh clean drinking water to their employees. Drinking water will be dispensed in containers with a tight sealing lid and labeled as "Drinking Water". Drinking water containers are to be cleaned daily and have tape around the lid with the date of service and contents on the tape. A trash receptacle must be located next to the container. Adequate cups will be made available at each drinking water container. Cups will be stored in a durable, clean dispenser. A trash can or other type receptacle will be provided to collect used cups. Contractors are responsible for cleaning up around the water container area. Use of common utensils (e.g., sharing the same cup) is prohibited.

PERSONAL EXPOSURE MONITORING

The Contractor must perform monitoring as necessary to document employee exposures to chemical and physical hygiene hazards, and to meet regulatory requirements. Negative exposure assessments are encouraged even when not specifically required by a substance-specific standard. Workers must be informed of monitoring results within the OSHA-specified timeframe. Co-located workers (who have similar exposure potential as those who were monitored) must also be informed of the results, after removing any personal/confidential information. The Contractor must notify Barton Malow of the results of monitoring as soon as they are obtained, and provide copies of the results, field notes and other associated documentation.

TEMPERATURE EXTREMES

Provisions to prevent heat stress must be incorporated into the project JHA(s) when work conditions may reasonably be expected to present such hazards. The Thermal Stress section of the American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs) must be the governing guidelines.

HEAT STRESS

The Contractor must provide for appropriate mitigating measures prior to heat stress becoming an issue. The American Conference of Industrial Hygienists (ACGIH) threshold limit value (TLV) guidelines must be followed for developing and implementing heat stress mitigation strategies. The use of heat stress controls must be addressed during the planning stages for all work that is to be performed in elevated temperature environments, and whenever impermeable clothing or multiple layers of clothing must be worn to conduct work.

LIGHTING AND ILLUMINATION

The minimum lighting level for construction areas either indoors and outdoors must meet or exceed **OSHA Illumination** requirements. Auxiliary lighting must be used when needed for task specific activities. Care must be exercised with the use of halogen lamps so that fire hazards are not created.

VENTILATION

Local exhaust ventilation is a primary engineering control and is required to reduce concentrations of hazardous, irritating, and odiferous air contaminants below allowable exposure limits (where feasible). The operability of such systems must be evaluated prior to the start of the work. The **ACGIH's Industrial Ventilation manual** is the reference of standard for the design, testing and operation of ventilation systems. Ventilation systems requiring HEPA filtration should be leak or DOP tested at least annually to verify their effectiveness.

SILICA EXPOSURE

The Contractor is responsible for keeping worker exposures to silica at, or below, the American Conference of Governmental Industrial Hygienists' TLVs, or the limits as calculated in **OSHA's 1910.1000, Table Z-3**, whichever is lower. In general, engineering controls such as wet methods or ventilation should be employed whenever dust-producing activities are anticipated. Dry cutting of silica containing materials is prohibited.

HEXAVALENT CHROMIUM

The **Construction Industry Chromium (VI) Standard 1926.1126** will apply to all work performed by the Contractor that may expose workers to airborne hexavalent chromium. The Contractor must be responsible for compliance with all requirements of the Standard.

ASBESTOS

No disturbance of suspect or known asbestos-containing materials must take place unless performed by trained, certified and authorized entities. If suspect asbestos-containing materials are unexpectedly encountered during the course of construction activities, the Contractor must immediately cease work and contact Barton Malow. Asbestos-containing construction/building materials must not be brought on-site.

The Contractor conducting asbestos-related work must be responsible for compliance with the **OSHA Construction Standard 1926.1101**.

LASERS

Class 1 laser systems incorporated into commercially available devices for use by the general public are exempt from these requirements, unless opened, serviced or modified. Laser equipment must bear a conspicuously displayed label to indicate hazard classification. Laser

use must comply with OSHA requirements. Warning signs will be placed in laser use areas.
Users of Class 1, Class 1M, Class 2, Class 2M, Class 3a, or Class 3R lasers must read and abide by the safety documentation provided in the operator's manual. Only qualified and trained personnel may service, adjust, or repair laser equipment. Employees, when working in areas in which a potentially hazardous exposure to direct or reflected laser radiation exists, must be provided with anti-laser protection devices. Setup of lasers should be above or below the sightline of adjacent workers to eliminate worker exposure.

SAFETY SHOWERS AND EYEWASHES

Setup of a suitable station for quick drenching or flushing of the eyes and body (eyewash/shower apparatus) must be provided within the work area for immediate emergency use where the eyes or body of any person may be exposed to injurious corrosive materials, (e.g., corrosives, skin sensitizes, etc.). An eyewash/shower apparatus must be located such that it would require no more than 10 seconds to reach from the hazard. Access must be free of any impediments. For battery handling areas, a station for quick drenching of the eyes and body must be provided within 25 feet.

Employees who may have a need for an eyewash/shower apparatus must know where the nearest eyewash/shower apparatus is located and how to operate it. Monthly functional testing of eyewash/shower apparatus must be documented. The potable water provided for a portable eyewash/shower apparatus must be flushed or changed according to manufacturer's specifications.

IONIZING RADIATION

Radioactive materials, sealed radioactive sources, or devices that generate ionizing radiation must not be brought on the site without express written permission of the Barton Malow Safety Department. Any Contractor needing to bring radioactive material, sources or radiation-generating devices onto site must allow sufficient lead time in their schedule for review of their program, documentation, training records, other submittals, etc.

BLOOD-BORNE PATHOGENS

Employees who may reasonably be expected to be exposed to blood or other body fluids must comply with regulatory requirements relating to this subject. First aid kits must contain "Universal Precautions" items, including chemical splash goggles, medical gloves, cardiopulmonary resuscitation (CPR) masks (with oneway valve), antiseptic hand cleaner, drying cloths, and red bags labeled "BIOHAZARD." Medical waste generated as a result of first aid response must be placed in labeled red bags, and disposed of in accordance with state and local requirements.

OTHER HEALTH HAZARDS

Other hazards that may be present during the course of the Contractor's work which is not specifically addressed in this manual must be identified by the Contractor and addressed in their JHA(s). Contractors are encouraged to discuss their potential hazards in advance with a Barton Malow Safety representative. As appropriate, Barton Malow will coordinate with Contractors to help ensure minimal impact to the project schedule and the smooth coordination of logistics.

RESPONSIBILITIES

The provisions of this procedure apply to the development and implementation of the Contractor's IH Program. The Contractor must be responsible for implementing an effective IH program that:

- Identifies, evaluates, and controls potential and existing hazards/agents in the workplace through the pre-job safety planning process. This includes prevention.
- Is thoroughly designed to engineer hazards out of the workplace.
- Determines that engineering devices, administrative controls, and PPE are available, appropriate, tested, and utilized by employees.
- Determines employees are trained as required.
- Stops work that is not being safely performed.
- Reports occupational exposure data to affected employees in a timely manner.

EYE + FACE PROGRAM

APPLICABILITY

The requirements of this section apply to all Contractors' construction work activities on the site. This section provides the requirements for the use of eye and face protection, where substitution, engineering or administrative controls are inadequate to fully protect the worker's body (including eyes and face).

GENERAL RESPONSIBLITIES

The use of PPE is a control measure that is to be used only after a hazard evaluation identifies hazards associated with a particular job or activity, and it is determined that the hazards cannot be eliminated and/or controlled to an acceptable level through engineering design or administrative actions. Utilize process and engineering controls before PPE to protect employees.

Based on hazard evaluations conducted by Supervisors, employers shall identify and select, and each affected employee shall use, PPE and safety equipment that will provide appropriate protection in accordance with OSHA requirements.

The Contractor is responsible for supplying and requiring the wearing of appropriate PPE in all operations where there is an exposure to hazardous conditions and/or where this manual indicates the need for using such equipment to reduce the hazards to the employees.

TRAINING

Contractors must provide training to each employee who is required to use PPE. Each affected employee must show understanding of training to their specific PPE. Retraining may be necessary if work activities change or the employee exhibits lack of understanding of the PPE.

At a minimum, all personnel working on construction activities or in the field must wear safety glasses with rigid side-shields.

EYE AND FACE PROTECTION

Persons shall be provided with eye and face protection equipment for the specific jobsite hazards, when machines or operations present potential eye or face injury.

Eye and face protection equipment shall be distinctly marked to facilitate identification of the manufacturer. Employees shall use eye protection that provides side protection.

Eye and face protection equipment shall meet the requirements of ANSI/American Society of Safety Engineers (ASSE) Z87.1, and bear a legible and permanent "Z87" logo to indicate compliance with the standard.

When required by this regulation to wear eye protection, persons whose vision requires the use of corrective lenses in eyeglasses shall be protected by one of the following:

- Prescription safety glasses providing optical correction and equivalent protection.
- Protective glasses with side shields designed to fit over corrective lenses without disturbing the adjustment of the glasses.
- Goggles that can be worn over corrective lenses without disturbing the adjustment of the glasses.
- Goggles that incorporate corrective lenses mounted behind the protective lenses.

Operations that require the use of, or exposure to, hot or molten substances (for example, soldering, pouring or casting of hot metals, handling of hot tar, oils, liquids, and molten substances) shall require eye protection, such as goggles with safety lenses and screens for side protection, or face masks, shields, and helmets giving equal protection. Lens mountings shall be able to retain in position all parts of a cracked lens.

Operations that require handling of harmful materials (for example, acids, caustics, hot liquids, or creosoted materials) and operations where protection from gases, fumes, and liquids is necessary shall require the wearing of goggles with cups of soft pliable rubber and suitable face shields, masks, or hoods that cover the head and neck, and other protective clothing appropriate to the hazards involved.

Operations where protection from radiant energy with moderate reduction of visible light is necessary, including welding, cutting, brazing, and soldering, shall require eye and face protection suitable to the type of work, providing protection from all angles of direct exposure, and with lenses of the appropriate shade.

Glare-resistant glasses that comply with **ANSI Z80.3** with an ultraviolet A-region (UVA) and ultraviolet Bregion (UVB) 99% filtration shall be worn when conditions require protection against glare. When conditions so warrant, polarized lenses shall also be considered.

Tinted or automatically darkening lenses should not be worn when work tasks require the employee to pass often from brightly to dimly lighted areas.

NOTES

- Care should be taken to recognize the possibility of multiple and simultaneous exposure to a variety of hazards. Adequate protection against the highest level of each of the hazards must be provided.
- Operations involving heat may also involve optical radiation. Protection from both hazards shall be provided.
- Face shields shall only be worn over primary eye protection.
- Persons whose vision requires the use of prescription (Rx) lenses shall wear either protective devices fitted with prescription (Rx) lenses with side shields or protective devices designed to be worn over regular prescription (Rx) eyewear.
- Wearers of contact lenses shall also be required to wear appropriate covering eye and face protection devices in a hazardous environment. It should be recognized that dusty and/or chemical environments may represent an additional hazard to contact lens wearers.
- Caution should be exercised in the use of metal frame protective devices in electrical hazard areas.
- Welding helmets or hand shields shall be used only over primary eye protection.
- Soft cap welding is not permitted unless it is specifically proven to be impossible to fit one's head in the space requiring access to perform welding activity, and that it does not expose the individual to any unnecessary hazards while performing the specific task. Any request to deviate from the use of a welding helmet will be temporary, evaluated by a Barton Malow Safety Professional, and documented in the work plan.
- Lenses with dark shade or tint will not be worn inside or in dark environments unless they are for a specified purpose such as cutting or welding operations.
- Close or form fitted safety glasses are available and required for use where excessive wind, dust, foreign object or debris are present and may have a tendency for bypassing a normal pair of safety glasses. Activities such as; installing overhead acoustical ceiling tile, cutting or sanding in a windy environment, and chipping and grinding are all examples.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

APPLICABILITY

The requirements of this section apply to all Contractors' construction work activities onsite. This section provides the requirements for the use of personal protective equipment, where substitution, engineering or administrative controls are inadequate to fully protect the worker's body (including eyes, face, feet, hands, head, and hearing) from hazards capable of causing injury, illness, or impairment of any bodily function.

GENERAL REQUIREMENTS

Personal protective equipment (PPE) is not a substitute for engineering and administrative controls. These controls must be implemented, to the extent feasible, to mitigate the hazard so that the need for PPE is reduced or eliminated. Contractors must provide PPE to its employees in accordance with OSHA requirements.

At a minimum, all Contractor personnel and visitors must wear sturdy work boots, long pants (no sweat pants), and shirts as prescribed by their health and safety plan. Personnel working on construction activities or in the field must also wear hard hats, safety glasses with rigid side-shields, task specific gloves at a minimum must be on your person and worn while performing, work and high visibility shirts or vests.

The Contractor is responsible for supplying and requiring the wearing of appropriate personal protective equipment in all operations where there is an exposure to hazardous conditions and/or where this manual indicates the need for using such equipment to reduce the hazards to the employees.

Training

Contractors must provide training to each employee who is required to use PPE. Each affected employee must show understanding of training to their specific PPE. Retraining may be necessary if work activities change or the employee exhibits lack of understanding of the PPE.

SPECIFIC REQUIREMENTS

PPE Hazard Assessment and Selection

The appropriated PPE for the work being performed must be specified in the applicable JHA. The PPE selection must be based on the hazard assessment results conducted for the work activity. Examples of applicable hazard assessment documentation include:

- Job Hazard Analysis (JHA) or Pre-task Safety Plan (PTP)
- Fall Protection Plan
- Confined Space Entry Permit
- Hot Work Permit
- Energized Electrical Work Permit
- Other work control documents

The JHA must address at a minimum the following PPE requirements as applicable to the work activity:

- Foot Protection
- Hand Protection
- Fall Protection
- Respiratory Protection
- Head Protection
- Eye and Face Protection
- Hearing Protection
- Body Protection

RESPONSIBLITIES

The Contractor must:

- Perform an assessment identifying hazards or potential hazards and determine necessary PPE for activities to be performed
- Include PPE requirements in JHAs, as applicable.
- Adhere to prescribed postings and/or pre-job planning documentation requiring the use of PPE.
- Provide adequate PPE for all employees.
- Properly maintain, use and store PPE.
- Remove damaged and/or defective equipment from service.
- Provide and document appropriate training on the use of PPE.

EYE PROTECTION FOR OVERHEAD WORK

Overhead work that can create dust, metal shavings, material particles or any other type of airborne debris requires the use of additional eye protection. Employees performing overhead work that can lead to exposure of airborne debris are required to wear foam-lined safety glasses, a face shield, goggles, or other type of eye protection that will prevent debris from entering behind the lens and into the eye. The use of standard safety glasses is prohibited for overhead work.

GLOVES

Protective work gloves will be worn while performing all construction work on the project site. When not working, gloves must be immediately available for use when needed, i.e., kept on your person. Hand and finger protection must be specifically addressed in the development of project-specific safety plans, JHAs and daily PTPs. The specific protection must be identified. Each employer's Competent Person must assist in recommending the correct glove for the work task. The specific type of glove is dependent upon the work task (see chart for some examples). In general, the wearing of cut resistant style gloves is preferred. If the glove use creates an additional hazard due to a particular work task, for example working near rotating equipment, gloves will not be worn for that specific task. The PTP will document glove use.

THE MINIMUM ANSI RATING FOR GLOVES USED BY BARTON MALOW EMPLOYEES IS ANSI A4

WORK GLOVE SELECTION

EXPOSURE	HAND PROTECTION
General maintenance, operation, material handling and housekeeping tasks	Appropriate work gloves are required. ANSI/ENN rated Level 1 cut resistant work gloves are preferred. Equivalent protection may be provided by leather work gloves Barton Malow employees are required to use, at a minimum an ANSI A4 rated glove.
Potential cut exposure, razor knife use, sheet metal work or other exposure to sharp edges	360-degree Level 2 or higher cut resistant required. Where there is potential exposure to the arm above the cuff of the glove, also use cut resistant sleeves. Barton Malow employees are required to use, at a minimum an ANSI A4 rated glove.
Temperature extremes	Nomex or Lined Kevlar
Chemicals	Review "Material Safety Data Sheet" for appropriate glove selection.
Bodily fluids	Nitrille or Latex
Welding and burning operations	Regular welding gloves
Energized electrical work	Energized electrical work is prohibited. Reference LOTO section for more information.

HAZARD COMMUNICATION

APPLICABILITY

Barton Malow is committed to preventing accidents and ensuring the safety and health of our employees. We will comply with all applicable federal and state health and safety rules. Under this program employees are informed of the contents of the **OSHA Hazard Communications Standard**, the hazardous properties of chemicals with which they work, safe handling procedures and measures to take to protect themselves from these chemicals. These chemicals may be physical or health-related. A site-specific hazard communication plan will be available at all Barton Malow locations.

IDENTIFYING HAZARDOUS CHEMICALS

A list of all hazardous chemicals with a potential for employee exposure will supplement this plan. The site-specific hazard communication plan will identify where this information is kept for review. Detailed information about the physical, health, and other hazards of each chemical will be included in a Safety Data Sheet (SDS). The product identifier for each chemical on the list should match and be easily cross-referenced with the product identifier on its label and on its SDS.

IDENTIFYING CONTAINERS OF HAZARDOUS CHEMICALS

The site-specific hazard communication plan will follow the requirements of the **OSHA Hazard Communication Standard** to be consistent with the **United Nations Globally Harmonized System (GHS) of Classification of Labeling of Chemicals**.

All hazardous chemical containers used on a project site will have:

- The original manufacturer's label that includes a product identifier, an appropriate signal word, hazard statement(s), pictogram(s), precautionary statement(s) and the name, address, and telephone number of the chemical manufacturer, importer, or other responsible party.
- A label with the appropriate label elements just described.
- Workplace labeling that includes the product identifier and words, pictures, symbols, or combination that provides at least general information regarding the hazards of the chemicals.

All containers will be appropriately labeled. No container will be released for use until this information is verified. Workplace labels must be legible and in English. Small quantities intended for immediate use may be placed in a container without a label, provided that the individual keeps it in their possession at all times and the product is used up during the work shift or properly disposed of at the end of the work day. However, the container should be marked with its contents.

KEEPING SAFETY DATA SHEETS (SDS)

The manufacturer or importer of a chemical is required by OSHA to develop a SDS that contains specific, detailed information about the chemical's hazard using a specified format. The distributor or supplier of the chemical is required to provide this SDS to the purchaser. Employees can review the SDS for all hazardous chemicals used at this workplace at any time during their work shifts. The storage of a SDS will be denoted on the site-specific hazard communication plan.

A SDS will be updated and managed by a person designated on the site-specific hazard communication plan. If a SDS is not immediately available for a hazardous chemical, employees can obtain the required information at **MSDS.com**.

OSHA HAZARD COMMUNICATION STANDARD PICTOGRAMS

HEALTH HAZARD
- Carcinogen
- Mutagenicity
- Reproductive Toxicity
- Respiratory Sensitizer
- Target Organ Toxicity
- Aspiration Toxicity

FLAME
- Flammables
- Pyrophorics
- Self-Heating
- Emits Flammable Gas
- Self-Reactives
- Organic Peroxides

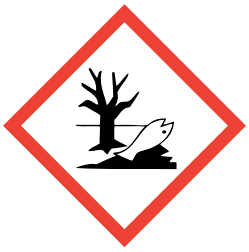
EXCLAMATION MARK
- Irritant (skin and eye)
- Skin Sensitizer
- Acute Toxicity (harmful)
- Narcotic Effects
- Respiratory Tract Irritant
- Hazardous to Ozone Layer (non-mandatory)

GAS CYLINDER
- Gases under pressure

CORROSION
- Skin Corrosion/Burns
- Eye Damage
- Corrosive to Metals

EXPLODING BOMB
- Explosives
- Self-Reactives
- Organic Peroxides

FLAME OVER CIRCLE
- Oxidizers



ENVIRONMENT (NON-MANDATORY)
- Aquatic Toxicity

SKULL AND CROSSBONES
- Acute Toxicity (fatal or toxic)

TRAINING EMPLOYEES ABOUT CHEMICAL HAZARDS

Before employees start their jobs or are exposed to new hazardous chemicals, they must attend a new hire Safety Orientation that includes hazard communication training covering the following topics:

- An overview of the requirements in **OSHA's Hazard Communication Standard**.
- Hazardous chemicals present in their workplace.
- Operations in their work area where hazardous chemicals are used.
- Location of the written hazard communication plan and where it may be reviewed.
- How to understand and use the information on labels and in the SDS.
- Physical and health hazards of the chemicals in their work areas.
- Methods used to detect the presence or release of hazardous chemicals in the work area.
- Steps the Project Team has taken to prevent or reduce exposure to these chemicals.
- How employees can protect themselves from exposure to these hazardous chemicals through use of engineering controls/work practices and PPE.
- An explanation of any special labeling present in the workplace.
    - What are pictograms?
    - What are the signal words?
    - What are the hazard statements?
    - What are the precautionary statements?
- Emergency procedures to follow if an employee is exposed to these chemicals.

Prior to introducing a new chemical hazard into any department, each employee in that department will have access to information and training as outlined above for the new chemical hazard.

INFORMING EMPLOYEES WHO PERFORM SPECIAL TASKS

Before employees perform special (non-routine) tasks that may expose them to hazardous chemicals, their Supervisors will inform them about the chemicals' hazards. Their Supervisors also will inform them about how to control exposure and what to do in an emergency. The employer will evaluate the hazards of these tasks and provide appropriate controls including PPE and all additional training as required.

INFORMING CONTRACTORS AND OTHER EMPLOYEES ABOUT OUR HAZARDOUS CHEMICALS

If employees of other employer(s) may be exposed to hazardous chemicals at a Barton Malow project site, they will be provided with the following information:

- The identity of the chemicals, how to review Barton Malow's SDS, and an explanation of the container labeling system.
- Safe work practices to prevent exposure.
- A SDS for any hazardous chemical a Contractor brings into the project site. The SDS will be provided and added to the site-specific hazard communication plan.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CONFINED SPACES

APPLICABILITY

The requirements of this section apply to all Contractor activities which require personnel to work in permit-required and non-permit-required confined spaces onsite.

GENERAL REQUIREMENTS

All confined space work onsite will be in accordance with **OSHA Confined Spaces** regulations and Contractor-specific confined space entry requirements. Confined space entry permits must be kept on file for review.

CONFINED SPACE IDENTIFICATION, COMMUNICATION, AND COORDINATION

The controlling Contractor is the primary point of contact for information about permit spaces at the work site. Before entry operations, the Host Employer must provide information to the controlling Contractor about the location of each known permit space, hazards and potential hazards of each space, and any precautions implemented for the protection of employees by the Host Employer or previous controlling Contractors. The controlling Contractor provides this information and any additional information (confined spaces created by construction operations, hazards related to construction work, additional known hazards or precautions, etc.) to the Entry Employer(s). Before entry operations, the Contractor (Entry Employer) is responsible to obtain the controlling Contractor's information and inform the controlling Contractor of the permit space program they will follow, including likely hazards to be encountered or created in each permit space. After entry, the Contractor will inform the controlling Contractor of the permit system followed and any hazards confronted or created during entry operations. The controlling Contractor will debrief the Entry Employer and apprise the Host Employer of the information exchanged with the Entry Employer.

Before work begins, each Contractor will assure that a Competent Person:

- Identifies all confined spaces in which their employees may work.
- Identifies each space that is a permit space (including testing as necessary).

Each Contractor who identifies or receives notice of a permit space must:

- Inform employees by posting danger signs by each space
- Inform the employees' representative and the controlling Contractor of the existence, location, and the dangers posed by each space.
- Implement measures to prevent unauthorized employees from entering permit spaces.

The controlling Contractor and the Entry Contractor will coordinate entry operations when:

- More than one entity is engaged in confined space work at the same time.
- Other activities could foreseeably result in a hazard in the confined space.

CONFINED SPACE CLASSIFICATION

Prior to entry, all confined spaces will be evaluated by a Competent Person and classified as either permit required or non-permit based on the actual and/or potential hazards related to entry into the space while the confined space is in its normal operating condition.
When there are changes in the use or configuration of a non-permit confined space that might increase hazards or questions about the initial classification, the Contractor's Competent Person will reevaluate the space for possible reclassification as "permit required". A space

initially classified as a "permit space" may only be reclassified "non-permit" when the Competent Person has determined compliance with the standards for reclassification.

- The Contractor must document the basis for the redetermination
- The determination must be made available to each employee entering the space.
- Workers must immediately evacuate the space if hazards arise.

All confined spaces must be classified as either permit required or non-permit required.

LABELING AND SIGNAGE

When feasible, identified confined spaces are posted with a sign stating, "Confined Space, Entry by Permit Only" or "Caution, Non-Permit Confined Space, Contact Barton Malow's Project Team Before Entering". When signage is not feasible, Contractors will be informed of the location and classification of known confined spaces.

IDENTIFYING A CONFINED SPACE

All Contractors should be on the lookout for confined spaces. As defined by OSHA a confined space is:

- Large enough and so configured that an employee can bodily enter and perform assigned work.
- Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry).
- Is not designed for continuous employee occupancy.

NEW OR PREVIOUSLY UNIDENTIFIED CONFINED SPACES

There is a possibility that construction activities may create new confined spaces (such as new utility vaults, manholes, ventilation ducts, tanks, sumps, and/or elevator pits). It is also possible that, during construction, Contractors may encounter a confined space that has not been previously identified. During project design, Barton Malow will attempt to identify situations that may result in the creation of new confined spaces; however, it is not always possible to anticipate every potential confined space.

It is the Contractor's responsibility to watch for new or previously unidentified confined spaces and to inform the Barton Malow Project Team whenever new confined spaces are identified or created.

HAZARD RECOGNITION

Confined spaces must be considered hazardous until determined to be otherwise. Hazards will be identified and evaluated by a Competent Person prior to entry. The Contractor must be watchful of confined space work activities that may increase hazards – such as Hot Work, painting, cleaning or electrical work. Such work may change a non-permit-required confined space into a permit-required confined space. The Contractor will continuously evaluate confined space conditions and will stop work if hazards increase or change. Additional controls must be implemented to control the new hazards.

VERIFICATION OF COMPLIANCE WITH CONFINED SPACE ENTRY

Barton Malow will require verification that the Contractor is able to safely perform confined space entries. The Contractor must have:

- A written program.
- A confined space Competent Person.
- Entry team/authorized personnel - adequate number of workers to staff an entry team including entry Supervisor and current and documented training.
- Functioning, calibrated, monitoring equipment and staff that are familiar with the use of the equipment.
- Appropriate PPE, ventilation equipment, supplemental lighting if necessary, and rescue equipment/plan.

Barton Malow and the Contractor will discuss acceptable entry conditions. Barton Malow may request a copy of the Contractor's LOTO program if energy isolation is necessary. Barton Malow and the Contractor will determine whose permit system will be used – either Barton Malow's or the Contractor's. Project personnel may observe Contractor confined space entries until such time that they are comfortable that all performance expectations are being met.

CONFINED SPACE ENTRY CONTROLS

Entries into confined spaces must be controlled either through administrative controls for non-permit confined spaces or through the permit procedure for permit-required confined spaces. Controls for confined space entries include, but are not limited to:

- Mechanical ventilation
- Use of isolation procedures (LOTO)
- Cleaning of confined space
- Electrical precautions
- Fire precautions
- PPE
- Communication procedures
- Continuous atmospheric monitoring
- Immediate notice from responders if services become unavailable
- Continuous monitoring and warning system for non-isolated engulfment hazards

CONFINED SPACE ENTRY EXPERIENCE/HISTORY REVIEW

Barton Malow must inform Contractors of Barton Malow's experience, if any, with the confined space being entered, by reviewing **Attachment Q - Confined Space Entry Permit**, associated confined space classification, and previous canceled permits for the space in question, if available.

CONFINED SPACE POST-ENTRY EVALUATION REVIEW

Contractors must inform Barton Malow of their experience with the permit-required confined space following the entry by utilizing the Debrief of Confined Space Entry section as part of the Contractor's accepted **Attachment Q - Confined Space Entry Permit**. Completed permits must be turned in for review and cataloging.

CONFINED SPACE ENTRY NOTIFICATION

All confined space entries must be coordinated with Barton Malow's Project Team who will issue a **Attachment Q - Confined Space Entry Permit**. Barton Malow will provide phone numbers and will instruct the Contractor of specific notifications to be made. Exact notification requirements may vary from job to job, particularly in cases of new confined spaces arising during construction.

TRAINING REQUIREMENTS

Contractors that are trained in accordance with the requirements identified in **OSHA 1926.1207 Confined Spaces in Construction**, will be considered as meeting the necessary confined space entry training requirements for working onsite. The Contractor must provide Barton Malow's Project Team proof of such training prior to work starting.

All confined space entries must be coordinated with the Barton Malow Project Team.

CONCRETE + RESTEEL

APPLICABILITY

The requirements of this section apply to all Construction Contractors' and lower-tier Subcontractors' work activities involving concrete construction onsite.

GENERAL REQUIREMENTS

All vertical and horizontal rebar, form stakes, metal and/or plastic conduit, and/or small pipe stub-ups will be protected with approved caps or other industry accepted alternatives to protect against impalement and injury. Workers that operate vibrators, pump nozzles, and concrete buckets will wear appropriate eye and foot protection. It is highly recommended that long sleeve shirts be worn to protect against exposure of concrete to the bare skin and the possibility of concrete burn and contact dermatitis.

FALL PROTECTION

Workers engaged in vertical rebar assembly must comply with the project six foot fall protection rules. Positioning devices alone are not approved fall protection but can be used in conjunction with personal fall protection equipment. Walkways along form walls will be constructed in accordance with OSHA **Scaffold** and **Fall Protection** standards.

GENERAL PRACTICES

- Pre-fabricated forms and form making material will be stacked neatly at all times.
- When stripping concrete forms, all material will be immediately removed and stacked in an orderly manner.
- Forming material or debris will not block walkways and aisles.
- Contractor will remove rebar, tie-wire and other debris from the work area daily.
- No employee is permitted to ride a concrete bucket.
- Ensure that reinforcing steel and forms for walls, piers, columns, stairs and similar vertical structures are adequately supported to prevent overturning and collapse and are designed and installed under the supervision of a Qualified Person.
- Ensure that coiled wire mesh is adequately secured to prevent uncoiling.

ASSOCIATED EQUIPMENT PRACTICES

- Concrete buckets must have the following:
    - Discharge device that an employee can operate without being exposed to the load.
    - Safety devices that are self-closing and prevent premature or accidental dumping.
- Concrete buggy handles must not extend beyond the wheels on either side of the buggy.
- Follow safe rigging practices when handling concrete buckets.
- When using bull floats, inspect the area to ensure there is no energized equipment or nearby power lines.
- Rotating powered concrete trowels must be equipped with dead-man controls.

AERIAL LIFTS

APPLICABILITY

The requirements of this section apply to all Contractors' use of aerial lifts. The equipment covered under this procedure includes boom and scissor lifts and associated equipment. This includes either power or manually operated equipment.

GENERAL REQUIREMENTS

OPERATOR TRAINING AND CERTIFICATION

Contractors who provide and operate aerial lift equipment as part of a construction project or similar activity will be in compliance with all applicable OSHA requirements. At a minimum contractors must provide a copy of their employee's operator certification/license to Barton Malow, prior to operating an aerial lift. This certification/license must be current for the lift type they will be operating. (i.e., scissors, boom, manufacturer).

OPERATION

At a minimum the following must be considered while operating aerial lifts:

- Maintain 100% fall protection by utilizing dual lanyards as part of the fall protection system.
- Aerial lift gates will be properly engaged whenever the lift is in use.
- Suspend operations if wind conditions adversely affect the lift; this applies to wind speeds of 25 MPH or more dependent on manufacturer's recommendations.
- Travel in aerial lifts is prohibited while platform is elevated.
- Operating the lift controls from outside the basket is prohibited except in emergency situations.
- Aerial lifts must not be used as material hoists unless the load is contained within the basket and meets the lift's rated capacity and the material is secured.
- The lift must not be modified for hoisting material unless the manufacturer approves it in writing or a manufacturer approved material handling kit is used.

Operation Specific to Scissor Lifts:

- The use of a fall restraint device is preferred in scissor lifts.
- At heights less than 20 ft., the use of shock absorbing lanyards is not recommended.
- Scissor lifts are considered to be an aerial lift and must be used in accordance with **29 CFR 1926.452 (w)**, related ANSI and manufacturer standards.

SCAFFOLDS

APPLICABILITY

The requirements of this section apply to all Contractors' construction work activities involving scaffolding onsite. All scaffolding used on this project will meet the requirements established in **Subpart L of OSHA 29 CFR 1926**.

GENERAL REQUIREMENTS

Each contractor using scaffolds must designate a Competent Person to direct and supervise the erection and dismantling of all scaffolding on this project. The Competent Person will sign and attach one of the following color-coded scaffold tags to each scaffold:

- Green Tag: Scaffolding complete and ready for use.
- Red Tag: Scaffolding incomplete and not for use.
- Yellow Tag: Scaffolding usable but other hazards present per tag details.

The Competent Person will inspect the scaffolding daily prior to use and sign the tag at the time of inspection. The **Attachment AM - Daily Scaffold Safety Inspection Report** will be used to document these inspections.

TRAINING

Workers required to work from scaffolding will receive training on the following:

- Nature of any known hazards, such as electrical, fall or falling objects
- Correct method of erecting, maintaining, and disassembling fall protection systems
- Falling object protection system
- Proper handling of equipment or material on the scaffold
- Maximum load-carrying capacity of the scaffold
- Any other pertinent scaffold requirements

Prior to using any scaffolding, ensure that it has been inspected and scaffold tag has been signed by the Competent Person.

Scaffolding training records must be maintained and copies turned into the Barton Malow Project Team.

SCAFFOLD ERECTION

Prior to erection, all scaffolding components must be inspected for defects. Any damaged components found must not be used. Scaffolding will be erected on a firm foundation/footing. Scaffold poles, legs, posts, frames, and uprights shall bear on metal base plates. The metal base plates shall be on mudsills or other adequate firm foundation. Scaffold legs, poles, posts, frames and uprights will be pinned or locked to prevent uplift. No scaffold will be enclosed unless a qualified engineer designs and approves the attachment to the adjacent structure.

Scaffold platforms will be constructed with no space between the platform components. The space between the platform components and the scaffold uprights will not exceed one inch. Because of special circumstances such as building a scaffold around a pipe, the space opening between the scaffold and the object/structure cannot exceed 9 ½". Scaffold planks must extend past the horizontal support a minimum of six inches and not more than 12" unless cleated or restrained by hooks.

Scaffold plank will not be overlapped unless:

- Overlap occurs at a horizontal support.
- When the minimum planking overlap is 12", only scaffolding-grade planking must be used.

Ladders or stairs must be used to access any scaffold platform that is more than two feet above or below the point of access. End frames of tubular welded scaffold can be used as a ladder if the following criteria are used:

- Specifically designed and constructed as ladder rungs
- Rung length of at least eight inches
- Spacing between rungs not to exceed 16 ¾"
- A walk-through frame or gate is provided for access at each landing. No worker will climb up or down a scaffold using the cross bracing

Workers working below scaffolding will also be protected from falling objects. Scaffold will be equipped with toe plates, screening, debris netting, catch platforms, or a canopy structure.

SUSPENDED SCAFFOLDS

An erection and dismantling plan must be provided by the manufacturer and submitted to Barton Malow prior to mobilization of a suspended scaffold. A Competent Person will evaluate suspended scaffolding, anchorages, and suspension lines before each use. Workers working from suspended scaffolding will wear a full body harness attached to an independent vertical lifeline. When welding is required from swing stage scaffolding, the scaffold will be grounded and suspension ropes protected.

MOBILE SCAFFOLDS

Interior or dry wall scaffolding (Perry or Baker type scaffolding) greater than one section high will be equipped with outriggers. All other built-up scaffolding will follow the 4 to 1 rule. Wheels on mobile scaffolding will be locked in place when workers are working from it (self-propelling is prohibited).

MAST-CLIMBING WORK PLATFORMS

An erection and dismantling plan must be provided by the manufacturer and submitted to Barton Malow prior to mobilization. Fall protection must be provided when wall openings exist on the façade of the building in front of the work platform, the distance to the façade exceeds that permitted, the platform passes an inset in the façade or it extends past the façade. In accordance with **ANSI A92.9-1993** requirements, unless the scaffold is equipped with an emergency descent device, an evacuation plan from the platform must be developed. Building access is prohibited underneath scaffold platforms. System-specific training must be provided to all workers who will be on the work platform.

When working from mobile scaffolding, ensure that scaffold wheels are locked in place.

ENVIRONMENTAL REQUIREMENTS

APPLICABILITY

The requirements of this section apply to all Contractors' activities which have the potential to affect natural resources that include storm water, wetlands, streams, air quality, vegetation and wildlife. Potential impacts to existing historical and archaeological items, as well as historical and archaeological items unearthed during construction onsite, are also addressed in this section. Any exceptions to these requirements must be approved by Barton Malow.

GENERAL REQUIREMENTS

STORMWATER DISCHARGE REQUIREMENTS

Applicable permits will be obtained.

AIR EMISSIONS REQUIREMENTS

Barton Malow will direct Contractor or obtain any necessary air emissions permits.

FUGITIVE DUST

The Contractor must minimize fugitive dust whenever possible.

VEHICULAR EMISSIONS

Construction vehicles, equipment, and Contractor's personal vehicles must be operated to minimize emissions. Unnecessary idling of vehicles and equipment is prohibited. Idling of vehicles for occupant heating/cooling comfort is prohibited.

PIPE FLUSHING

Pipeline flushing of new water lines, storm and sanitary sewer lines, or fire line flushing requires preparation and approval by Barton Malow of a plan that describes the location and nature of activity to be performed, description of the discharge (duration, anticipated volume and rate, source of the water, potential pollutants in the water used), and the industry best practices to be used to prevent potential pollutants from reaching the storm drainage system, a stream, drainage channel, ditch or groundwater.

HIGH PRESSURE GAS BLOWS

Natural gas pipeline flushing with natural gas is prohibited without approval from the Barton Malow Safety Representative. Flushing/venting should be done in accordance with the **Chemical Safety Board guidelines**. A JHA will be reviewed and accepted by the Barton Malow Project Team before any gas work is completed.

TRASH, CONSTRUCTION DEBRIS, AND SANITARY WASTE

The Contractor must provide waste storage and removal as required to maintain the construction site in a clean and orderly condition with periodic disposal of waste off-site. Open free-fall chutes and containers without lids are prohibited. Trash and debris is prohibited from migrating outside the construction area. All trash and debris is to be collected daily. Depending on where the trash and debris accumulates, cleaning as you go will be necessary. Barton Malow reserves the right to ask for trash and debris to be cleaned up right away if a hazardous condition exists. Debris netting will be required on handrail where trash and debris can become airborne. Never pile trash, debris or materials above protective measures in order to protect people below.

WASTEWATER
Barton Malow limits wastewater discharges to sewer or septic systems. Barton Malow does not permit other direct wastewater discharges to the environment, including land and surface water. Contact Barton Malow if such a volume is planned on a routine, periodic, or occasional basis.

HAZARDOUS WASTE
Contractors must contact the Barton Malow Project Team prior to any construction activity that will generate hazardous or chemical waste. All material will be disposed of in accordance with State, local and Federal requirements.

ASBESTOS
The use of Asbestos Containing Material (ACM) is not authorized. However, it is possible that unidentified ACM may be discovered during construction activity. Should ACM be discovered, the Contractor must stop the affected work and notify Barton Malow immediately.

NOISE
Noise levels will be kept as low as reasonably achievable.

PESTICIDE AND HERBICIDE USE
All pesticide and herbicide use must be approved by Barton Malow prior to application, and must be used in a manner consistent with its labeling.

TRAFFIC CONTROL
Barton Malow will develop and implement a traffic control program that addresses the movement of construction related vehicles to and from the site.

VEGETATION
Project design must attempt to minimize the elimination of existing trees/shrubs, which provide local wildlife habitat, reduce cooling needs in summer by providing shade, and remove carbon dioxide from the air, thus contributing to a reduction of greenhouse gases generated onsite. Those trees/shrubs that must be eliminated as a result of construction must be tagged/otherwise marked and noted on construction drawings.

NATURAL RESOURCES - WILDLIFE
Natural resource protection at a project is guided by The National Environmental Policy Act, The Migratory Bird Treaty Act, The Division of Wildlife Recommended Buffer Zones and Seasonal Restrictions for Raptors, The Threatened and Endangered Species Act, and other applicable state and federal wildlife guidelines.

The following topics represent areas that may impact individual project costs and schedules:

- Other Wildlife Species: Construction work must avoid adverse impacts to wildlife species, whenever possible.
- Preservation of Historical Resources: In the event potential archaeological items are unearthed or discovered during construction, work in the area must stop. The Barton Malow Project Team will make a determination within 24 to 48 hours if work on the construction site can continue. Potential archaeological items may not be moved or stockpiled upon discovery.
- Wetland and Drainage Areas: No jurisdictional wetlands have been identified onsite. Each Contractor must comply with the Storm Water Pollution Prevention Plan (SWPPP).

RESPONSIBILITIES
The provisions of this procedure apply to Contractors performing activities which have the potential to affect natural resources that include storm water, wetlands, streams, air quality, vegetation and wildlife. The Contractor and all lower-tier Subcontractors must be responsible for implementation and compliance with all federal, state and local laws as described above and referenced below.

DEMOLITION

APPLICABILITY

The requirements of this section apply to all Contractors' activities regarding demolition onsite.

GENERAL REQUIREMENTS

Prior to the start of any demolition work, the Contractor must ensure a Competent Person has performed an engineering survey of the building or area to be demolished to determine the condition and location of utilities, whether hazardous materials (such as asbestos, lead, and mercury) exist, means and methods of performing the work, sequencing, etc. No work will commence until a written engineering survey has been completed and has been submitted to and reviewed by Barton Malow and a written complete Demolition Plan has been submitted.

Debris and material must not be dropped through walls, floor holes, windows or other elevated work areas without the area below being barricaded and properly signed. Under no circumstances must materials be dropped more than 20 feet without using a chute.

Debris chutes must have a substantial gate at all elevated openings. **See Attachment AJ - Demolition Survey**.

BLASTING PROGRAM

APPLICABILITY

The requirements of this section apply to all Contractors' blasting activities onsite. 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 section outlines the requirements for a site-specific blasting plan to achieve worker safety during these operations.

GENERAL REQUIREMENTS

- The Contractor shall develop and implement a site-specific blasting plan in accordance with **29 CFR 1926 Subpart U (Blasting and the Use of Explosives** and all other applicable Local, State and Federal regulations, including **ANSI/ASSE A10.7-2011 Safety Requirements for Transportation, Storage, Handling and Use of Commercial Explosives and Blasting Agents**.
- The Contractor shall obtain the proper explosive permits and notify the local authorities of the blasting operations.
- Blasting plan shall be submitted to Barton Malow for review and approval prior to any blasting.
- A copy of the blasting plan shall be maintained on-site and available for review.

REMOVAL/RELOCATION PLANNING

APPLICABILITY

This section applies to all utility removal or relocation activities performed by Contractors onsite. The objective of this procedure is to provide general information on removal or relocation of utilities. It is intended to give Barton Malow employees and Contractors practical information relating to the precautions to be taken when working and to ensure that no person is exposed to dangers to their own safety or health in connection with activities onsite.

GUIDELINES

Prior to the start of any removal/relocation work the **Attachment AR - Request for Removal/Relocation** will be filled out in its entirety with:

Work area description to include:

- Column location
- Level at which work is to be performed
- Drawings if applicable

Work to be performed:

- Describe in detail a general overview of the work to be performed within the specific work area (Ensure a Pre-Task Safety Plan (PTP) has been developed for scope of work and reviewed with this document).

Identification of specific items to be removed:

- Task-specific description of task being performed
- Describe type and amount for each utility

Barton Malow Supervisors and Safety Personnel will coordinate with affected Contractor to hold a site review with all affected trades. (Trades to review the disconnect work completed to allow the safe demolition of utilities and equipment):

- Electrical
- Plumbing
- Mechanical
- Communication
- HVAC
- Fire Protection

Disconnects: Each utility identified will be verified that color-coding is correct and visually inspected for air gapping at each end (3"-6" gap). Upon completion of verification process, all parties involved will agree work can proceed.

The PTP will be reviewed in the field with the work crew. To ensure that all utilities that were identified for removal are color-coded properly and air gapped. Any utilities that are to remain are to be pointed out and ensure that color-coding is still in place.

REVIEW COLOR CODING

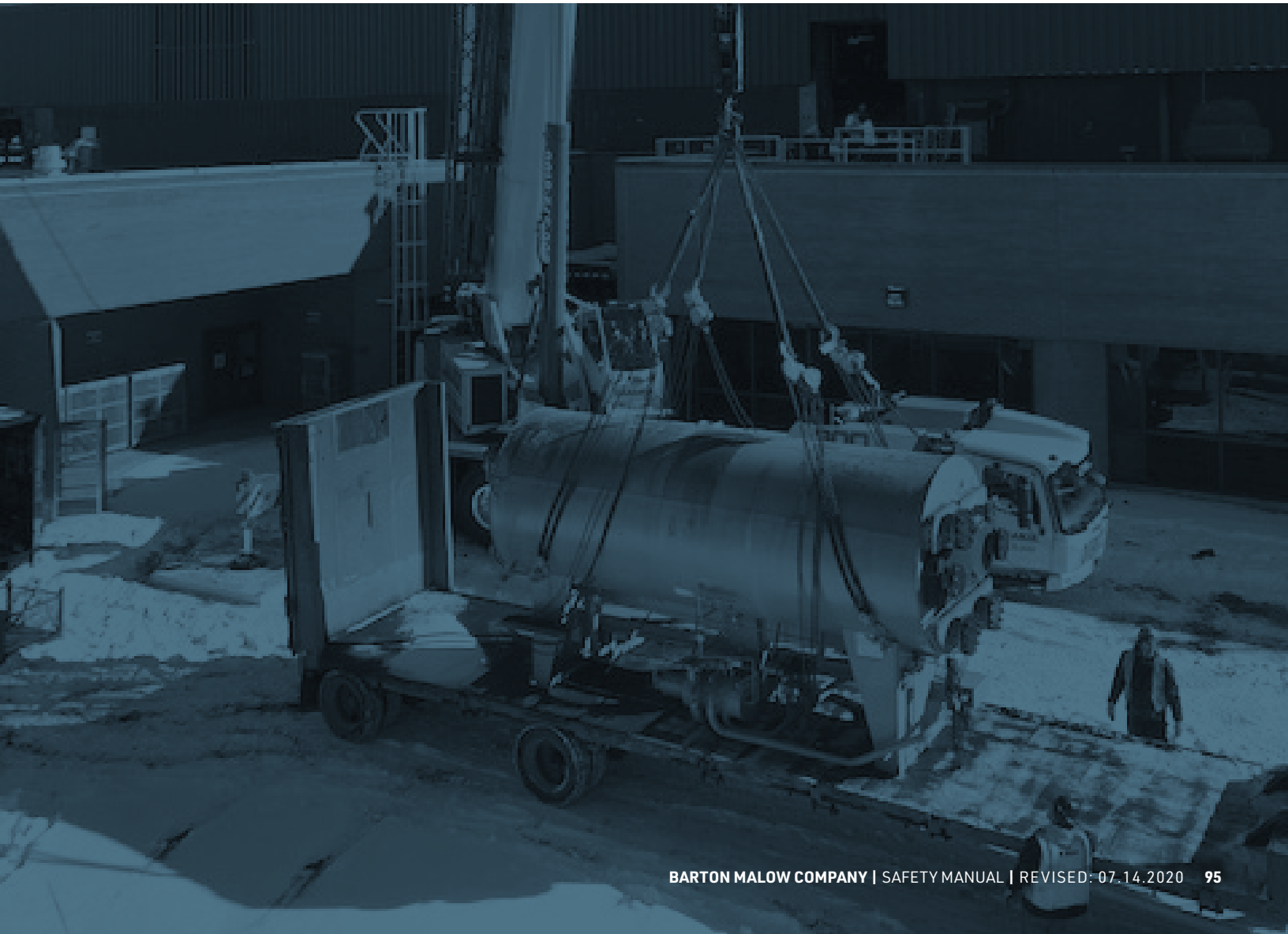
RED **LIVE AND TO REMAIN** **DO NOT TOUCH**	Examples of utilities that will be marked red in the construction area are: Energized Cable Tray, Conduit Fire Alarm Systems Emergency Lighting Compressed Air Lines Natural Gas Lines Pneumatic Lines
GREEN **ISOLATED AND AIR GAPPED** **SAFE TO REMOVE**	Examples of utilities that will be marked green in the construction area are: Electrical lines in the foot print area. Mechanical lines, such as sanitary lines, pneumatic lines, air ducts, piping from the roof drains, etc.

DO NOT REMOVE ANY UTILITY MARKED IN RED, OR THAT IS UNMARKED.

NOTIFY SUPERVISOR IMMEDIATELY OF ANY UNMARKED OR NEWLY DISCOVERED UTILITY.

DO NOT DISTURB THAT UTILITY. ASSUME IT IS LIVE.

WORK WILL NOT BE PERFORMED WITHOUT COMPLETION OF ATTACHMENT - AR



RESPIRATORY PROTECTION PROGRAM

APPLICABILITY

The requirements of this section apply to Contractor's employees onsite who may be in environments requiring adherence to a respiratory protection program and the use of respirators. If unsafe levels of respiratory hazards are present during the course and scope of work, then Barton Malow employees and Subcontractor employees shall be protected from these levels of respiratory hazards and appropriate respirators shall be used according to **OSHA 1910.134** and this program. This program applies to all persons on Barton Malow projects, offices, or other locations who are required to wear respirators during the course and scope of their work.

RESPONSIBILITIES & PROGRAM ADMINISTRATION

Barton Malow Safety Leadership shall ensure the effectiveness of this program, and shall be responsible for administration, execution, recordkeeping, management, and annual review of this program for the company as a whole.

Barton Malow Safety or Barton Malow respiratory protection Competent Person(s) shall administer, execute, maintain records, and effectively manage this program on individual projects. All project supervisory personnel (Barton Malow & Subcontractor) shall be responsible for compliance with this program.

Subcontractors may be required to provide respiratory protection for Barton Malow projects in order to comply with this program.

If Barton Malow and Subcontractor disagree on the existence or level of respiratory hazard, then the Barton Malow determination or assessment shall be applied.

Individuals who are provided and authorized to wear a respirator, shall use, maintain, and store their respirators in a manner consistent with their training and the respirator manufacturer's instructions.

GENERAL REQUIREMENTS

Barton Malow and/or Subcontractors shall determine if respiratory hazards may exist at unsafe levels at a project, work location, or during the completion of a task. Such determination shall be made by a Competent Person(s), and may be accomplished by methods such as, but not limited to:

- Examination of current or upcoming work activities
- Observation of the presence of dust, fumes, vapors, or odors
- Project inspections
- Job Hazard Analysis (JHA) or Pre-Task Safety Plans (PTP)
- Gas detectors or air sampling
- Information in Safety Data Sheets (SDS) or product specs

If it is determined that respiratory hazards exist at unsafe levels, then the exposing Contractor, or creating Contractor, or both must submit a respiratory hazard protection plan to Barton Malow Project Management and/or Safety. The respiratory protection plan shall be approved by Barton Malow and must comply with **OSHA 1910.134**.

Engineering controls shall be applied first when respiratory hazards are found to expose employees to unsafe levels above an OSHA Permissible Exposure Limit (PEL), or Threshold Limit Value (TLV), or limits provided in an SDS.

If engineering controls alone do not limit the exposure to safe levels, then respiratory protective equipment (respirator) shall be used in addition to the engineering controls. Respirators shall not be used without first applying engineering controls.

Respirators shall be defined as a respiratory device with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element. This includes:

- Any National Institute for Occupational Safety and Health (NIOSH) rated negative pressure particulate respirator with a filter as part of the facepiece or with the entire facepiece as the filtering medium. This includes N95 & P95 filtering facepieces, and half / full facepiece respirators.
- Atmosphere supplying respirators
- Positive pressure respirators
- Self-contained breathing apparatus (SCBA)
- Any other respiratory protection device defined as a respirator in **OSHA 1910.134(b)**.

Nuisance dust masks are defined as a loose fitting (single strap) filtering facepiece respirator that is not NIOSH tested or approved. Nuisance dusts masks are not N95 or P95 rated, and do not have NIOSH labeling on the box or the unit. Nuisance dust masks are designed and intended only for nonhazardous particulates and they do not offer protection against hazardous gases, fumes, or dusts.

If respiratory hazards or respiratory conditions are determined to be Immediately Dangerous to Life or Health (IDLH) a Barton Malow Safety Professional must be contacted and informed of the IDLH conditions before any work may proceed in the IDLH atmosphere.

Hazards or conditions are considered to be IDLH if they pose an immediate risk of death, serious/irreversible adverse health effects, or may prevent safe escape from such conditions. An atmosphere of less than 19.5% oxygen shall be considered IDLH.

For IDLH conditions, a Barton Malow Safety Professional must be involved in the planning and execution of work. Other considerations or precautions may be required to properly address all the hazards of IDLH conditions.

CONTROL METHODS

Appropriate engineering controls and proper PPE for IDLH conditions must be selected and implemented. To eliminate, control, or mitigate respiratory hazards, a hierarchy of controls are to be used in the following order:

1. Eliminate or substitute (preferably through design) using engineering controls
2. Control & protect (water, dust collection, local exhaust, ventilation)
3. Train and inform (procedures, exposure time limitations)
4. PPE (respirator, SCBA)

A combination of engineering controls may be used to effectively control or mitigate respiratory hazards.

Engineering controls must be planned, implemented, used, and maintained in a manner that provides the required and adequate level of protection for the affected employees.

Engineering controls must be applied to any employees that are affected by a respiratory hazard.

RESPIRATOR SELECTION

Respirators shall be selected by a Competent Person based on relevant factors to ensure that affected employees are adequately protected from the hazards.

In general, respirator selection may take the following into consideration:

- Type, quantity, and severity of the respiratory hazard
- NIOSH, ANSI, OSHA, ACGIH recommendations or requirements
- SDS information
- Workplace conditions
- Employee fit and comfort
- Respirator reliability
- Other pertinent factors

If Barton Malow or its Subcontractor determines that respirator use is required:

- Affected employees shall be provided with respirators selected by Barton Malow or its Subcontractor Competent Person.
- Employees may not provide their own respirators

If Barton Malow or its Subcontractor Competent Person determines that respirator use is not required, but an employee wants to wear a respirator voluntarily:

- The employee must provide their own respirator.
- Voluntary use shall be in accordance with **OSHA 1910.134 Appendix D**.
- The employee must complete and sign **Attachment W - Barton Malow Voluntary Respirator Use Agreement.**

Nuisance dust masks may not be used to protect against respiratory hazards that require the use of a respirator for protection.

Nuisance dust masks may be used voluntarily or under the direction of Barton Malow or Subcontractor only when the following conditions apply:

- Barton Malow or it Subcontractor Competent Person determines that no respiratory hazard above PEL, TLV, or SDS standards exist.
- Respirator use is not required, and dust masks are not being used in lieu of respirators.

RESPIRATOR MEDICAL EVALUATION

A medical evaluation must be completed before an employee may use any type of respirator for any activity or task, or for any duration of time.

Medical evaluation for the use of respirators shall consist of the following:

- Employee completion of the **OSHA Respirator Medical Evaluation Questionnaire (RMEQ) (1910.13 Appendix C)**.
- Employee shall be permitted to complete the RMEQ during company paid time
- Review and evaluation of the RMEQ by a physician or other licensed health care professional (PLHCP)
- Any initial or follow up medical examination of the employee if requested by the PLHCP
- Written results of the RMEQ from the PLHCP. Such results shall not include any Health Insurance Portability Accountability Act (HIPPA) protected information.

Additional medical examinations may be required if:

- Employee reports signs or symptoms of illness or injury that may be related to the use of a respirator or exposure to respiratory hazards.
- A Barton Malow administrator of this program or a PLHCP determines that a reevaluation is required.

There are significant changes in the workplace or work activities that may affect type or level of respiratory hazard, or that may result in a substantial increase in the physiological burden placed upon the affected employee(s).
Records of the RMEQ and medical examination results shall be entered and maintained in Barton Malow project records for the duration of the project, and shall be entered into permanent electronic records as prescribed in Barton Malow recordkeeping policies.

Employees shall have the opportunity to discuss the RMEQ or any medical examination with the PLHCP.

Medical evaluations and examinations may be discontinued when respirator use is discontinued.

RESPIRATOR FIT TESTING

- Upon completion of the RMEQ (and medical examination if necessary), employees who will wear and use tight fitting respirators (half face or full face) must be Fit Tested prior to wearing or using.
- Fit testing is not required for employees using loose fitting, nuisance dust masks.
- Fit testing may be qualitative or quantitative.
- Fit testing must be performed by a person thoroughly trained and competent in fit testing procedures
- Instructions and recommendations for fit testing procedures provided by manufacturers of fit test kits (such as 3M) shall be followed.
- Facial hair, eyeglasses, or any other circumstance that may interfere with the seal of the respirator shall be considered when selecting respirator users, and during fit testing. Respirators must be able to form a tight seal as per the manufacturer's recommendations, and the seal must pass the fit test.
- A record of completed fit test shall be entered and maintained in Barton Malow project records for the duration of the project, and shall be entered into permanent electronic records as prescribed in Barton Malow recordkeeping policies
- Medical evaluation and fit testing shall be repeated in accordance with ANSI Standards based on age as follows:
    - Up to 35 years old = every 5 years
    - 36 to 45 years old = every 2 years.
    - Annually for employees 46 years old and older.
    - Any time when an employee experiences a change in their medical condition.
    - Any time when work conditions or respirator types change substantially affecting the exposure or safety process.

RESPIRATORY HAZARD AND RESPIRATOR USER TRAINING

Barton Malow Respiratory Protection Competent Person(s) shall complete Respiratory Protection Competent Person Training and shall have sufficient knowledge and experience to recognize respiratory hazards and effect engineering controls and protections for such hazards. They shall also have the authority to stop work and take corrective action when necessary due to respiratory hazards in the workplace.

For projects where respiratory hazards may exist Barton Malow managers and Supervisors shall be required to complete Respiratory Protection Training for Managers.

Barton Malow employees who may encounter respiratory hazards on Barton Malow projects or work activities shall be trained to recognize those hazards, how to avoid those hazards, how to protect themselves from those hazards, and how to report those hazards to a Supervisor.

Barton Malow Subcontractor's who are deemed as respiratory hazard exposing or creating Contractors shall provide Respiratory Hazard training for their Competent Persons, Managers, Supervisors, and employees as required. Barton Malow may require documentation of such training to be submitted to Barton Malow project team or Safety Department.

Employees who are evaluated, fit tested, and authorized to wear a respirator shall be trained on the following topics:

- Respiratory hazards and the potential health effects
- Symptoms of exposure
- Identifying the respiratory hazard
- Respiratory PPE requirements, limits, and capabilities
- Physical/medical conditions that may limit or affect the safe use of respirators
- Purpose of the medical evaluation and fit testing
- Proper donning, fit, use, cleaning, maintenance, and storage of respiratory PPE
- Seal check the respirator using a negative or positive pressure test
- Identifying improper fit or incorrect use of respirator
- Use of respirators in emergency situations
- Correction of basic respirator malfunctions
- Properly reporting respirator problems and hazards

Respirator User Training shall be documented on **Attachment AT - Barton Malow Respirator User Authorization and Training Record** (or equivalent form). Such record shall be entered and maintained in Barton Malow project records for the duration of the project, and into permanent electronic records as prescribed in Barton Malow recordkeeping policies.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SILICA PROTECTION + EXPOSURE CONTROL PROGRAM

APPLICABILITY

The requirements of this section apply to all Contractor's employees who may be exposed to respirable crystalline silica onsite.

REQUIREMENTS

Barton Malow employees and Subcontractor employees on Barton Malow projects shall be protected from unsafe levels of silica hazards according to **OSHA 1926.1153** and **ANSI Z88.2: Practices for Respiratory Protection.**

RESPONSIBILITIES & PROGRAM ADMINISTRATION

- Barton Malow Safety Leadership shall be responsible for administration, execution, recordkeeping and management of this program for the company and shall evaluate the effectiveness of the program annually.
- Barton Malow Safety or Barton Malow Respiratory & Silica Protection Competent Persons may administer, execute, maintain records, and manage this program on individual projects. All project Supervisory Personnel (Barton Malow & Subcontractor) shall be responsible for compliance with this program.
- Subcontractors exposed to respirable silica are required to provide Silica Competent Persons for Barton Malow projects in order to comply with this program.
- If Barton Malow and Subcontractor disagree on the existence or level of silica hazard, then the Barton Malow determination or assessment shall be applied.
- Employees affected by this program shall be expected to adhere to its provisions and comply fully with its requirements. Failure to do so may result in disciplinary action.

GENERAL REQUIREMENTS

Barton Malow and/or Subcontractors shall determine if respirable silica hazards may exist at unsafe levels at a project, work location, or during the completion of a task. Such determination shall be made by a Competent Person(s), and may be accomplished by methods such as but not limited to:

- Examination of current or upcoming work activities
- Observation of the presence of dust that may contain silica
- Project inspections
- Job Hazard Analysis (JHA) or Pre-Task Safety Plans (PTP)
- Air sampling
- Information in Safety Data Sheets, product specs, or other reliable objective data

If it is determined that silica hazards exist or shall exist at or above the OSHA Action Level of 25ug/m3 calculated as an 8-hour Time Weighted Average (TWA), then the exposing Contractor, or creating Contractor, or both must submit a written silica exposure control plan in compliance with **OSHA 1926.1153(g)** and a Respiratory Protection Plan in compliance with **OSHA 1910.134** to Barton Malow Project Management and/or Safety.

Engineering controls shall be applied first when silica respiratory hazards are found to expose employees to unsafe levels above the OSHA Permissible Exposure Limit (PEL) of 50 ug/m3 calculated as an 8-hour TWA.

If engineering controls alone do not limit the exposure to safe levels, then respiratory protective equipment (respirator) shall be used in addition to the engineering controls. Respirators shall not be used without first applying engineering controls.

Respirators shall be defined as a respiratory device with an air-purifying filter, cartridge, or canister that removes specific air contaminants by passing ambient air through the air-purifying element. This includes:

- Any NIOSH rated negative pressure particulate respirator with a filter as part of the facepiece or with the entire facepiece as the filtering medium. This includes N95 & P95 filtering facepiece respirators, and half/full facepiece respirators
- Atmosphere supplying respirators
- Positive pressure respirators
- Self-contained breathing apparatus
- e. Any other respiratory protection device defined as a respirator in **OSHA 1910.134(b)**.

Nuisance dust mask shall be defined as a loose fitting (usually single strap) filtering facepiece respirator that is not NIOSH tested or approved. Nuisance dusts masks are not N95 or P95 rated, and do not have NIOSH labeling on the box or the unit. Nuisance dust masks are designed and intended only for non-hazardous particulates and they do not offer adequate protection against silica or other hazardous gases, fumes, or dusts. Nuisance dust masks shall not be used for protection from silica hazards.

CONTROL METHODS

Appropriate engineering controls and proper PPE for IDLH conditions must be selected and implemented. To eliminate, control, or mitigate respiratory hazards, a hierarchy of controls are to be used in the following order:

1. Eliminate or substitute (preferably through design) using engineering controls
2. Control & protect (water, dust collection, local exhaust, ventilation)
3. Train and inform (procedures, exposure time limitations)
4. PPE (respirator, SCBA)

A combination of engineering controls may be used to effectively control or mitigate respirable silica hazards.

Engineering controls must be planned, implemented, used, and maintained in a manner that provides the required and adequate level of protection for the affected employees.

Engineering controls must be applied to any employees that are engaged in a silica exposing activity or task. Engaged shall be defined as:

- Operating the tool or equipment involved in the silica hazard task
- Helping with the silica hazard task
- Having some responsibility in the silica hazard task
- Being affected by the silica dust in excess of the OSHA PEL 50ug/m3 calculated as an 8 hour TWA

Engineering controls need not be applied for persons simply in the vicinity or passing by, and not being affected by the silica dust in excess of the OSHA PEL 50ug/m3 per 8 hour TWA.

SITE SPECIFIC ENGINEERING CONTROLS

For tasks or silica hazards listed in OSHA 1926.1153 – Table 1, Barton Malow and Subcontractors shall use and comply with Table 1 below:

TABLE 1: SPECIFIED EXPOSURE CONTROL METHODS WHEN WORKING WITH MATERIALS CONTAINING CRYSTALLINE SILICA

EQUIPMENT/TASK	ENGINEERING AND WORK PRACTICE CONTROL METHODS	REQUIRED RESPIRATORY PROTECTION AND MINIMUM ASSIGNED PROTECTION FACTOR (APF)	
		≤ 4 HOURS/ SHIFT	> 4 HOURS/ SHIFT
(i) Stationary masonry saws	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
(ii) Handheld power saws (any blade diameter)	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions: When used outdoors When used indoors or in an enclosed area	None APF 10	APF 10 APF 10
(iii) Handheld power saws for cutting fiber-cement board (with blade diameter of 8 inches or less)	For tasks performed outdoors only: Use saw equipped with commercially available dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency.	None	None
(iv) Walk-behind saws	Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions: When used outdoors When used indoors or in an enclosed area	None APF 10	APF 10 APF 10

EQUIPMENT/TASK	ENGINEERING AND WORK PRACTICE CONTROL METHODS	REQUIRED RESPIRATORY PROTECTION AND MINIMUM ASSIGNED PROTECTION FACTOR (APF)	
		≤ 4 HOURS/ SHIFT	> 4 HOURS/ SHIFT
(v) Drivable saws	For tasks performed outdoors only: Use saw equipped with integrated water delivery system that continuously feeds water to the blade. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
(vi) Rig-mounted core saws or drills	Use tool equipped with integrated water delivery system that supplies water to cutting surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions.	None	None
(vii) Handheld and stand-mounted drills (including impact and rotary hammer drills)	Use drill equipped with commercially available shroud or cowling with dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. Use a HEPA-filtered vacuum when cleaning holes	None	None
(viii) Dowel drilling rigs for concrete	For tasks performed outdoors only: Use shroud around drill bit with a dust collection system. Dust collector must have a filter with 99% or greater efficiency and a filter-cleaning mechanism.	APF 10	APF 10

EQUIPMENT/TASK	ENGINEERING AND WORK PRACTICE CONTROL METHODS	REQUIRED RESPIRATORY PROTECTION AND MINIMUM ASSIGNED PROTECTION FACTOR (APF)	
		≤ 4 HOURS/ SHIFT	> 4 HOURS/ SHIFT
(ix) Vehicle-mounted drilling rigs for rock and concrete	Use dust collection system with close capture hood or shroud around drill bit with a low-flow water spray to wet the dust at the discharge point from the dust collector. OR Operate from within an enclosed cab and use water for dust suppression on drill bit.	None None	None None
(x) Jackhammers and handheld powered chipping tools	Use tool with water delivery system that supplies a continuous stream or spray of water at the point of impact: When used outdoors When used indoors or in an enclosed area OR Use tool equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the tool manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism: When used outdoors When used indoors or in an enclosed area	 None APF 10 None APF 10	 APF 10 APF 10 APF 10 APF 10
(xi) Handheld grinders for mortar removal (i.e., tuckpointing)	Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism.	APF 10	APF 25

EQUIPMENT/TASK	ENGINEERING AND WORK PRACTICE CONTROL METHODS	REQUIRED RESPIRATORY PROTECTION AND MINIMUM ASSIGNED PROTECTION FACTOR (APF)	
		≤ 4 HOURS/ SHIFT	> 4 HOURS/ SHIFT
(xii) Handheld grinders for uses other than mortar removal	For tasks performed outdoors only: Use grinder equipped with integrated water delivery system that continuously feeds water to the grinding surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. OR Use grinder equipped with commercially available shroud and dust collection system. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide 25 cubic feet per minute (cfm) or greater of airflow per inch of wheel diameter and have a filter with 99% or greater efficiency and a cyclonic pre-separator or filter-cleaning mechanism: When used outdoors When used indoors or in an enclosed area	None None None	None None APF 10
(xiii) Walk-behind milling machines and floor grinders	Use machine equipped with integrated water delivery system that continuously feeds water to the cutting surface. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. OR Use machine equipped with dust collection system recommended by the manufacturer. Operate and maintain tool in accordance with manufacturer's instructions to minimize dust emissions. Dust collector must provide the air flow recommended by the manufacturer, or greater, and have a filter with 99% or greater efficiency and a filter-cleaning mechanism. When used indoors or in an enclosed area, use a HEPA-filtered vacuum to remove loose dust in between passes.	None None	None None
(xiv) Small drivable milling machines (less than half-lane)	Use a machine equipped with supplemental water sprays designed to suppress dust. Water must be combined with a surfactant. Operate and maintain machine to minimize dust emissions.	None	None

BARTON MALOW SILICA TABLE 1 ADDENDUM

EQUIPMENT/TASK	ENGINEERING CONTROLS	REQUIRED PPE & MINIMUM APF	
		≤ 4 hours/shift	> 4 hours/shift
Manual sweeping of dust that contains silica			
Mechanical sweeping (Broce Broome Sweeper or similar) of dust that contains silica	THIS SECTION TO BE REVIEWED AND CONSIDERED BY BARTON MALOW SAFETY LEADERSHIP		
Spray or patch fireproofing that contains silica			
Sanding of drywall joint compound that contains silica			

For tasks or silica hazards not in OSHA Table 1 or Barton Malow Table 1 Addendum, Barton Malow and/or Subcontractors shall ensure that no employee is exposed to airborne respirable crystalline silica in excess of OSHA PEL 50ug/m3 calculated as an 8 hour TWA. This shall be accomplished by a Competent Person conducting an exposure assessment using the performance method or the scheduled monitoring method described in **OSHA 1926.1153(d)(2)**.

If water is used as an engineering control, it must be applied at a rate sufficient to eliminate visible dust. Water must be applied at the point of operation, and the flow must be sufficient to control the dust. If dust collection is used as an engineering control, it must not discharge silica dust in a manner that may affect others in the vicinity.

During silica exposing activities in enclosed areas, indoors, or areas of a building that are protected by a roof, an effective mechanical exhaust or ventilation shall be used to prevent the accumulation of airborne silica dust.

For routine housekeeping procedures, dry sweeping that creates an airborne silica dust exposure shall not be permitted if it is feasible instead to use sweeping compound, wet sweeping, or HEPA vacuum.

Leaf blowers or compressed air shall not be used to remove silica dust from floors, walls, or similar surfaces if such use creates a silica exposure hazard. Leaf blowers or compressed air shall not be used to remove silica dust from a person or their clothing if such use creates a silica exposure hazard.

RESPIRATOR USAGE

If respirators are required in addition to engineering controls, their selection, medical evaluation, fit testing, and training shall be done in accordance with the Barton Malow Respiratory Protection Program, and **OSHA 1910.134** requirements.

For silica protection, respirators must have a minimum Assigned Protection Factor (APF) of 10 or better. Nuisance dust masks, bandanas, or similar methods shall not be permitted for protection against silica hazards.

MEDICAL SURVEILLANCE

Barton Malow employees who wear or use respirators for more than 30 days in a calendar year shall be provided with medical surveillance services at no charge and at a reasonable time and place to the employee.

Medical surveillance services shall comply with **OSHA 1926.1153(h)**. It shall be provided by a Physician or other Licensed Health Care Professional (PLHCP) and shall include the following:

- Initial examination with review of work history and anticipated exposure to silica dust
- A physical exam with emphasis on respiratory health
- A chest x-ray
- A pulmonary function test
- A test for latent tuberculosis infection
- Any other tests deemed appropriate by the PLHCP
- An explanation of the results to the employee by the PLHCP

SILICA HAZARD TRAINING & HAZARD COMMUNICATION

Employees who may be exposed to silica hazards shall be trained in the following:

- Health hazards of respirable silica
- Work activities that may result in respirable silica exposure
- Barton Malow measures (engineering controls, work practices, and respirators) used to protect employees from the hazards of respirable silica

Barton Malow Hazard Communication Program (HAZCOM) shall include respirable silica as a hazard. Employees shall have access to Safety Data Sheet (SDS), labels, PPE, and training as required in the HAZCOM program.

HEAT STRESS PREVENTION PROGRAM

APPLICABILITY

Many Barton Malow jobsites are located in warm climates. These include employees working at locations internationally whose primary climate is mild to extremely hot, year round. Working in hot conditions poses many safety and health hazards to the workers. Heat related illnesses and accidents range from acute to chronic. This program addresses ways to minimize and control these hazards.

Barton Malow Safety Leaders and project leadership are responsible for reducing heat-related illnesses and disorders for all Barton Malow and Subcontractor employees.

RESPONSIBILITIES

SAFETY REPRESENTATIVES

The Barton Malow Safety Team (Representatives) has the primary responsibility for assisting job sites in implementation of these best methods through training, education and support.

The Barton Malow Safety Team should be available to monitor the heat exposure of individual jobs and make recommendations to reduce heat stress risk. If employees must work for extended periods (i.e. more than one continuous hour/day) outdoors during hot weather or above the Threshold Limit Value (TLV) for heat exposure, project leadership shall be trained in the prevention of heat stress. This training includes the signs and symptoms of heat stress and preventive measures that should be taken. A plan addressing the specific needs of the project should be implemented based on the hazards and resources present.

SUPERINTENDENTS

Superintendents have the primary responsibility for providing training, sources of drinking water, and supporting personnel in adjusted work schedules to reduce heat exposure during heat events.

Superintendents and supervisors are responsible for ensuring employees who are working in hot environments take necessary precautions as outlined in the section titled Control of Heat Stress of this program.

Superintendents and Managers have the primary responsibility for the implementation of the Heat Stress Prevention in their work area. Although the ultimate responsibility for the safety of employees lies within the employee, supervisors should use available resources to control the hazards present on the job. Heat stress prevention techniques include:

- Evaluation of the work to be performed and the potential impact from hot weather on the personnel performing the work.
- Provide adequate break areas and hydration stations.
- Provide drinking water and/or electrolyte replacement drinks.
- Allow acclimatization of workers to hot environments.
- Work/rest schedule.
- Scheduling of work to reduce heat stresses as appropriate.
- Training of employees in the prevention and identification of heat related illnesses.

Employees are to be made aware that they will face no repercussions for working to protect themselves and others from experiencing a heat stress event. Scheduling should be completed with the relative climate in mind. Budgeting for items to mitigate heat stress hazards should also be completed on the forefront to avoid any unnecessary financial implications.

EMPLOYEES

Employees should attend training and follow the guidelines given to them by their supervisor (when) in regards to Heat Stress prevention. Employees are also responsible for monitoring themselves for signs and symptoms of heat stress and notifying their supervisor in the event of a hazard becoming apparent or inevitable. Employees should constantly monitor themselves and those around them for signs of heat stress. Remember, when you realize you have a problem, it is usually already too late. Prevention is the best practice in regards to heat related illnesses.

PREVENTION

Four environmental factors affect the amount of stress a worker experiences in a hot environment: temperature, humidity, air velocity and radiant heat. Examples of radiant heat include direct heat from the sun or a furnace. Job-related factors that affect heat stress include work rate and physical effort required, type of clothing and protective equipment used, and duration of activity. All of these factors should be evaluated in order to minimize their impact on the worker. Personal characteristics such as age, weight, physical fitness, and acclimatization to the climate in a given location also need to be factored in order to determine those people and areas at high risk.

HEALTH DISORDERS

The human body regulates high temperatures by two primary mechanisms; blood flow and sweating. Blood is circulated to the skin, increasing the skin temperature and allowing the body to give off the excess heat through the skin. Sweating occurs when the body senses the heat loss due to increased blood circulation is not enough to cool the body. Evaporation of the sweat cools the skin and eliminates large quantities of heat from the body. If the body is unable to release excess heat, it will store it. When this happens, the body's core temperature rises and the heart rate increases. If the body continues to store heat, the person may begin to have difficulty concentrating, may become irritable and lose the desire to drink. The next stage is often fainting which would signal a medical emergency.

TABLE 1: COMMON HEAT DISORDERS, SYMPTOMS, AND APPROPRIATE FIRST AID MEASURES

DISORDER	CAUSE	SIGNS & SYMPTOMS	TREATMENT
Heat Cramps	• Heavy sweating • Loss of salt	• Painful spasms of arms, legs, and abdomen • Sudden onset hot, moist skin	• Drink water • Massage cramped area • Rest
Heat Exhaustion	• Dehydration • Non-acclimatized	• Heavy sweating • Intense thirst • Pale, moist, cool skin • Rapid pulse • Fatigue, weakness • Fainting, collapse	• Move to shade or an air-conditioned space • Rest, lying down, legs elevated • Loosen clothing • Drink water
Heat Stroke	• Excessive exposure to hot environments • Body's system of temperature regulation fails • Body temperature rises to critical levels	• High body temperature • Lack of sweating • Hot, red, dry skin • Rapid pulse • Chills • Difficulty breathing • Disoriented weakness • Unconsciousness	**MEDICAL EMERGENCY** • Call for emergency help • Immerse person in water • Massage body with ice

WORKPLACE SURVEILLANCE

Work being done in non-air-conditioned indoor spaces should be monitored by the superintendent. Employees identified as working in a high-risk area will need to follow the guidelines in Table 2 and the section Control of Heat Stress. Employees who are working outdoors or in non-air-conditioned space should pay attention to the temperature, humidity and heat stress indices. When the heat stress index, as defined in Table 3, exceeds the extreme caution level of 90 F, precautions as outlined in Table 2 and the section Control of Heat Stress should be followed. If employees are wearing protective clothing such as welding leathers or tyvek for asbestos or other assigned work, precautions as outlined in Table 2 and the section Control of Heat Stress should be followed at a heat index in excess of 88 F.

If the heat stress index exceeds 120 F, or 118 F for workers with protective clothing, work in a heat stress environment should stop. If it is imperative that work gets done, contact a Barton Malow Safety representative for additional assistance. A plan should be developed using engineering and administrative controls to mitigate the hazards present.

GUIDELINES FOR HEAT EXPOSURE LIMITS

Always monitor signs and symptoms of heat-stressed workers. Discontinue any activity for a person when:

- Sustained heart rate greater than 160 beats per minute for those under 35 and 140 for those 35 and over.
- There are complaints of sudden and severe fatigue, nausea, dizziness, lightheadedness, or fainting.
- There are periods of inexplicable irritability, malaise or flu-like symptoms.
- Sweating stops and the skin becomes hot and dry.

TABLE 2: APPARENT TEMPERATURE, HEAT STRESS INDEX (HSI)*

RELATIVE	ENVIRONMENTAL TEMPERATURE									
HUMIDITY %	70	75	80	85	90	94	100	105	110	115
0%	64	69	73	78	83	87	91	95	99	103
10%	65	70	75	80	85	90	95	100	105	111
20%	66	72	77	82	87	93	99	105	112	120
30%	67	73	78	84	90	96	104	113	123	135
40%	68	74	79	86	93	101	110	123	137	151
50%	69	75	81	88	96	107	120	135	150	
60%	70	76	82	90	100	114	132	149		
70%	70	77	85	93	106	124	144			
80%	71	78	86	97	113	136	EXTREME DANGER			
90%	71	79	88	102	122					
100%	72	80	91	108						

*Apparent temperature, Heat Stress Index (HSI): A measure of how hot it really feels in degrees Fahrenheit when relative humidity is factored with the actual air temperature. This chart has been adapted from the National Weather Service's "heat index" and an adjustment has been made with the apparent temperature categories to match more closely working in full sunshine. This guideline should be followed for employees not wearing protective clothing.

CATEGORY	APPARENT TEMPERATURE (°F)	DANGERS
Extreme danger	Greater than 120	Heat stroke imminent
Danger	105-120	Heat exhaustion likely
Extreme caution	90-105	Heat cramps, exhaustion possible
Caution	80-90	Exercise more fatiguing than normal

TRAINING

Employees who work in hot environments will receive yearly training regarding heat disorders, and their recognition, prevention and treatment. Training for jobs that are seasonal may need to be scheduled prior to the hot season. New employees should receive training prior to working in a hot work environment. That training may include locations of break and rest areas and the resources contained within those such as water, misting fans, etc. Supervisors should be advised to give adequate breaks for workers, and workers should be advised to take breaks as necessary to avoid a heat related illness. Training on PPE used to mitigate hazards should be given if necessary for job completion. Those items may include, long sleeve shirts, Tyvek, cooling cloths for neck and helmet use, etc.

CONTROL OF HEAT STRESS

The following guidelines should be followed to prevent heat-related disorders.

ENGINEERING CONTROLS

Heat may be controlled through general ventilation and spot cooling by local exhaust ventilation at the point of high heat production. Shielding may be needed for protection against radiant heat sources. Other control measures include opening windows or using fans to create airflow. Outdoor work areas need to have a shaded area accessible to the employees. Shaded areas can be created by using tarps or canopies or equipping tractors with canopies or cabs.

An example of how the policy could be implemented on site is providing a shade tent, some chairs or a picnic table, a portable fan for air movement, and a source of clean potable water for a cool down area. The closer the cool down area is to the work activity, the more effective it will be in reducing heat illness. Multiple cool down areas may be needed depending on the size of the project.

A work activity that should have at least one cool down area is any activities that involve being up on the roof. Workers are directly exposed to the sun with little to no shade opportunity for breaks. Bringing in artificial shade, i.e. shade tents, will help with heat illness and prevent a potential incident.

ACCLIMATIZATION

Employees need to adapt to new temperatures. This adaptation period is usually 5 days. New employees and employees returning from an absence of two weeks or more may need a 3-5 day period of acclimatization. This period could begin with 50% of the normal workload the first day and gradually build up to 100% on the last day. Age, experience, weight, and other factors may influence the amount of time needed to acclimate to a given climate.

An example of how the policy could be implemented is by having your newer worker complete tasks that aren't strenuous for the first 3 days on site and gradually give the worker more labor intensive tasks until the worker is comfortable enough in the elements to be working at full capacity.

WEATHER CONDITIONS

Check weather conditions frequently during the day and adjust the work schedule. It might be appropriate to change the actual hours of work to minimize working during the heat of the summer months. Heavy work should be scheduled for the cooler hours of the day. Non-essential tasks should be postponed when there is a heat warning issued.

An example for utilizing proper planning and coordination with the weather is roofing activities. Trades arrive early in the morning to do layout and other work activities prior to the sun's heat becoming a problem. Once the sun's heat becomes an issue, the crew(s) are moved to another work task.

WORK/REST CYCLES

Heavy and minimal work activities should be alternated. Tasks should be rotated among workers. Employees should be allowed sufficient breaks in a cool area to avoid heat strain and promote recovery. Shade or an air-conditioned break room should be provided.

An example of this best practice is when the temperature is over 85 degrees, a minimum of 55 minutes working and 5 minute rest should be provided. When temperatures exceed 90 degrees, coordination may be needed to increase the rest time provided within the working hour. Using this method, it is important to remember that production will start to go down due to an increase in taking breaks. Rest should be taken in areas where the employee can rehydrate, use facilities, and remain in a cooler location until work resumes.

PERSONAL PROTECTIVE EQUIPMENT

During work in hot environments, workers should use the lightest weight or "breathable" protective garments that give adequate protection. For work in extremely hot environments, cooling towels and cool vests are available from several manufacturers. These vests typically provide 1-2 hours of cooling, recharge in 20 minutes, and maintain a constant temperature of 55 F. For example, cooling towels typically provide about 30 minutes of cooling with an easy refresh rate of a few minutes while a new towel is found or the existing towel is rinsed in cool water and then placed back onto the body.

An example of this best practice would be to budget for additional purchases of PPE including lightweight and breathable shirts that uphold the safety policies put in place for visibility of the worker. Other PPE that can be budgeted for and purchased are sun visors that go over the hard hat, cooling cloths for the neck, and other cooling devices such as vests. Advising workers to wear appropriate clothing for the task being performed as well as the climate in the area is important.

FLUID INTAKE

Fluids, such as water or electrolyte replacement drinks, i.e. Gatorade , need to be conveniently available to workers so they can drink about 8 oz. of liquids every 20 minutes. The ideal temperature for liquids should be 50 – 60 °F. For remote outdoor work locations this means providing a cooler of liquids and ice that the workers can transport with them to the location.

An example of this best practice is to have water kegs and bottles in close proximity to the work area(s) so that the employees do not have to travel far to get them. Another practice is to budget and purchase sports drinks or another similar product to help replenish electrolytes in the workers. Squenchers brand in particular do not have a lot of salt and sugar so it is safe to have in larger quantities.

TRAINING

Employees should be trained prior to working in a high heat area to be aware of the hazards of working in the heat, how to recognize heat-related illnesses and procedures for first aid and medical attention. They should also be aware of the methods used to avoid heat-related illnesses, including how some things, which happen off the job, can increase the risk of heat illnesses at work

An example of this best practice is to have this training included in orientation before the worker begins work to be performed on site. Education is extremely important to help the employee be smarter and safer. Other training for heat illness could include weekly tool box talks, stand downs, and daily muster meetings.

ACTIONS TO TAKE IN CASE OF EMERGENCY

There are varying forms of heat stress illnesses that may occur. Should a heat related event occur, the worker should be evaluated by medical professionals capable of treatment or advanced notification of other needed resources (911). This should be completed on a case by case basis.

Heat cramps is often the first sign of a looming emergency if left untreated. If an employee is experiencing heat cramps they should be moved to a cool area immediately. Rehydration and rest is essential treatment. If symptoms persist, they should be treated by advanced medical personnel. That may include Emergency Medical Services (EMS) or other medical professionals.

Heat exhaustion occurs after a worker is exposed to high temperatures for too long and is accompanied by dehydration. Symptoms may include profuse sweating, confusion, weakness, fatigue, nausea, cramps, rapid heartbeat, etc. If left untreated, heat exhaustion will progress into a heat stroke. If a worker is experiencing heat exhaustion, they should be moved into a cool, preferably air conditioned area immediately. Removal of excess clothing or PPE, rehydration, sitting or lying down, or being placed in a cool source of water safely may help to ease their symptoms and lessen further damage to the body from heat exhaustion. If symptoms persist or treatment is unavailable, advanced medical attention is always necessary.

Heat stroke occurs when a worker is left untreated after experiencing less serious events such as heat cramps or exhaustion. Heat stokes can cause brain damage or death when left untreated. Symptoms may strike even if there were no previous signs of heat stress from the individual. Symptoms of heat stroke include a core temperature of 104 °F or greater, confusion, dizziness, rapid heartbeat that may be strong or weak, red and dry skin, lack of sweating, seizures, unconsciousness, etc. Advanced medical attention is paramount for a worker experiencing a heat stroke. First aid should be given to the worker until EMS arrives.

EXAMPLES OF UTILIZING RESOURCES

By placing posters on job boards around the site, we can help the worker remain aware of the dangers and signs of heat stress throughout the day.

If permanent structures cannot reasonably be established, utilizing the locations natural shaded areas may be sufficient for workers taking breaks. However, if at all possible, provided fans, water, and chairs should be considered in these areas as well as permanent areas.

Wearing appropriate PPE for the task should never be compromised, however, consideration of clothing and PPE can help the worker remain more comfortable in extreme heat.

If possible, a permanent or semi-permanent rest area should be established for workers to utilize. There, fans, misting fans, water, chairs, picnic tables, etc. can be set up for easy access.

REFERENCES

American Conference of Governmental Industrial Hygienists. TLVs and BEIs. 1999

U.S. Environmental Protection Agency. A Guide to Heat Stress in Agriculture. Publication number EPA-750-b-92-001. May 1993

U.S. Department of Health and Human Services, National Institute for Occupational Safety and Health. Criteria for a Recommended Standard. Occupational Exposure to Hot Environments. Publication number 86-113.1986

U.S. Department of Labor, Occupational Safety and Health Administration, Instruction TED 1.15, OSHA Technical Manual, Section II: Chapter 4, Heat Stress. September 22, 1995

COLD STRESS PREVENTION PROGRAM

APPLICABILITY

Barton Malow's work site locations include all types of weather climates including moderate to extreme cold and wet environments. These weather extremes can pose health and safety concerns to onsite workers. Employees exposed to extreme cold or cold and wet environments are at risk for cold stress. Short-term exposure to extreme cold or longer exposure to cold can lead to serious health problems including but not limited to hypothermia and frostbite.

RESPONSIBILITIES

SAFETY REPRESENTATIVES

The Barton Malow Safety Team is responsible for assisting jobsites in implementing the best methods to prevent cold stress through proper training, education, or engineering and administrative controls measures.

The Barton Malow Safety Team should be available to monitor cold stress conditions and make recommendations to reduce the risks of cold stress. If employees must work for extended periods in cold or extreme cold that might cause frostbite or hypothermia, project leadership shall be trained in the prevention of cold stress. The training includes identifying the signs and symptoms of cold stress and the preventative measures that must be taken. The plan addressing the specific needs of the project should be implemented based on the hazards and resources present.

SUPERINTENDENTS

Superintendents have the primary responsibility to identify work activities that put workers at risk to cold stress. The superintendent will also provide cold stress training and educational materials to site workers.

The superintendent will use engineering and administrative industry best practices to prevent cold stress. These include:

- Ensuring workers are appropriately dressed and stay covered, including extremities.
- Employees should never touch cold metal surfaces with bare skin.
- Requiring additional breaks in warm break rooms or environments.
- Monitoring and rotating employees working in cold environments.
- Providing adequate amounts of drinking water to keep workers hydrated, instructing workers to limit caffeine intake.
- Educating workers on how to identify and report cold-related injuries or illnesses.
- Advising workers to maintain a change of clothes in case clothing becomes wet.
- Allowing workers time to acclimate to site conditions.
- Scheduling work activities to minimize extreme cold and wind.

EMPLOYEES

Employees should attend training and follow the guidelines given to them by their supervisor in regards to cold stress. It is the employee's responsibility to notify their supervisor of signs and symptoms of cold stress. Keep in mind that cold environments can exacerbate pre-

existing medical conditions.

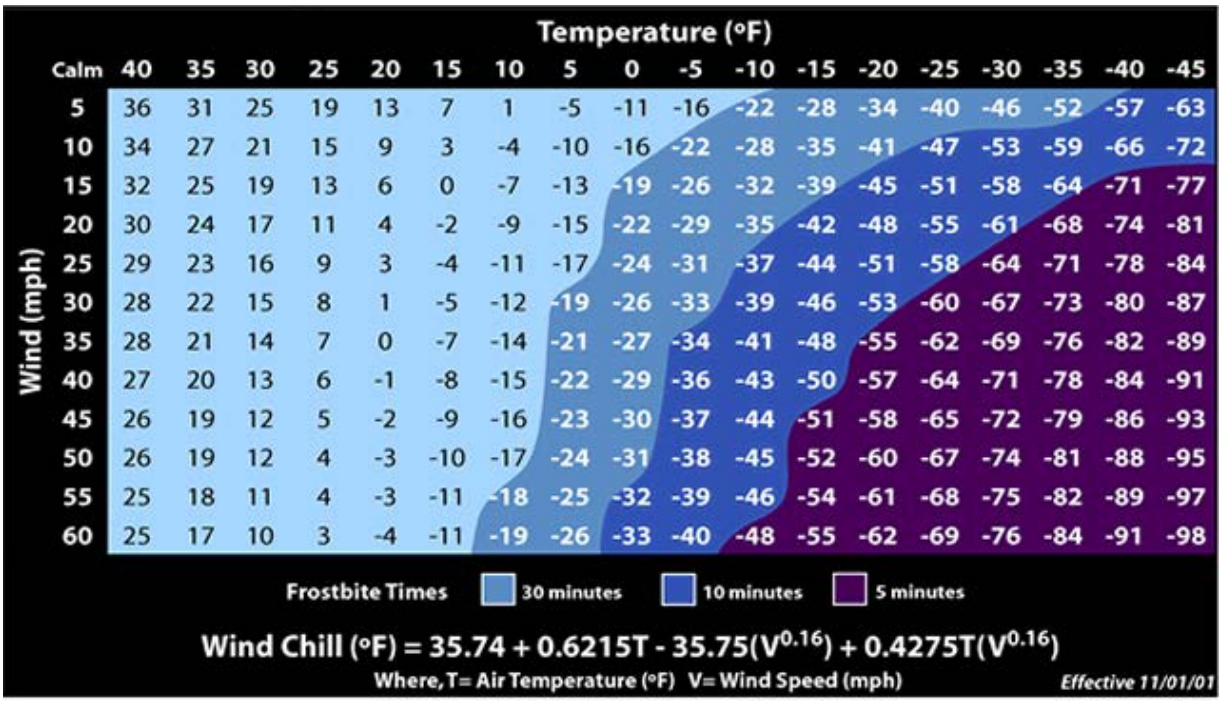
Employees will mitigate the risk of cold stress by doing the following:

- Wearing appropriate clothing for weather conditions. This may include clothing designed to keep the worker not only warm but also dry. Best practices include:
  - Multiple layers of dry, loose-fitting clothing.
  - Inner and middle layers should be made of wool, silk, or synthetic materials for moisture-wicking and insulation; outer layers should be windproof and waterproof and allow for some ventilation.
  - Avoid tight or restrictive clothing.
  - A hat or hood, including a knit mask if necessary. Protect your ears, face, and hands.
  - Insulated, waterproof gloves and boots.
  - Carry an extra change of clothes, and change out clothing if it becomes wet.
  - Do not allow bare skin to be exposed to extreme cold.
- Staying hydrated
- Drinking hot non-caffeinated beverages
- Monitoring conditions for signs and symptoms of cold stress
- Avoiding overly strenuous activities

PREVENTION

Cold climates and environments affect worker's health in varying degrees. Personal characteristics such as age, weight, physical fitness, heart and lung disease, and diabetes can determine whether an employee can or cannot tolerate cold stress. Cold stress is determined by the temperature, humidity, and air velocity. The National Weather Service's wind chill index chart shown below illustrates how wind and cold together cause the potential for frostbite.

WIND CHILL CHART



ENGINEERING CONTROLS

Some engineering controls include:

- Providing warm, dry areas where employees can spend breaks
- Providing a wind barrier
- Installing localized heat

ADMINISTRATIVE CONTROLS

ACCLIMATIZATION PROTOCOL

New and relocated employees who are new to working in a cold stress environment will be gradually introduced to the cold environment during the first week of the job. This involves gradually increasing their time in cold environments to that of a fully-acclimated employee.

JOB ROTATION

Job rotation is a good way to limit the amount of time employees are in cold, wet environments.

BREAKS

Employees shall take breaks in warm, dry areas and will have access to warm beverages (e.g., coffee, tea, etc.). Supervisors must assure break areas are easily accessible, kept warm, and that employees take regular breaks.

HEALTH DISORDERS

The following are symptoms of cold stress. If workers experience any of these symptoms or suspect that someone else has, they should notify their supervisor.

HYPOTHERMIA

- Early signs may include shivering and excessive moving around to try to generate heat.
- Moderate to severe symptoms include the cessation of shivering, loss of coordination, confusion, dilated pupils, slowed pulse and heartbeat.

FROSTBITE

- The affected area is red with white or gray blotches in addition to blisters in severe cases.
- The affected area is numb but firm or hard to the touch.

TRENCH FOOT

- Feet are numb, swollen, or red; blisters may be present.

WORKPLACE SURVEILLANCE

Factors that may contribute to cold stress:

- Temperatures at the worksite
- Whether employees work outdoors and are exposed to weather
- Working indoors in a unheated or insulated cold storage warehouse facility
- Wind speed
- Time of day
- Amount of time spent working in the cold
- How acclimatized employees are to cold temperatures
- Physical contact with cold objects or liquids

- Clothing and PPE employees are required to wear
- Physically strenuous work
- Lack of shelter from wind or cold temperatures

FIRST AID PREPAREDNESS

- Coordinate with medical personnel ahead of time to ensure readiness for an emergency.
- Ensure that first aid personnel are readily available and can be reached quickly in an emergency.
- Locate on site first aid kits.
- Keep first aid kits stocked with chemical hot packs.

EMERGENCY RESPONSE AND TREATMENT

Employees that show symptoms of cold stress shall be immediately removed from the cold environment for treatment. In the event of a medical emergency, call 911.

HYPOTHERMIA

- Call 911 for severe symptoms of hypothermia.
- Move the individual to a warm, dry area.
- Replace any wet clothes with dry layers.
- Wrap the individual in layers of blankets and cover their body with a tarp or garbage bag to trap water vapor; leave their face uncovered.
- If medical help is more than 30 minutes away, attempt to keep the individual warm by placing warm bottles or hot packs around their torso and giving them warm, sweetened beverages. However, do not attempt to give a drink to an unconscious person.
- If the individual is not breathing or has no pulse:
    - Call 911.
    - Follow the instructions for treatment above, but do not try to give the individual any liquids.
    - If there is no breathing or pulse after 60 seconds, trained employees may begin rescue breathing for the individual or administer a defibrillator if one is present. CPR may also be administered at the direction of the 911 operator or emergency medical responder.

FROSTBITE

- Obtain medical assistance as soon as possible.
- Take actions to warm the individual's body, but do not attempt to treat or re-warm the affected area directly before getting medical help. Avoid rubbing or applying coverings or water to the affected area; leave any blisters intact.

TRENCH FOOT

- Obtain medical assistance as soon as possible.
- Remove the individual's shoes and socks and keep their feet warm and dry.

TOOL TETHERING PROGRAM

APPLICABILITY

The purpose of the Tool Tethering Program is to establish guidelines for eliminating falling tools while working at heights. This Program is intended to significantly reduce both hazards and the risk of serious injury to employees posed by falling objects from. The requirements of this section apply to Barton Malow employees and the employees of subcontractors and sub-subcontractors who perform construction activities on the jobsite.

RESPONSIBILITIES

SAFETY REPRESENTATIVES

The Barton Malow Safety Team has the primary responsibility for assisting locations in implementation of the Tool Tethering Program.

Barton Malow's Safety Team is available to assist in assessing site specific hazards and will arrange for training of Superintendents and other necessary personnel. This training may include recognition of situations that may present the hazard of tools being dropped, as well as preventative measures that should be taken to mitigate the hazard. A plan for site-specific needs should be implemented based on the hazards.

SUPERINTENDENTS

Superintendents have the primary responsibility for providing training, proper personal protective equipment (PPE) and ensuring compliance from all personnel.
Superintendents and Supervisors are responsible for ensuring employees, who are working directly above or adjacent to, individuals at a lower level, are utilizing preventative measures such as netting systems and toe boards, and active controls such as tool tethering and equipment to protect individuals and property below.
Superintendents and Project Managers have the primary responsibility for the implementation of the Tool Tethering Program in their work area. Although the ultimate responsibility for the safety of employees lies with the individual employee, Supervisors shall use preventative measures to control the hazards present on the job.

This includes:

- Evaluating the work to be performed
- Communicating the work
- Providing ready access to equipment
- Ensuring workers are familiar with work being done below or adjacent to
- Scheduling of work to reduce hazards as appropriate
- Providing documented training for employees

EMPLOYEES

Employees shall attend training and follow the guidelines given to them by their supervisor in regards to the Tool Tethering Program.
They are also responsible for monitoring themselves and others and notifying their supervisor in the event of a hazard. Employees should constantly monitor their work area and those areas around them for situations where a dropped tool may cause injury or property damage. Prevention is the best practice in regards to struck-by falling tools on the construction site.

PREVENTION

ENGINEERING CONTROLS

Hazards may be mitigated by use of engineering controls such as netting systems, toe boards, tool tethers, barricades, etc. Cordoning off areas may be necessary to reduce risks associated with unnecessary foot traffic. Engineering controls must be inspected. Workers are required to be trained on the proper use of the equipment. ANSI has developed procedures regarding the testing and has been adopted in this program as standard practice. **American National Standard ANSI/ISEA 121-2018.**

ADMINISTRATIVE CONTROLS

Administrative controls may be used to mitigate hazards that cannot be controlled otherwise. Controls may include:

- Scheduling of activities to prohibit elevated work at specific times
- Requiring that certain work activities involve specific equipment to be used
- Purchasing additional signage to inform of falling tools hazard
- Job-specific administrative controls shall be communicated to all personnel

TOOL TETHERING

When the coordination huddle determines tools shall be tethered, follow the guidelines noted below:

- Hand tools that weight five pounds or less will be tethered to either the workers hands, arms, or harness D-rings
- Hand tools in excess of 10 pounds will only be tethered to the MEWP platform or structural steel, not to the employee in any way
- Machine tools (i.e. mag drills, impact wrenches, etc.) must be tethered to structural steel only
- Acceptable tethers for hand tools may be "squiddies", elastic cords, vinyl coated wire rope or similar with carabiners. All tethers shall be rated for use with the specific tools weight.
- Acceptable tethers for machine tools are chain, wire rope, and wire or nylon slings
- Homemade tethers or lanyards are not permitted to be used

UTILIZING RESOURCES

Workers operating above others should utilize every precaution to ensure objects cannot fall from their level, potentially striking those below.

Utilization of tool tethers is a simple, inexpensive, and effective way to keep tools and other objects connected secured to the worker.

Accessories are available to connect to a wide variety of objects. Weight and application specifications should be followed by the worker to ensure effectiveness.

MOBILE ELEVATED WORK PLATFORMS

APPLICABILITY

Barton Malow owns and leases Mobile Elevated Work Platforms (MEWPs) for use on projects across the United States, Canada, and Mexico. The purpose of this program is to provide project teams with the guidance needed to operate MEWPs properly and safely. This program will define the protocol for equipment procurement, and explain the training and inspection requirements for managers, supervisors, operators, and occupants.

RESPONSIBILITIES

SAFETY REPRESENTATIVES

The Barton Malow Safety Team Representative is responsible for ensuring that all MEWPs training is conducted in accordance with the ANSI A92.22 and A92.24 Standards, and applicable Federal and State Occupational Safety and Health Regulations.

Typical training options include:

- In-house instructor led training.
- Third party instructor led training.
- On-line computer training.

Training requirements:

- Training is in accordance with ANSI A92.22 and A92.24.
- Cover all applicable OSHA, Federal, State, client, company and project requirements.
- Supervisors, operators and occupants must receive the require training for their respective role.

Personnel using MEWPs must be able to provide proof of training upon request.

SUPERINTENDENTS

Superintendents or supervisors using MEWPs have the primary responsibility to properly execute the MEWPs safe use plan. Prior to commencement of work, a risk assessment (see sample form included in this section) will be performed by the superintendent or supervisor. The risk assessment will determine the type of MEWPs suited for the work to be performed.

Supervisors that order, lease, or direct the use of MEWPs will be trained on the following:

- The ANSI A92.22 Standard for Safe Use.
- The ANSI A92.24 Standard for training requirements for use, operation, inspection, testing and maintenance of MEWPs.
- Their role as a supervisor of MEWP's operators and occupants.
- Barton Malow's equipment specifications as noted above.
- Performing a MEWPs risk assessment.
- Inspecting work area(s) for potential hazards or changing conditions.

- The MEWP types and proper selection.
- Rescue procedures needed for the equipment selected.
- Monitoring the safe use of the equipment.
    - Prohibiting untrained workers from operating equipment.

EMPLOYEES

All employees performing tasks which require the use of a MEWP must be properly trained on the safe use of the assigned MEWP.

Operators must be trained in the following:

- ANSI A92.22 standard for Safe Use.
- ANSI A92.24 Standard for training requirements for use, operation, inspection, testing and maintenance of MEWPs.
- Familiarization training for occupants. The operator will instruct the occupant(s) on the following:
    - How to use fall protection and the location of fall protection anchors.
    - How their actions could affect stability.
    - How to safely use MEWP accessories they are assigned to use.
    - How to adhere to the safety plan and avoid site-specific hazards
    - How to complete emergency procedures in line with manufacturer's warnings and safety information.
- Inspecting work area for potential hazards.
- Documentation requirements.
- Rescue procedures.
- Personal equipment.
- Use of ground controls.
- Inspecting and testing equipment.
- Notifying supervisor of an equipment damage, malfunction, or concerns.
- Annual and regular inspections.
- Notifying supplier of equipment damage or malfunction.

Occupant training is provided by the operator and includes:

- How to use fall protection and the location of fall protection anchors.
- How their actions could affect stability.
- How to safely use MEWP accessories they are assigned to use.
- How to adhere to the safety plan and avoid site-specific hazards.
- How to complete emergency procedures in line with manufacturer's warnings and safety information.

EQUIPMENT PROCUREMENT

When procuring equipment that is categorized as a MEWP, it must be compliant with the applicable ANSI A92.20 design requirements for MEWPs. Barton Malow requires that all new or used MEWP will be equipped as follows:

- A control protection device that will stop the MEWP from operating if the operator is caught between the control panel and an adjacent structure.
- Foam filled tires.
- Self-closing gates.
- The new ANSI A92.20 design requirements for MEWPs manufactured after December 2019.

RISK ASSESSMENT

Attachment AU - Supervisor's Risk Assessment Form is required to be completed for all tasks involving MEWPs. For reference, an example of a completed risk assessment form is included on the next page.

The Supervisors of the tasks requiring the use of MEWPs will conduct and complete a risk assessment. If the work tasks, site conditions, crew, and equipment remain unchanged, one risk assessment form is sufficient. The intent of the risk assessment is to ensure the safe use of the equipment by trained operators and occupants.

ANSI Standard A92.22 requires the need for users to have a rescue plan. Supervisors responsible for workers in MEWPs must develop a rescue plan and include it in the risk assessment.

Rescue types:

- **Self-rescue:** by person involved.
  - Can only occur if individual is conscious.
  - Exiting the MEWP to an adjacent stable surface.
  - Use of controls by other occupant, if applicable.
- **Assisted rescue:** by other(s) in the work area.
  - Use of ground controls.
  - Use of other MEWPs in the work area to access occupants needing rescue.
  - Bleeding out hydraulic system to lower MEWP.
  - Use of ladder or other equipment to assist in exiting the MEWP.
- **Technical rescue:** by emergency services.
  - Performed by first responders or designated response team.
  - Can be complicated and include medical assistance.

Rescue scenarios include:

- Failure of MEWP controls.
- Entanglement preventing lowering of MEWP.
- Fall from an MEWP leading to suspension from a fall arrest system.
- Medical emergency while operating MEWP.
- Instability of MEWP due to change in ground conditions or from struck by.

SUPERVISOR'S RISK ASSESSMENT FORM - EXAMPLE PAGE 1/2

Supervisor's Risk Assessment Form – EXAMPLE		
Project Name: Lions Practice Field		Location: Oak Park, MI
Date: 1/1/2020		Supervisor's Name: John Barton
Stages	**Information**	
1. Identify the Task	Task: Replace outdoor lighting on 2nd floor awnings at main entrance	
	Location: Main entrance – SE corner of field	
	Timing: 3 days of work from 2-4 PM due to practice times	
2. Select a MEWP	Classification: Type 3 Group A, Self-Propelled Vertical Lift Model: 1930ES Scissor Lift	
3. Risk Assessment & Mitigation	Use this section to assess risk, identify control measures and safety protocol. Communicate the risk assessment and mitigation measures to operators, occupants and affected workers.	
Is the operator properly trained and occupant familiarized with the equipment, safety requirements, how their actions might affect stability and emergency rescue procedures?	Yes ■	All operators are trained on equipment used within 3 years and have a licensed issued from Barton Malow Company. The trained operator will familiarized all occupants on their responsibilities and safety requirements Comments: Operator presented his training card
Will the MEWP adequately reach the work area?	Yes ■	The height needed is: 20 Feet Type of lift (scissor or boom): Scissor lift
Surface & soil conditions have sufficient strength to withstand all floor/ground load forces imposed by the MEWP in all configurations. See operator's manual.	Yes ■	A placard on the lift that provides weight. List weight restrictions: Lifts larger than 3500# are not allowed on concrete sidewalk or manhole covers. Lift weighs 3000#
Pedestrian traffic where the lift will be operated is properly barricaded or controlled by trained spotters	Yes ■	No one allowed under booms or work platforms Name of spotter: N/A – work area barricaded off with saw horses.
Public roadways, spotter, signal person	Yes ☐ N/A ■	Proper training needed for flaggers. High visibility vests worn as required. – N/A
Precautions for other moving equipment, conveyors, etc are in-place. Traffic control, barricades, LOTO equipment, etc.	Yes ☐ N/A ■	List the preventative measures needed:
Overhead obstructions and crushing hazards are identified or will not pose a hazard.	Yes ☐ N/A ■	List hazard & list preventative measures needed:
Ramps and other sloped surfaces that could affect the vehicle's stability are identified and protected.	Yes ■ N/A ☐	List proper procedure: Handicap ramp are on east end will not be used
Drop-offs or holes, including those concealed by water, ice, mud, etc are identified or protected	Yes ☐ N/A ■	List measures needed: N/A – Sidewalk in good condition

Housekeeping, is adequate for safe use	Yes ■	Comments: Clean area
Bumps or floor obstructions are identified or protected	Yes ☐ N/A ■	Comments: N/A
Hazardous environmental locations where the vehicle will be operated are identified.	Yes ☐ N/A ■	Hazard(s): N/A Location(s): N/A
Electrocution hazards, MEWP operators will stay 20 feet away or notify power company to Lock Out power. Operators will not exceed minimum approach distance. Refer to Operators Manual	Yes ■	Hazards: Overhead power line is 50 feet away from work area Location(s): 50 feet south of main entrance
Closed environments and other areas where insufficient ventilation or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust has been checked and does not pose a health or safety concern	Yes ☐ N/A ■	Location(s): N/A Type of monitoring needed: N/A
Wind and weather conditions - lightning, wind limited to manufacturers' requirements	Yes ■ N/A ☐	Wind gusts up to 20 MPH – Manufacturer allows sustained winds of 28 MPH
Other possible unsafe conditions		LOTO required prior to working on light fixtures.

If any of the above conditions change, STOP and revise risk assessment.

4. Emergency Rescue	The following protocol will be used to safely rescue workers if the operator is unable or the work platform is stuck in elevated position.
Rescue Types	Options
Self-rescue – by person involved	Main option: If there is an occupant in the basket with the injured worker the occupant will lower basket as instructed during familiarization
	Back up option: Call supervisor for instructions
Assisted rescue – by other(s) in the work area	Main option: Use the second scissor lift used on site.
	Back up option: N/A
Technical rescue – by emergency services	Main Option: Call 911 and use ladder truck for rescue

**Rescue planning for your site may require a more comprehensive plan. If there are any concerns regarding adequate emergency response planning, please reach out to your supervisor or safety professiona*

ATTACHMENTS

Barton Malow

{Insert Date}

Subject: Safety Submittal

Dear Contractors:

We look forward to working with your company and workers on construction of the ***{Insert Project Name}***. You have been chosen to help us on this project for a variety of reasons. A primary reason is your high regard towards safety and the attainable goal of sending everyone home better than when they came to work. We will work together proactively to keep safety on the forefront of everything we do. Prevention through design, planning and coordination will go a long way in making this a safe and successful project.

Sincerely,

Barton Malow

{INSERT PROJECT NAME}
CONTRACTOR SITE SPECIFIC REQUIREMENTS

All Contractors are required to provide Barton Malow with a Site-Specific Safety Program for this project. Items to be included should only pertain to this job. Below is a list of all required information. Contractors will not be allowed to start work until this has been submitted and approved by the Barton Malow team.

- A Job Hazard Analysis (This is an overview of the project highlighting all risks and the method of mitigation)

- List of Supervision (To include: Superintendent, Foremen, Safety Person, Competent Person, and First Aid/CPR Person)

- Documentation of Contractor Orientation and Training Procedures. (What do you go over in new hire training and based on your JHA's what will you be training your workers on).

- List of all trained workers on this site (Each worker will need proof of training, whether it be for equipment or tools. It can be on company letter head or a copy of a training certificate).
  For example:
  1. Fall Protection
  2. Ladder Training
  3. How to read an SDS
  4. Equipment (Forklift, Backhoe, Excavator)
  5. Company Policies and Procedures
  6. Welding Certifications
  7. Fire Watch Training
  8. Rigging Certification
  9. Signaling Certification
  10. Crane Operator Certification
  11. First Aid/CPR
  12. Pre-Task Planning (Job Hazard Analysis, Task Safety Analysis)
  13. Competent Person
  14. Scaffold Erection
  15. Scaffold User
  16. Small Tools (Drills, Skill Saws, etc.)
  17. Lockout/Tagout Procedures and Training
  18. Confined Spaces

- Supervision, foremen and up should possess an OSHA 30-hr card that was taken in the last 5 years.

- Drug Policy: All workers may be required to pass a 9 panel drug test before they are allowed onsite to work. Subcontractor must have a drug policy program.

- Job Specific SDS (SDS for products used on this site only. As new products arrive requiring a SDS it must be provided before the product is used on site).

- Job Specific Tool Box talks will be required. They will be turned into the Barton Malow Safety Department each week.

- Daily Equipment Inspection Logs (Aerial Lift, Cranes, Heavy Equipment etc.). They will be turned into the Barton Malow Safety Department each week.

- Weekly Jobsite inspections and Job walks to be turned into the Barton Malow Safety Department.

- Specific PPE needed for this site (to include documentation of training).

- Roles and Responsibilities of Supervision on site in relation to HSSE

- Refueling Procedures for equipment on site

- Pre-Task Planning log (Provide a copy to Site Safety Manager each morning before the start of work)

- Written Fall Protection Plans and Fall Hazard Analysis.

Attachment A

CONTRACTOR SITE SPECIFIC REQUIREMENTS

This Handbook will be kept on site inside the Safety office. A copy must be kept with the Superintendent or Company Safety Representative. Tool Box Talks will be done on a weekly basis with a copy of the talk given to the Barton Malow Safety Manager.

All workers will be required to attend a job site orientation before they will be allowed to start work on site. All workers will be required to wear hard hats with their respective company's name on the hat.

If you have any questions or would like to meet to discuss the development of your Site-Specific Handbook please contact the Barton Malow Site Safety Director.

Barton Malow

Attachment B

JOB HAZARD ANALYSIS

Job Hazard Analysis

Project Number/Task:	**Date:**
Project Name:	**Prepared by:**
Location:	
	Reviewed by:
Required and/or Recommended Personal Protective Equipment:	
	Page ____ of ____

Activity Operation	Unsafe Condition, Action or Hazard	Preventative or Corrective Action

Attachment B1

JOB HAZARD ANALYSIS (EXAMPLE ONLY)

The following is a work control document that identifies the work tasks, hazards and controls of the overall project and provides the basis for the development of the contractors' site-specific Construction Environmental, Health and Safety Plan (CEHSP). Mobilization and jobs you know you will be performing should be sent right away. Make sure they are job specific.

Attachment B1

JOB HAZARD ANALYSIS (EXAMPLE ONLY)

Job Hazard Analysis

Project Number/Task: Sheet / Trench Box Install & Removal	**Date: 6/26/2014**
Project Name:	**Prepared by**:
Location: Flint, Michigan	
	Reviewed by:
Required and/or Recommended Personal Protective Equipment:	
Safety glasses, hard hats, hearing protection, gloves, high visibility clothing	
	Page 1 of 5

Activity Operation	Unsafe Condition, Action or Hazard	Preventative or Corrective Action
Personal Protective Equipment	Foreign body in eyes	Safety Glasses that meet ANSI Z87.1, hard hats, ear plugs, orange safety vest, long sleeves and work boots are required to be worn at all times while in the construction zone.
	Loud noise	Employees to wear hearing protection inside the plant at all times and outside when required.
	Head injury	Hard Hats are required at all times in the construction zone.
	Lifting objects & material handling	Objects that are awkward in size / shape may require additional personnel. Get help or a hand cart when moving material / equipment that is too heavy. Lift with your legs and not your back. Refrain from twisting while lifting.
	General working conditions	Danger tape must never be crossed without the express consent of the contractor that installed the danger tape. Do not interact w/plant personnel / other contractors in a hostile manner. In the event of a possible argument with gm personnel / other subcontractors walk away and inform your foreman / supervisor of the issue.

Attachment B1

JOB HAZARD ANALYSIS (EXAMPLE ONLY)

Project Number/Task: Sheet / Trench Box Install & Removal	**Date: 6/26/2014**
Project Name:	**Prepared by:**
Location:	
	Reviewed by:
Required and/or Recommended Personal Protective Equipment:	
Safety glasses, hard hats, hearing protection, gloves, high visibility clothing	
	Page 2 of 5

Activity Operation	Unsafe Condition, Action or Hazard	Preventative or Corrective Action
Moving material / equipment inside the plant down K/J main aisle.	Pinch Points	Employees to wear Orange vests inside and outside of building. Be aware of possible pinch points inside the building or while moving equipment / material. When escorting equipment onsite maintain visual with the operator and be aware of where the equipment is at all times.
	Plant Aisle Traffic Overhead Die Movement	Give Operators right of way at all times. Coordinate in advance plant personnel.
	Tracking Dirt / Soil Inside Plant	A floor scrubber will be utilized throughout the project to minimize soil contamination inside the plant. Barton Malow personnel will assist plant personnel in this endeavor.

Attachment B1

JOB HAZARD ANALYSIS (EXAMPLE ONLY)

Project Name:	**Prepared by**:
Location:	
	Reviewed by:
Required and/or Recommended Personal Protective Equipment:	
Safety glasses, hard hats, hearing protection, gloves, high visibility clothing	
	Page 3 of 5

Activity Operation	Unsafe Condition, Action or Hazard	Preventative or Corrective Action
Material / equipment lay down area	Leading edge work	Material will be unloaded at a minimum of 10' away from excavation. Material is to be staged 10' away from the excavation and secured as needed. Plates / Panels must not be stacked above 6'. All loose material must be secured.
	Improper unloading techniques	Material over 50 lbs. may require help or unloading via rigging to the overhead crane / excavator / fork lift. Always lift w/legs and not with your back.
	Sharp edges	Gloves will be utilized when unloading / working with material w/sharp edges.
Erect 8' x 16' trench box	Improper Rigging	Nylon straps / cable / shackles will be inspected prior to use. Any rigging equipment that is damaged or defective will be red tagged and removed from site. Barton Malow personnel will inspect rigging for load displacement prior to panel movement.
	Equipment Failure	PC Excavator will be utilized to erect the trench box. Equipment inspection sheet must be filled out prior to use of machine and only qualified / authorized Barton Malow personnel will operate the excavator.
	Hand Tools	Inspect tools prior to use. Remove damaged or defective tools from site.

Attachment B1

JOB HAZARD ANALYSIS (EXAMPLE ONLY)

Project Number/Task: Sheet / Trench Box Install & Removal	**Date: 6/26/2014**
Project Name:	**Prepared by**:
Location:	
	Reviewed by:
Required and/or Recommended Personal Protective Equipment:	
Safety glasses, hard hats, hearing protection, gloves, high visibility clothing	
	Page 4 of 5

Activity Operation	Unsafe Condition, Action or Hazard	Preventative or Corrective Action
Install / Remove 8' x 20' plates for slope support and 4' x 8' plates for structural support (sheet shoring)	Leading Edge / Excavation Loose Soil Composition Unknown Gases Limited Ingress / Egress Improper Rigging Procedures for Sheet Install Impacting plates	Erection of trench box must be 10' away from excavation at all times. A Penetrometer will be utilized for soil classification throughout the project. Only trained and competent personnel will operate the penetrometer. Barton Malow will provide periodic air monitoring during the excavation process. Ideal contracting will provide secondary air monitoring throughout the project as needed. Excavation testing / reporting will be conducted on a daily basis by designated Barton Malow competent person. Excavation will be benched / sloped during operation. Site built ladders will be utilized during the process and secured in the excavation. All ladders must extend 36" from the landing. Barton Malow personnel will inspect the rigging of the plates prior to installation / removal. All slings / cables will be inspected prior to use and all damaged / defective

Attachment B1

JOB HAZARD ANALYSIS (EXAMPLE ONLY)

Project Number/Task: Sheet / Trench Box Install & Removal	**Date: 6/26/2014**
Project Name:	**Prepared by**:
Location:	
	Reviewed by:
Required and/or Recommended Personal Protective Equipment:	
Safety glasses, hard hats, hearing protection, gloves, high visibility clothing	
	Page5___ of _5___

Activity Operation	Unsafe Condition, Action or Hazard	Preventative or Corrective Action
Install / Remove 8' x 16' trench box into DVC excavation	Improper Rigging Procedures for Trench Box Install	Barton Malow personnel will inspect the rigging of the trench box prior to installation / removal. All slings / cables / shackles will be inspected prior to use and all damaged / defective equipment will be red tagged and removed from site. Barton Malow riggers will adjust rigging to compensate for any displacement. .

Attachment C

LIGHTNING POLICY

PURPOSE

The purpose of this policy is to establish a program and procedures for lightning safety on Barton Malow construction sites. This topic is addressed in the Barton Malow Safety Manual under emergency action plans and inclement weather. There are local and site differences that impact on the program for a given project location that need to be considered within the program elements that follow. For example, derricks, towers, and scaffolds increase exposures and require more time to react to the threat of lightning. Location specific weather features present challenges with standardizing a single policy for all locations. *Contact your regional safety managers if your location requires special considerations.*

BACKGROUND INFORMATION

Lightning strikes present a hazard to workers engaged in construction work. Statistically, the number of lightning related fatalities in construction is low: 7 cases nationwide in the last ten years (Bureau of Labor Statistics, 2005-2014.) The highest percentages of fatalities occur during recreational activities involving open spaces, such as golf courses, athletic fields, and bodies of water. Many of these events occur due to a lack of knowledge or failure to follow guidelines.

PREVENTION AND PROGRAM ELEMENTS

The goal of this policy is to protect our workforce, our projects, and the company from personal-injury hazards associated with lightning strikes. This policy is built around the following elements:

- Knowledge and education on lightning hazards and practices to reduce exposure.
- Monitoring and detection to support an “alert” system and “take shelter” notifications.
- Shelter locations and the means to reduce injury potential if unable to shelter (see education).
- Assignment of responsibilities.

EDUCATION and TRAINING

There are common myths and misinformation about lightning. Our policy is to provide factual and useful information so that managers as well as workers:

- Understand the risks associated with lightening.
- Adjust their work plans and behaviors proactively.
- Respond appropriately to the threat of lightning.
- Understand and properly implement the Lightning Program.

Attachment C

LIGHTNING POLICY

CR LIGHTNING PROGRAM

Instruction and Education

The makeup of a workforce varies. Each project will determine the level of knowledge and the education and instruction needed to support the Lightning Program. We may have a *veteran* Barton Malow self-perform crew that is well versed in the program. Or, the workforce may need instruction in the basics of lightning safety and the Lightning Program. We may also have supervisors and managers who are new to the program, but are well versed in managing inclement weather, (etc.): instruct and train accordingly.

Action Plan

An action plan will be developed, communicated and implemented at each work site to establish:

- A chain of command for making and communicating decisions.
- Means and methods of monitoring weather conditions.
- Strategies for managing work when inclement weather is forecasted.
- Designated safe sites and shelter locations.
- Knowledge and use of safe work practices.
- Criteria for the suspension and resumption of work.

Management Practices

The local site team will develop a site-specific action plan: see above bullet points. The action plan will state the means and methods for monitoring lightning. (Insert the specifics into the following procedure.) There are various means for monitoring and responding to lightning potential. All projects pay attention to forecasts and National Weather Service warnings and alerts. All projects pay direct attention to actual weather conditions, immediate and advancing weather. Projects may also rely on technologies that communicate lightning activity with distances and time factors.

The project should be evaluated for lightning exposures. There are many characteristics to consider: equipment (scaffolds boom trucks, cranes, manlifts), site features (large open spaces, structures and areas to avoid), type and duration of the work, and the quality and availability of shelters or safe locations. When forecasts and weather alerts advise of potential storms, work plans should be adjusted accordingly as some work presents higher risk for lightning strikes and some work is more difficult or time consuming to suspend.

Weather is not always predictable, or it is predicted but varies in speed and intensity. Procedures are designed to assure preparedness and a proactive response. However, in some cases alternate procedures must be followed to assure that safety and property is protected. Projects should make every effort to avoid urgencies. The project designates the person or persons who can authorize alternate procedures and defines appropriate alternate procedures: 30/30 rule, flash to bang, and similar.

Procedures

TAKING SHELTER FOR LIGHTNING OR THUNDER

If you hear thunder and see lightning, act right away – especially if you count 30 seconds or less between the thunder and lightning. If the thunder gets louder or you see the lightning more often, the storm is getting closer. Tell your supervisor and your co-workers.

BARTON MALOW SUPERVISION WILL MONITOR WEATHER ON A DAILY BASIS

Monitoring will be visual (aided by weather reports), by a weather service, or by a specific App. The monitoring will generate notices to the workforce. There will be three distance ranges (and usually a 30 minute time factor) that will trigger notifications and expected actions: Alert, Watch, and Warning.

ALERT (30 mile radius)

- An alert does not trigger a stoppage of work activities.
- It is used to alert site personnel of possible approaching inclement weather.
- Work that cannot be suspended within time limits should not be started.
- Take preliminary steps to support work suspension (complex work)

WATCH (20 mile range)

- A watch is in effect and ALL workers need to be prepared to take shelter by
  - Putting away all tools and materials that are not in use.
  - Securing areas from wind and rain.
  - Suspending work that can't be immediately suspended under a "warning".
- All the following outdoor work will be discontinued:
  - High work (scaffolding, structural steel, decks, towers, etc.)
  - Cranes, aerial lifts, Carry deck cranes, Booms (man buckets, concrete pumps), etc.

- Work determined to increase risk and require additional time to react:
  - Open spaces with distance to shelter issues.
  - Incomplete /ungrounded structures or objects - with distance issues.
  - Topographical features (hills, trees, water) with distance issues.

WARNING (10 mile range)

- All remaining work stops
- Workers seek shelter immediately
- Return to work only when warning is lifted
- **"All clears"** require 10 miles and 30 minutes free from lightning

Alternate Procedures may be required when unexpected weather conditions occur, such as "pop-up" and fast-moving events. Alternate procedures may be used only when needed to protect and secure. And, when normal procedures have been followed, or when normal procedures cannot be followed.

In no case will persons be exposed to immediate or impending lightning threats.

Lightning Safety Awareness Guide

The National Weather Service reports an average of 31 deaths over the last ten years (2006-2015). OSHA reports a total of 7 construction related lightning fatalities for a ten year period (2005-2014). These numbers seem small, especially when spread out over the years and throughout the United States. But, consider that rates have been falling over the years, and that the workplace has become safer than our personal lives. *Over 70% of lightning deaths and injuries occur during recreation activities. And,* only ten percent of lightning strikes result in death. The other 90% often cause serious injuries with lasting effects. The injuries vary, include burns, but are usually internal with long term affects to the brain, behavior, and body functions. The overall risk may be rather small, but the effects can be catastrophic. Knowing about lightning and following guidelines can reduce your risk.

Lightning: What You Need to Know: Tips for Safety (National Weather Service)

Lightning: What You Need to Know

- ***NO PLACE*** outside is safe when thunderstorms are in the area!!
- If you hear thunder, lightning is close enough to strike you.
- When you hear thunder, *immediately* move to safe shelter: a substantial building with electricity or plumbing or an enclosed, metal-topped vehicle with windows up.
- Stay in safe shelter at least 30 minutes after you hear the last sound of thunder.

Indoor Lightning Safety

- Stay off corded phones, computers and other electrical equipment

that put you in direct contact with electricity.

- Avoid plumbing, including sinks, baths and faucets.
- Stay away from windows and doors, and stay off porches.
- Do not lie on concrete floors, and do not lean against concrete walls.

Last Resort Outdoor Risk Reduction Tips

If you are caught outside ***with no safe shelter anywhere nearby*** the following actions *may* reduce your risk:

- Immediately get off elevated areas such as hills, mountain ridges or peaks
- Never lie flat on the ground
- Never shelter under an isolated tree
- Never use a cliff or rocky overhang for shelter
- Immediately get out and away from ponds, lakes and other bodies of water

Stay away from objects that conduct electricity (barbed wire fences, power lines, wind turbines, etc.

Barton Malow

Attachment D

CONTRACTOR SITE SPECIFIC SAFETY INFORMATION (SSSI) FORM

SITE-SPECIFIC SAFETY INFORMATION (SSSI) FORM
ZERO TOLERANCE FOR UNSAFE ACTS OR CONDITIONS

PROJECT IDENTIFICATION

Owner Name: Project Name:

Jobsite Location: Barton Malow Project No.:

Jobsite Phone (voice): Jobsite Fax:

- PROJECT OPERATIONAL LEADERSHIP

Title	○ Name	Office Phone #	Cell Phone #	24-hour contact #
Project Director				
Project Manager				
Project Engineer				
Dir. of Field Operations				
Superintendent				
Superintendent				
Project Safety Director				
Regional Safety Director				

EMERGENCY RESPONSE INFORMATION

Key Phone Numbers

Emergency response (medical/fire):

Police Dept. (non-emergency):

Fire Dept. (non-emergency):

Security Service:

Injury Response

Certified First Aid Provider at Jobsite:

Name: Cell:

Location of First Aid Equipment:

Nearest Hospital:

Directions to Hospital:

Hospital phone number:

Recommended Clinic:

Directions to Clinic:

Clinic phone number:

Clinic hours:

Project Operational Leadership:

Other emergency information:

Utilities

Gas Company:

Electric Company:

Water Company:

Evacuation/Rescue

Location of rescue equipment:

Gathering point after evacuation:

Severe weather shelter:

Emergency Signals

Evacuation (fire, bomb, etc):

Seek Shelter (weather):

All Clear:

Barton Malow

Attachment D

CONTRACTOR SITE SPECIFIC SAFETY INFORMATION (SSSI) FORM

OTHER SITE-SPECIFIC SAFETY INFORMATION

(If not applicable or no additional information beyond Contract Documents, leave item blank.)

1) General Safety Requirements. Each Contractor on the jobsite is required to observe all applicable laws and contractual duties, including Section 00810 of the Project Manual and any procedures or other requirements set forth in this SSSI form or its Exhibits. Nothing stated in or omitted from this SSSI form excuses compliance with requirements stated elsewhere in the Contract Documents. The failure to identify a safety condition in this document does not represent or warrant that no such condition is present.

2) Postings. Notices required by federal or state law regarding safety, employment, and other matters will be posted on a bulletin board at the following jobsite location:

3) SDS forms. Safety Data Sheet (SDS) information for all Contractors will be maintained at the following jobsite location:

4) Owner Requirements. Special Owner safety requirements for this project are:
   a) ☐ Attached as Exhibit SSSI-4; or
   b) ☐ Stated here:

5) Insurance. Is this project covered by a Controlled Insurance Program (CIP)?
   a) ☐ Yes, an Owner Controlled Insurance Program (OCIP)
   b) ☐ Yes, a Contractor Controlled Insurance Program (CCIP)
   c) ☐ No CIP
   d) CIP procedures or other special insurance procedures are:
      i) ☐ Attached as Exhibit SSSI-5; or
      ii) ☐ Stated here:

6) Employees. Information on employee requirements specific to this jobsite (jobsite safety orientation, identification badges, drug testing, etc.) is:
   a) ☐ Attached as Exhibit SSSI-6; or
   b) ☐ Stated here:

7) Planning. Information on special requirements for safety planning (e.g., written job hazard analysis or pre-task planning) is:
   a) ☐ Attached as Exhibit SSSI-7; or
   b) ☐ Stated here:

8) Jobsite Access. Information relating to site access (parking, pedestrians, deliveries, heavy equipment, traffic control, emergency vehicle access, etc.) is:
   a) ☐ Attached as Exhibit SSSI-8; or
   b) ☐ Stated here:

9) Jobsite Security. Information relating to jobsite security procedures (security services, visitor policy, etc.) is:
   a) ☐ Attached as Exhibit SSSI-9; or
   b) ☐ Stated here:

10) Staging and Laydown. Information on staging and laydown areas at the jobsite is:
   a) ☐ Attached as Exhibit SSSI-10; or
   b) ☐ Stated here:

11) Cranes. Special requirements associated with crane access or placement at the jobsite are:
   a) ☐ Attached as Exhibit SSSI-11; or
   b) ☐ Stated here:

12) Environmental Hazards. Information on hazards and procedures associated with environmental conditions at the jobsite (including known or suspected hazardous materials, toxic chemicals, pollutants, etc.) is:

a) ☐ Attached as Exhibit SSSI-12; or
b) ☐ Stated here:

13) Utilities. Information on hazards and procedures associated with underground or overhead utilities at the jobsite is:
a) ☐ Attached as Exhibit SSSI-13; or
b) ☐ Stated here:

14) Risks to or from Property. Information on structures, animals, plants, habitats, artifacts, or other property, on or near the jobsite, which either present a hazard or must be protected from damage, is:
a) ☐ Attached as Exhibit SSSI-14; or
b) ☐ Stated here:

15) Sitework. Information on management of stormwater or sediment runoff at this jobsite is:
a) ☐ Attached as Exhibit SSSI-15; or
b) ☐ Stated here:

16) Underground. Information on known or suspected unusual conditions in the soil or underground at this jobsite is:
a) ☐ Attached as Exhibit SSSI-16; or
b) ☐ Stated here:

17) Interim Life Safety. Information on how interim life safety measures will be handled during construction is:
a) ☐ Attached as Exhibit SSSI-17; or
b) ☐ Stated here:

18) Fire Protection. Information on fire hazards and procedures specific to this jobsite is
a) ☐ Attached as Exhibit SSSI-18; or
b) ☐ Stated here:

19) Confined Spaces. Information on confined spaces at the jobsite and procedures for safe entry is:
a) ☐ Attached as Exhibit SSSI-19; or
b) ☐ Stated here:

20) Energy Lockout/Tagout. Information on hazards from energized systems (electrical, machinery, high pressure piping, etc.) and lockout/tagout procedures is:
a) ☐ Attached as Exhibit SSSI-20; or
b) ☐ Stated here:

21) Infection Control. Information on special procedures for infection control is:
a) ☐ Attached as Exhibit SSSI-21; or
b) ☐ Stated here:

22) Hazardous Operations. Information on unusual or hazardous construction methods or other dangerous operations at or near the jobsite (demolition, blasting, etc.) is:
a) ☐ Attached as Exhibit SSSI-22; or
b) ☐ Stated here:

23) Other. Other information on hazards or safety-related procedures or requirements for the jobsite is:
a) ☐ Attached as Exhibit SSSI-23; or
b) ☐ Stated here:

RELATED DOCUMENTS

Attention is directed to Bidding and Contract Requirements, and to Division 1, General Requirements, which are hereby made a part of this Section.

[CONTRACTOR/SUBCONTRACTOR]'S SAFETY REQUIREMENTS

General

[Contractor/Subcontractor] is responsible for its own Safety Program for Work on this Project that is at least as stringent as the requirements set forth in this section of the Project Manual.

[Contractor/Subcontractor] shall provide a safe workplace and shall otherwise take all precautions for the safety of Subordinate Parties and persons and property in or near the premises where work is being performed.

[Contractor/Subcontractor] shall comply with all applicable federal, state and local laws, rules and regulations, including, but not limited to, applicable provisions of the Occupational Safety and Health Act ("OSHA") and/or the governing state law.

[Contractor/Subcontractor] shall comply with all requirements stated in the Site-Specific Safety Instructions (SSSI) form or elsewhere in the Contract Documents.

[Contractor/Subcontractor] shall ensure that its employees understand and comply with applicable safety and health programs, rules and regulations.

[Contractor/Subcontractor] will assign an individual to act as Safety Representative who will have the responsibility of resolving safety matters, and act as a liaison among **[Contractor/Subcontractor]**, Barton Malow and the Owner. The Safety Representative must be a person who is capable of identifying existing and predictable hazards in surroundings that are unsanitary, hazardous or dangerous to employees, and has the authority to take prompt corrective measures to eliminate them. The Safety Representative must meet the standards for a Competent Person under applicable law when required (scaffolding, confined spaces, etc.). The Safety Representative must be on site full time. The Safety Representative or an alternate must attend periodic safety meetings as directed by Barton Malow. The Safety Representative must have completed the OSHA 30 hour Construction Training Course.

[Contractor/Subcontractor] shall ensure that its site Supervisors and/or Safety Representative attend a pre-construction meeting where planning for safe execution of the project will be addressed.

[Contractor/Subcontractor] is fully responsible for all Hazardous Materials it creates or releases in connection with, or brings to, the Project. **[Contractor/Subcontractor]** shall immediately report to Barton Malow any Hazardous Materials that it discovers or which are released at the Project.

Minimum training for on-site employees shall include basic safety orientation, task-specific safety instruction, weekly Toolbox Talks, and other periodic safety meetings. **[Contractor/Subcontractor]** shall document all such training.

[Contractor/Subcontractor] shall self-inspect its areas of control to assure compliance with the safety requirements.

All on-site employees of either **[Contractor/Subcontractor]** or its Subordinate Parties are required to report any unsafe act or condition and any work-related injuries or illness immediately to a supervisor. If the act or condition can be safely and easily corrected, the employee or supervisor should make the correction.

[Contractor/Subcontractor] shall notify Barton Malow immediately of all injuries requiring clinical attention and all property damage potentially in excess of $1,000.
[Contractor/Subcontractor] shall have emergency procedures to deal with the immediate removal and treatment, if necessary, of any employee who may be injured or become ill. **[Contractor/Subcontractor]** shall keep on the Project site a first-aid kit supplied according to current regulations, and shall have on-site a person trained to administer first aid.

[Contractor/Subcontractor] shall inform Barton Malow of the arrival of any federal or state inspector or compliance officer prior to touring the site. Any reports, citations, or other documents related to the inspection shall be provided promptly to Barton Malow.

[Contractor/Subcontractor] shall have a written Substance Abuse Policy. The use or possession of illegal drugs or the use of alcohol while performing work on the Project are strictly prohibited and will lead to immediate removal from the Project.

[Contractor/Subcontractor] shall be responsible for payment of all safety-related citations, fines and/or claims arising out of or relating to its Work levied against the Owner, Architect, Barton Malow, or their employees or affiliates.

Barton Malow has the right to require that **[Contractor/Subcontractor]** submit monthly its hours worked and incident rates for the Project.

Additional Barton Malow Requirements

Work crews shall conduct a Job Hazard Analysis (JHA,) discussion (i.e. Huddle) to plan for safe performance before beginning any work task. **[Contractor/Subcontractor]** is required to prepare a written record of each JHA.

All workers, management, and visitors shall wear approved hard hats while on site, outside the trailers. Cowboy-style hard hats are prohibited. Hard hats must not be removed to use welding shields. Welding shields must attach to hard hats or be hand held.

Sleeved shirts (minimum of four inches), long pants and durable work boots are required minimum clothing.

Personal cell phones are not to be used on construction sites except to report an emergency or on approved break time. Use of business cell phones must not interfere with jobsite safety.

Personal radios or music players are not permitted.

All persons working at elevations of six feet or greater must have 100% continuous fall protection. Engineering controls are preferred, but personal fall arrest systems are also permissible. An exception is permitted for safe use of ladders up to 24 feet long.

[Contractor/Subcontractor] is responsible to repair or restore any barricade that it modifies or removes.

Class II III (household) stepladders are prohibited; metal ladders are strongly discouraged.

All scaffolds must be inspected daily and before each use for safety compliance. Scaffold inspection tags must be used. Scaffolds shall never be left in an unsafe condition and must be removed / disabled immediately if not to be used again.

All persons operating cranes must be certified as crane operators by the National Commission on the Certification of Crane Operators (NCCCO), Crane Institute Certification (CIC) or Operating Engineers Certification Program (OCEP). Daily written crane inspection reports must be prepared by the operator and kept with the crane, available for inspection.

Riding the headache ball is prohibited.

All dozers, loaders, tractors and end loader backhoes must have functioning backup alarms.

Keep equipment at least 15 feet from energized power lines.

Electrical, pneumatic, and other energy systems that could be accidentally energized or started up while work is in process must be locked out (not merely tagged out).

Only fire-retardant materials may be used to build shanties or other temporary enclosures inside of buildings finished or under construction. Shanties shall be continually policed by their occupants to prevent the accumulation of waste or other combustibles.

Engineering controls must be used to restrain silica dust per applicable law. Dry cutting without engineering controls is prohibited.

The Contractor is required to design and/or implement a Stretch and Flex program for their employees. The purpose of the program is to gently condition the muscles and tendons for the workers before they engage in their duties in order to avoid injury. All Contractors of any tier shall ensure that all employees participate in stretching exercises at the beginning of the work day. It is recommended that you consult with your insurance carrier, licensed physician or other medical personnel to develop suitable stretches for your work crew.

The Contractor is required to implement a glove program. All workers performing construction work must wear appropriate protective work gloves. When not performing work, gloves must be kept available for immediate use. Cut resistant work gloves are required for any operation with sharp material or cut potential.

[CONTRACTOR/SUBCONTRACTOR]'S SAFETY SUBMITTALS

[Contractor/Subcontractor] shall provide copies of the following written safety submittals to Barton Malow at the times indicated:

Submittal	**Timing**
Site-specific Safety Program, including Job Hazard Analysis, substance abuse policy, hazard communication program, and Safety Data Sheets (SDS)	Before on-site work begins
Tool Box Talk Reports	Weekly
Incident Reports	Within 24 hours of incident
Hours worked and incident rates	Monthly
Stretch and Flex program	Before on-site work begins

Barton Malow's receipt of the Safety Program or other submittals from **[Contractor/Subcontractor]** does not constitute approval of the Program or submittal or permission to deviate from the requirements of the Contract Documents and applicable law.

[Contractor/Subcontractor] will allow inspection of, and Barton Malow may request copies of, any and all safety-related documents and records in its possession relating to the Project.

BARTON MALOW RIGHTS

Safety Hazard Notifications may be issued to the **[Contractor/Subcontractor]** when an unsafe act or condition is reported or observed. Barton Malow shall not be required to supervise the abatement or associated reprimand of unsafe acts or conditions within a **[Contractor/ Subcontractor]'s** scope of work as this is solely the responsibility of **[Contractor/Subcontractor]**. Nevertheless, Barton Malow has the right, but not the obligation, to require **[Contractor/Subcontractor]** to cease or abate any unsafe practice or activity it notices, at **[Contractor/Subcontractor]'s** sole expense.

[Contractor/Subcontractor]'s failure to comply with the contract safety requirements will be considered a default of the Agreement, and may result in remedial action including, but not limited to, withholding of payment of any sums due or termination.

Barton Malow's failure to require the submission of any form, documentation, or any other act required under this Section, 00810, of the Project Manual shall not relieve the **[Contractor/Subcontractor]** from any of its safety obligations.

Nothing in this Section or in this Agreement makes Barton Malow responsible or liable for protecting **[Contractor/Subcontractor]'s** employees and other Subordinate Parties or assuring or providing for their safety or preventing accidents or property damage.

All requirements referenced in this Section 00810 are binding on **[Contractor/Subcontractor]** and all of its Subordinate Parties, even where such requirements may exceed the standards of applicable law.

Barton Malow
Emergency Action Plan EAP

{Insert Project Name}

This is a living document and will be
updated as needed throughout the project.

Revision No.: {Insert Revision No.}

{Insert Date}

SUPPLEMENTARY INFORMATION ON EMERGENCY ACTION PLAN

OSHA requires employers to have an emergency action plan. The purpose of the plan is to eliminate or minimize the hazards to employees in the event of a fire or other emergency. The basic plan must be communicated to all employees during safety orientation.

Minimum Plan Requirements
All employers must have a plan. Employers with 10 or more employees must have a written plan. Employers with fewer than 10 employees may have an oral plan. The plan designates employer's and employees' actions to ensure safety during a fire, weather emergency or other type of emergencies. The plan must be kept at the workplace and available for employee review.

The following must be included in the plan:

- Emergency escape procedures and escape route assignments
- Procedures for employees who remain behind to perform critical plant/project operations
- Procedures to account for all employees after the emergency evacuation
- Identification of employee rescue or medical duties
- Preferred means of reporting fires, and other emergencies (air horns, manual pull boxes, public address systems, 2-way radios, telephones, etc.).
- Types of evacuation to be used in emergency circumstances
- Names and job titles of persons who can be contacted for further information regarding the emergency action plan.

Employers must post emergency telephone numbers near telephones and other conspicuous locations when the telephones serve as the means of reporting an emergency

Note: For projects in coastal areas that could be subject to hurricanes and other climatic events, the Emergency Action Plan should be supplemented to include the Hurricane Preparedness Plan under Appendix I.

Attachment F

EMERGENCY ACTION PLAN (EAP)

{Insert Project Name}

PURPOSE

The purpose of this Emergency Action Plan is to determine the protocol to follow for all fire, medical other emergencies and major disasters (severe weather (tornado), earthquake, or bomb threat). This document will clearly define the emergency action plan and the measure needed to be prepared an emergency. This plan will complement the Crisis Management Plan.

COMMUNICATION/TRAINING

Every employee on site must be properly trained in a basic emergency response/action plan. This training must occur during the initial safety orientation training. The plan should be reviewed periodically.

The emergency procedure, important phone numbers, and seek shelter/evacuation procedures shall be conspicuously located on site.

Every employee must be able to:

- Recognize an emergency situation
- Know how to call for/initiate emergency services
- Recognize seek shelter or evacuation signals
- Know where to seek shelter
- Know the designated mustering point(s)

PROJECT OPERATIONAL LEADERSHIP – IMPLEMENTATION

Emergencies usually do not happen very often but when they do it's important to have clearly defined written procedures. Employees must be knowledgeable in the basic first aid, CPR, fire safety procedures. Project Operational Leadership should be assembled of management and trade labor employees. This team will be very knowledgeable in the Emergency Action Plan and have other necessary training to allow them the ability to handle all emergencies including medical, fire, weather or other emergencies.

Responsibilities – Project Operational Leadership:

- Understand the Emergency Action Plan
- Provide first aid and CPR as trained
- Help communicate the emergency action plan
- Assess all emergencies
- Initiate warning signals as needed –evacuation or seek shelter
- Assign duties to field and management personnel.
- Take any actions necessary to protect human life and property

In case of emergency situation, the highest-ranking management person shall have the final authority to coordinate procedures and amend, modify or supersede any provisions of this plan in order to ensure employee safety. A list of phone numbers for the Barton Malow Project Operational Leadership members is provided in this plan.

MEDICAL EMERGENCY OR RESCUE PROCEDURES

Any person who receives information regarding a medical emergency shall notify the fire department and/or emergency medical services immediately. The following procedure applies to this job site:

Call

Describe the emergency in detail – do not hang up until instructed to do so. Give the project address/location:

Attachment F

EMERGENCY ACTION PLAN (EAP)

Below is a list of site specific detail of emergency procedure:

Immediately notify the Barton Malow Project Operational Leadership members and designate someone to escort them to the injured worker. Call other project contacts for assistance as needed.

The emergency response team will coordinate and direct the fire department and/or EMS units to the site location or the employee's whereabouts. Designate some of the Project Operational Leadership members to keep crowds of onlookers away from the incident scene so emergency crews can do their jobs.

ALARMS – EMERGENCY ALERT SIGNALS

Each employee should understand the alarms that will be used onsite. Construction projects or temporary offices may not have permanent alarm systems. These project or locations must use temporary systems such as the following:

EVACUATION PROCEDURES AND ALERT SIGNALS

Evacuation Signal:

Please stand in a safe area away from vehicular traffic and emergency vehicles. The Project Operational Leader members, safety department, senior management and contractor management shall conduct a role call or head count to insure all personnel are accounted for.

FIRE PROCEDURES

In the event of a fire, the following procedures shall be followed:

If the fire is minor, meaning in a localized area and can be immediately controlled, use the proper fire extinguisher(s). All fires, even minor, must be reported to Barton Malow immediately.

If fire is judged uncontrollable, immediately call the fire department .
Give building location
Give column line location and floor (if applicable).
Describe type of fires (Class A: combustible material, Class B: flammable chemicals, Class C: Electrical, and/or Class D: Metallic)

Sound evacuation signal if evacuation is necessary

Notify the Project Operational Leadership members.

Project Operational Leadership members shall assign responsibilities to each contractor's superintendent.

As a reminder, the designated contractor mustering points shall be

BOMB THREAT EVACUATION PROCEDURE:

- The person receiving the bomb threat shall write down all information, immediately and notify the police, Barton Malow, and all the Project Operational Leadership members.
- Project Operational Leadership members shall determine the appropriate procedures:
- Order immediate evacuation to the designated Mustering points.
- Contact police 911 or your designated emergency number .
- Contact Barton Malow Management
- Contractor management shall conduct a role call or head count to insure all personnel are accounted for.
- Do not allow re-entry until the site has been searched and declared safe by designated authority such as the local police department.

TORNADO SURVIVAL PLAN

- In the event of a tornado alert, the regular will be sounded to initiate an evacuation.
- All employees will leave their work areas and walk in a slow orderly manner to their vehicles to head away from the direction the tornado is coming.
- Supervisory personnel will conduct a head count on your way off site.

Reason for Plan

A tornado is a column of violently rotating winds extending down from a thunderstorm-like cloud that touches the surface. Tornadoes usually originate from the southwest at speeds of 20 to 40 mph. However, they have traveled at speeds near 70 mph. Tornadoes wind speed very from 100 mph to nearly 300 mph. Tornadoes do their destructive work through the combined action of their strong winds, flying debris and the partial vacuum in the center.

Tornadoes are nature's most violent – and erratic – storms. A tornado can travel for miles along the ground, lift, and suddenly change direction and strike again. There is little we can do to protect our workplaces from the strength of tornado winds, but there are actions we can take to better protect ourselves and our co-workers.

Tornadoes are formed by severe thunderstorms, most frequently in the spring and summer. If you are in a tornado-prone area, stay alert during severe weather.

Terms
Tornado Watch is given when weather conditions are favorable to the formation of tornadoes. Tornado Warning is given when a tornado funnel is sighted or indicated by radar. You should take shelter immediately.

Survival Plan
Know your community's and this project's warning signals. Most often, warnings will be given by local radio or television stations, announcements and by NOAA Weather Radio. Barton Malow's onsite safety team will have a weather radio and utilize weather software to monitor weather events.

Although there is no guaranteed safe place during a tornado, some locations are better than others. By following these suggested safety tips, you can increase your chances of survival.

Mobile Offices
Do not stay in a mobile office during a tornado. Even office trailers with a secure tie-down system cannot withstand the force of tornado winds.

If a tornado warning is given, leave your mobile office and seek shelter nearby. Lie down flat in a ditch or ravine and put your arms over your head. Don't take shelter under an office trailer.

Office Buildings
Get into the innermost portions on the lowest floor possible. Employees should take shelter under a desk or table. Avoid windows and glass doorways.

Do not use elevators; the power may go off and you could become trapped. Protect your head and make yourself as small a target as possible by crouching down.

Lofted Structures
If you are caught in a lofted structure stay away from windows and get in a restroom, if possible. Restrooms are usually made from concrete block. Besides having the four walls and plumbing holding things together, the metal partitions help support any falling debris.

If there is not time to go anywhere, seek shelter right where you are. Try to get up against something that will support or deflect falling debris. Remember to protect your head.

On the Road
Do not try to outrun a tornado in your vehicle. If you see a tornado, stop your vehicle and get out. Seek shelter away from the vehicle in a nearby ditch or ravine; do not get under your vehicle. Lie flat and put your arms over your head.

In the Open
If you are caught outside during a tornado and there is no underground shelter immediately available, lie in a gully, ditch or the low spot in the ground. Protect your body and head with anything possible. Do not go into a grove of trees or under a vehicle.

After the tornado
Do not enter damaged buildings; they may collapse completely. Wait for help to search for others.

If the office appears undamaged, check for gas or other utility line breaks carefully. If the lights are out, use a flashlight only; do not use a match, lighter or any open flame.

Environmental Emergency

- Upon notification from Barton Malow or the owner declaring a chemical release, Barton Malow shall initiate the evacuation signal and communicate an area of safe location for all personnel to assemble.
- Contractor management shall conduct a role call or head count to insure all personnel are accounted for.
- All personnel shall remain calm and in the safe location until an all clear has been given.
- Barton Malow Management will call a local spill contractor should an environmental response be needed on the site.

EARTHQUAKE EMERGENCY

Earthquakes will usually occur without warning. Due to the suddenness, all personnel shall attempt to get to a place where he or she feels safety is warranted, such as: exit the building if practical, seek cover in the office trailers and office buildings (i.e. under the desks, in the doorways or in the closets). The following procedures shall be followed after an earthquake:

- All personnel shall help restore a calm environment for fellow personnel.
- Anyone trained in CPR can assist and provide first aid as needed.
- Contractor management shall conduct a role call or head count to insure all personnel are accounted for.
- The Project Operational Leader members shall inspect buildings for damage. If major structural damage has occurred, the Project Operational Leadership members shall order an evacuation.
- The Project Operational Leadership members shall notify proper utility companies as needed

LIGHTNING PROCEDURES

In the event of lightning, the following procedures shall be followed:

- Insert site specific requirement:

- All personnel shall remain a safe distance from any metal structures and/or standing water.
- All personnel shall remain calm and in the safe location until all clear has been given.

Note: There may be circumstances where crane booms shall be lowered due to the adverse weather conditions. Project Operational Leadership members and contractor superintendents will make this determination after evaluating the wind speed and weather conditions.

Attachment G

HAZARD COMMUNICATION PROGRAM

Introduction

Barton Malow is committed to preventing accidents and ensuring the safety and health of our employees. We will comply with all applicable federal and state health and safety rules. Under this program employees are informed of the contents of the OSHA Hazard Communications Standard, the hazardous properties of chemicals with which they work, safe handling procedures and measures to take to protect themselves from these chemicals. These chemicals may be physical or health-related. A site-specific hazard communication plan will be available at all Barton Malow locations.

Identifying Hazardous Chemicals

A list of all hazardous chemicals with a potential for employee exposure will supplement this plan. The site-specific hazard communication plan will identify where this information is kept for review. Detailed information about the physical, health, and other hazards of each chemical is included in a Safety Data Sheet (SDS); the product identifier for each chemical on the list matches and can be easily cross-referenced with the product identifier on its label and on its Safety Data Sheet.

Identifying Containers of Hazardous Chemicals

The site-specific hazard communication plan will follow the requirements of the 2012 revision of the OSHA Hazard Communication Standard to be consistent with the United Nations Globally Harmonized System (GHS) of Classification of Labeling of Chemicals.

All hazardous chemical containers used at this workplace will have:

1. The original manufacturer's label that includes a product identifier, an appropriate signal word, hazard statement(s), pictogram(s), precautionary statement(s) and the name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

2. A label with the appropriate label elements just described

3. Workplace labeling that includes the product identifier and words, pictures, symbols, or combination that provides at least general information regarding the hazards of the chemicals.

All containers will be appropriately labeled. No container will be released for use until this information is verified. Workplace labels must be legible and in English.

Small quantities intended for immediate use may be placed in a container without a label, provided that the individual keeps it in their possession at all times and the product is used up during the work shift or properly disposed of at the end of the work day. However, the container should be marked with its contents.

Keeping Safety Data Sheets (SDS)

The manufacturer or importer of a chemical is required by OSHA to develop a Safety Data Sheet (SDS) that contains specific, detailed information about the chemical's hazard using a specified format. The distributor or supplier of the chemical is required to provide this SDS to the purchaser.

SDS's are readily available to all employees during their work shifts. Employees can review SDS for all hazardous chemicals used at this workplace. The storage of SDS's will be denoted on the site-specific hazard communication plan.

SDS's will be updated and managed by a person designated on the site-specific hazard communication plan. If a SDS is not immediately available for a hazardous chemical, employees can obtain the required information at MSDS.com.

Training Employees about Chemical Hazards

Before they start their jobs or are exposed to new hazardous chemicals, employees must attend a new hire orientation that includes hazard communication training covering the following topics:

- An overview of the requirements in OSHA's Hazard Communication Standard.
- Hazardous chemicals present in their workplace.
- Any operations in their work area where hazardous chemicals are used.
- The location of the written hazard communication plan and where it may be reviewed.
- How to understand and use the information on labels and in Safety Data Sheets.
- Physical and health hazards of the chemicals in their work areas.
- Methods used to detect the presence or release of hazardous chemicals in the work area.
- Steps we have taken to prevent or reduce exposure to these chemicals.
- How employees can protect themselves from exposure to these hazardous chemicals through use of engineering controls/work practices and personal protective equipment.
- An explanation of any special labeling present in the workplace.
    - What are pictograms?
    - What are the signal words?
    - What are the hazard statements?
    - What are the precautionary statements?
- Emergency procedures to follow if an employee is exposed to these chemicals.

Prior to introducing a new chemical hazard into any department, each employee in that department will have access to information and training as outlined above for the new chemical hazard.

Informing Employees who do Special Tasks

Before employees perform special (non-routine) tasks that may expose them to hazardous chemicals, their supervisors will inform them about the chemicals' hazards. Their supervisors also will inform them about how to control exposure and what to do in an emergency. The employer will evaluate the hazards of these tasks and provide appropriate controls including Personal Protective Equipment all additional training as required.

Informing contractors and other employers about our hazardous chemicals

If employees of other employer(s) may be exposed to hazardous chemicals at our workplace they will be provided with the following information:

- The identity of the chemicals, how to review our Safety Data Sheets, and an explanation of the container labeling system.
- Safe work practices to prevent exposure.

A Safety Data Sheet for any hazardous chemical a contractor brings into the workplace will be provided and added to the site-specific hazard communication plan.

HCS Pictograms and Hazards

- Carcinogen
- Mutagenicity
- Reproductive Toxicity
- Respiratory Sensitizer
- Target Organ Toxicity
- Aspiration Toxicity

- Flammables
- Pyrophorics
- Self-Heating
- Emits Flammable Gas
- Self-Reactives
- Organic Peroxides

- Irritant (skin and eye)
- Skin Sensitizer
- Acute Toxicity
- Narcotic Effects
- Respiratory Tract Irritant
- Hazardous to Ozone Layer (Non-Mandatory)

Gas Cylinder

- Gases Under Pressure

Corrosion

- Skin Corrosion/Burns
- Eye Damage
- Corrosive to Metals

Exploding Bomb

- Explosives
- Self-Reactives
- Organic Peroxides

Flame Over Circle

- Oxidizers

Environment (Non-Mandatory)

- Aquatic Toxicity

Skull and Crossbones

- Acute Toxicity (Fatal or Toxic)

Attachment H

EMERGENCY EVACUATION PLAN + MAP

PROJECT NAME:

WORK LOCATION:

SITE-SPECIFIC

This plan must be reviewed by all workers and posted with a site plan in prominent locations accessible to all workers. This plan is a supplement to the project-specific safety & health management program.

This is a project-specific Emergency Evacuation Plan communicating evacuation procedures, specific alarms, and assembly points, should an emergency evacuation become necessary because of severe weather, fire, hazardous chemical release, explosion or other emergencies that could cause worker harm. It is each worker's responsibility to familiarize themselves with evacuation routes, alarms and assembly points in case an emergency evacuation of the work area is required.

Caution: Evacuation routes, alarms or assembly points for one emergency may differ from another emergency. Therefore, familiarize yourself with each of the emergency plans below.

IN CASE OF MEDICAL EMERGENCY OR RESCUE

EMERGENCY PHONE NUMBER: CALL 911

GIVE DIRECTIONS TO GET TO SITE:

Alarm or Notification: Contact the closest Barton Malow Team member, guard or company supervision. Send someone to the project entrance to help guide the emergency services to the injured worker.

Project Team Actions: Barton Malow Management will meet the Emergency Responder Crews at the Construction Entrance. Send someone to the road to help guide the emergency services to the injured worker.

IN CASE OF SEVERE WEATHER

Alarm or Notification: A Long Siren sound from the horn multiple times, Text, Radio or Verbal Notification.

Assembly Point:

Crew Actions: Workers will seek shelter until an "All Clear" is given.

IN CASE OF A FIRE, CHEMICAL RELEASE, EXPLOSION OR BOMB THREAT

Alarm or Notification: 3 short blasts from a horn multiple times.

Evacuation Route:

Crew Actions: Exit the site in accordance with the Evacuation Route Plan and wait for the Project Manager to perform a headcount.

Spill Kit Location:

EMERGENCY EVACUATION PLAN + MAP

Workers will immediately evacuate their work area upon hearing the alarm or being notified of the emergency and ordered to evacuate. No worker is exempt from evacuation even if the evacuation is a drill.

Workers are required to:

1.) Report immediately to their designated assembly point and be accounted for.
2.) Failure to report may cause another to risk danger in an effort to search for you.
3.) Do Not leave the project without prior authorization from first-line supervision.

IF APPLICABLE – INSERT EMERGENCY EVACUATION MAP

Barton Malow

Attachment I

HURRICANE PREPAREDNESS PLAN

Purpose

This policy establishes guidelines when preparing for inclement weather up to and including hurricanes. Appropriate precautions for severe weather can help reduce the potentially serious losses associated, and protect the assets of our jobsites.

Scope

This policy applies to all jobsites and regional offices.

Definitions

- **Tropical Wave:** A cluster of clouds and/or thunderstorms without a significant circulation and generally moving from east to west through the Tropics.
- **Tropical Depression:** A cluster of clouds and/or thunderstorms with a center of circulation and sustained wind speeds of less than 39 mph.
- **Tropical Storm:** An organized system of strong thunderstorms with top sustained winds of 39 mph to 73 mph. Tropical storms can quickly develop into hurricanes. Storms are named when they reach tropical storm strength.
- **Tropical Storm Watch:** Tropical storm conditions are possible in the specified area of the watch, usually within 36 hours.
- **Tropical Storm Warning:** Tropical storm conditions are expected in the specified area of the warning within 24 hours.
- **Hurricane:** An intense tropical weather system with a sustained wind speed of 74mph or higher.
- **Hurricane Season:** The Atlantic Hurricane Season begins June 1 and lasts through November 30
- **Storm Surge:** A dome of sea water up to approximately 20 feet in height that arrives with a hurricane, and can affect more than 100 miles of coastline. Evacuation zones are identified by their likelihood of being flooded by this rising water, which is responsible for most hurricane deaths.
- **Hurricane Watch:** Hurricane conditions are possible in the specified area of the watch, usually within 36 hours.
- **Hurricane Warning:** Hurricane conditions are expected in the specified area of the warning within 24 hours. Complete all storm preparations and immediately follow local emergency management official's advice about evacuating dangerous or low- lying locations.
- **Local State of Emergency:** Declaration by County officials in order to prepare the county for response to the storm. Shortly after that, public protective measures will be announced, i.e. evacuation orders. This is your signal to have your preparations complete and be ready to act.
- **Hurricane Strengths:**

Category	Wind Speed	Damage Level
1	74-95 mph	Minimal damage to buildings
2	96 - 110 mph	Moderate damage to buildings
3	111 - 130 mph	Extensive damage to small buildings
4	131 - 155 mph	Extreme structural damage
5	> than 155 mph	Catastrophic building failures

Storm Tracking

Tracking and Mapping

- It is Barton Malow's policy to begin tracking and mapping storms with potential landfall in the area of our construction sites and offices when they reach the "tropical storm" strength. This is when a storm becomes a "named storm."
- Barton Malow's office and project sites will use the National Oceanic Atmospheric Administration (NOAA) website as their primary resource for storm maps and tracking. This information can be found at noaa.gov.

Procedure

Prior to Hurricane Season (June 1):

- Site Specific Procedures:
  - Prepare or update the emergency phone list in section VI of this procedure showing home phone numbers of all project personnel and subcontractor's supervisors. Include all land lines and cell phones. These numbers shall be used for emergency purposes only.
  - Assign all responsibilities listed in section VI of this procedure and identify additional site-specific measures; solicit subcontractor input for site specific procedures.
  - Communicate the Hurricane Preparedness Plan and site-specific procedures.
- Prepare and issue a "phone tree" for the project. This shall contain numbers for all Barton Malow staff and subcontractor supervisors.
- Establish a Project Recovery Team that shall:
  - Be comprised of Barton Malow and subcontractor representatives
  - Return to the site immediately after the "all clear" signal is issued by local authorities.
- Establish a recovery team for regional offices.
- Sandbag or dike equipment in low-lying areas.
- Prepare a hurricane recovery kit including but not limited to the following items:
  - Water
  - Weather radio
  - Pumps
  - #9 wire
  - ¾" perforated banding, Tapcon fasteners or other anchors
  - Rope
  - Tarps
  - Pump hose
  - Power cords
  - Rolls of heavy plastic and/or 10 millimeter contractor bags
  - Generators and gasoline
  - Flashlights with batteries
  - Additional radio and cell phone batteries
  - Camera/video camera

Tropical Storms:

- When a storm with potential landfall in the area of Barton Malow construction sites reaches "tropical storm" (named) strength, sites shall track and map the storm.
- National Oceanic Atmospheric Administration (NOAA) resources shall be used to track and map storms. The website for this information is found at noaa.gov.

Potential Hurricane (3-5 days out):

- Monitor storm progress with the NOAA website (noaa.gov), television and radio about the strength and movement of the storm.
- The phone list shall be maintained on site and the Senior Superintendent or designee will take a copy home for safe keeping during the storm.
- When first warnings are received, monitor material and equipment deliveries to the job site.
- Determine plywood needs for boarding and protecting glass and openings throughout buildings. Obtain/locate cargo netting and banding materials for securing materials that are difficult to band.
- Contact the Regional Safety Manager or Corporate Safety Director for additional instructions.

HURRICANE PREPAREDNESS PLAN

Hurricane Watch (24-36 hours out):

- Conduct safety meetings and issue orders for preparedness.
- Housekeeping:
  - Broom clean entire project, inside and out, and remove trash from the job site.
  - Move loose materials to dried-in floors or secured Conex boxes if possible
  - If dried-in floors are unavailable or loose materials cannot be moved from exposed floors, use post shores or banding and Tapcon fasteners to secure materials to the floor
  - Secure or remove chemicals or fuel to prevent releases. Maintain supply of fuel for generators.
  - Close and secure all building doors and windows except where working

Equipment:

- Secure all portable toilets and dumpsters together in one location.
- Remove all portable equipment from the job or store in a secured Conex box.
- Fill all vehicles and powered emergency equipment with fuel.
- Lower all crawler or truck crane booms to the ground
- Lower all earthmoving machinery buckets and blades to the ground.
- Let tower cranes weathervane (contact Crane Company for their requirements).
- Check the security of crane counterweight(s), wedges and clamps.
- Fill all water kegs the day before the storm. Potable water may not be available for several days after the storm.
- Make sure all office trailers and barricades are secured to the ground using 1/2" cable located in at least three (3) places along the trailer. Anchor cables in a 55 gallon drum filled with concrete if available.
- Remove, band and secure all boards from scaffolds and tie all rolling scaffolds to columns or other structural members.
- Remove formwork that has not been poured with concrete.
- If removal is not possible, load the deck with banded rebar, steel and/or beams and secure where possible.
- Document conditions of the project and the surrounding area by videotaping or taking pictures of adjacent properties and any construction projects in the vicinity. These photographs will show materials that may blow over from other jobs, damaging windows or other property.
- Fully charge all job radios and spare batteries.

Hurricane Warning (Less than 24 hours out):

- All Project areas prepare for site evacuation. Allow sufficient time to accomplish evacuation work.
- Call contractors and notify them of jobsite status; if necessary advise them not to report for work.
- Inform non-essential Barton Malow personnel not to report to work until notified.
- De-energize electrical systems.
- Traffic control device considerations:
  - Jobs using barricades and other traffic control devices shall call the subcontractor to pick up devices.
  - Removal of traffic control devices should be as late as possible without jeopardizing safety.
  - Use sand bags to delineate travel lanes for precautionary measures.
  - Backfill all open excavations.
- Office trailers
  - Perform a complete backup of all servers and computers.
  - The Office or Project Manager shall ensure that the backup tapes are secured.
  - Move computers and printers to an interior room or closet in order to minimize damage to the equipment.
  - Move equipment away from windows and into interior areas of the offices or into closets in trailers.
  - If movement of equipment is not possible, cover all equipment with heavy duty plastic or inside 10 millimeter contractor bags and secure.
  - The Office / Project Manager shall ensure that all papers from desks are removed and stored in a dry place.
  - Secure heavy duty plastic or 10 millimeter contractor bags around file cabinets for added protection.
  - The Office / Project Manager shall ensure that all project drawings are protected and secured in a dry place. If possible remove project drawings from the site.

- If trailers are in a low lying area, order sandbags for all entrances.
- Secure trailers as much as possible from flood damage.

Post Storm Procedures

- Return to work - construction sites
  - Recovery Team shall report to the site immediately after the “all clear” signal is given. If the “all clear” is given after hours, the team will meet the next morning.
  - Recovery Team will inspect the sight to determine if it is safe for other employees to return to work.
  - Electricians will inspect to ensure that electrical hazards do not exist.
  - Shell / Concrete contactors will inspect formwork to determine safety.
  - Evaluate the site condition to determine what trades should return to work and when.
- Return to work-offices
  - Recovery Team shall report to the office immediately after the “all clear” is given. If the “all clear” is given after hours, the team will meet at 8:00 AM the next morning.
  - Recovery Team will inspect the office to determine if it is safe for other employees to return to work.
  - Evaluate the site condition to determine what departments should return to work and when.
- Damage reporting
  - A Comprehensive Damage Report of each office and/or project site shall be produced by the Recovery Team.
  - Damages shall be videotaped and submitted with the written report.
  - Comprehensive Damage Reports shall be submitted to the Regional Safety Director and Safety Manager within 2 days.
  - Communicate instructions to department leaders.
  - Communicate to trade supervisors when to return to the job site.

Attachment I

HURRICANE PREPAREDNESS PLAN

Project Operational Leadership Contact Phone Numbers

BARTON MALOW PERSONNEL			
Name	**Title**	**Cell Phone #**	**Home Phone #**

Barton Malow

Attachment I

HURRICANE PREPAREDNESS PLAN

Project Subcontractor Personnel

SUBCONTRACTORS			
Name	**Company and Title**	**Cell Phone #**	**Home Phone #**

Attachment I

HURRICANE PREPAREDNESS PLAN

Hurricane Watch Issued:

- When a Hurricane Watch is issued for the county or surrounding counties in which this job is located, the following action items will be executed.
- Responsibility for completion of these action items shall be identified prior to the beginning of hurricane season.
- The following action items shall be assigned, but the project shall consider site specific conditions as well.

ACTION ITEM	RESPONSIBILITY
Conduct safety meetings and issue orders for preparedness.	Safety Dept.
Initiate contact of all subcontractors and communicate procedures.	Office Manager
Broom clean entire project, inside and out, and remove trash from the job site.	All Crews
Move loose materials to dried-in floors if possible.	All Crews
If dried in floors are unavailable or loose materials cannot be moved from exposed floors, use post shores to secure materials to the floor.	All Crews
Secure or remove chemicals or fuel to prevent releases.	All Crews
Close and secure all building doors and windows.	Barton Malow Supt
Arrange pickup of all dumpsters and portable toilets or secure together.	Barton Malow Supt
Move all portable equipment into designated area.	All Crews
Fuel all vehicles and gas all powered emergency equipment.	All Crews
Make sure all office trailers and barricades are secured to the ground using 1/2" cable located in at least three (3) places along the trailer. Anchor cables in a 55 gallon drum filled with concrete if available.	Barton Malow Supt
Remove, band and secure all boards from scaffolds and tie all rolling scaffolds to a column.	All Crews
Pour all forms ready for concrete.	All Crews
Remove formwork that has not been poured with concrete.	All Crews
Remove all outriggers from the building.	N/A
Lower and secure all suspended scaffolds.	All Crews
Document conditions of the project and the surrounding area by video taping or taking pictures of adjacent properties and any construction projects in the vicinity.	Barton Malow Supt, Safety Dept.
Fully charge all job radios and spare batteries.	N/A
Backup project files to cloud services. Contact the IT Helpdesk with questions.	All Staff
Secure all accounting documents. Send to an alternate location if necessary.	Office Manager, All Staff

ADDITIONAL SITE SPECIFIC MEASURES	RESPONSIBILITY

Hurricane Warning Issued:

- In the event a Hurricane Warning is issued the following additional action items shall take place:

ACTION ITEM	RESPONSIBILITY
Photograph all the precautions put in place to protect from storm damage.	Barton Malow Supt, Safety Dept
Lower all crawler or truck crane booms to the ground.	All Crews
Check the security of crane counterweight(s), wedges and clamps.	All Crews
Let tower cranes weathervane (contact crane company for their requirements).	N/A
Fill all water kegs the day before the storm. Potable water may not be available for several days after the storm.	All Crews
Load all unpoured decks with banded rebar, steel and/or beams and secure where possible.	All Crews
Lower all earthmoving machinery buckets and blades to the ground.	All Crews
Shut off power and water supply to the building.	Barton Malow Supt.
Check roof drains and overflow scuppers for obstructions.	All Crews
Place skidpans on ground and fill with water or dirt.	All Crews
Release all-non-essential personnel from the site until further notice.	Barton Malow Management
ADDITIONAL SITE SPECIFIC MEASURES	**RESPONSIBILITY**
Contact appropriate vendors for assistance with equipment, generators, etc.	Barton Malow Supt.

After the Storm:

- Once the storm is over and the all clear signal is given, the recovery team shall return to the site.
- The recovery team will consist of the following people:

RECOVERY TEAM			
Name	**Company and Title**	**Cell Phone #**	**Home Phone #**

- The Recovery Team's responsibilities include but are not limited to:

ACTION ITEM	RESPONSIBILITY
Evaluate the site and determine if it is safe for the rest of the staff to return.	Recovery Team
Implement Crisis Management program if appropriate	Recovery Team
Contact all Barton Malow and Subcontractor emergency contacts and advise them of the worksite status.	Office Manager
Contact owner and architect and request their presence to assess the damage.	Barton Malow Management
Make a list of all potential safety hazards the workforce may face when they return to the site; communicate the finding to the appropriate subcontractors.	Barton Malow Supt, Safety
Inspect all scaffolds, formwork, tables, platforms, etc.	Barton Malow Supt, Safety Dept.
Domestic water supply tested.	Barton Malow Supt, Safety Dept.
Solicit list of subcontractor losses.	Barton Malow Management
ADDITIONAL SITE SPECIFIC MEASURES	**RESPONSIBILITY**
Videotape all conditions of the site and surrounding areas/adjacent property.	Barton Malow Supt, Safety Dept.

Barton Malow
Traffic Control Plan

{Insert Project Name}

This is a living document and will be
updated as needed throughout the project.

Revision No.: {Insert Revision No.}

{Insert Date}

Barton Malow

Attachment J

TRAFFIC CONTROL PLAN

{Insert Project Name} Traffic Control Plan

Site Address: _____

Hours of Work: _____

Project Scope: _____

Site Entry: _____

Site Exit: _____

Oversized Loads: _____

PPE Requirements: Anyone that plans to access the site must abide by the PPE requirements of this site. Hardhats, glasses, gloves, high visibility vest or shirt, pants and sturdy work boots are required at all times. It is the responsibility of the contractor to provide PPE and enforce that their vendors, delivery drivers and visitors comply. Communication with these parties ahead of time will help manage this endeavor.

Access and Badging: _____

Logistical Questions: _____

Emergency Contacts: See Contact List Below

Barton Malow

Attachment J

TRAFFIC CONTROL PLAN

EMERGENCY CONTACTS Barton Malow Personnel			
Name	**Title**	**Cell Phone #**	**Home Phone #**

Attachment K

CONTRACTOR MONTHLY INCIDENT SUMMARY REPORT

{Insert Project Name}

Contractor Name:

Sub-Tier Subcontractor To:

Reporting Period: {Insert Month} {Insert Year}

This form must be submitted to Barton Malow no later than the 5th of each month. It is to be submitted even if no accidents occurred.

NOTE: Contractors that fail to submit this report may not receive payment.

DIRECTIONS: *Report all injuries, no matter how minor as indicated below!* When reporting number of OSHA recordable medical cases that had lost work days, enter number of calendar days away from work (do not count first day of injury, but the weekends must be counted). Carry over days from a previously reported lost time case where the worker is still off work in this reporting period. Report the number of OSHA recordable medical cases that had restricted or light duty work and the total number of calendar days or restricted or light duty (do not count the first day of injury, but the weekend must be counted). Carry over days from a previously reported restricted or light duty case where the worker is still on restricted or light duty. Report number of first aid only cases for period as well.

	Man-hours Worked	First Aid Injuries	Medical Treatment Only	Lost Time Injuries	Days Lost	Restricted Work Injuries	Days of Restricted Work
Month							
YTD							

Name of person completing report:

Print Name:

Signature: _____

Phone Number:

Barton Malow

Attachment L

INCIDENT INVESTIGATION REPORT

(Check all that apply): ☐ **Clinic / Hospital** ☐ **First Aid** ☐ **Recordable** ☐ **Restriction**
☐ **Lost Time** ☐ **Near Miss** ☐ **Notice Only** ☐ **Property**

Name: _____ Birth Date: _____
(name of person involved in incident)

Address: _____

Home Phone No.: __(_____)_____ Mobile Phone No.: __(_____)_____

Trade / Occupation: _____ Date Employed: _____

Emergency Contact:_____ Contact Telephone No.: _____

Barton Malow Region: ☐ Central ☐ Eastern ☐ Southeast

Barton Malow Employee: ☐ Yes ☐ No

(If not an employee of Barton Malow, ***list employer below)***

Employer: _____

Employer Phone No.: _(_____)_____ Contact Email: _____

PROJECT INFORMATION

Project Name: _____ Job #: _____

Project Site and Address: _____

_____ Supervisor or Foreman: _____

Employees Length of Time on Project: _____

Witness: _____ Witness: _____

Witness Statement Taken: Yes (Attached) ☐ No ☐

Photographs Taken: Yes ☐ No ☐ Pre Task Plan / (JHA) Completed: Yes ☐ No ☐

Photographs Attached: Yes ☐ No ☐ Pre Task Plan / (JHA) Attached: Yes ☐ No ☐

(Note: Photos and Pre Task Plan must be provided)

INCIDENT INFORMATION

Date of Incident: _____ Time of Incident: _____ Date Reported: _____

Any Lost Time? Yes ☐ No ☐ Not Yet Determined ☐ *If **Yes**, list Date Last Worked:* _____

Is the employee on restricted duty? Yes ☐ No ☐ Not Yet Determined ☐

Nature of Injury *(i.e. fracture, laceration, sprain/strain, contusion - right / left - hand, knee, wrist, foot, leg, back, etc.)*:

Barton Malow

Attachment L

INCIDENT INVESTIGATION REPORT

DESCRIPTION OF TASK & INCIDENT

TREATMENT

Treatment Location *(name & address):* _____

Describe Treatment Given for Injury:

INCIDENT

Did Incident Cause Any Property Damage? Yes ☐ No ☐ Describe: _____

List Equipment Involved: _____

Describe Any Hazards, Unsafe Conditions, or Acts:

Describe Underlying Cause(s) or Failure(s):

FOLLOW UP

Immediate Action Taken:

Planned Corrective Action / Counter Measures:

REPORT PREPARED BY

Printed Name: _____ Contact Information: _____

Signature: _____ Date: _____

Barton Malow

Attachment L1

WITNESS REPORT

Witness's Name: _____ Project: _____

Witness's Address: _____

Contact Information: _____

Witness's Employer:

☐ Barton Malow Trade: _____ Union #: _____

☐ Subcontractor: _____

☐ Other: _____

The following is my statement regarding the incident detailed in the attached Incident Investigation Report.

Witness's Signature: _____ Date: _____

Barton Malow

Attachment M

SAFETY TRAINING ROSTER

	Project Name:	Project Location:
	Course:	
	Date:	Presented by:
	This is to certify that I, the undersigned, have attended this Safety Training course and understand the contents presented during the program.	

	Name (print)	Company Name	Signature
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			

Barton Malow

Attachment N

DAILY PRE-TASK PLAN

Review checklist while completing front page of PTP. Check all that apply.

REQUIRED PERMITS

☐ Confined Space
☐ Guard Rail Removal
☐ Hot Work
☐ Excavation
☐ Ground Disturbance (over 12")
☐ Energy Isolation/LOTO

REQUIRED PPE

☐ Hard Hat
☐ Ear Plugs / Muffs

EYE PROTECTION
☐ Safety Glasses
☐ Face Shield
☐ Chemical Goggles
☐ Welding Hood

HAND PROTECTION
☐ Cut Resistant Gloves
☐ Welder Gloves
☐ Nitrile Gloves
☐ Rubber Gloves
☐ Elect. Insulated Gloves
☐ Arm Sleeves

FOOT PROTECTION
☐ Sturdy Work Boots
☐ Safety Toe Boots
☐ Rubber Boots
☐ Dielectric Footwear

RESPIRATORY PROTECTION
☐ Dust Mask
☐ Air Purifying Resp.
☐ Supplied Air Resp.
☐ SCBA
☐ Emerg. Escape Resp.

SPECIAL CLOTHING
☐ Coveralls
☐ Tyvek Disposable
☐ Safety Vest
☐ Rain Suit

FALL PROTECTION
☐ Harness
☐ Double Lanyard Req'd
☐ Anchorage Point Avail.
☐ Add'l Anchorage Connection
☐ Needed (i.e. Cross arm strap, etc.)
☐ Horizontal Life Line System Req'd
☐ Fall Clearance Distance Adequate
☐ Fall Rescue/Retrievable Plan Set Up

HAZARD	HAZARD CONTROL MEASURES		
☐ Overhead Utilities	☐ Power De-energization Required ☐ Fire Watcher Required	☐ Insulation Blankets Required ☐ Safe Work Zone Marked	Required clearance distance in _____ ft.
☐ Crane or Other Lifting Equip.	☐ Signalman Assigned ☐ Area Around Crane Barricaded ☐ Lifting Equip. Inspected	☐ Worker Protected/Overhead Load ☐ Tag Line in Use	
☐ Underground Utilities	☐ Reviewed As-Built ☐ Received Ground Disturbance Permit	☐ Subsurface survey ☐ Safe Work Zone Marked	Required clearance distance in _____ ft.
☐ Electrical	☐ Lock Out/Tag Out/Try Out ☐ Confirm Equip. De-Energized	☐ Reviewed Elect. Safety Procedures	
☐ Excavations	☐ Permits ☐ Proper Sloping/Shoring ☐ Access/Ingress Provided	☐ Inspected Prior to Entering ☐ Barricades Provided ☐ Protected from Water	
☐ Fire Hazard	☐ Hot Work Permit ☐ Fire Watch ☐ Adjacent Area Protected	☐ Fire Extinguishers ☐ Unnecessary Flammable Material Removed	
☐ Vehicular Traffic of Heavy Equip.	☐ Traffic Barricades ☐ Lane Closure ☐ Cones	☐ Communication w/ Operator ☐ Sign ☐ Flagman	
☐ Noise > 85db	☐ Hearing Protection Required ☐ Ear Plugs	☐ Ear Muffs ☐ Both Ear Plugs & Ear Muffs	
☐ Hand & Power Tools	☐ Inspect General Condition ☐ Identified PPE ☐ Guarding OK	☐ GFCI Used ☐ Reviewed Owner Manual Safety Req.	
☐ Hand Hazards	☐ PPE – gloves, etc. ☐ Protected Sharp Edges		
☐ Manual Lifting	☐ Hand Protection Required ☐ Back Support Assistance	☐ Reviewed Proper Lifting Technique ☐ Reviewed Equip. for Proper Lifting	
☐ Ladders	☐ Inspect General Condition Prior ☐ Proper Angle and Placement ☐ Reviewed Ladder Safety	☐ Ladder Tied Off or Held ☐ Ladder Inspected within Last Quarter	
☐ Slips, Trips, & Falls	☐ Inspect for Trip Hazards ☐ Tools & Material Properly Stored ☐ Hazards Marked	☐ Work Zone Debris Free ☐ Hazards Marked ☐ Extension Cords Properly Stored	
☐ Pinch Points	☐ Working Near Operating Equip. ☐ Hand/Body Positioning		
☐ Working with Chemicals	☐ Reviewed SDS ☐ Exposure Monitoring Req.	☐ Have Proper Containers w/ Labels ☐ Identified Proper PPE	
☐ Asbestos or Lead Paint Potential	☐ Area Contains Asbestos or Lead ☐ Lead Paint Controls in Place	☐ Asbestos Controls in Place ☐ Exposure Monitoring Req.	
☐ Heat Stress Potential	☐ Head Stress Monitoring > 85° ☐ Cool Down Periods ☐ Sun Screen	☐ Liquids Available ☐ Reviewed Heat Symptoms	
☐ Environmental	☐ Air Emissions ☐ Water Discharge ☐ Pollution Prevention	☐ Hazardous Waste ☐ Waste Minimization ☐ Other:	
☐ Natural or Site Hazards	☐ Weather ☐ Terrain	☐ Biological Hazard ☐ Animals/Reptiles/Insects	
☐ Adjacent Work Processes	☐ Notified Them of our Presence ☐ Others above/below	☐ Coordinated with Adjacent Employers ☐ Need Barriers Between	
☐ Barricades/Covers	☐ Danger Barricade Tape Req. ☐ Covers over opening ☐ Warning Signs Req.	☐ Caution Barricade Tape Req. ☐ Rigid Railing Req.	

Barton Malow

Attachment N

DAILY PRE-TASK PLAN

TASKS	HAZARDS OR EXPOSURES	HAZARD CONTROL MEASURERS	PERSON(S) ASSIGNED
List the tasks needed to perform the work activity in the sequence in which they will be performed.	List the hazards or exposures that could cause injury when the task is performed.	List the control measures required to eliminate or minimize the risk of injury arising from the identified hazard.	Who is assigned to ensure control measure is in place?

Emergency Action Plan discussed before start of job?
Yes ☐ No ☐

Emergency Muster Area:

EMERGENCY NAMES & PHONE NUMBERS

Fire:
Police:
EMS:
Superintendent:
Project Manager:
Safety:
Other:

Barton Malow

Attachment N

DAILY PRE-TASK PLAN

TEAM MEMBERS

DATE	NAME	SIGNATURE

SUPERVISOR SIGNATURE	DATE	PHONE

REPORT ALL INCIDENTS TO YOUR SUPERVISOR IMMEDIATELY. STOP ALL UNSAFE WORK.

Barton Malow

DAILY PRE-TASK PLAN TRIFOLD

NEAR MISS REPORT

Did you see a near miss today?

Project Name: _____

Date: _____

Time: _____

What did you see? : _____

Action Taken to Correct/Prevent a Similar Incident :

Who did you talk with concerning the near miss?

N/A: ☐

TODAY'S JOB SCOPE UNDERSTOOD?

YES OR NO

END OF SHIFT REVIEW

	Yes	No	N/A
Work Area Cleaned Up?			
Permits Turned in and Signed off?			
Tools/Equipment put away?			
Was anyone on the crew injured today?			

Notes: _____

Foreman Review (Initial): _____

Stop the job any time anyone is concerned about safety. Stop the job if anyone identifies a hazard not recorded on the Huddle. Be alert to any changes in personnel, conditions at the work site, or hazards not covered by the original Huddle. If it is necessary to **STOP THE JOB**, reassess the task and hazards, and amend the Huddle as needed.

SAFETY PRE-TASK PLAN TRI-FOLD

Company: _____

Date: _____

Time: _____

Emergency Phone #: _____

Job Name: _____

Card Completed by (print): _____

Crew: _____ _____

New Employees: _____

Experienced Partner: _____

LIST TODAY'S TASKS

Barton Malow

Attachment N1

DAILY PRE-TASK PLAN TRIFOLD

TOOLS/EQUIPMENT REQUIRED FOR TASKS

Training Required?	Yes	No
Respirator		
Power Actuated Tools		
Aerial Lifts/JLG		
Forklift		
Skidsteer		
Hearing Protection		
Fall Protection		

PERMITS/INSPECTIONS NEEDED

Inspected Before Use?	Yes	No
Digging Permit		
Hot Work Permit		
Scaffolding		
Confined Space		

MY HIGH RISK ACTIVITIES FOR TODAY

_____

_____

_____

_____

IDENTIFY POTENTIAL HAZARDS

Trips/Slips/Falls	
Soft Tissue Injuries	
Particles in Eye	
Overexertion	
Falls over 6'	
Overhead Work	
Sprains/Strains	
Fire	
Abrasion/Cuts	
Cave-in	
Loud Noises	
Heat/Cold Exposure	
Electric Shock	
Pinch Points	
Lead/Abestos	
Moving Machinery	
Live Utilities	
Working with Chemicals	
Spills	
Tools/Materials	
Dropping to a Lower Level	

HAZARD ELIMINATION

Keep Area Picked Up	
Stretch and Bend	
Face Shield/Goggles	
Get Help	
Fall Protection	
Toeboards/Netting	
Lift/Carry Properly	
Fire Watch/Fire Ext.	
Wear Proper Clothing	
Sloping/Shoring	
Hearing Protection	
Dress Appropriately	
Cords/Tools Inspected	
Be in Proper Position	
Get the Experts	
Make Eye Contact	
Distruption Avoidance	
Review the MSDS	
Containment Needed?	
Tools/Materials	
Secured in Place	

LIST ADDITIONAL HAZARDS

_____

_____

_____

HAZARD RECOGNITION REPORT

Did you see a hazard today?

Project Name: _____

Date: _____

Time: _____

What did you see? : _____

_____

_____

_____

_____

_____

_____

Action Taken to Correct/Prevent a Similar Incident :

_____

_____

_____

_____

_____

Who did you talk with concerning the hazard?

_____

_____

N/A: ☐

****NOT ACTUAL SIZE

Attachment N2

Pre-Task Plan 11x17

NAME (please print)	SIGNATURE	SIGN OUT (initials)

Did everyone coming into the job location review & sign the POD? Y☐ / N☐

Is the job location cleaned up & secure? Y☐ / N☐

Is equipment back in service with all LOTO removed? Y☐ / N☐

Were there any incidents/injuries during the job? Explain the incident below: Y☐ / N☐

_____

_____

_____

_____

_____

Name: _____ **Signature:** _____ **Date:** _____

Attachment N2

Pre-Task Plan 11x17

Completed by: _____ **Date Completed:** _____ **Shift:** _____

Project Name & Site Location: _____ **Job/Task Description:** _____

Review Performed by: _____

EMERGENCY INFORMATION PHONE NUMBER:

☐ First Aid Services ☐ Safety Showers ☐ Energency Procedures:
☐ Evacuation / Shelter ☐ Eye Wash __ Information / Contacts __ Evacuation __ Shelter

GENERAL CONDITIONS

☐ Traffic / Heavy Equipment ☐ Walking / Working Surfaces ☐ Overhead Work ☐ Insects / Animals / etc.
☐ Lighting / Visibility ☐ Heights / Falls / Openings ☐ Barricading (Secure Areas) ☐ Aircraft / Watercraft / Water
☐ Heat / Cold ☐ Lifting / Strains ☐ Utilities (Power Lines, etc.) ☐ Noise
☐ Severe Weather ☐ Fire / Chemicals / Gasses ☐ Health / MSDS / Particulates ☐ Other: _____

PERSONNEL / COMMUNICATIONS

☐ New / Inexperienced ☐ Language Barriers ☐ Other: _____
☐ Restricted ☐ Voice / Sight Obstructions

SITE SPECIFICS

☐ Restricted Areas/Activities ☐ Containment ☐ Other: _____
☐ Restricted Materials ☐ Protection

ENVIRONMENTAL

☐ Spill Prevention / Contain. ☐ Spill Clean Up / Disposal ☐ Other: _____

PERSONAL PROTECTIVE EQUIPMENT

☐ Standard PPE (Hardhat, Glasses, Boots) ☐ Goggles ☐ Hearing ☐ Clothing (type): _____
☐ Vests ☐ Protective Footing ☐ Foot __ Toe __ Foot ☐ Other (explain): _____
☐ Face Shield ☐ Gloves (type): _____ ☐ Respirator (type): _____

TOOLS Y☐ / N☐

☐ GFCI, Cords ☐ Guards, Handles ☐ Inspect/Remove ☐ Other: _____

ENERGY CONTROL / LOCK OUT – TAG OUT Y☐ / N☐

☐ LOTO Training Verified ☐ Individual LOTO ☐ De-energized / Controlled ☐ Notification
☐ Group LOTO ☐ Sources Identified ☐ Verified

AERIAL LIFTS Y☐ / N☐

☐ Trained (Permit) ☐ __ Lanyard __ SRL __ Exiting (100% tie off) ☐ Ground Man ☐ Inspection / Manual
☐ Fall Protection ☐ Barricade/Secure Area ☐ Rescue / Key ☐ Weight Limits

FALL PROTECTION Y☐ / N☐

EXPOSURES	STANDARD FALL PROTECTION	FALL PROTECTION PLAN/OTHER CONTROLS	PERSONAL FALL ARREST SYSTEMS
☐ Pits/Trenches	☐ Guardrails	☐ Barricading	☐ Trained/Experienced
☐ Openings	☐ PFA	☐ Positioning	☐ Inspections (Annual, Pre-use)
☐ Roofs	☐ Covers	☐ Warning Line	☐ Anchorage __ Structure __ Other: _____
☐ Sides/Edges	☐ Nets	☐ Controlled Access	☐ Connection __ SRL __ Lifeline __ Lanyard
☐ Impalement		☐ Monitoring Systems	☐ Other: _____
☐ Leading Edges			
☐ Ramps/Runways			
☐ Falling Objects			
☐ Other: _____			

CONFINED SPACE Y☐ / N☐

☐ Retrieval ☐ Hazardous Atmosphere ☐ Internal Configuration ☐ Health or Safety Hazards:
☐ Fall Protection ☐ Engulfment __ Permit __ Alternate __ Per-work Check

EXCAVATIONS/TRENCHING Y☐ / N☐

☐ Soil type: _____ ☐ Barricades ☐ Special/Additional Hazards ☐ Other: _____
☐ Protection __ Sloped __ Benched ☐ Access/Egress (ladder 25 ft) __ Air __ Loads __ Vibrations __ Water
__ Shored __ Box (Certificate) ☐ Permits __ Fall Protection __ Confined Space
__ Other: _____ ☐ Inspections __ Utilities __ Entry __ Daily __ Other: _____

STOP Stop the job any time anyone is concerned about safety. Stop the job if anyone identifies a hazard not recorded on the Huddle. Be alert to any changes in personnel, conditions at the work site, or hazards not covered changes in personnel, conditions at the work site, or hazards not covered by the original Huddle. If it is necessary to STOP THE JOB, reassess the task and hazards, and amend the Huddle as needed.

****NOT ACTUAL SIZE

Attachment N2

Pre-Task Plan 11x17

HOT WORK

☐ Weld/Cut/Burn/Grind	☐ Extinguisher (type, location, inspection)	☐ Equipment Storage/Handling	☐ Other: _____
☐ Permit	☐ Fire Watch	☐ Fueling/Fuel-fired Equipment	

LIFTING, DIGGING, MOTORIZED EQUIPMENT

☐ Operator (Qualified/Certified)	☐ Loads (Weight, Center of Gravity, Limitations)	☐ LOTO __ Lines/Utilities	☐ Spotters/Communicators
☐ Daily Inspections	☐ Communications (Special Conditions)	☐ Proper Rigging/Rigging Planned	☐ Other: _____
☐ Barricading	☐ Swing Radius	☐ Lift Plan/Permit Required (Critical,etc.)	

ELECTRICAL (Power, Utilities, Power-on, Outages)

☐ Inspect & Manage Cords/GFCI	☐ Power-On	☐ Locate/Identify
☐ Outage	☐ Hazardous/Restricted	☐ Other: _____

SCAFFOLDS

☐ Sign-Off/Daily Inspection	☐ Stable (base) Secure (4:1/attached)	☐ Wheels Locked __ Diagonal Support	☐ Rescue/Utilities
☐ Railings, Toe Boards, Fully Planked	☐ Ladder (access __ PFA _____	☐ Secured (above/below)	

LADDERS

☐ Pre-use Inspection	☐ 4:1 Angle / 3 ft. Rule	☐ Stay Off Top Steps
☐ Tied Off/Area Secure	☐ Fully Open and Locked	☐ Fall Protection: _____

OTHER

☐ _____	☐ _____	☐ _____	☐ _____
☐ _____	☐ _____	☐ _____	☐ _____
☐ _____	☐ _____	☐ _____	☐ _____

NOTES

EMERGENCY RESPONSE

EMERGENCY CONTACTS	NAMES & CONTACT NUMBERS	EQUIPMENT/JOB LOCATION GPS Coordinates, Site Location of Directions for Emergency Response	CLOSEST ASSEMBLY POINT
Safety/Supervisor			
Project Manager			
Emergency Contact			
Hazardous Spill Response			

STOP Stop the job any time anyone is concerned about safety. Stop the job if anyone identifies a hazard not recorded on the Huddle. Be alert to any changes in personnel, conditions at the work site, or hazards not covered by the original Huddle. If it is necessary to **STOP THE JOB**, reassess the task and hazards, and amend the Huddle as needed.

Attachment N2
Pre-Task Plan 11x17

TASKS	HAZARDS & EXPOSURES	CONTROLS & SAFEWORK PRACTICES

Attachment O

CHEMICAL + SUBSTANCE INVENTORY LIST

Company Name:

DATE	BRAND NAME	MANUFACTURER	CHEMICAL NAME	SIZE

Barton Malow

Attachment P

PERMIT REQUEST FORM

Contact Information:

Contractor: _____ **Date:** _____

Foreman's Name: _____ **Foreman Phone No.:** _____

Barton Malow **Approval Name:** _____ **Phone No.:** _____

Type of Permit		Permit No.
Confined Space Permit	☐	
Excavation Permit	☐	
Energized Electrical Work Permit	☐	
Building Work Permit	☐	
Guardrail Removal Permit	☐	
Hot Work Permit	☐	
Other *(please list)*:	☐	
Other *(please list)*:	☐	
Other *(please list)*:	☐	

Work to be performed:

_____

_____

_____

_____

Duration:

_____

_____

_____

_____

Approval by Barton Malow Management:

_____

Barton Malow

Attachment Q

CONFINED SPACE ENTRY PERMIT

Description – Required for all entries

Permit #: _____ Employer: _____

Supervisor: _____ Location: _____

Permit Valid Until: _____

Type: ☐ Non-Permit ☐ Permit ☐ Reclassified Date and Time of Entry: / ☐AM ☐PM

Location of Confined Space: _____

Type of Confined Space: ☐ Tank ☐ Pipe ☐ Manhole ☐ Tunnel ☐ Vault ☐ Other: _____

Work Description/Purpose of Entry: _____

_____

Hazards: _____

Verifications – Required for all entries

	Measures	Supervisor's Initials
Lockout/Tagout (isolation measures)		
Purged, Cleaned, Drained and Ventilated		
Employee Training		

Required for all entries	Required	Verified
Pre-Task Plan (PTP)	X	☐
Safety Representative Notified	X	☐
Adequate Access	X	☐
Access Protected (fall exposure)	☐	☐
Adequate Lighting (low voltage)	☐	☐
Harness / Lifelines	☐	☐
Training	X	☐
Ventilation Adequacy	X	☐
Communications Equipment	☐	☐
Continuous Air Monitoring	X	☐

Additional Permit Required Controls	Required	Verified
Authorized Entry Log at Access	☐	☐
Fire Extinguisher Available	☐	☐
Attendant	☐	☐
Warning Signs Posted at Access	☐	☐
Respirators Required? If required,	☐	☐
what type? _____	☐	☐
Protective Clothing Required		
(describe) _____	☐	☐
Rescue Equipment/Service Available		
(Tri-pod/winch or emergency services)	☐	☐
Hot Work Permit Required	☐	☐

Air Monitoring – Required for all entries

Make: _____ Model: _____ ID#: _____

Field Calibration Date: _____ Calibrated by: _____

Atmosphere Checked by: _____

Contaminants	Permissible Levels	*1st Check	Time	*2nd Check	Time	*3rd Check	Time
% Oxygen (O2)	19.5% to 23.5%						
LEL	Less than 10%						
Carbon Monoxide (CO)	Less than 35 ppm						
Hydrogen Sulfide (H2S)	Less than 10 ppm						
Other:							

***1ST CHECK TO BE COMPLETED PRIOR TO ENTRY**

IN CASE OF EMERGENCY: _____ **OR RESCUE:** _____

Authorization	
Entry Supervisor:	Date:
Signature:	Duration:

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Attachment Q

CONFINED SPACE ENTRY PERMIT

Location:	Equipment/Space:	Date:

Name *attendant*	Company	ON DUTY	OFF DUTY	ON DUTY	OFF DUTY	ON DUTY	OFF DUTY	ON DUTY	OFF DUTY	ON DUTY	OFF DUTY
1.											
2.											
3.											
4.											
Name *entrant*	**Company**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**	**In**	**Out**

[ ] Non-permit	[ ] Reclassification to Non-Permit	[ ] Comment (*controls, conditions, etc.*)

Name *Competent person*	Signature	Date	Company

[ ] Suspension	[ ] Cancellation	

Name	Signature	Date	Company

Debrief of confined space entry (program followed, hazards confronted or created):			
Name	Signature	Date	Company

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Attachment R

EXCAVATION ZONE CHECKLIST

Date: _____ **Weather:** _____ **Temperature:** _____ **F / C**

Competent Person(s): _____

Crew: _____

Job Name:_____ **Duration of Work:**_____

Description: _____**Location:**_____

Excavation Total Depth Range_____

1. **Call local or other utility locator (811 even if it is on private property)** ☐ YES (initials) _____

Completed by_____ Permit #_____ MISS Dig Permit # _____

2. Which of the methods below are being used to locate Underground? (initials) _____

☐ Zone observation ☐ As built drawings ☐ Hand locate ☐ Local or other utility locator

☐ Communication with Owner Rep's ☐ Hydro Excavation ☐ Ground Penetrating Radar

What Underground Utilities have been identified in this work zone? – check all that apply and ensure that they are shown on the work zone area drawing that is required to be an attachment as a part of this Excavation Zone Checklist (check all that apply):

☐ Electrical ☐ Gas ☐ Fiber Optic ☐ Phone ☐ Sanitary/Sewer ☐ Water

☐ Other *(please list)* _____

Visual Tests Performed: (observed soil adjacent to excavation, soil forming sides of excavation, soil taken as sample from excavated materials, etc.)

Completed by:_____ Date:_____ Time:_____

Manual Tests Performed: (check manual test performed)

☐ Dry Strength (dry and crumbles on its own)
☐ Plasticity (moist sample rolled into thread – add water if necessary)
☐ Thumb Penetration (make a ball – add water if necessary)
☐ Pocket Penetrometer: (Class "A" – 1.5 TSF and above) ☐ Other _____
(Class "B" – 0.5 TSF to 1.5 TSF)
(Class "C" – 0.5 TSF or less)

Completed by:_____ Date:_____ Time:_____

Soil Classification: ☐ "A" 1:1 ☐ "B" 1:1/2 ☐ "C" 2/1 ☐Solid Rock ☐Fractured Clay

☐Stiff Clay ☐Firm Clay ☐Granular Soil Dry ☐ Granular Soil Wet ☐ Saturated Granular Soil ☐ Running Soil

Shoring System Used: ☐ Sloping ☐ Benching ☐ Trench Box/ Shield ☐ Hydraulic Shoring
☐ Timber Shoring ☐ Other ☐ N/A

If *Sloping / Benching* are used, ensure angle of repose correct for Soil Classification? ☐ YES (initials) _____

If *Timber or Hydraulic* shoring is used, are materials and spacing correct? ☐ N/A ☐ YES (initials) _____

Trench Box used: ☐ N/A ☐ YES (initials) _____

Trench Box(s) Number: _____

Tabulated Data on site for shoring system used: ☐ N/A ☐ YES (initials) _____

All Professional Engineering Plans must be attached. ☐ N/A ☐ YES (initials) _____

What method is being used to properly sign and barricade the excavation zone?

☐ Guardrail ☐ Rope ☐ Concrete Barriers ☐ Soil Berm ☐ Other _____

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Attachment R

EXCAVATION ZONE CHECKLIST

Is there water in the excavation? ☐ Yes ☐ No

Method used to dewater excavation: _____ (initials) _____

Is the excavation subject to vibration? ☐ YES ☐ NO

Method used to prevent vibration from impacting the integrity of the excavation:

_____ (initials) _____

What methods of access and egress are being used? _____

_____

AIR MONITORING

Air Monitoring is required to be performed if the excavation is considered a Confined Space or has any of the following:

Fuel, Oil, Gas Line, Sanitary Sewer or Storm Sewer, Contaminated Soil, Manhole, or Catch Basin

Has atmosphere in the excavation been tested? ☐ YES ☐ NO (initials) _____

Results reviewed by:_____ Date:_____ Time:_____

Results of Air Monitoring are attached and verified by:

Verified by:_____ Date:_____ Time:_____

Checklist completed by:_____ Date:_____ Time:_____

Checklist Reviewed by:_____ Date:_____ Time:_____

LOCKOUT TAGOUT PROGRAM

Barton Malow

Project Safety "Lock Out / Tag Out" Program

Safety Tagging Procedure (Hazardous Energy Control)

1.0 Purpose

The purpose of this procedure is to establish the method in which lockout / tag out and permit to work functions will be administered. Not properly assessing and dissipating stored energy is one of the most common causes for workplace incidents that involve hazardous energy. Control of hazardous energy includes isolating the system from its primary power source and residual energy. The intent of implementing this program is to avoid any hazardous release of energy that could threaten the health and safety of project personnel or damage equipment. Energy in this context includes, but is not limited to:

1.0.1 Electrical energy is the most common form of energy used in workplaces. It can be available live through power lines or it can also be stored, for example, in batteries or capacitors. Electricity can harm people in one of three ways:
1. Electrical shock.
2. Secondary injury.
3. Exposure to an electrical arc.

1.0.2 Hydraulic potential energy is the energy stored within a pressurized liquid. When under pressure, the fluid can be used to move heavy objects, machinery, or equipment. Examples: automotive car lifts, injection moulding machines, power presses, and the braking system in cars. When hydraulic energy is released in an uncontrolled manner, individuals may be crushed or struck by moving machinery, equipment or other items.

1.0.3 Pneumatic potential energy is the energy stored within pressurized air. Like hydraulic energy, when under pressure, air can be used to move heavy objects and power equipment. Examples: spraying devices, power washers, or machinery. When pneumatic energy is released in an uncontrolled manner, individuals may be crushed or struck by moving machinery, equipment or other items.

1.0.4 Chemical energy is the energy released when a substance undergoes a chemical reaction. The energy is normally Released as heat, but could be released in other forms, such as pressure. A common result of a hazardous chemical reaction is fire or explosion.

1.0.5 Mechanical energy is the energy contained in an item under tension. For example, a spring that is compressed or coiled will have stored energy which will be released in the form of movement when the spring expands. The release of mechanical energy may result in an individual being crushed or struck by the object. Heat gain and loss in many materials will induce forces into the material that is constrained creating stored energy.

1.0.6 Radiation energy is energy from electromagnetic sources. This energy covers all radiation from visible light, , microwave, infra-red, ultraviolet, and X-rays. Radiation energy can cause health effects ranging from skin and eye damage (lasers and UV light) to cancer (X-rays).

1.0.7 Gravitational potential energy is the energy related to the mass of an object and its distance from the earth (or ground). The heavier an object is, and the further it is from the ground, the greater its gravitational potential energy. For example, a 1 pound weight held 2 feet above the ground will have greater gravitational potential energy then a 1 pound weight held 1 feet above the ground.

1.2. Lock Out / Tag Out (LOTO) is required whenever construction, modification, testing, commissioning, servicing, or maintenance is being performed on equipment or systems in which the unexpected energization, commissioning, or release of stored energy, could cause injury to people or damage equipment.

2.0 Definitions

2.1. Affected Employee: Person whose job requires him/her to operate or use a machine or equipment on which construction, modification, testing, commissioning, servicing or maintenance is being performed under a **Lock Out / Tag Out**, or whose job requires him/her to work in an area in which such activities are being performed.

2.2. Authorized Employee: Person, usually supervisor level or above, whom is authorized to request **LOTO** tagging and implement the isolation if so directed by the applicable Tagging Authority. **This person must be trained and must demonstrate understanding and competence in execution of the Lock Out / Tag Out and Permit to Work (PTW) Programs (understanding and competence is demonstrated by passing a written test).**

2.3. "Caution – System Under Test" (SUT) Tags (yellow w/black lettering): Tag used to identify major equipment or systems under the control of Commissioning which may be operated or energized as necessary for the testing of the system or components. **Each tag must have the appropriate Tagging Authority's name written on it (Attachment LOTO-A7). Only the person whose name is on the tag and those working under his/her direction may operate the system or device.**

2.4 "Caution – System Under Operations" (SUO) Tags (orange w/black lettering): Tag used to identify major equipment and systems under the control of Operations which may be operated or energized as necessary to support the project operational requirements (Attachment LOTO-A8).

2.5 "Danger – Do Not Operate" (DNO) Tags (white w/red and black lettering): Tag used to identify an isolation point and control the position or status of any device (valve, breaker, etc.) required to ensure a safe lockout. These tags will have a unique number and will be accompanied by an appropriate locking device (Attachment LOTO-A6).

2.6 Electrical Lock Board: A board utilized to organize electrical locks and tags for the isolation of electrical equipment see section 3.2 "Electrical Lock Out Setup".

2.7 Electrical LOTO Log: Log sheet specific to each electrical isolating device, which is used to track **LOTO** status on that device. Authorized Employees are required to sign on and off as DNO tags are hung and removed (Attachment LOTO-A2).

2.8 Energy Isolating Device: An energy isolating device is a mechanical device that physically prevents the transmission or release of energy. Typical energy isolating devices are as follows.

- A manually operated circuit breaker.
- A disconnect switch.
- A manual isolating valve.
- A blank flange, slip blind, or any similar device used to physically block or isolate energy.
- Push buttons, selector switches, and other control circuit type devices are not acceptable energy isolating devices.

2.9 Isolation Record (IR): A form used to initiate or request an isolation and to track the placement and removal of that isolation. All isolations requiring more than one Lock Out / Tag Out, or single mechanical isolations, must be documented on an Isolation Record. Single electrical isolations can be controlled from the Electrical LOTO Log. Isolation Records have a unique number assigned for tracking purposes (Attachment LOTO-A4).

2.10 Holder: Any Affected or Authorized employee who is signed onto the Isolation Record or the Electrical LOTO Log as a holder. By signing on as a Holder personnel ensure the **LOTO** is maintained until they have signed off. **LOTO's cannot be removed without first clearing all holders off the respective forms. All LOTO's must have at least one Holder.**

2.11 Lead Person: Person directly involved with the execution of work and primarily responsible for the coordination / oversight of that work. Typically, this person is a Foreman level or above.

2.12 Lockout Device: A device that uses positive means, such as a lock, to hold an energy isolating device in the safe position and thus prevent the inadvertent energization of a machine or equipment or prevent the transmission or release of hazardous energy. Typical lockout devices and their acceptable use are as follows.

a) Padlocks/Tie wraps: Padlocks in conjunction with chains or specialized locking devices, or heavy duty tie wraps are used for mechanical and / or electrical lockouts when it is necessary to prevent the physical operation of a device (such as a valve or breaker). Each lock or tie wrap must be accompanied by a DNO tag for identification purposes.

b) Multi-lock Device(s): A device that accommodates more than one lock or tag.
This allows personnel such as craft foremen or subcontractors to attached their own lock for additional protection during the performance of their work. Individual crew members have the right to affix their own locks if desired.

c) Electrical Distribution Panel Breaker Locking Devices: Panel breakers can be locked out by utilizing one of the following methods:

- Panel board locking device affixed over the breaker, accompanied by a DNO Tag (first preference).
- Any other means of hazardous energy control that equals the protection provided by locks and tags.

d)Physical Separation: Mechanical blind or method of physically separating or cordoning off a component or system. These devices must have a DNO attached.

2.13 Other Employee: Any employee whose work operations may be in an area where energy control procedures may be used.

2.14 Permit to Work (PTW): A work authorization required to perform work on equipment, areas, systems, or sub-systems that have been turned over to Commissioning or Operations. See section 3.1 for detailed information on when a PTW work authorization is required. The PTW form is preprinted in triplicate with a unique sequential number assigned (Attachment LOTO-A3).

2.14.1 Requester must submit specific documentation for any system affected by LOTO, PTW request.(examples; P&IDs, One/Three Line Electrical drawings etc.)

2.15 Safety Tagging Displays: Displays located throughout the plant of which communicate the tags and locking devices authorized for use on the project.

2.16 Tagging Authority: The Tagging Authority is a supervisor-level employee who has been assigned responsibility over a given area, discipline, or group of systems and has been trained in the implementation of the project Lock Out / Tag Out and PTW program. The Tagging Authority is the person who approves PTWs, DNO Isolations, the hanging of SUT and SUO tags for his/her area of responsibility, and has been trained in the applicable Safety standards.

3.0 Procedure

3.1 Lock Out / Tag Out Sequence and Responsibilities

Sequence steps and personnel responsibilities for the **Lockout / Tag Out Program** vary with the three main stages of the project: Construction, Commissioning, and Operations.

Table LOTO-T1: Outline of roles and responsibilities in each stage

Stage	Tagging Authority	Authorized Employee	Notes

Construction	Construction Manager Disc. Superintendent (by area of responsibility)	Disc. Superintendent General Foremen Disc. Foremen	• Construction is in control of equipment and systems. • DNOs are used for LOTO.
Commissioning	Commissioning Manager & Commissioning Engineers (by assigned system)	Disc. Superintendent General Foremen Disc. Foremen Commissioning Engineer Commissioning Technician	• Commissioning has accepted items on a system basis. • Commissioning Boundary Tag to be used (see LOTO-A9). • SUTs indicate items are in Commissioning phase. • DNOs are used for LOTO.
Operations	Commissioning Manager Operation Supervisors	Disc. Superintendent General Foremen Disc. Foremen Commissioning Engineer Commissioning Technician Client Personnel	• Operations have accepted control of system. • SUOs indicate items are in operation. • DNOs are used for LOTO.

LOTO rules, which apply in all cases and to all stages of the project are defined below:

3.2 Procedural

3.2.1 Training must be conducted to ensure that all personnel are knowledgeable of their duties with regard to Lock Out Tag Out and hazardous energy control (i.e. training must be commensurate with their level of responsibility and involvement – Other, Affected, Authorized, and Tagging Authority).

3.2.2 Only one type of tag (DNO, SUT, or SUO) can be on the same device at the same time.

3.2.3 All electrical isolations are tracked on an Electrical Isolation Log specific to that piece of equipment.

3.2.4 LOTOs on devices other than electrical must be initiated and tracked utilizing the Isolation Record Form (See Attachment LOTO-A4). Isolations that require more than one LOTO (electrical and/or mechanical) must also be tracked utilizing the Isolation Record Form.

3.2.5 Prior to removing an isolation, all holders must have signed off the Isolation Record and the Electrical Isolation Log.

3.2.6 Only the Tagging Authority or designated Authorized Employee is authorized to place or remove tags.

3.2.7 In the event a tag or tags are found either missing or lying on the ground, they are to be reported to the appropriate Tagging Authority A.S.A.P.! Do NOT assume you know where they are to be placed or replace them yourself. Upon notification, the Tagging Authority must immediately investigate and determine the status of the LOTO and if the tag can be reattached or a work stoppage is necessary for personnel or equipment safety.

3.2.8 All locking devices should be accompanied by a DNO tag and must be identified or traceable to the user by a name or unique number as determined by the lock user's supervisor. Locking devices not accompanied by a DNO tag are at risk of being removed, however the same stipulations must apply for removal as described in an Emergency Release, listed below.

3.2.9 Failure to comply with the Tagging Procedure rules must be considered just cause for discharge or removal of the persons involved from the job site.

Examples of failure to comply include the following:

a) Operating or working on a system or piece of equipment without obtaining a proper LOTO and or Permit to Work.
b) Operating or working on a system or piece of equipment in violation of the tags in place.
c) Removing tags from a system or piece of equipment without proper authorization.

3.2.10 System Under Test Tags must have the appropriate Tagging Authority's name on the tag. Only the person whose name is on the tag is authorized to operate or direct the operation of that device/system and or remove the tag.

3.2.11 LOTO Isolation Records and/or PTW requests are directed to and approved by the appropriate Tagging Authority (see Attachment LOTO-A1 for identification of the Tagging Authorities and their assigned areas of responsibility).

3.2.12 Emergency Release: Under extraordinary circumstances, it may be necessary to remove a lock or tag, that has been affixed by someone else or without the proper signoff of a holder. Only the Tagging Authority may authorize the removal of a lock or tag and only in accordance with the following stipulations:

a) The employee who is responsible for the lock or tag or is a holder of the isolation is not present at the facility, and all reasonable efforts have been taken to contact the responsible employee.
b) All measures are taken to notify the employee prior to his resuming work.
c) In addition, if the lock or tag is on an item that is in the construction, Commissioning, or operations stage the authorization of the project superintendent, Commissioning manager or plant manager will also be required, respectively. A log will be kept to document these authorizations. (see Attachment LOTO-A5)

3.3 LOTO Sequence
Once it is determined that a LOTO is required, the following sequence is followed:

3.3.1. Tagging Authority or designate approves the isolation, ensuring that all sources of hazardous energy will be safely controlled.

3.3.2. Lockout devices and tags are issued for the isolation by the Tagging Authority or designate, and affected employees are notified of the actions to be taken.

3.3.3. Energy isolating devices are located or operated to properly isolate hazardous energy from the area or equipment to be protected.

3.3.4. Lockout devices and tags are affixed to the energy isolating devices.

3.3.5. Any stored energy is released and verified (by venting, draining, grounding, ventilating, including release or securing of potential energy sources such as compressed springs and elevated weights, etc.).

3.3.6. Effectiveness of isolation is verified (by visual inspection, voltage testing, attempt to operate, sniffer, etc.).

3.3.7. Personnel are then authorized to commence work once they have signed on as holders of the isolation.

3.3.8. After work is completed, all personnel sign off as holders and the proper restored condition of the equipment or area is confirmed (cleanliness, proper completion of work – everything put back together properly, bolts tight, protective guards on, etc.).

3.3.9 Should it become necessary to have a clearance released when the clearance holder (craft supervisor) is off duty, the procedure must be:

3.3.9.1 The Qualified Person must contact the clearance holder (at home if necessary) and request a release of the clearance. If unable to do so, the clearance holder's supervisor must be notified.

3.3.9.2 The supervisor must check the work prior to authorizing the release. He/she will then sign the clearance holder's name and his/her own name on the appropriate line of the clearance form.

3.3.10. Tagging Authority or designate approves the removal of the isolation.

3.3.11 Tagging Authority takes responsibility to ensure equipment and devices are in a safe condition (i.e. status of energy isolating devices is safe for the level of completion or status of the equipment – operational or otherwise)

NOTE: Certain types of equipment may have specific Commissioning instructions from the manufacturer or resulting from a Process Hazard Analysis conducted under the provisions of 29 CFR 1910.119, Process Safety Management.

3.4. Construction Stage Activities:

3.4.1 The Construction stage starts at site mobilization and lasts through construction execution, and ends on a system by system basis as the systems are turned over to Commissioning.

3.4.2 The Project Field Manager and or Construction Manager must ensure the following:

a) Verify adequate knowledge by testing.

b) Maintain records of training and testing (Records of training will be maintained by the Project Safety Manager or designated alternate).

c) Implementation of the Safety Tagging / Hazardous Energy Control Program in accordance with this procedure.

d) Tagging authorities and their areas of responsibility are defined in Attachment LOTO-A1. This list will be updated and redistributed as necessary.

e) Electrical lockout on Motor Control Centers (MCC) will be executed by applying DNOs and lockout devices on all MCC buckets prior to energization of the MCC. The responsible Tagging Authority must sign onto the Electrical LOTO Log to hold these LOTO's for each bucket (see Attachment LOTO-A2 for Electrical LOTLog).

f) LOTOs on devices other than electrical must be initiated and tracked utilizing the Isolation Record Form (See Attachment LOTO-A4). Isolations that require more than one LOTO (electrical and/or mechanical) must also be tracked utilizing the Isolation Record Form.

3.5. Construction Stage LOTO Sequence

3.5.1 Affected employees are responsible for requesting a LOTO through an Authorized Employee. Affected employees must also confirm that the LOTO has been properly executed prior to performing any work on systems where equipment has reached the stage where operation / energization is possible and such operation or energization could result in injury to personnel or equipment. (On electrical systems, work must not be performed on locked buckets without first signing on to the corresponding LOTO as a holder).

3.5.2 Authorized Employees request permission for a LOTO from the Tagging Authority responsible for that area by completing an Isolation Record.

3.5.3 The responsible Tagging Authority, or designate, will complete the following:

a) Determine if it is safe to perform the planned work and what LOTO conditions are required to ensure the safety of personnel and equipment.

b) Finalize the Isolation Record, listing all items to be locked out and tagged, and sign approval on the Isolation Record (approval for placing isolation).

c) Ensure lockout tag out is executed properly.

3.5.4 Any LOTO executed under an Isolation Record must have the IR # written on the DNO tags.

a) Release the requesting party to sign the Isolation Record as a holder and proceed with work.

3.5.5 If an electrical isolation is included the Isolation Record number must be entered in the appropriate column on the Electrical Log sheet. At least one of the Isolation Record Holders must sign onto the Electrical LOTO Log (preferably the lead person responsible for the work).

NOTE: The Tagging authority may delegate all of the above tasks, except for step 1, “Determination”, to an Authorized Employee he/she deems qualified; however, the Tagging Authority will still be responsible for the proper implementation of the LOTO program.

3.5.6 The requesting party signs the Isolation Record and Electrical LOTO Log, if applicable, indicating himself as having confirmed the LOTO and as a holder of the LOTO (no one else can remove the LOTO without his signoff).

3.5.7 Upon completion of work, all Authorized Employees signed onto the Isolation Record and the Electrical LOTO Log must sign off and notify the responsible Tagging Authority that they are signed off.

3.5.8 When the last Authorized Employee signs off of the Isolation Record and or the Electrical LOTO Log, The responsible Tagging Authority must determine if the LOTO should be removed or left on.

a) If the LOTO is to be removed, the Tagging Authority must sign off and remove the LOTO (note: in the case of MCC buckets, LOTOs should remain on unless there is a specific purpose for removing them).
b) If the LOTO is not to be removed, the Tagging Authority either remains signed onto the Isolation Record or LOTO Log, if applicable, or signs on in order to keep the LOTO active.

3.5.9 System Under Test (SUT) tags can be used by construction as advisories or measures of control for construction testing activities if required. The tag must clearly be labeled “Construction Testing” and have the Tagging Authority’s name written on the tag (testing activities such as Hydro, etc.).

3.6 Commissioning Stage Activities

3.6.1 The Commissioning stage starts on a system by system basis when construction turnover of a system is accepted by Commissioning as substantially complete (in accordance with project turnover procedure). The Commissioning stage ends on a system by system basis as the system is accepted by Operations as substantially complete. This status is indicated in the field by the presence of System Under Test (SUT) tags on major equipment, valves, etc.

3.6.2 The Project Field Manager and or Commissioning Manager must ensure the following:

a) All personnel are properly identified as Other, Affected, Authorized, or Tagging Authority and are properly trained.
b) Verify adequate knowledge by testing.
c) Maintain records of training and testing (Records of training will be maintained by the Project Safety Manager or designated alternate).
d) Implementation of the Safety Tagging / Hazardous Energy Control Program in accordance with this procedure.

3.6.3 Tagging authorities and their areas of responsibility are defined in Attachment LOTO-A1. This list will be updated and redistributed as necessary.

3.6.4 Upon acceptance of a system from construction, the Tagging Authority assigned to that system will assume control of the LOTO functions for that system. Actions required are as follows:

a) Status of the corresponding Electrical LOTO Log sheets for equipment included in the system will be changed from Construction to Commissioning and the New Tagging Authority defined on each log sheet.
b) LOTOs in place at the time of transfer will remain in effect except that the new Tagging Authority will be the new contact for signoff.

3.6.5 System Under Test (SUT) tags will be hung on all major equipment, major system valves (including boundary valves) and corresponding electrical breakers except where an existing LOTO may interfere). The Tagging Authority's name must be entered on all SUT tags hung on field equipment plus exclusion zones required by Site specific Safety Boundary requirements.

a) If a LOTO is in effect, the SUT tag should be hung on the hook corresponding to the electrical breaker on the Electrical Lock Board. From this point forward, the DNO and SUT will be switched from the board to the device as LOTOs are placed and removed.

3.6.6 The general sequence of LOTO for the Commissioning stage is the same as during the construction stage, except for the following clarifications:

a) The Responsible Tagging Authority will be a Commissioning person who is assigned to the respective system as indicated in Attachment LOTO-A1.

b) ALL work to be performed by construction on systems under the control of Commissioning requires a work authorization under the PTW system PRIOR to commencement of work.

3.7 Operational Stage Activities

3.7.1 The Operational Stage starts on a system by system basis when Commissioning turnover of a system is accepted by Operations as substantially complete (in accordance with the project turnover procedure). This status is indicated in the field by the presence of System Under Operations (SUO) tags on major equipment, valves, etc.

3.7.2 The Project Field Manager, Commissioning Manager, and or Operations Manager must ensure the following:

a) All personnel are properly identified as Other, Affected, Authorized, or Tagging Authority and are properly trained.
b) Verify adequate knowledge by testing accepted means.
c) Maintain records of training and testing (Records of training will be maintained by the Project Safety Manager or designated alternate).
d) Implementation of the Safety Tagging / Hazardous Energy Control Program in accordance with this procedure.

3.7.3 Tagging Authorities and their areas of responsibility are defined in Attachment LOTO-A1. This list will be updated and redistributed as necessary.

3.7.4 Upon acceptance of a system from Commissioning, the Tagging Authority assigned will assume control of the LOTO and PTW functions for that system. Actions required are as follows:

a) Status of the corresponding Electrical LOTO Log sheets for equipment included in the system will be changed from Commissioning to Operations and the New Tagging Authority defined on each log sheet.
b) LOTOs in place at the time of transfer will remain in effect, except the new Tagging Authority will be the new contact for signoff.
c) System Under Operations (SUO) tags will be hung on major equipment, major system valves (including boundary valves), and corresponding electrical breakers, except where an existing LOTO may interfere. SUT tags should be removed and returned to Commissioning at the same time.
d) If a LOTO is in effect, the SUO tag should be hung on the hook corresponding to the electrical breaker on the Electrical Lock Board. From this point forward the DNO and SUT will be switched from the board to the device as LOTOs are placed and removed.

3.7.5 The general sequence of LOTO for the Operational stage is the same as during the Construction and Commissioning Stages, except for the following clarifications:

a) The Responsible Tagging Authority will be an Operations Supervisor as indicated in Attachment LOTO-A1.
b) ALL work to be performed by construction on systems under the control of operations requires a work authorization under the PTW system PRIOR to commencement of work.
c) ALL work to be performed by Commissioning except for required troubleshooting/problem solving, and optimization on systems under the control of operations requires a work authorization under the PTW system PRIOR to the commencement of work.

3.8 Permit To Work (PTW) Procedure

3.8.1 A PTW work authorization is required in the following circumstances:

a) ALL work to be performed by construction on systems under the control of Commissioning or operations requires a work authorization under the PTW system PRIOR to commencement of work!
b) ALL work to be performed by Commissioning except for required troubleshooting/problem solving, and optimization on systems under the control of operations requires a work authorization under the PTW system PRIOR to the commencement of work.

3.9 PTW Sequence

3.9.1 A request for a PTW work authorization can be initiated by any Authorized Employee by completing the "Requestor" section of the PTW form and submitting it to the responsible Tagging Authority. (See attachment LOTO-A3)

3.9.2 The requesting party must determine if a LOTO is required. If a LOTO is thought to be required the requesting party must complete an Isolation Record with the proposed isolation and submit it with the PTW form to the Tagging Authority (See Attachment LOTO-A4).

3.9.3 The Tagging Authority must review the PTW requestor information and makes a determination as to whether the work can be allowed to proceed (for example will it interfere with other Commissioning or operations plans that take precedence).

3.9.4 If work cannot proceed the Tagging Authority checks "NO" in the approved box, signs and dates the PTW form, and return the original to the requestor (also stating the reason in the comments section).

3.9.5 If work can be allowed, the Tagging Authority makes the final determination as to whether a LOTO or additional permits are required in order to ensure the work can proceed safely.

3.9.6 Procedures for the execution of additional permitting or planning requirements are defined in the Barton Malow Safety Manual. An example of the other permits or plans which may be required are Confined Space Entry Permit (CSE), Hot Work Permit (HWP), Safe Work Plan (SWP) or Job Hazard Analysis (JHA).

3.9.7 If a LOTO is not required, the Tagging Authority ensures "NO" is checked in the LOTO required box and checks "YES" in the approval box, signs and dates the PTW form, and returns the original to the requestor.

3.9.8 If a LOTO is required, the Tagging Authority ensures the LOTO required "YES" box is checked, checks "YES" in the approval box, signs and dates the LOTO request and the following steps will be followed:

3.9.9 The Tagging Authority or designate reviews the LOTO Isolation Record and confirms that the proposed isolation will ensure the safety of personnel and equipment. The Isolation Record must be modified as required to ensure safety.

3.9.10 The Tagging Authority or designate approves the Isolation Record and executes the LOTO in accordance with the Isolation Record.

3.9.11 The Tagging Authority or designate establishes DNO tags and completes the corresponding information on the Isolation Record and the Electrical LOTO Log sheets if applicable.

3.9.12 NOTE: DNO tags must have the corresponding Isolation Record number written on them.

3.9.13 The Tagging Authority or designate places each device in its' prescribed position, locks and tags the device as appropriate, signs and dates the Isolation Record and the Electrical LOTO Log sheet (if electrical lockout is included) indicating that the lockout has been placed.

3.9.14 The Tagging Authority or designate then signs and dates the isolation completed box on the PTW form.

3.9.15 After completion of the LOTO the requestor must sign the Isolation Record as a holder of the LOTO and sign and date the PTW issued box on the PTW form.

a) At the discretion of the Tagging Authority, additional personnel can sign directly on to the Isolation Record as holders if their scope of work was included in the original PTW requestor information. If the scope of work was not included an additional PTW must be requested and if deemed appropriate, the same Isolation Record can be used.

b)Personnel who want to hang their own locks can hang them only if their lock is identifiable as belonging to them and only after they have signed as a holder of the Isolation Record. Individual or personal locks used on Electrical isolations must also be logged in the LOTO log book to record all of the locks that are approved to be on that device.

3.9.16 The original of the PTW form is then given to the requestor and serves as a work authorization.

3.9.17 PTW work authorizations must either be in the possession of the person performing the work or in the vicinity of the work and accessible upon request.

3.9.18 The requestor is responsible to keep the Tagging Authority appraised of the work progress and whether there is any significant change in the work scope or expected duration.

3.9.19 Upon completion of the work, the requestor (holder) must return the PTW to the Tagging Authority or designate and sign off the PTW and the Isolation Record.

3.9.20 Once all holders are signed off the Isolation Record, the Tagging Authority or designate removes the isolation returns the devices to the proper position or status (ensuring that a safe condition exists), signs and dates the Isolation Record and Electrical LOTO Log, if applicable, as removed or released.

4.0 Implementation Instructions

4.1 Electrical Lock Out Setup

4.1.1 During construction, the Construction Manager or designate initiates the first steps of the LOTO program by executing the following actions:

4.1.2 Establish an Electrical LOTO Log book that includes the following:

a) A Log Sheet for each breaker or other electrical isolating device (See Attachment LOTO-A2).
b) Log sheets will be organized by MCC or other logical grouping of electrical devices.
c) Electrical Lock Board in each MCC or other common area of electrical equipment.

4.1.3 Electrical Lock Boards will be configured and utilized as follows:

a) A Large board affixed to the wall, or free standing, containing an individual hook or eye bolt that corresponds to a specific breaker or isolating device. Each hook or eye bolt will be clearly labeled as to what device it corresponds to.

b) Each breaker will have a primary DNO tag and lock assigned to it. The DNO tag and lock will either be on the breaker when a LOTO is required or placed on the proper hook when a LOTO is not required.
c) Keys will either be a common key issued to a short list of Tagging Authorities, or a key box will be established to control the access to keys for each lock.

NOTE: In special cases of isolated or existing breakers (possible with existing client breakers), deviation of the lock board requirement is allowed with Project Field Manager approval.

4.2 Panel Safety Tagging

4.2.1 After each panel or DCIS cabinet is turned over to Commissioning or Operations, a SUT or SUO tag will be placed on the panel door with instructions to contact the Control Room prior to opening any cabinet door.

4.2.3 This is to alert everyone that terminals within the cabinet may be energized either by a source internal to the cabinet or external from the cabinet and that checkout activities are in some state of progress.

4.3 Training Requirements

4.3.1 Prior to performing a job requiring Lock Out / Tag Out, training and verification of knowledge as outlined below must be performed to ensure that the purpose and function of the Project Safety Tagging Program is clearly understood by all field employees.

4.3.2 Affected Employees are required to be trained in the following areas:

a) The use of this procedure.
b. Recognition of hazardous energy sources.
c. Type and magnitude of hazardous energy present in workplace (potential danger).
d. Potential hazards caused by failing to adhere to the Safety Tagging Program.

4.3.3 Authorized Employees are required to be trained in the following areas:

a) The use of this procedure.
b) Recognition of hazardous energy sources.
c) Type and magnitude of hazardous energy present in workplace (potential danger).
d) Methods and means necessary for proper isolation and control.
e) Proper use of the following forms: Isolation Record, PTW, Electrical LOTO Log.
f) Proper methods and sequencing for placing and removing LOTOs.
g) Closing out PTW.

4.3.4 Other Employees are required to be trained in the following areas:

a) The purpose of the safety tagging program.
b) The use and appearance of locks and tags.
c) The potential hazards that locks and tags protect against.
d) The penalties for removing locks and tags.
e) Prohibitions against attempting to operate locked or tagged equipment.

4.3.6 Tagging Authority is required to be trained in the following areas:

a) The use of this procedure.
b) Recognition of hazardous energy sources.

c) Type and magnitude of hazardous energy present in workplace (potential danger).
d) Methods and means necessary for proper isolation and control.
e) Proper use of the following forms: Isolation Record, PTW, Electrical LOTO Log.
f) Proper methods and sequencing for placing and removing LOTOs.
g) Closing out PTW.
h) Considerations in determining if and when a requested work activity can be approved to proceed.
i) Proper delegation of LOTO functions and follow-up to ensure program is implemented properly.
j) Proper identification of the need for additional permits (Confined Space Entry, Hot Work Permit, Safe Work Plan), and establishment of these programs in accordance with the Barton Malow Safety Manual.

4.3.7 The Tagging Authority list (Attachment LOTO-A1) will be updated by the construction and commissioning Managers as it becomes necessary to make adjustments to personnel and or assigned areas of responsibility. Copies of the updated Tagging Authority list will be maintained in the following locations:

a) Construction Office (during construction stage)
b) Commissioning Office (during Commissioning)
c) Control Room (during operations)

4.3.8 Retraining will be provided for all affected and authorized employees under the following conditions:

a) Change in job assignment.
b) Change in machinery/equipment/process that presents a new hazard.
c) Change in the Safety Tagging Procedure.
d) When deviations or inadequacies in employee's knowledge is identified.
e) When deviations in the use of the Safety Tagging Procedure are identified.

The Site Safety Manager or designated alternate must maintain a record of all Tagging Authority, Authorized, Affected, and Other Employee training efforts. A list of Authorized Employees will be kept and made available to Tagging Authorities for the purposes of verifying Authorized Employees.

5.0 Auditing

5.1 Audit will be performed on a Bi-weekly basis by Site Safety Manager and/or Site Commissioning Manager.

5.2 Audit will review Tagging Authority List of Construction, Commissioning, and Operations personnel to assure compliance

5.3 Verify LOTO policies and procedures are adhered to.

5.4 Verify devices to be locked/tagged are in proper sequential order of isolation,

Tagging Authority List

Date Updated _____

Construction Tagging Authorities	
Area of Responsibility	Tagging Authority

Commissioning Tagging Authorities	
Area of Responsibility	Tagging Authority

Operations Tagging Authorities	
Area of Responsibility	Tagging Authority


COMMISSIONING
BOUNDARY
TAG


COMMISSIONING
BOUNDARY
TAG

ELECTRICAL LOTO LOG

IR No.: _____

MCC: _____ System: _____

Equipment Tag No.: _____

Equipment Description: _____

_____

- ☐ Const. _____
- ☐ Com. _____
- ☐ Ops _____

IR No. (if applicable)	DNO Tag No.	Position / Status	Placed / Holder	Date / Time	Released	Date / Time

Barton Malow

Attachment S

LOCKOUT/TAGOUT PROGRAM

○ PERMIT TO WORK

PTW No. _____

Request

Requested By: _____ Date: _____

Signature _____ Company _____ Time: _____

Expected Duration of Tagging: Date Needed: _____

Time Needed: _____

System: (if applicable) Equipment Tag No.: (if applicable)

Description of Work:

Other Permits Required?

LOTO Required? ☐ Yes ☐ No ☐ Hot Work Permit ☐ Safe Work Plan (JHA)

Isolation Record Attached ☐ Yes ☐ No ☐ Confined Space Entry ☐ Other: _____

Approval / Isolation / Issuance

Tagging Authority: Approved? ☐ Yes ☐ No

Signature: _____ Date: _____ Time: _____

Tagging Authority Comments:

Isolation Record Attached: ☐ Yes ☐ No

IR No.: _____

Marked Up Drawings Attached? ☐ Yes ☐ No

Isolation Completed By: _____

Signature

Date: _____ Time: _____

PTW Issued To: _____

Signature

Date: _____ Time: _____

Sign-off

Actual Work Completed:

Reason for PTW Satisfied? ☐ Yes ☐ No Lockout and Tagout Still Required? ☐ Yes ☐ No

Comments:

PTW Signed Off By:

Signature

LOTO Removed? ☐ Yes ☐ No

Isolation Closed: ☐ Yes ☐ No

Signature

	Date:	Time:	Date:	Time:

LOTO-A4

IR No.: _____

○ Isolation Record

System: _____
Equipment Tag: _____
Equipment Description: _____
_____

Status — Tagging Authority
☐ Const. _____
☐ Com. _____
☐ Ops _____

List Energy Isolating Devices to be locked/tagged in proper sequential order of isolation, indicating their respective safe position.

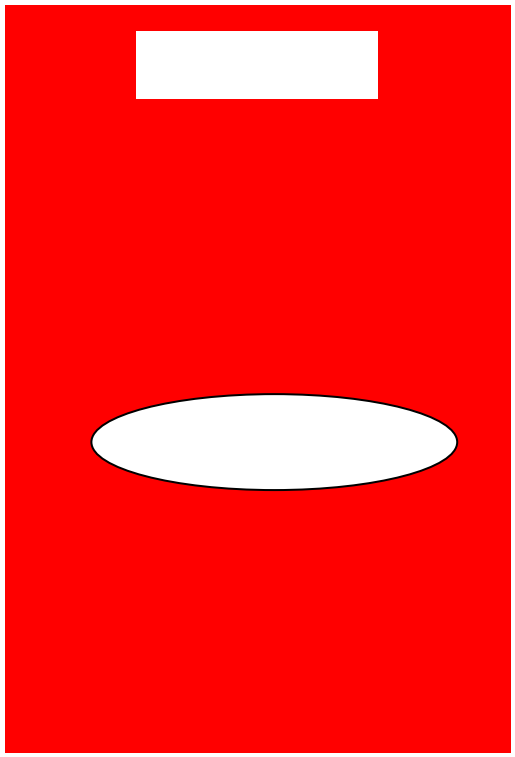
DNO Tag No.	Equipment Tag No.	Equipment Description	Position	LOTO Placed By:	Date	LOTO Removed By:	Date

Tagging Authority Approval: _____ **Date:** _____

Holder List

PTW No.	Signed Onto LOTO Name	Date / Time	Signed Off LOTO Name	Date / Time

LOTO-A3



DO NOT
OPERATE

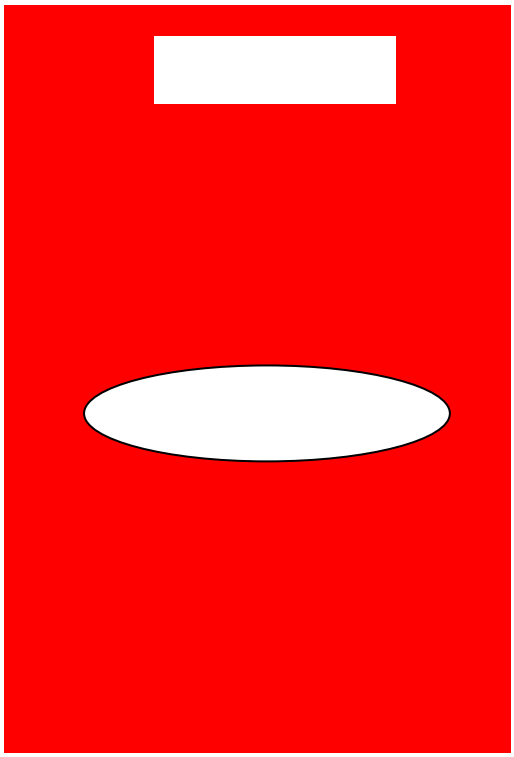
DNO TAG NO.: XXXXXX

SYSTEM: _____

EQUIPMENT TAG NO.: _____

ISOLATION RECORD NO.: _____

PERMIT TO WORK NO.: _____



DO NOT OPERATE

:SEE OTHER SIDE:

REMARKS: _____

_____

_____

_____

DO NOT REMOVE THIS TAG UNLESS AUTHORIZED TO DO SO!

_____

○ CAUTION SYSTEM UNDER TEST

THIS EQUIPMENT MAY OPERATE AT ANY TIME

OPERATION OF THIS EQUIPMENT IS BY AUTHORIZED PERSONNEL ACTING UNDER THE AUTHORITY OF THE UNDERSIGNED.

WORK TO BE PERFORMED MUST BE APPROVED BY THE UNDERSIGNED.

SYSTEM: _____

TAGGING AUTHORITY

_____

CAUTION SYSTEM UNDER TEST

THIS EQUIPMENT MAY OPERATE AT ANY TIME

SEE OTHER SIDE:

REMARKS: _____

_____

_____

_____

_____

_____

_____

DO NOT REMOVE THIS TAG UNLESS AUTHORIZED TO DO SO!

○ CAUTION SYSTEM UNDER OPERATION

THIS EQUIPMENT MAY OPERATE AT ANY TIME

OPERATION OF THIS EQUIPMENT IS BY AUTHORIZED PERSONNEL ACTING UNDER THE AUTHORITY OF THE UNDERSIGNED.

WORK TO BE PERFORMED MUST BE APPROVED BY THE UNDERSIGNED.

SYSTEM: _____

TAGGING AUTHORITY

_____

CAUTION SYSTEM UNDER OPERATION

THIS EQUIPMENT MAY OPERATE AT ANY TIME

:SEE OTHER SIDE:

REMARKS: _____

_____

_____

_____

_____

_____

_____

DO NOT REMOVE THIS TAG UNLESS AUTHORIZED TO DO SO!

LOTO Emergency Lock Removal Procedure

This form is required to be filled out for each lock to be removed by someone other than the person who placed it. Please check the boxes after each step is performed. Two separate signatures are required, one from the employee removing the lock, the other from a jobsite employee with authority.

PROJECT NAME:	
PROJECT NUMBER:	

Reason Lock Has To Be Removed:

☐ The authorized employee is the person performing this lock removal procedure.

☐ Verification employee who attached the lock is not at the facility.

☐ All reasonable efforts to contact the employee have been made.

☐ The area, equipment and system affected by this lock removal have been inspected to ensure safe working conditions and that no employees will be harmed.

☐ The Project Manager or Project Superintendent has been contacted before the lock has been removed.

☐ The Site Safety Representative has been contacted before the lock has been removed.

☐ The employee affected by this lock removal procedure has been informed of this action in person as soon as they have returned to the jobsite.

Name (Printed): _____
(I am the Barton Malow employee who removed this lock)

Signature: _____ **Date**: _____

Name (Printed): _____
(I verify this procedure was properly followed)

Signature: _____ **Date**: _____

Attachment T

GUARDRAIL/CABLE REMOVAL PERMIT

WORK WILL NOT BE PERFORMED UNTIL THIS FORM IS APPROVED BY BARTON MALOW

Contact Information:

Contractor: _____ Date: _____

Foreman's Name: _____ Foreman Phone #: _____

Write out specific Location N, S, E, W, NW, SW, etc.) Include column line (if known), Level (Level 1, Level 2, Suite A, Concourse 1 etc.)

Location	**Level**

Employee(s) Performing Work:

Name:	Signature:

Considerations:

Reason for Cable being dropped / removed? _____

Number of Spans being affected? _____

What other contractors are working in the area? _____

Total length of cable affected? _____

How will you continually notify other contractors? _____

Amount of time Cable will be down? _____

Fall Protection Plan:	**Yes**	**No**
Does your company have a fall protection Program?	☐	☐
Have workers performing work been trained in Fall Protection?	☐	☐
Has Fall Protection Plan been put in place?	☐	☐
Will workers be tied off if within six (6) feet of down cable?	☐	☐

Describe how workers will be tied off:

_____

Describe how the other trades will be protected from the fall hazard:

_____

If NO is answered to any of the above questions then the Barton Malow Safety Department must be contacted for review prior to guardrail/cable removal.

Barton Malow Approval Signature: _____ Print: _____

Barton Malow

Attachment U

HOT WORK PERMIT

Date: _____

Location: _____ Shift: ☐ 1st ☐ 2nd ☐ 3rd

Company Name: _____

Location of Work: _____

Floor/Level/Elevation: _____

Description of Work: _____

Any Special Precautions: _____

Employee(s) Performing Work:

Name: _____ Signature: _____

_____ _____

_____ _____

_____ _____

Fire Watch

Name: _____ Signature: _____

To be completed with the Contractor in attendance:

☐ a. The above location has been physically inspected by: _____

☐ b. Combustible gas monitoring required ☐ Yes ☐ No

☐ c. All combustible materials, vapors, liquids, gases, or dust have either been removed or suitably protected against heat and sparks, including where there is risk of levels underneath/below

☐ d. Suitable extinguishers are immediately available and at adjoining risk particularly below.

☐ e. The operatives have had the nearest fire alarm/telephone pointed out to them and have been told what to do in the event of a fire.

☐ f. Additional supervision is required by the Contractor as to areas below.

☐ g. Existing fire detection/suppression system must be protected.

Signature of person issuing the Permit: _____ _____

Barton Malow Supervisor — Printed Name

The following inspections of the work area have taken place during the course of the operations and the proper procedures are being followed.

Time: _____ Signature: _____ _____

Barton Malow Supervisor — Print Name

The Contractor responsible for the works confirms that the works are complete and that the work area and adjacent areas to which heat and sparks might have spread have been thoroughly inspected.

Signature: _____ Time: Print Name: _____

for _____ (Contractor)

After signing, the Contractor is to immediately return this permit to the issuing Barton Malow Representative.

The area has been thoroughly inspected by the Contractor's Competent Person for 30 minutes after the work being completed to ensure no smoldering has taken place and that there is no risk of a fire starting.

Signature: _____ Print Name: _____

Superintendent Time: _____

This permit is required for all operations involving flame, hot air, or arc welding and cutting equipment, brazing and soldering equipment blow lamps, bitumen, boilers, sawsall and other equipment producing heat or having open flames.

Attachment V

NOTICE TO COMMENCE STEEL ERECTION

Project Name: {Insert Project Name}

Steel Erector Company:
Project Name:
Address:

Barton Malow is hereby authorizing you 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 below)

	Initials:
Indicate to Barton Malow what material laydown areas are needed, and intended routes of transferring materials. Only those designated laydown areas will be utilized, and Barton Malow 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 Barton Malow and 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 29 CFR 1926.752(e).	
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)	
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 by a minimum of 4 anchor bolts.	
Maintain and require the use of fall protection equipment for all employees exposed to fall elevations of 6 feet or greater as directed in the project Incident Prevention Program.	
Properly install perimeter guardrail systems on all exterior and interior leading edges consisting of a top rail and mid rail meeting the requirements of 29 CFR1926.502 (b)(1-15)	
Maintain required fire protection/prevention equipment appropriate to the type of work operation and hazards involved.	
Meet all other requirements of the Barton Malow Incident Prevention Program, Published OSHA Standards, and the requirements of local regulations.	

_____

Barton Malow Project Manager / Superintendent

_____

Steel Erector Representative

Barton Malow

Attachment W

DUST MASK REQUEST

I _____ am requesting to use a disposable paper filter respirator, also known as a Dust Mask for my personal comfort.

I will be performing the following work task: (Example Sweeping Floor, etc.)

_____

_____

_____

_____

I clearly described the task I am to perform to my supervisor or safety coordinator and upon evaluating the task they determined I should not be exposed to a hazardous chemical or substance.

I have been supplied the following Dust Mask:
Brand: _____ Model: _____

I understand that the disposable dust mask is for personal comfort and not intended to protect me from a hazardous chemical or substance. I further understand the voluntary use is limited to the task described above.

Please read the following:

Appendix D to Sec. 1910.134 (Mandatory) Information for Employees Using Respirators When Not Required Under the Standard Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirators use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substances does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.
2. Choose respirators certified for use to protect against the contaminant of concern, NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.
3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.
4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

I HAVE READ THE ABOVE SECTION FROM THE OSHA STANDARD FOR RESPIRATORY PROTECTION AND UNDERSTAND ITS CONTENT. I FURTHER UNDERSTAND THAT I AM RESPONSIBLE FOR THE CARE, MAINTENANCE/UPKEEP, AND PROPER STORAGE OF THIS RESPIRATOR. INSTRUCTIONS ON THE PROPER WEAR WERE MADE AVAILABLE TO ME.

_____

Signature: Date:

Barton Malow

Attachment X

LOCKOUT/TAGOUT CHECKLIST

Name of Contractor(s):	Scope of Work: ☐ Temporary Electrical Service ☐ Permanent Electrical Service ☐ Mechanical Work ☐ Other
Name of Contractor's On Site Supervisor :	
Date of Coordination Meeting:	Date(s) LO/TO Will Be In Affect:

Name of Meeting Attendees:	**Title/Responsibility:**

1. Has a project specific safety plan or Job Hazard Analysis (JHA) been developed by the contractor(s) doing the work? ☐ Yes ☐ No

2. What type of energy sources or systems will be worked on and/or needed to be isolated and locked out? (Check all that apply)

	Lockout / Tag Out Required? (Check One)		
Type of System	**YES**	**NO**	**N/A**
Electrical	☐	☐	☐
High volt (> 480 v)	☐	☐	☐
Low volt (< 480 v)	☐	☐	☐
Mechanical	☐	☐	☐
Hydraulic/Steam	☐	☐	☐
Pneumatic	☐	☐	☐
Chemical	☐	☐	☐
Other	☐	☐	☐

3. Are other contractors or entities affected by this lock out? ☐ Yes ☐ No

If yes, please identify

Name of Contractor

4. Identify the companies and individuals who will responsible for leading the Lockout-Tagout program for their employer. These individuals must be on site for the duration of the lockout-tag out in most circumstances.

Attachment X

LOCKOUT/TAGOUT CHECKLIST

Name of Contractor	Name of Individuals

☐ Check here if Barton Malow will be participating in locking out the affected system(s).

Safety Equipment and Procedures Checklist

A. Will the work proceed in a flammable or Class I atmosphere? ☐ Yes ☐ No

If no, continue to item B. If Yes, check all safety equipment that will be used.

- ☐ Non sparking tools
- ☐ Intrinsically safe lights, tools, radios, etc.
- ☐ Non static charging clothing or shoes
- ☐ LEL Monitor

B. Will other trades be working in the immediate vicinity of live circuits or Otherwise be affected or exposed to the hazards of the activity? ☐ Yes ☐ No

If yes, describe safety precautions that must be taken to protect affected workers:

C. Check the safety equipment or procedures that will be followed to protect the safety of the workers conducting live work (hot taps, working on energized circuits, etc.):

☐ Safety glasses with side shields and/or face shield	☐ Electrical blankets	☐ Gloves (electrical, hot work, or chemical resistant?)
☐ Hard hat (regular or high volt?)	☐ Blankets for hot work	☐ Insulating mats
☐ Leathers or heat resistant clothing	☐ Chemical resistant clothing	☐ Barricades around the work area
☐ Insulating tools	☐ Air monitor	☐ Retrieval equipment
☐ Low volt lighting	☐ Harness and lanyard	☐ Locks and Tags

Comments:

If work is to proceed on live, energized, charged, or otherwise operating systems, describe why work CANNOT proceed in a locked-out or de-energized state:

***If working on energized systems, complete Attachment Y - Energized Electrical Equipment Permit.**

Barton Malow

Attachment Y

ENERGIZED ELECTRICAL EQUIPMENT PERMIT

To Be Completed By Barton Malow

Project Number: _____ Date: _____

Project Name: _____

Superintendent: _____ Safety _____

Justification as to why equipment must be energized:

Start Time: _____ End Time: _____

Permit not to exceed one shift

To Be Completed By Qualified Person Performing the Work

Has a written request been made to de-energize the equipment? ☐ Yes ☐ No *(attach documentation)*

Location: Building ☐ Floor ☐ Room ☐ Voltage ☐

Equipment ID No. ☐ Equip. Fed From: ☐ In Room: ☐

Results of Shock Hazard Analysis

Limited Approach Boundary:		Feet		Inches
Restricted Approach Boundary:		Feet		Inches
Prohibited Approach Boundary:		Feet		Inches

Results of Arc/Flash Hazard Analysis – Category *(check one only):* ☐ 1 ☐ 2 ☐ 3 ☐ 4

Work on Category 3 or 4 energized is prohibited

Flash Hazard Protection Boundary:		Feet		Inches

PPE _____

Voltage Rated Tools _____

Detailed description of work to be performed *(attach additional pages as necessary)*:

How will approach boundaries be established? _____

Has a pre-task job briefing been conducted? ☐ Yes ☐ No *(attach documentation)*

Attachment Y

ENERGIZED ELECTRICAL EQUIPMENT PERMIT

Have all affected personnel been trained to identify hazards associated with this specific task? ☐ Yes ☐ No

Do you agree that this work can be done safely? ☐ Yes ☐ No *(If NO, return to GC Superintendent)*

Electrically Qualified

(print name)	*(signature)*

Electrically Qualified

(print name)	*(signature)*

Approvals	Print Name	Signature	Phone Number
Contractor Safety Representative:			
Electrical Contractor			

Owner Approval	Print Name	Signature	Phone Number
Owner:			

Attachment Z

ENERGIZED PANEL + EQUIPMENT PERMIT

Room No. and Location

Electrical Contractor: _____

- All panel covers are in place and locked out!
- There are no open circuits
- Competent person in room to observe operations. Only authorized persons in room.
- Competent person Name:

Date of Permit: _____

CONTRACTOR REQUESTING PERMIT: _____

_____
(Authorized Signature)

- All personnel have been trained in the recognition of hazards of working in an area or room where there are energized panels or equipment.
- All proper PPE is in use.

BARTON MALOW REPRESENTATIVE OR SUPERINTENDENT AND SAFETY REPRESENTATIVE

(Authorized Signature – Barton Malow Superintendent) Date

(Authorized Signature – Barton Malow Safety) Date

Barton Malow

Attachment AA

LATTICE BOOM CRANE – ANNUAL INSPECTION FORM

Date:	Location:	Service Status:
Make:	Model:	Serial Number:
Unit ID Number:	Max. Capacity:	Date of Manufacturer:
Inspector:	Title:	Inspector Certification Number:

☐ Before inspection crane, lockout / tag out power source.
☐ Consult Operator / Service Manual for additional inspection items, service bulletins, and other service information.
☐ Before inspection and operating, crane, crane must be set up away from power lines and leveled.

References: **O** = OSHA 1926.550, 101-.180, ANSI B30.5 (1968)
A = ANSI / ASME B30.5 (1995)
C = New York City Cranes & Derricks (1996)

Status: ***S*** *= Satisfactory* ***D*** *= Deficiency* ***R*** *= Recommendation* ***NA*** *= Not Applicable*

	Item	Status
1.0	**Historical Data**	
1.1	Monthly Inspection Records	
1.2	Maintenance Records	
1.3	Repair/Modification Records	
1.4	Load Test Reports	
1.5	Other	
2.0	**General**	
2.1	Sheet Metal	
2.2	Guards / Covers	
2.3	External Lights	
2.4	Housekeeping	
2.5	Safety / Warning Decals & Labels	
2.6	Hand Signal Chart (outside)	
2.7	Paint Condition / Corrosion Control	
2.8	Other	
2.9	Other	
3.0	**Power Plant**	
3.1	Performance	
3.2	Exhaust System/Guards & Insulators	
3.3	Belts / Hoses – Condition	
3.4	Guards/Covers–Rotate & Recip. Parts	
3.5	Other	
4.0	**Crawler Assembly**	
4.1	Car Body / Side Frames	
4.2	Chain – Condition / Adjustment	
4.3	Sprockets / Idlers / Rollers	
4.4	Track Pads / Pins	
4.5	Travel Locks	
4.6	Steering Clutches	
4.7	Other	
4.8	Other	
5.0	**Operator's Cab and Station**	
5.1	Grab Rails / Steps / Platforms	
5.2	Anti-Skid Surface	
5.3	Protection from Weather	
5.4	Window Glass	
5.5	Windshield Wiper(s)	
5.6	Door Restraint	

	Item	Status
	Operator's Cab & Station (cont.)	
5.7	Fire Extinguisher	
5.8	Mirrors	
5.9	Seat Restraint	
5.10	Seat Belt	
5.11	Operator's Manual	
5.12	Operating Instructions / Decals	
5.13	Electrocution Warning Sign(inside)	
5.14	Hand Signal Chart	
5.15	Swing Brake	
5.16	Positive Swing Lock	
5.17	Controls-Forces / Movements	
5.18	Air Pressure	
5.19	Foot Brakes – Latches / Linkage	
5.20	Power Controlled Lowering	
5.21	Engine Clutch	
5.22	Accelerator / Throttle Control	
5.23	Other	
5.24	Other	
6.0	**Load Chart**	
6.1	Per Configuration	
6.2	Durable	
6.3	Legible	
6.4	Visible from Operator's Station	
6.5	Secured	
6.6	Other	
7.0	**Safety Devices/ Operational Aids**	
7.1	Warning Devices	
7.2	Boom Angle Indicator	
7.3	Boom Length Indicator	
7.4	Main Drum Rotation Indicator	
7.5	Aux. Drum Rotation Indicator	
7.6	Load Moment Indicator	
7.7	Load Weight Indicator	
7.8	Radius Indicator	
7.9	Crane Level Indicator	
7.10	Anti-Two Block Device	
7.11	Two Block Warning Device	
7.12	Boom Hoist Shut Off	

Barton Malow

Attachment AA

LATTICE BOOM CRANE – ANNUAL INSPECTION FORM

Lattice Boom Crane - Annual Inspection Form (con't)

Status: ***S*** *= Satisfactory* ***D*** *= Deficiency* ***R*** *= Recommendation* ***NA*** *= Not Applicable*

	Item	Status
8.0	**Rotating Upper Structure**	
8.1	Turntable / Bearing	
8.2	Turntable – Rollers / Roller Path	
8.3	Ring Gear / Pinion Gear	
8.4	Hydraulic Pump(s)	
8.5	Hydraulic Hoses / Tubes / Fittings	
8.6	Hydraulic Pressure	
8.7	Electrical Wiring	
8.8	Main Hoist – Motor / Valves / Lines	
8.9	Main Hoist – Clutches / Brakes	
8.10	Main Hoist – Wrapping on Drum	
8.11	Main Hoist – Min. 2 Rope Wraps	
8.12	Aux. Hoist – Motor / Valves & Lines	
8.13	Aux. Hoist – Clutches / Brakes	
8.14	Aux. Hoist – Wrapping on Drum	
8.15	Aux. Hoist – Min. 2 Rope Wraps	
8.16	Boom Hoist – Motor / Valves & Lines	
8.17	Boom Hoist – Clutches / Brakes	
8.18	Boom Hoist – Wrapping on Drum	
8.19	Boom Hoist – Minimum 2 Rope Wraps	
8.20	Boom Hoist – Gears / Shafts / Etc.	
8.21	Swing System / Assembly	
8.22	Hydraulic Motors / Valves / Lines	
8.23	Drums / Flanges	
8.24	Clutch / Brake Protection	
8.25	Torque Converter	
8.26	Anti-Skid Surface	
8.27	Steps / Hand Holds / Platforms	
8.28	Access to Cab and Roof	
8.29	Air System – Compressor / Lines etc.	
8.30	Counterweight & Mounting	
8.31	Counterweight Warning Sign	
8.32	Electrocution Warning Sign (outside)	
8.33	House Lock	
8.34	Frame	
8.35	Swing Gear Box	
9.0	**Boom Support System**	
9.1	Gantry / Mast	
9.2	Boom Stops	
9.3	Inner Ball	

	Item	Status
	Boom Support System (con't)	
9.4	Outer Ball	
9.5	Sheaves	
9.6	Boom Hoist Reeving	
9.7	Other	
10.0	**Boom**	
10.1	Boom Selection Identification	
10.2	Boom Selection Sequence	
10.3	Boom Selection Alignment	
10.4	Warning Decals	
10.5	Spreader Bar	
10.6	Sheaves	
10.7	Hoist Line Dead End	
10.8	Wire Rope Retainer(s)	
10.9	Boom Foot Pins / Keepers	
10.10	Boom Head Section	
10.11	Auxiliary Boom Head	
10.12	Lattice Members	
10.13	Cord Members	
10.14	End Connections / Pins	
10.15	Lift Cylinder(s)	
10.16	Telescoping Cylinder(s)	
10.17	Hydraulic Hoses / Tubing & Fittings	
10.18	Holding Device (check valve)	
10.19	Wear Pads	
10.20	Equal Extension	
10.21	Boom Hinge Pin	
10.22	Structure	
10.23	Other	
10.24	Other	
11.0	**Jib**	
11.1	Positive Stops	
11.2	Sheave(s)	
11.3	Wire Rope Retainer(s)	
11.4	Lattice Members	
11.5	Cord Members	
11.6	End Containers / Pins	
11.7	Other	

12.0 Wire Rope

Rope Application	Type	Size	Construction	Grade	Core	Rope Damage	Measured Wear	Broken Wires	Lubrication	End Connections	Status
Main Hoist Drum											
Aux. Hoist Drum											
Boom Hoist Drum											
Boom Pendants											
Jib Pendants											

LATTICE BOOM CRANE – ANNUAL INSPECTION FORM

Lattice Boom Crane - Annual Inspection Form (con't)

Status: ***S*** = *Satisfactory* ***D*** = *Deficiency* ***R*** = *Recommendation* ***NA*** = *Not Applicable*

Item		Status
13.0	**Main Load Block & Hook**	
Manufacturer:		
Rated Capacity:		
Block Weight:		
Original Hook Throat Opening:		
13.1	Capacity Marking	
13.2	Weight Marking	
13.3	Sheaves	
13.4	Safety Latches	
13.5	10 Degree Hook Twist	
13.6	15% Hook Throat Opening	
13.7	10% Hook Wear	
13.8	Swivel	
13.9	Bearing	
13.10	Wedge Socket / End Fitting	
13.11	Reeving	
13.12	NDT – Results	
13.13	Other	

Item		Status
14.0	**Overhaul Ball & Hook**	
Manufacturer:		
Rated Capacity:		
Block Weight:		
Original Hook Throat Opening:		
14.1	Capacity Marking	
14.2	Weight Marking	
14.3	Safety Latches	
14.4	10 Degree Hook Twist	
14.5	15% Hook Throat Opening	
14.6	10% Hook Wear	
14.7	Swivel	
14.8	Bearing	
14.9	Wedge Socket / End Fitting	
14.10	NDT – Results	
14.11	Other	
14.12	Other	
14.13	Other	

15.0 No-Load Operational Test

Item		Status	
15.1	No-Load Operational Test		Caution: Operation of cranes by Safety Department inspectors shall be limited to those crane functions necessary to accomplish the inspection. Inspectors must be qualified as outlined in ANSI/ASME B30.5.

16.0 Load Test

Hoisting From:	Boom / Ext. / Jib Length	Load Radius	Boom Angle	Parts of Line	Rated Capacity	Test Weight	% of Rated Capacity
Main Boom							
Jib							

Item	Status
Load Test Results:	☐ Passed ☐ Failed ☐ N/A
Explanation:	

CAUTION:
Load tests shall be conducted only by a designated competent person.

Barton Malow

Attachment AA

LATTICE BOOM CRANE – ANNUAL INSPECTION FORM

DEFICIENCY / RECOMMENDATION REPORT

The following corrective action(s) (repairs, adjustments and replacement parts, etc.) are to be performed by a qualified person in accordance with all manufacturer's instructions, specifications and requirements. OSHA requires that "any deficiency (d) be repaired or defective parts replaced before continued use".

Recommendation(s) (R) should be considered for corrective action. The advisability of a particular recommendation depends on the facts of each situation. Any corrective action(s) is to be performed by a qualified person in accordance with all manufacturer's recommendations, specifications and requirements.

D = Deficiency R = Recommendation

D / R	ITEM #	EXPLANATION / CORRECTIVE ACTION	DATE CORRECTED

Crane Inspector

Project / Equipment Manager

Project Name: _____ **Project No.:** _____ **Date:** _____

Barton Malow

Attachment AB

LATTICE BOOM CRANE – MONTHLY INSPECTION FORM

Date:	Location:	Service Status:
Make:	Model:	Serial Number:
Unit ID Number:	Max. Capacity:	Date of Manufacturer:
Inspector:	Operator:	Superintendent:

☐ Before inspection crane, lockout / tag out power source.
☐ Consult Operator / Service Manual for additional inspection items, service bulletins, and other service information.
☐ Before inspection and operating, crane, crane must be set up away from power lines and leveled.

References: **O** = OSHA 1926.550, 101-.180, ANSI B30.5 (1968)
A = ANSI / ASME B30.5 (1995)
C = New York City Cranes & Derricks (1996)

Status: ***S*** *= Satisfactory* ***D*** *= Deficiency* ***R*** *= Recommendation* ***NA*** *= Not Applicable*

	Item	Status
1.0	**Historical Data**	
1.1	Daily Inspection Records	
1.2	Maintenance Records	
1.3	Repair/Modification Records	
1.4	Load Test Reports	
1.5	Other	
2.0	**General**	
2.1	Sheet Metal	
2.2	Guards / Covers	
2.3	External Lights	
2.4	Housekeeping	
2.5	Safety / Warning Decals & Labels	
2.6	Hand Signal Chart (outside)	
2.7	Paint Condition / Corrosion Control	
2.8	Other	
2.9	Other	
3.0	**Power Plant**	
3.1	Performance	
3.2	Exhaust System/Guards & Insulators	
3.3	Belts / Hoses – Condition	
3.4	Guards/Covers–Rotate & Recip. Parts	
3.5	Other	
4.0	**Crawler Assembly**	
4.1	Car Body / Side Frames	
4.2	Chain – Condition / Adjustment	
4.3	Sprockets / Idlers / Rollers	
4.4	Track Pads / Pins	
4.5	Travel Locks	
4.6	Steering Clutches	
4.7	Other	
4.8	Other	
5.0	**Operator's Cab and Station**	
5.1	Grab Rails / Steps / Platforms	
5.2	Anti-Skid Surface	
5.3	Protection from Weather	
5.4	Window Glass	
5.5	Windshield Wiper(s)	
5.6	Door Restraint	

	Item	Status
	Operator's Cab & Station (cont.)	
5.7	Fire Extinguisher	
5.8	Mirrors	
5.9	Seat Restraint	
5.10	Seat Belt	
5.11	Operator's Manual	
5.12	Operating Instructions / Decals	
5.13	Electrocution Warning Sign(inside)	
5.14	Hand Signal Chart	
5.15	Swing Brake	
5.16	Positive Swing Lock	
5.17	Controls-Forces / Movements	
5.18	Air Pressure	
5.19	Foot Brakes – Latches / Linkage	
5.20	Power Controlled Lowering	
5.21	Engine Clutch	
5.22	Accelerator / Throttle Control	
5.23	Other	
5.24	Other	
6.0	**Load Chart**	
6.1	Per Configuration	
6.2	Durable	
6.3	Legible	
6.4	Visible from Operator's Station	
6.5	Secured	
6.6	Other	
7.0	**Safety Devices/ Operational Aids**	
7.1	Warning Devices	
7.2	Boom Angle Indicator	
7.3	Boom Length Indicator	
7.4	Main Drum Rotation Indicator	
7.5	Aux. Drum Rotation Indicator	
7.6	Load Moment Indicator	
7.7	Load Weight Indicator	
7.8	Radius Indicator	
7.9	Crane Level Indicator	
7.10	Anti-Two Block Device	
7.11	Two Block Warning Device	
7.12	Boom Hoist Shut Off	
7.13	Boom Hoist Ratchet and Pawl	
7.14	Other	

Lattice Boom Crane - Monthly Inspection Form (con't)

Status: ***S*** *= Satisfactory* ***D*** *= Deficiency* ***R*** *= Recommendation* ***NA*** *= Not Applicable*

	Item	Status
8.0	**Rotating Upper Structure**	
8.1	Hydraulic Hoses / Tubes / Fittings	
8.2	Electrical Wiring	
8.3	Main Hoist – Clutches / Brakes	
8.4	Main Hoist – Wrapping on Drum	
8.5	Main Hoist – Min. 2 Rope Wraps	
8.6	Aux. Hoist – Motor / Valves & Lines	
8.7	Aux. Hoist – Clutches / Brakes	
8.8	Aux. Hoist – Wrapping on Drum	
8.9	Aux. Hoist – Min. 2 Rope Wraps	
8.10	Boom Hoist – Motor / Valves & Lines	
8.11	Boom Hoist – Clutches / Brakes	
8.12	Boom Hoist – Wrapping on Drum	
8.13	Boom Hoist – Min. 2 Rope Wraps	
8.14	Swing System / Assembly	
8.15	Anti-Skid Surface	
8.16	Steps / Hand Holds / Platforms	
8.17	Access to Cab and Roof	
8.18	Air System – Compressor / Lines etc.	
8.19	Counterweight and Mounting	
8.20	Counterweight Warning Sign	
8.21	Electrocution Warning Sign (outside)	
9.0	**Boom Support System**	
9.1	Boom Hoist Reeving	
9.2	Hoist Line Dead End	
9.3	Wire Rope Retainer(s)	
9.4	Boom Head Section	
9.5	Auxiliary Boom Head	
9.6	Hydraulic Hoses / Tubing & Fittings	
9.7	Holding Device (check valve)	
9.8	Other	
	Visual (unable to lay boom down)	
	Physical (able to lay boom down)	

	Item	Status
10.0	**Jib**	
10.1	Positive Stops	
10.2	Sheave(s)	
10.3	Wire Rope Retainer(s)	
10.4	Lattice Members	
10.5	Cord Members	
10.6	End Containers / Pins	
10.7	Other	
	Visual (unable to lay boom down)	
	Physical (able to lay boom down)	
11.0	**Main Load Block & Hook**	
Manufacturer:		
Rated Capacity:		
Block Weight:		
Original Hook Throat Opening:		
11.1	Capacity Marking	
11.2	Weight Marking	
11.3	Sheaves	
11.4	Safety Latches	
11.5	10 Degree Hook Twist	
11.6	15% Hook Throat Opening	
11.7	10% Hook Wear	
11.8	Swivel	
11.9	Bearing	
11.10	Wedge Socket / End Fitting	
11.11	Reeving	
12.0	**Overhaul Ball & Hook**	
Manufacturer:		
Rated Capacity:		
Block Weight:		
Original Hook Throat Opening:		
12.1	Capacity Marking	
12.2	Weight Marking	
12.3	Safety Latches	
12.4	10 Degree Hook Twist	
12.5	Swivel	
12.6	Bearing	
12.7	Wedge Socket / End Fitting	

13.0 Wire Rope

Rope Application	Type	Size	Construction	Grade	Core	Rope Damage	Measured Wear	Broken Wires	Lubrication	End Connections	Status
Main Hoist Drum											
Aux. Hoist Drum											
Boom Hoist Drum											
Boom Pendants											
Jib Pendants											

DEFICIENCY / RECOMMENDATION REPORT

Barton Malow

Attachment AB

LATTICE BOOM CRANE – MONTHLY INSPECTION FORM

The following corrective action(s) (repairs, adjustments and replacement parts, etc.) are to be performed by a qualified person in accordance with all manufacturer's instructions, specifications and requirements. OSHA requires that "any deficiency (d) be repaired or defective parts replaced before continued use".

Recommendation(s) (R) should be considered for corrective action. The advisability of a particular recommendation depends on the facts of each situation. Any corrective action(s) is to be performed by a qualified person in accordance with all manufacturer's recommendations, specifications and requirements.

D = Deficiency R = Recommendation

D / R	ITEM #	EXPLANATION / CORRECTIVE ACTION	DATE CORRECTED

Crane Inspector

Project / Equipment Manager

Project Name: _____ **Project No.:** _____ **Date:** _____

Barton Malow

Attachment AC

LATTICE BOOM CRANE – DAILY INSPECTION FORM

Make / Model: _____ Serial #: _____

Unit ID: _____ Jobsite: _____

Inspector: _____ Date: _____

Status: ***S*** = *Satisfactory* ***D*** = *Deficiency* ***R*** = *Recommendation* ***NA*** = *Not Applicable*

		CONDITION	MON	TUE	WED	THUR	FRI	SAT	SUN
Fluid Level	1.	Crankcase Oil							
	2.	Coolant							
	3.	Hydraulic Oil							
CAB(S)	4.	Electrical System							
	5.	House Lock							
	6.	Service / Parking Brake							
	7.	Swing Brake / House Lock							
	8.	Gauges							
	9.	Housekeeping							
	10.	Fire Extinguisher(s)							
	11.	Load Chart							
	12.	Windows / Mirrors							
Functions	13.	Travel							
	14.	Steering							
	15.	Outriggers							
	16.	Boom Up / Down							
	17.	Hoist Up / Down							
	18.	Swing							
Safety Devices	19.	Anti-Two-Block							
	20.	LMI / Load Weight Indicator							
	21.	Boom Angle Indicator							
	22.	Lights							
	23.	Locks							
	24.	Buzzers							
	25.	Back Up Alarm							
	26.	Horn							
	27.	Boom Kick Out							
Boom, Jib & Accessories	28.	Load Block / Ball / Hooks							
	29.	Headache Ball							
	30.	Hooks							
	31.	Safety Latches							
	32.	Wedge Sockets							
	33.	Sheaves							
	34.	Wire Rope Retainers							
	35.	Main Boom							
	36.	Jib (Extension)							
	37.	Carrier (Car Body)							
	38.	Shoes							
	39.	Tracks							
	40.	Chain							
	41.	Outriggers							
	42.	Machine Guards							
	43.	Hoist Brakes							
	44.	Clutches							
Upper Works	45.	Hoses							
	46.	Hoist(s)							
	47.	Wrapping on Drum							
	48.	Rope Reeving							

	49.	Wire Rope							
	50.	Gantries / Bridles							
	51.	Operator's Initials							

Superintendent Signature: _____

Barton Malow

Attachment AD

TELESCOPING BOOM CRANE – ANNUAL INSPECTION FORM

Date:	Location:	Service Status:
Make:	Model:	Serial Number:
Unit ID Number:	Max. Capacity:	Date of Manufacturer:
Inspector:	Operator:	

☐ Before inspection crane, lockout / tag out power source.
☐ Consult Operator / Service Manual for additional inspection items, service bulletins, and other service information.
☐ Before inspection and operating, crane, crane must be set up away from power lines and leveled.

References: **O** = OSHA 1926.550, 101-.180, ANSI B30.5 (1968)
A = ANSI / ASME B30.5 (1995)
C = New York City Cranes & Derricks (1996)

Status: ***S*** *= Satisfactory* ***D*** *= Deficiency* ***R*** *= Recommendation* ***NA*** *= Not Applicable*

	Item	Status
1.0	**Historical Data**	
1.1	Monthly Inspection Records	
1.2	Maintenance Records	
1.3	Repair/Modification Records	
1.4	Load Test Reports	
1.5	Other	
2.0	**General**	
2.1	Sheet Metal	
2.2	Guards / Covers	
2.3	External Lights	
2.4	Housekeeping	
2.5	Safety / Warning Decals & Labels	
2.6	Electrocution Warning Chart (outside)	
2.7	Hand Signal Chart (outside)	
2.7	Paint Condition / Corrosion Control	
2.8	License Plates	
2.9	Other	
3.0	**Power Plant**	
3.1	Performance	
3.2	Exhaust System/Guards & Insulators	
3.3	Belts / Hoses – Condition	
3.4	Guards/Covers–Rotate & Recip. Parts	
3.5	Other	
4.0	**Carrier**	
4.1	Transmission Function	
4.2	Drive Line Function	
4.3	Main Frame Members	
4.4	Hydraulic Hoses / Tubing / Fittings	
4.5	Hydraulic Fluid Level	
4.6	Anti-Skid Surface	
4.7	Backup Alarm	
4.8	Tires / Wheels Condition	
Front Left:	Size:	Press -
Front Rt:	Size:	Press -
Back Left:	Size:	Press -
Back Rt:	Size:	Press -
4.9	Tire Size and Pressure per Load Chart	

	Item	Status
5.0	**Operator's Cab & Station (cont.)**	
5.1	Boxes	
5.2	Beams	
5.3	Cylinders	
5.4	Floats / Pads	
5.5	Hydraulic Hoses / Tubing / Fittings	
5.6	Holding Valves	
5.7	Position Locks	
5.8	Warning Signs	
5.9	Other	
6.0	**Operator's Cab & Station**	
6.1	Grab Rails / Steps / Platforms	
6.2	Anti-Skid Surface	
6.3	Protection from Weather	
6.4	Window Glass	
6.5	Windshield Wiper(s)	
6.6	Door Restraint	
6.7	Fire Extinguisher	
6.8	Mirrors	
6.9	Seat Restraint	
6.10	Seat Belt	
6.11	Operator's Manual	
6.12	Controls Clearly Identified	
6.13	Operating Instructions / Decals	
6.14	Electrocution Warning Sign (inside)	
6.15	Hand Signal Chart	
6.16	Parking Brake	
6.17	Swing Brake	
6.18	Positive Swing Lock	
6.19	Controls-Forces / Movements	
6.20	Accelerator / Throttle Control	
6.21	Air Pressure	
6.22	Hydraulic Leaks	
6.23	Horn / Warning Device	
6.24	Electrical Access Panels Covered	
6.25	Other	
7.0	**Load Chart**	
	Per Configuration	
	Durable and Legible	
	Visible from Operator's Station	
	Secured	
	75% of Tipping	

TELESCOPING BOOM CRANE – ANNUAL INSPECTION FORM

Telescoping Boom Crane- Annual Inspection Form (con't)

Status: ***S*** = *Satisfactory* ***D*** = *Deficiency* ***R*** = *Recommendation* ***NA*** = *Not Applicable*

	Item	Status
8.0	**Safety Devices/ Operational Aids**	
8.1	Boom Angle Indicator	
8.2	Boom Length Indicator	
8.3	Main Drum Rotation Indicator	
8.4	Aux. Drum Rotation Indicator	
8.5	Load Moment Indicator	
8.6	Load Weight Indicator	
8.7	Radius Indicator	
8.8	Crane Level Indicator	
8.9	Anti-Two Block Device	
8.10	Overload Indicator	
9.0	**Rotating Upper Structure**	
9.1	Turntable	
9.2	House Lock	
9.3	Frame	
9.4	Hydraulic Pump(s)	
9.5	Hydraulic Hoses / Tubes / Fittings	
9.6	Hydraulic Pressure	
9.7	Electrical Wiring	
9.8	Main Hoist – Motor / Valves / Lines	
9.9	Main Hoist – Wrapping on Drum	
9.10	Main Hoist – Min. 2 Rope Wraps	
9.11	Aux. Hoist – Motor / Valves & Lines	
9.12	Aux. Hoist – Wrapping on Drum	
9.13	Aux. Hoist – Min. 2 Rope Wraps	
9.14	Counterweight & Mounting	
9.15	Swing Gear Box	
9.16	Electrocution Warning Sign (outside)	
9.17	Counterweight Warning Sign	
9.18	Other	
9.19	Other	

	Item	Status
10.0	**Main Boom**	
10.1	Lift Cylinder(s)	
10.2	Telescoping Cylinder(s)	
10.3	Hydraulic Hoses / Tubing & Fittings	
10.4	Holding Device (check valve)	
10.5	Boom Selection Alignment	
10.6	Wear Pads	
10.7	Equal Extension	
10.8	Sheaves	
10.9	Hoist Line Dead End	
10.10	Wire Rope Retainer	
10.11	Boom Hinge Pin	
10.12	Boom Head Section	
10.13	Auxiliary Boom Head	
10.14	Structure	
10.15	Other	
11.0	**Material / Pinned Section**	
11.1	Alignment	
11.2	Locking Device	
11.3	Structure	
11.4	Other	
12.0	**Lattice Boom Extension**	
12.1	Boom Extension Alignment	
12.2	Cords	
12.3	Lattices	
12.4	End Connections	
12.5	Storage Device	
12.6	Sheave(s)	
12.7	Wire Rope Retainer	
12.8	Structure	
12.9	Other	
13.0	**Jib**	
31.1	Positive Stops	
13.2	Sheave(s)	
13.3	Wire Rope Retainer(s)	
13.4	Structure	
13.5	Other	

14.0 Wire Rope

Rope Application	Type	Size	Construction	Grade	Core	Rope Damage	Measured Wear	Broken Wires	Lubrication	End Connections	Status
Main Hoist											
Aux. Hoist											

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Attachment AD

TELESCOPING BOOM CRANE – ANNUAL INSPECTION FORM

Telescoping Boom Crane- Annual Inspection Form (con't)

Status: ***S*** = *Satisfactory* ***D*** = *Deficiency* ***R*** = *Recommendation* ***NA*** = *Not Applicable*

	Item	Status
15.0	**Main Load Block & Hook**	
Manufacturer:		
Rated Capacity:		
Block Weight:		
Original Hook Throat Opening:		
15.1	Capacity Marking	
15.2	Weight Marking	
15.3	Sheaves	
15.4	Safety Latches	
15.5	10 Degree Hook Twist	
15.6	15% Hook Throat Opening	
15.7	10% Hook Wear	
15.8	Swivel	
15.9	Bearing	
15.10	Wedge Socket / End Fitting	
15.11	Reeving	
15.12	NDT – Results	
15.13	Other	

	Item	Status
16.0	**Overhaul Ball & Hook**	
Manufacturer:		
Rated Capacity:		
Block Weight:		
Original Hook Throat Opening:		
16.1	Capacity Marking	
16.2	Weight Marking	
16.3	Safety Latches	
16.4	10 Degree Hook Twist	
16.5	15% Hook Throat Opening	
16.6	10% Hook Wear	
16.7	Swivel	
16.8	Bearing	
16.9	Wedge Socket / End Fitting	
16.10	NDT – Results	
16.11	Other	

17.0 No-Load Operational Test

Item		Status	
17.1	No-Load Operational Test		Caution: Operation of cranes by Safety Department inspectors shall be limited to those crane functions necessary to accomplish the inspection. Inspectors must be qualified as outlined in ANSI/ASME B30.5.

18.0 Load Test

Hoisting From:	Boom / Ext. / Jib Length	Load Radius	Boom Angle	Parts of Line	Rated Capacity	Test Weight	% of Rated Capacity
Main Boom							
Jib							
Boom Extension							
Jib							

Item	Status
Load Test Results:	☐ Passed ☐ Failed ☐ N/A
Explanation:	

CAUTION:
Load tests shall be conducted only by a designated competent person.

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Attachment AD

TELESCOPING BOOM CRANE – ANNUAL INSPECTION FORM

DEFICIENCY / RECOMMENDATION REPORT

The following corrective action(s) (repairs, adjustments and replacement parts, etc.) are to be performed by a qualified person in accordance with all manufacturer's instructions, specifications and requirements. OSHA requires that "any deficiency (d) be repaired or defective parts replaced before continued use".

Recommendation(s) (R) should be considered for corrective action. The advisability of a particular recommendation depends on the facts of each situation. Any corrective action(s) is to be performed by a qualified person in accordance with all manufacturer's recommendations, specifications and requirements.

D = Deficiency R = Recommendation

D / R	ITEM #	EXPLANATION / CORRECTIVE ACTION	DATE CORRECTED

Crane Inspector

Project / Equipment Manager

Project Name: _____ **Project No.:** _____ **Date:** _____

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Attachment AE

TELESCOPING BOOM CRANE – MONTHLY INSPECTION FORM

Date:	Location:	Service Status:
Make:	Model:	Serial Number:
Unit ID Number:	Max. Capacity:	Date of Manufacturer:
Inspector:	Operator:	Superintendent:

☐ Before inspection crane, lockout / tag out power source.
☐ Consult Operator / Service Manual for additional inspection items, service bulletins, and other service information.
☐ Before inspection and operating, crane, crane must be set up away from power lines and leveled.

References: **O** = OSHA 1926.550, 101-.180, ANSI B30.5 (1968)
A = ANSI / ASME B30.5 (1995)
C = New York City Cranes & Derricks (1996)

Status: ***S*** *= Satisfactory* ***D*** *= Deficiency* ***R*** *= Recommendation* ***NA*** *= Not Applicable*

	Item	Status
1.0	**Historical Data**	
1.1	Daily Inspection Records	
1.2	Maintenance Records	
1.3	Repair/Modification Records	
1.4	Load Test Reports	
1.5	Other	
2.0	**General**	
2.1	Sheet Metal	
2.2	Guards / Covers	
2.3	External Lights	
2.4	Housekeeping	
2.5	Safety / Warning Decals & Labels	
2.6	Electrocution Warning Chart (outside)	
2.7	Hand Signal Chart (outside)	
2.7	Paint Condition / Corrosion Control	
2.8	License Plates	
2.9	Other	
3.0	**Power Plant**	
3.1	Startup and Performance	
3.2	Exhaust System/Guards & Insulators	
3.3	Belts / Hoses – Condition	
3.4	Guards/Covers–Rotate & Recip. Parts	
3.5	Other	
4.0	**Carrier**	
4.1	Transmission Function	
4.2	Drive Line Function	
4.3	Main Frame Members	
4.4	Hydraulic Hoses / Tubing / Fittings	
4.5	Hydraulic Fluid Level	
4.6	Anti-Skid Surface	
4.7	Backup Alarm	
4.8	Tires / Wheels Condition	
Front Left:	Size:	Press -
Front Rt:	Size:	Press -
Back Left:	Size:	Press -
Back Rt:	Size:	Press -
4.9	Tire Size and Pressure per Load Chart	

	Item	Status
5.0	**Outriggers**	
5.1	Boxes	
5.2	Beams	
5.3	Cylinders	
5.4	Floats / Pads	
5.5	Hydraulic Hoses / Tubing / Fittings	
5.6	Holding Valves	
5.7	Position Locks	
5.8	Warning Signs	
5.9	Other	
6.0	**Operator's Cab & Station**	
6.1	Grab Rails / Steps / Platforms	
6.2	Anti-Skid Surface	
6.3	Protection from Weather	
6.4	Window Glass	
6.5	Windshield Wiper(s)	
6.6	Door Restraint	
6.7	Fire Extinguisher	
6.8	Mirrors	
6.9	Seat Restraint	
6.10	Seat Belt	
6.11	Operator's Manual	
6.12	Controls Clearly Identified	
6.13	Operating Instructions / Decals	
6.14	Electrocution Warning Sign (inside)	
6.15	Hand Signal Chart	
6.16	Parking Brake	
6.17	Swing Brake	
6.18	Positive Swing Lock	
6.19	Controls-Forces / Movements	
6.20	Accelerator / Throttle Control	
6.21	Air Pressure	
6.22	Hydraulic Leaks	
6.23	Horn / Warning Device	
6.24	Electrical Access Panels Covered	
6.25	Other	
7.0	**Load Chart**	
	Per Configuration	
	Durable and Legible	
	Visible from Operator's Station	
	Secured	
	75% of Tipping	

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Attachment AE

TELESCOPING BOOM CRANE – MONTHLY INSPECTION FORM

Telescoping Boom Crane- Monthly Inspection Form (con't)

Status: ***S*** = *Satisfactory* ***D*** = *Deficiency* ***R*** = *Recommendation* ***NA*** = *Not Applicable*

	Item	Status
8.0	**Safety Devices/ Operational Aids**	
8.1	Boom Angle Indicator	
8.2	Boom Length Indicator	
8.3	Main Drum Rotation Indicator	
8.4	Aux. Drum Rotation Indicator	
8.5	Load Moment Indicator	
8.6	Load Weight Indicator	
8.7	Radius Indicator	
8.8	Crane Level Indicator	
8.9	Anti-Two Block Device	
8.10	Overload Indicator	
9.0	**Rotating Upper Structure & Boom**	
9.1	Hoist Line Dead End	
9.2	Main Boom Head Section	
9.3	Auxiliary Boom Head	
9.4	Main Hoist – Wrapping on Drum	
9.5	Main Hoist – Min. 2 Rope Wraps	
9.6	Aux. Hoist – Wrapping on Drum	
9.7	Aux. Hoist – Min. 2 Rope Wraps	
9.8	Counterweight Warning Sign	
10.0	**Material / Pinned Section**	
10.1	Alignment	
10.2	Locking Device	
10.3	Structure	
10.4	Other	
11.0	**Lattice Boom Extension**	
11.1	Boom Extension Alignment	
11.2	Sheave(s)	
11.3	Wire Rope Retainer	
11.4	Structure	
	Visual (unable to lay boom down)	
	Physical (able to lay boom down)	

	Item	Status
12.0	**Jib**	
12.1	Positive Stops	
12.2	Sheave(s)	
12.3	Wire Rope Retainer(s)	
12.4	Structure	
12.5	Other	
	Visual (unable to lay boom down)	
	Physical (able to lay boom down)	
13.0	**Main Load Block & Hook**	
Manufacturer:		
Rated Capacity:		
Block Weight:		
Original Hook Throat Opening:		
13.1	Capacity Marking	
13.2	Weight Marking	
13.3	Sheaves	
13.4	Safety Latches	
13.5	10 Degree Hook Twist	
13.6	15% Hook Throat Opening	
13.7	10% Hook Wear	
13.8	Swivel	
13.9	Bearing	
13.10	Wedge Socket / End Fitting	
13.11	Reeving	
14.0	**Overhaul Ball & Hook**	
Manufacturer:		
Rated Capacity:		
Block Weight:		
Original Hook Throat Opening:		
14.1	Capacity Marking	
14.2	Weight Marking	
14.3	Safety Latches	
14.4	10 Degree Hook Twist	
14.5	15% Hook Throat Opening	
14.6	10% Hook Wear	
14.7	Swivel	
14.8	Bearing	
14.9	Wedge Socket / End Fitting	

15.0 Wire Rope

Rope Application	Type	Size	Construction	Grade	Core	Rope Damage	Measured Wear	Broken Wires	Lubrication	End Connections	Status
Main Hoist											
Aux. Hoist											

Attachment AE

TELESCOPING BOOM CRANE – MONTHLY INSPECTION FORM

DEFICIENCY / RECOMMENDATION REPORT

The following corrective action(s) (repairs, adjustments and replacement parts, etc.) are to be performed by a qualified person in accordance with all manufacturer's instructions, specifications and requirements. OSHA requires that "any deficiency (d) be repaired or defective parts replaced before continued use".

Recommendation(s) (R) should be considered for corrective action. The advisability of a particular recommendation depends on the facts of each situation. Any corrective action(s) is to be performed by a qualified person in accordance with all manufacturer's recommendations, specifications and requirements.

D = Deficiency R = Recommendation

D / R	ITEM #	EXPLANATION / CORRECTIVE ACTION	DATE CORRECTED

Crane Inspector

Project / Equipment Manager

Project Name: _____ **Project No.:** _____ **Date:** _____

Barton Malow

Attachment AF
Telescoping Boom Crane – Daily Inspection Form

Make / Model: _____ Serial #: _____
Unit ID: _____ Jobsite: _____
Inspector: _____ Date: _____

Status: ***S*** *= Satisfactory* ***D*** *= Deficiency* ***R*** *= Recommendation* ***NA*** *= Not Applicable*

		CONDITION	MON	TUE	WED	THU	FRI	SAT	SUN
Fluid Level	1.	Crankcase Oil							
	2.	Coolant							
	3.	Hydraulic Oil							
	4.	Engine Oil							
	5.	Transmission Oil							
CAB(S)	6.	Electrical System							
	7.	Service / Parking Brake							
	8.	Swing Brake / House Lock							
	9.	Oil Gauge							
	10.	Fuel Gauge							
	11.	Air Pressure Gauge							
	12.	Water Temperature Gauge							
	13.	Housekeeping							
	14.	Fire Extinguisher(s)							
	15.	Load Chart							
	16.	Windows / Mirrors							
Functions	17.	Travel							
	18.	Steering							
	19.	Outriggers							
	20.	Boom Up / Down							
	21.	Boom In / Out							
	22.	Hoist Up / Down							
	23.	Swing							
Safety Devices	24.	Anti-Two-Block							
	25.	LMI / Load Weight Indicator							
	26.	Boom Angle Indicator							
	27.	Crane Level Indicator							
	28.								
	29.	Radius Indicator							
	30.	Warning Lights / Alarms							
	31.	Back Up Alarm							
	32.	Horn							
Boom, Jib & Accessories	33.	Load Block							
	34.	Headache Ball							
	35.	Hook(s)							
	36.	Safety Latches							
	37.	Wedge Socket(s)							
	38.	Sheaves							
	39.	Wire Rope Retainers							
	40.	Main Boom							
	41.	Jib (Extension)							
	42.	Lift Cylinder(s)							
Lower Works Upper Works	43.	Tires / Inflation							
	44.	Tracks							
	45.	Carrier							
	46.	Outriggers							
	47.	Machine Guards							

	48.	Hoist Brakes							
	49.	Clutches							
	50.	Hoses							
	51.	Hoist(s)							
	52.	Wrapping on Drum							
	53.	Rope Reeving							
	54.	Wire Rope							
	55.	Auxiliary Hoist							
		Operator's Initials							

Superintendent Signature: _____

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Attachment AG

CRANE MAINTENANCE CHECKLIST

Contractor: _____ Date of Check List: _____

Rig No.: _____ Month of Check List: _____

Rig Model: _____ CD No: _____

Rig Hours: _____

Operator: _____

Maintenance Person: _____

Super/PM on Project: _____

Project Name: _____ Project: _____

Description of Service	Action	Okay	Replace / Repair	Comments
Air Cleaner Restriction	Check			
Charge Air Piping	Check			
Charge Air Cooler	Check			
Fuel Injection Pump Mounting	Check			
Air Compressor Mounting	Check			
Filter or Change the Hydraulic Oil	Check/Change If Needed			
Replace the Hydraulic Oil Filter Elements	Check/Change If Needed			
Clean the Hydraulic Oil Tank	If Needed			
Pressure Settings of the Hydraulic System	Check			
Hydraulic Valve System Functions Properly	Check			
Hydraulic Hose and Pipe Connections	Check			
Mountings of the Hydraulic Pumps	Check			
Torque up the Slewing Ring and the Swing Drive Bolts	Check/Tighten If Needed			
Winch Brakes	Check			
Winch Transmission Oil Level	Check/Refill If Needed			
Track Drive Transmission Oil Level	Check/Refill If Needed			
Swing Drive Transmission Oil Level	Check/Refill If Needed			
Tighten the Track Shoe Bolts	Check/Tighten If Needed			
Hydraulic Cooler	Check/Clean If Needed			

A copy of this report must be left in the rig at all times.

Please note that all actions shall be done the first of every month.

If a Mechanic is needed please notify your Superintendent or Project Manager and a Mechanic will be dispatched.

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Attachment AH

CRITICAL LIFT CHECKLIST

Contractor: _____

Date: _____

	Acceptable	NOT Acceptable	Comments
Work Description	☐	☐	
Work Duration	☐	☐	
Associated Working Drawings	☐	☐	
Crane Model	☐	☐	
Location Pick	☐	☐	
Capacity of Crane at Pick Radius	☐	☐	
Weight of Pick	☐	☐	
Ground Conditions	☐	☐	
Overhead Wires Present	☐	☐	
Proximity to Traffic	☐	☐	
Outrigger Placement	☐	☐	
Outrigger Blocking as per Drawing	☐	☐	
Rigging in good working order	☐	☐	
Delivery Location	☐	☐	
Wind Speed and Approximate Direction	☐	☐	
Weather	☐	☐	
Operator	☐	☐	
IW Foreman	☐	☐	
Supervisor	☐	☐	
Design Engineer	☐	☐	

Prepared by:		
(Print Name)	*(Signature)*	*(Date)*

Approved by: (*Must be approved by* Barton Malow *Superintendent or Safety Representative)*		
(Print Name)	*(Signature)*	*(Date)*

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Attachment AH

CRITICAL LIFT CHECKLIST

Date of lift _ _____

Lifting Plan

A. Weight

a. Weight of load empty _____ lbs.

_____

b. Weight of headache ball _____ lbs.

c. Weight of block _____ lbs.

d. Weight of lifting bar _____ lbs.

e. Weight of slings and shackles _____ lbs.

f. Weight of jib _____ lbs.

i. Erect ____ Stored

g. Weight of headache ball of jib _____ lbs.

h. Weight of cable (load fall) _____ lbs.

i. Allowance for unaccounted _____ lbs.

j. Other _____ lbs.

_____

Total Weight _____ lbs.

Source of load weight:

_____

(name plate, drawings, scales, etc.)

Weight verified by:

_____

B. Jib

a. Is jib to be used? _____

b. Length of jib _____

c. Angle of jib _____

d. Rated capacity of jib _____

e. Radius _____

C. Crane, Forklift or Lifting Device

a. Any deviation from smooth & solid?

b. Foundations in or near area? ____

Describe:

_____

c. Electrical hazards near area? ____

_____

d. Obstacles or obstructions near area?

_____

e. Swing direction & degrees? _____

D. Cable

a. Number of parts of cables _____

b. Size of cable _____

c. Rated capacity of cable _____

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Attachment AH

CRITICAL LIFT CHECKLIST

E. Sizing of slings & shackles

a. Type of arrangement _____
b. Number of slings in hook up _____
c. Sling size diameter _____
d. Sling length _____
e. Rated capacity _____
f. Pin diameter _____
g. Shackle capacity _____
h. Number of shackles _____
i. Shackle attached to load by:

_ _____

F. Crane

a. Type of crane

_ _____

b. Capacity _ _____
c. Lifting arrangement __ _____
d. Maximum distance
center of load to center of pin of crane __ _____
e. Length of boom __ _____
f. Angle of boom at pick up _ _____
g. Angle of Boom at set _ _____
h. Rated capacity of crane at 360^0
radius for this lift _ _____
i. Maximum load on crane __ _____
j. What is the percentage of the cranes rated
capacity? _ _____

Example:
Chart reading = 6,000 lbs.
Actual weight = 4,000 lbs.
% = actual / chart X 100
% = 4,000 / 6,000 X 100
% = 0.66 X 100
66%

G. Pre lift checklist Yes No

a. Load radius rechecked
b. Crane level
c. Mating acceptable
d. Outriggers extended
e. Signalmen
f. Load chart in crane
g. Crane inspection
h. Wind conditions

Signatures to proceed:
Crane Operator
Name _ _____
Signature ___ _____
Rigger
Name __ _____
Signature ___ _____
Supervisor
Name __ _____
Signature __ _____

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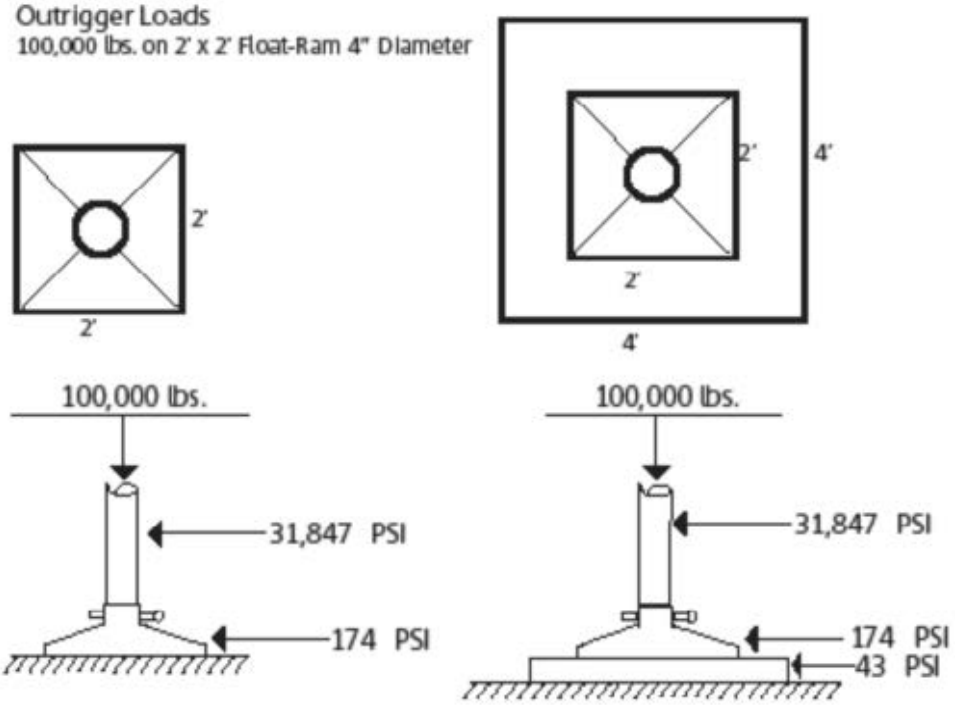
Attachment AI

SOIL BEARING CHART

Mobile Cranes

Outrigger Loads
100,000 lbs. on 2' x 2' Float-Ram 4" Diameter



Soil Bearing Capacities

Soils		Approximate Bearing Capacities
Hardpan-Cemented Sand & Gravel		135 PSI
Gravel-Sand & Gravel -	Compact	110 PSI
	Firm	81 PSI
	Loose	54 PSI
Sand-Coarse to Medium -	Compact	81 PSI
	Firm	60 PSI
	Loose	40 PSI
Sand-Fine, Silty, or with trace of Clay -	Compact	54 PSI
	Firm	40 PSI
	Loose	27 PSI
Silt	Compact	40 PSI
	Firm	33 PSI
	Loose	27 PSI
Clay	Compact	54 PSI
	Firm	33 PSI
	Loose	13 PSI

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(Please Print Clearly)

Attachment AJ

PRE-DEMOLITION SURVEY

Project Name: _____ **Project No.:** _____

Location: _____ **Survey Date:** _____

Name: _____

Major Cross Streets: _____ **Title:** _____

Structure Information

Basement: ☐ Yes ☐ No **Type:** ☐ Block ☐ Concrete ☐ Other: _____

Building Height: _____ **No. of Stories:** _____

Shoring Required: ☐ Yes ☐ No

(if yes, complete the following)

Type of Shoring **Describe:** _____

Location of Shoring **Describe:** _____

Adjacent Properties: **Describe:** _____

(if yes, complete the following)

Protection Required: **Describe:** _____

Underground Tanks: **Describe:** _____

Location of Tanks **Describe:** _____

Previous Use **Describe:** _____

Tanks Drained **Date:** _____

Tanks Purged **Date:** _____

Tested: **Performed By:** _____

Public/Worker Protection

Required: **Describe:** _____

(if yes, complete the following)

Signage: **Describe:** _____

Barricades: **Describe:** _____

Fencing: **Describe:** _____

Demo Methods: _____

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Attachment AJ

PRE-DEMOLITION SURVEY

Disconnects

Reference No.:_____

Utility Disconnect		Disconnect Date	Utility Contact Name and Phone No.
Electric	☐ Yes ☐ No	_____	_____
Gas	☐ Yes ☐ No	_____	_____
Water	☐ Yes ☐ No	_____	_____
Sewer	☐ Yes ☐ No	_____	_____
Phone	☐ Yes ☐ No	_____	_____
Security	☐ Yes ☐ No	_____	_____
PC Network	☐ Yes ☐ No	_____	_____

Location of Energized Power / Communication Lines / Gas:

_____

_____

_____

Signature of Superintendent or General Superintendent Date

Must distribute the following:

☐ Original copy to Superintendent

☐ Copy to General Superintendent

☐ Copy to Main Office Safety File via Barton Malow Safety Dept.

Barton Malow

Attachment AK

PRE-SHIFT EQUIPMENT INSPECTION CHECKLIST

(Use for Backhoe, Bull Dozer, Cart/Golf, Forklift, Excavator, Loader, Etc.)

Project Name / Number:	**Week Beginning Date:**	**Definition:** ✓ = Okay R = Repair Needed NA = Not Applicable
Lift Truck Number or Serial Number:	**Equipment Make/Model:**	

	M	Tu	W	Th	F	Sa	Su
ENGINE							
Engine Oil							
Hydraulic Oil							
Wires							
Fuel Line							
COMPONENTS							
Fuel Level							
Fuel - LPG Tank							
LPG Tank Straps							
Gauges, Temperature							
Gauges, Hour Meter							
Gauges, Sped							
Gauges, Battery							
Battery							
Belts							
Brake Fluid							
Grease Fittings							
Lubricate Units							
Hydraulic Fluid Level							
Hydraulic Lines							
Radiator Level							
Scrubber							
Transmission Level							
BODY							
Annual Inspection							
Lights, Head							
Lights, Tail							
Lights, Signal							
Lights, Strobe							
Lights, Warning							
Fire Extinguisher							
Glass / Windows							
Mirrors							
Instruction Stickers							
Swing/Counterweight Stickers							
Lifting Capacity							
Roll Over Protection (ROPS)							
Boom Angle Indicator							
Quick Coupler Stickers							
OPERATOR NAME PER DAY (PRINT):							
REPAIR NEEDED:							

	M	Tu	W	Th	F	Sa	Su
OPERATIONAL							
Annual Inspection							
Horn							
Back-up Warning Device							
Steering							
Gas Pedal							
Parking Brake							
Service Brake							
Gear Shift Lever							
Seat / Seat Belt							
Tire Condition							
Track Condition							
Quick Coupler							
Manual/Maintenance							
Mast Lift Up							
Mast Lift Down							
Mast Tilt							
Mast Side / Squeeze							
Hose Reel							
ALL TERRAIN							
Boom – Up							
Boom – Down							
Boom – Extend							
Boom – Retract							
Fork Tilt - Forward							
Fork Tilt - Reverse							
Frame Level – Left							
Frame Level – Right							
Carriage Tilt – Left							
Carriage Tilt – Right							
Drive - Forward							
Drive - Reverse							
Fork Side Shift – Left							
Fork Side Shift – Right							
Outriggers – Up							
Outriggers – Down							
Emergency Stop(s)							
OPERATOR NAME PER DAY (PRINT):							
DATE REPAIRED:							

TAKE EQUIPMENT OUT OF SERVICE IF SAFETY WOULD BE COMPROMISED. TAG EQUIPMENT.

Barton Malow

Attachment AL

DAILY AERIAL LIFT INSPECTION CHECKLIST

Project Name / Number:								Week Beginning Date:								Definition: ✓ = Okay R = Repair Needed NA = Not Applicable
Lift Truck Number or Serial Number:								Equipment Make/Model:								
	M	Tu	W	Th	F	Sa	Su		M	Tu	W	Th	F	Sa	Su	
SAFETY								**FUNCTION TEST – GROUND TEST**								
Alarm								Ground Controls								
Fuel Level								Drive – Forward								
Battery Fluid								Drive – Reverse								
Oil Level								Boom – Up								
Coolant Level								Boom – Down								
Hydraulic Fluid Level								Boom – Extend								
Operators Manual in Lift								Boom – Retract								
Hour Meter								Steer – Left								
Fluid Leaks								Steer – Right								
Tire Condition								Rotate – Left								
Horn								Rotate – Right								
Hoses/Belts								Basket/Platform – Level								
Strobe Light								Basket/Platform – Extend								
Work Platform Free of Debris								Basket/Platform – Rotate								
Scissor/Boom Components								Auxiliary Power								
Labels/Instructions Legible								Outrigger – Up								
Proper Tie-Off/Attachments								Outrigger – Down								
Structurally Sound								Emergency Stop(s)								
General Appearance								Emergency Descent Valves								
Rails, Gates, Chains in Place								**FUNCTION TEST – PLATFORM/BASKET CONTROLS**								
								Platform/Basket Controls								
								Boom – Up								
								Boom – Down								
								Boom – Extend								
								Boom – Retract								
								Drive – Forward								
								Drive – Reverse								
								Steer – Left								
								Steer – Right								
								Rotate – Left								
								Rotate – Right								
								Basket/Platform – Level								
								Basket/Platform – Extend								
								Basket/Platform – Rotate								
								Auxiliary Power								
								Outrigger – Up								
								Outrigger – Down								
								Emergency Stop(s)								
OPERATOR NAME PER DAY (PRINT):								**OPERATOR NAME PER DAY (PRINT):**								
REPAIR NEEDED:								**DATE REPAIRED:**								

TAKE EQUIPMENT OUT OF SERVICE IF SAFETY WOULD BE COMPROMISED. TAG EQUIPMENT.

Barton Malow

Attachment AM

DAILY SCAFFOLD SAFETY INSPECTION REPORT

Company Name:	**Date:**
Supervisor's Name:	**Time:**
Type of Scaffold:	
Location:	

Definition: ***Y = Yes*** ***N = No*** ***NA = Not Applicable***

	M	Tu	W	Th	F	Sa	Su	Action Taken
Are 2"x10" mud sills and base plates used?								
If CMU piers are used for footings are they poured solid?								
Are all components free of damage?								
Are scaffold frames plumb and level?								
Are scaffold frames pinned together to prevent displacement?								
Are cross braces used at all locations?								
Are frames and braces compatible?								
Are all working levels fully planked (Max. 1" gap between planks)?								
Are all platforms at least 18" wide?								
Is the work platform not more than 14" from the wall?								
Do all planks overlap their end supports 6" - 12"?								
Are scaffold planks free of damage, splits, etc.?								
Are scaffolds secured to the structure once the scaffold is 4 times as high as it is wide including guardrails?								
Are scaffold ties repeated every 26' vertically after the first set of ties?								
Where scaffold ties are required are they installed at both ends of the scaffold and at 30' max. intervals between ends?								
Is a safe means of access provided to all scaffold platforms more than 2' high? (extension ladders, attachable ladders, stairs or integral ladder access frames must be used.)								
Does the ladder extend 3' above the platform?								
Are ladders secured to prevent displacement?								
Are ladders installed as scaffold is erected to provide access for erectors?								
Are scaffold at safe distances from power lines?								
Are tag lines used when hoisting loads onto scaffolds with cranes?								
Are guardrails installed on all platforms over 6' high?								
Is the top rail between 38"-45" high and capable of supporting 200 lbs.?								
Are midrails capable of supporting 150 lbs.?								
Where cross bracing is used as a mid-rail is the crossing point of the brace between 20"-30" above the work platform?								
Where cross bracing is used as a top rail is the crossing point of the brace between 38"-48" above the work platform? (cross bracing cannot serve as both top rail and mid-rail)?								
Are platforms kept clear of unnecessary material and debris?								
Are all material platforms equipped w/toe boards?								
Are all areas below and around scaffolds barricaded to prevent workers from walking under scaffolds?								
Are canopies erected when workers must pass under scaffolds?								
Are all scaffolds that are incomplete tagged "Danger Do Not Use"?								
Are all damaged components removed from service and tagged "Danger Do Not Use"?								
Are there legible scaffold tags at each access point?								
Is the tag proper for the scaffold condition? (red, yellow or green)								
COMPENTENT PERSON INITIALS PER DAY:								

REPAIR NEEDED:	
DATE REPAIRED:	

TAKE EQUIPMENT OUT OF SERVICE IF SAFETY WOULD BE COMPROMISED. TAG EQUIPMENT.

SAFETY HAZARD NOTIFICATION

Once completed, immediately provide this report to the Safety Department via fax 248-436-5489 or email.

TO PRIME CONTRACTOR _____ Date _____

Supervisor: _____ Project: _____

IN REGARD TO

CONTRACTOR _____ Phone: _____

Supervisor _____

Observations _____

The following unsafe actions or conditions are noted:

PRIME CONTRACTOR	**BARTON MALOW**
Received by: _____	By: _____ Superintendent
Title _____ Date _____	Date: _____
	By: _____ Project Manager
	Date: _____
	By: _____ Project Director
	Date: _____
	By: _____ Vice President
	Date: _____

Corrective action is to be taken immediately. Note below the action taken and return original to Barton Malow within 72 hours

Signed: _____

The report of the above item is not intended to indicate that other unsafe conditions do not exist, nor is it intended to imply that other violations and/or hazards not observed or reported thereon are safe and under control at the time of this survey.

This document **does not** in any way relieve you of your complete responsibility for compliance with safety requirements.

Barton Malow

Attachment AO

HAZARD COMMUNICATION PROGRAM

PURPOSE

The purpose of this plan is to establish a program and procedures for the safe use of hazardous chemical substances at Barton Malow.

The Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (HCS) 29 CFR 1910.1200 (General Industry) and 29 CFR 1926.59 (Construction Industry) call for the development of a hazard communication program when employees may be exposed to any chemical in the workplace under normal conditions of use or in a foreseeable emergency. In 2012, OSHA revised the HCS to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). As a result, this program has been revised to comply with the requirements of the OSHA HCS 2012. The written hazard communication program will include and address the following criteria in order to satisfy the minimum requirements of the OSHA HCS 2012:

- List of all hazardous chemicals known to be present in the workplace or individual work area
- Methods used to ensure that all containers, including pipes and holding tanks, are labeled, tagged or marked properly
- Methods used to obtain and maintain safety data sheets (SDSs)
- Methods used to provide employees with information and training on hazardous chemicals in their work areas
- Methods used to inform employees of the hazards of non-routine work practices
- Methods used to provide the employees of other employers (e.g., consultants, construction contractors and temporary employees) on-site access to SDSs for each hazardous chemical that the other employer's employees may be exposed to while working in the workplace
- Methods used to inform the employees of other employers of precautionary measures that need to be taken to protect themselves during the workplace's normal operating conditions and in foreseeable emergencies
- Methods used to inform the employees of other employers of the labeling system used in the workplace

The hazard communication program will identify the following:

- Key personnel responsible for the program
- Location of chemical inventory list and SDSs
- Workplace labeling system
- Good work practices and procedures to minimize exposures
- How training will be performed
- Procedures to maintain the program and update the required information
- How records will be maintained

President, CEO (signature) Date

Safety Director (signature) Date

HAZARD COMMUNICATION PROGRAM

RESPONSIBILITIES

The Safety Director, __{insert name and title}__, is responsible for administering the hazard communication program.

This person is also responsible for:

- Reviewing the potential hazards and safe use of chemicals
- Maintaining a list of all hazardous chemicals and a master file of SDSs
- Ensuring that all containers are labeled, tagged or marked properly
- Providing new-hire and annual training for employees
- Maintaining training records
- Monitoring the air concentrations of hazardous chemicals in the work environment
- Properly selecting and caring for personal protective equipment
- Directing the cleanup and disposal operations of the spill control team
- Identifying hazardous chemicals used in non-routine tasks and assessing their risks
- Informing outside contractors who are performing work on company property about potential hazards
- Reviewing the effectiveness of the hazard communication program and making sure that the program satisfies the requirements of all applicable federal, state or local hazard communication requirements

The Safety Director__{insert name and title}____, is responsible for:

- Contacting chemical manufacturers and/or distributors to obtain SDSs and secondary labels for hazardous chemicals used or stored in the workplace
- Reviewing incoming hazardous chemicals to verify correct labeling
- Holding hazardous chemicals in the receiving area until receipt of the SDS for the product

Employees are responsible for the following aspects of the hazard communication program:

- Identifying hazards before starting a job
- Reading container labels and SDSs
- Notifying the supervisor of torn, damaged or illegible labels or of unlabeled containers
- Using controls and/or personal protective equipment provided by the company to minimize exposure
- Following company instructions and warnings pertaining to chemical handling and usage
- Properly caring for personal protective equipment, including proper use, routine care and cleaning, storage, and replacement
- Knowing and understanding the consequences associated with not following company policy concerning the safe handling and use of chemicals
- Participating in training

CHEMICAL INVENTORY LIST

Attached to this program is a list of hazardous chemicals used, produced and/or stored at Barton Malow Copies of the chemical inventory list are available in the __{insert location}__.

> This list will contain the product identifier that is referenced on the appropriate SDS, the location or work area where the chemical is used, and the personal protective equipment and precautions for each chemical product. This list will be updated annually and whenever a new chemical is introduced to the workplace.

Each container of hazardous chemicals received from the chemical manufacturer, importer or distributor will be labeled with the following information:

- Product identifier
- Signal word
- Hazard statement(s)
- Pictogram(s)
- Precautionary statement(s)
- Name, address and telephone number of the chemical manufacturer, importer or other responsible party

Barton Malow will use the GHS labeling system for secondary containers. When a chemical is transferred from the original container to a portable or secondary container, the container will be labeled, tagged or marked with a GHS label containing the following information:

- Product identifier
- Signal word
- Hazard statement(s)
- Pictogram(s)
- Precautionary statement(s)

Portable containers into which hazardous chemicals are transferred from labeled containers and that are intended for the immediate use of the employee who performs the transfer does not require a label. If the portable container will be used by more than one employee or used over the course of more than one shift, the container must be labeled. Food and beverage containers should never be used for chemical storage.

Signs, placards, process sheets, batch tickets, operating procedures or other such written materials may be used in lieu of affixing labels to individual, stationary process containers as long as the alternative method identifies the containers to which it is applicable and conveys the information required for workplace labeling.

Where an area may have a hazardous chemical in the atmosphere (e.g., where extensive welding occurs), the entire area will be labeled with a warning placard.

Pipes that contain hazardous chemicals should be labeled in accordance with ANSI/ASME A13.1 and indicate the direction of flow. (Please note that this not a requirement of the OSHA HCS but a best practice or requirement of local jurisdiction.)

Workplace labels or other forms of warning will be legible, in English and prominently displayed on the container or readily available in the work area throughout each work shift. If employees speak languages other than English, the information in the other language(s) may be added to the material presented as long as the information is presented in English as well.

Note: After Dec. 1, 2015, distributors may not ship containers labeled by the chemical manufacturer or importer unless the label on the container meets GHS labeling requirements.

SAFETY DATA SHEETS

An SDS will be obtained and maintained for each hazardous chemical in the workplace. SDSs for each hazardous chemical will be readily accessible during each work shift to employees when they are in their work areas.

SDSs will be obtained from the chemical manufacturer, importer or distributor. The name on the SDS will be the same as that listed on the chemical inventory list. SDSs for chemicals or

process streams produced by the company will be developed and provided by the Safety Director.

The Safety Director will maintain the master file of all original SDSs. Hard copies of the master file will be located in the __{insert location}__.

SDSs for new products or updated SDSs for existing products will be obtained by the purchasing agent and forwarded to the Safety Director. The Safety Director will then update the master file with new and/or updated SDSs.

If problems arise in obtaining an SDS from the chemical manufacturer, importer or distributor, a phone call will be made to request an SDS and to verify that the SDS has been sent. The phone call will be logged and a letter will be sent the same day. The company will maintain a written record of all efforts to obtain SDSs. If these efforts fail to produce an SDS, the local OSHA office will be contacted for assistance.

EMPLOYEE INFORMATION AND TRAINING

Employees included in the hazard communication program will receive the following information and training prior to exposure to hazardous chemicals and when new chemical hazards are introduced to their work area:

- Requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 (General Industry) or 29 CFR 1926.59 (Construction Industry)
- Operations in the work area where hazardous chemicals are present
- Location and availability of the hazard communication program, chemical inventory list and SDSs
- Methods and observations used to detect the presence or release of a hazardous chemical in the work area, such as monitoring devices, visual appearance or odor of hazardous chemicals when being released
- Physical, health, simple asphyxiation, combustible dust and pyrophoric gas hazards, as well as hazards not otherwise classified of the chemicals in the work area
- Measures employees can take to protect themselves from hazards, such as appropriate controls, work practices, emergency and spill cleanup procedures, and personal protective equipment to be used
- Explanation of the labels received on shipped containers
- Explanation of the workplace labeling system
- Explanation of the SDS, including order of information and how employees can obtain and use the appropriate hazard information

Note: To facilitate understanding of the new GHS system, the OSHA HCS requires that employees be trained regarding the new label elements and SDS format by Dec. 1, 2013. Employers are required to update the hazard communication program and to provide any additional training for newly identified physical or health hazards no later than June 1, 2016.

NON-ROUTINE TASKS

The Safety Director and the immediate supervisor of an employee performing a non-routine task, such as cleaning machinery and other process equipment, is responsible for ensuring that adequate training has been provided to the employee on any hazards associated with the non-routine task. Employees share in this responsibility by ensuring that their immediate supervisor knows that the non-routine task will be performed.

Special work permits are required for the performance of certain non-routine tasks, such as entry to confined spaces, breaking and opening piping systems, and welding and burning. For some special tasks, employees are required to follow special lockout/tagout procedures to ensure that all machinery motion has stopped and energy sources are isolated prior to and during the performance of such tasks.

CONTRACTORS

Prior to beginning work, the Safety Director will inform contractors with employees working on company property of any hazardous chemicals that the contractors' employees may be exposed to while performing their work. The Safety Director will also inform contractors of engineering or work practice control measures to be employed by the contractor, personal protective equipment to be worn by the contractors' employees, and any other precautionary measures that need to be taken to protect their employees during the workplace's normal operating conditions and in foreseeable emergencies.

Furthermore, the Safety Director will advise contractors that they must comply with all OSHA standards while working on company property. Appropriate controls will be established with the contractor to ensure that company employees are not exposed to safety and health hazards from work being performed by the contractor and that company operations do not expose contractors' employees to hazards.

The Safety Director will inform contractors of the workplace labeling system and the availability and location of SDSs for any chemical to which contractors' employees may be exposed while performing their work.

RECORDKEEPING

Records pertaining to the hazard communication program will be maintained by the Safety Director. The Safety Director will keep the following records:

- Chemical inventory list
- Hazardous material reviews
- Copies of phone call logs and letters requesting SDSs
- Employee training records
- Warnings issued to employees for not following the hazard communication program

I,__{insert Employee Name}_, have read and understand the hazard communication program at Barton Malow

_____

(Barton Malow employee signature) *Date*

Barton Malow

Attachment AP

STRETCH + FLEX PROGRAM

MONDAY

Stretching Program - Leader's Guide

1 Walking Warm-Up

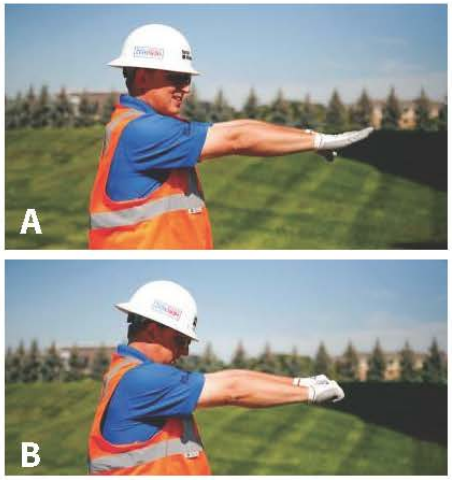
Perform 1-3 minutes of brisk walking.
Then stop and begin stretching routine.

2 Waist Twist and Hold

3 Upper Back Stretch

4 Shoulder Circles

5 Hall Stretch



6 Standing Quad Stretch

Barton Malow

Attachment AP

STRETCH + FLEX PROGRAM

TUESDAY

Stretching Program - Leader's Guide

1 Walking Warm-Up

Perform 1-3 minutes of brisk walking.
Then stop and begin stretching routine.

2 Low Back Extension

3 Overhead Stretch

4 Forearm Stretch

5 Side Lunge

6 Ankle Flex Stretch

Barton Malow

Attachment AP

STRETCH + FLEX PROGRAM

TUESDAY

Stretching Program - Leader's Guide

1 Walking Warm-Up

- ✓ Perform 1-3 minutes of brisk walking, then stop and begin stretching routine

Precautions/Contraindications

- ✓ If walking inside, avoid congested/hazardous areas; if walking outdoors in a heavy traffic area, be aware of motorists.
- ✓ This stretch may not be appropriate for some individuals with back, leg, foot or hip problems.

2 Low Back Extension

- ✓ Stand with feet placed shoulder-width apart, and abdominal muscles contracted to hold torso stable
- ✓ Cross arms across chest so hands are resting on opposite shoulders (shoulders should be relaxed)
- ✓ Lean back slightly until a slight stretch is felt in the lower back, not to exceed 30 degrees (caution, do not overextend)
- ✓ Hold; relax; repeat
- ✓ Maintain normal, steady breathing

Recommendations

- ✓ Perform 2-4 stretches, hold each stretch a minimum of 15-30 seconds

Conditioning Effect

- ✓ Stretches the lower back

Precautions/Contraindications

- ✓ Do not stretch beyond the point of mild tension
- ✓ This stretch may be contraindicated for some individuals with back problems

3 Overhead Stretch

- ✓ Stand with feet shoulder-width apart and abdominal muscles contracted to hold torso stable
- ✓ Reach both arms overhead, clasp the hands, turn the palms facing upward and reach as high as possible, trying to elongate the torso
- ✓ Hold; relax and repeat

Recommendations

- ✓ Perform 2-4 stretches, hold each stretch a minimum of 15-30 seconds

Conditioning Effect

- ✓ Stretches the shoulders, waist, and upper back

Precautions/Contraindications

- ✓ None

4 Forearm Stretch

- ✓ Stand with feet placed shoulder-width apart and abdominal muscles contracted to hold torso stable
- ✓ Extend one arm straight out in front of the body with fingers pointed upwards
- ✓ With opposite hand, gently grasp fingers of the extended arm and pull palm (from side) toward the body until mild tension is felt; hold for 15 seconds
- ✓ Now bend the wrist so fingers are pointing downwards
- ✓ With opposite hand, gently grasp fingers of the extended arm and pull back of hand (from side) toward the body until mild tension is felt; hold for 15 seconds
- ✓ Relax and repeat on opposite side
- ✓ Maintain normal, steady breathing

Recommendations

- ✓ Perform both stretches on each arm, hold each stretch a minimum of 15 seconds

Conditioning Effect

- ✓ Stretches the top and bottom of forearm and wrist

Precautions/Contraindications

- ✓ If too much strain is felt, decrease the tension placed on fingers and palms
- ✓ This stretch may be contraindicated for some individuals with wrist or hand problems

5 Side Lunge

- ✓ Stand with feet placed shoulder-width apart and abdominal muscles contracted to ensure torso stabilization
- ✓ Step to the side with one leg about 2-3 feet (exact distance depends upon leg length)
- ✓ Bend one knee and shift body weight onto that leg, placing hands on bent thigh for support.; keep bent knee directly over heel
- ✓ Slowly lower the body and turn the foot of the straight leg slightly outwards until mild tension is felt on the inside of the thigh of the straight leg
- ✓ Keep back straight
- ✓ Hold; relax; repeat on opposite side
- ✓ Maintain normal, steady breathing

Recommendations

- ✓ Perform 1-2 stretches on each side, hold each stretch a minimum of 15-30 seconds

Conditioning Effect

- ✓ Stretches the inner thigh

Precautions/Contraindications

- ✓ If too much strain is felt on inner thigh, shorten stance (i.e. bring feet closer together)
- ✓ This stretch may be contraindicated for some individuals with hip problems

6 Ankle Flex Stretch

- ✓ Stand with feet placed shoulder-width apart and abdominal muscles contracted to ensure torso stabilization
- ✓ Allow arms to hang at sides
- ✓ Place one heel on ground while pointing toes upward (flex)
- ✓ Hold for 15 seconds
- ✓ Lower toes to the ground and lift heel off of the ground (extend)
- ✓ Hold for 15 seconds
- ✓ Relax and repeat on opposite side
- ✓ Maintain normal, steady breathing

Recommendations

- ✓ Perform both stretches on each side; hold each stretch for a minimum of 15 seconds

Conditioning Effect

- ✓ Stretches the calf, shin and ankle

Precautions/Contraindications

- ✓ This stretch may be contraindicated for some individuals with ankle problems

STRETCH + FLEX PROGRAM

WEDNESDAY

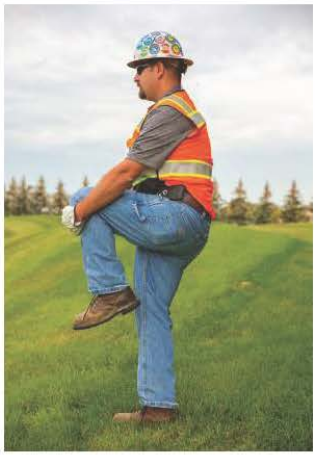
Stretching Program - Leader's Guide

1 Walking Warm-Up

Perform 1-3 minutes of brisk walking.
Then stop and begin stretching routine.

2 Side Bend Stretch

3 Standing Knee Lifts



4 Calf Stretch

5 Shoulder Stretch

6 Forearm Rotation

Barton Malow

Attachment AP

STRETCH + FLEX PROGRAM

WEDNESDAY

Stretching Program - Leader's Guide

1 Walking Warm-Up

- ✓ Perform 1-3 minutes of brisk walking, then stop and begin stretching routine

Precautions/Contraindications

- ✓ If walking inside, avoid congested/hazardous areas; if walking outdoors in a heavy traffic area, be aware of motorists.
- ✓ This stretch may not be appropriate for some individuals with back, leg, foot or hip problems.

2 Side Bend Stretch

- ✓ Stand with feet placed shoulder-width apart and abdominal muscles contracted to hold torso stable
- ✓ Place one hand on same side outer thigh for support
- ✓ Reach up with opposite hand as high as possible (palm towards ceiling) and bend slightly to the opposite side until a stretch is felt in the waist and up through the shoulder
- ✓ Hold; relax; repeat on opposite side
- ✓ Maintain normal, steady breathing

Recommendations

- ✓ Perform 1-2 stretches on each side, hold each stretch a minimum of 15-30 seconds

Conditioning Effect

- ✓ Stretches the waist and upper torso

Precautions/Contraindications

- ✓ Bend directly to the side; do not lean forward or backward
- ✓ Do not arch back
- ✓ This stretch may be contraindicated for some individuals with back problems

3 Standing Knee Lifts

- ✓ Stand with feet together, knees slightly bent, and abdominal muscles contracted to ensure torso stabilization
- ✓ Lift one knee, placing clasped hands and fingers slightly below or under lifted knee (use one hand to hold on to support object, if necessary)
- ✓ Keep torso and back straight
- ✓ Hold; relax; repeat on opposite side
- ✓ Maintain normal, steady breathing

Recommendations

- ✓ Perform 1-2 stretches on each leg; hold each stretch a minimum of 15-30 seconds

Conditioning Effect

- ✓ Stretches the lower back, buttocks, and back of thighs (hamstrings)

Precautions/Contraindications

- ✓ Do not arch back
- ✓ This stretch may be contraindicated for some individuals with poor posture or balance

4 Calf Stretch

- ✓ Stand with feet placed 3-4 feet apart (one foot in front of the other)
- ✓ Place hands on front thigh for support
- ✓ Keeping both heels on the ground and both feet facing forward, slowly bend front knee and lower body forward until a stretch is felt in the calf of the back leg; body should be straight from head to heel of back leg
- ✓ Hold; relax and repeat on other side
- ✓ Maintain normal, steady breathing

Recommendations

- ✓ Perform 1-2 stretches on each leg, hold each stretch a minimum of 15-30 seconds

Conditioning Effect

- ✓ Stretches the calf muscles of the lower leg

Precautions/Contraindications

- ✓ Do not allow bent front knee to exceed tip of toes
- ✓ This stretch may be contraindicated for some individuals with ankle problems

5 Shoulder Stretch

- ✓ Stand with feet placed shoulder-width apart and abdominal muscles contracted to ensure torso stabilization
- ✓ Extend one arm in front of the body, parallel to the ground
- ✓ Grasp the straight elbow with the opposite wrist and gently pull across the front of the body until mild tension is felt in the back of the shoulder and tricep of the straight arm
- ✓ Hold; relax; repeat on opposite side
- ✓ Maintain normal, steady breathing

Recommendations

- ✓ Perform 1-2 stretches on each arm, hold each stretch a minimum of 15-30 seconds

Conditioning Effect

- ✓ Increase range of motion in the shoulder joint
- ✓ Stretches the shoulder and back of arm (pectorals, trapezius, rhomboids, deltoids, and triceps)

Precautions/Contraindications

- ✓ Avoid overstretching by forcing the arm towards the body
- ✓ This stretch may not be appropriate for individuals with shoulder problems

6 Forearm Rotation

- ✓ Stand with feet placed shoulder-width apart and abdominal muscles contracted to hold torso stable
- ✓ Clap hands together with fingers intertwined and bring hands up towards torso
- ✓ Keep shoulders relaxed
- ✓ Rotate wrists so that thumbs are rotating to one side; hold for 3-5 seconds
- ✓ Next, rotate wrists so that thumbs are rotating to opposite side; hold for 3-5 seconds and repeat
- ✓ Maintain normal, steady breathing

Recommendations

- ✓ Perform 6-10 stretches in each direction; hold each stretch a minimum of 3-5 seconds

Conditioning Effect

- ✓ Stretches the forearms and hands

Precautions/Contraindications

- ✓ This stretch may be contraindicated for some individuals with hand problems

Barton Malow

Attachment AP

STRETCH + FLEX PROGRAM

THURSDAY

Stretching Program - Leader's Guide

1 Walking Warm-Up

Perform 1-3 minutes of brisk walking.
Then stop and begin stretching routine.

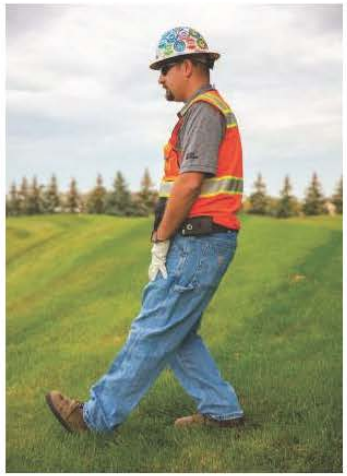
2 Three Point Back Stretch

3 Arm Crosses

4 Praying Stretch

5 Achilles Stretch

6 Standing Hamstring



Barton Malow

Attachment AP

STRETCH + FLEX PROGRAM

THURSDAY

Stretching Program - Leader's Guide

1 Walking Warm-Up

- ✓ Perform 1-3 minutes of brisk walking, then stop and begin stretching routine

Precautions/Contraindications

- ✓ If walking inside, avoid congested/hazardous areas; if walking outdoors in a heavy traffic area, be aware of motorists.
- ✓ This stretch may not be appropriate for some individuals with back, leg, foot or hip problems.

2 Three Point Back Stretch

- ✓ Stand with feet placed shoulder-width apart and abdominal muscles contracted to hold the torso stable
- ✓ Place hands on hips for stability
- ✓ Lean to one side not to exceed 45 degrees; hold; return to center
- ✓ Lean/flex forward not to exceed 30 degrees; hold; return to center
- ✓ Lean to the opposite side not to exceed 45 degrees; hold; return to center
- ✓ Maintain normal, steady breathing

Recommendations

- ✓ Perform 1-2 stretches at each point, hold each stretch a minimum of 10-20 seconds

Conditioning Effect

- ✓ Stretches the lower back, abdominals and waist

Precautions/Contraindications

- ✓ Do not stretch beyond the point of mild tension
- ✓ This stretch may be contraindicated for some individuals with back problems

3 Arm Crosses

- ✓ Stand with feet placed shoulder-width apart and abdominal muscles contracted to ensure torso stabilization
- ✓ Extend arms out to the sides at shoulder level parallel to the ground with elbows bent at 90 degrees; keeping shoulders relaxed
- ✓ Bring arms forward to cross in front of the chest
- ✓ Lightly grasp upper arms or shoulders
- ✓ Hold; open the arms to starting position and repeat alternating the other arm to the top
- ✓ Maintain normal, steady breathing

Recommendations

- ✓ Perform 2-3 sets of crosses in a slow and controlled fashion; hold each stretch for a minimum of 10-15 seconds

Conditioning Effect

- ✓ Increases range of motion in the shoulder joint.
- ✓ Stretches the chest, upper back and shoulders (pectorals, trapezius, rhomboids, and deltoids)

Precautions/Contraindications

- ✓ Avoid throwing or whipping the arms back and forth

4 Praying Stretch

- ✓ Stand with feet shoulder-width apart and abdominal muscles contracted to hold torso stable
- ✓ Both arms should be at side of body with both elbows bent and pointing outward so forearms are parallel to the ground
- ✓ Press palms together and slowly lower wrists until you feel a comfortable stretch in the wrists and forearms
- ✓ Hold; relax; repeat
- ✓ Maintain normal, steady breathing

Recommendations

- ✓ Perform 1-2 stretches, hold each stretch a minimum of 30-60 seconds

Conditioning Effect

- ✓ Increases range of motion in the wrists
- ✓ Stretches the wrists, forearms, and chest

Precautions/Contraindications

- ✓ This stretch may not be appropriate for individuals with hand or wrist problems

5 Achilles Stretch

- ✓ Stand with feet placed 3-4 feet apart (one foot in front of the other)
- ✓ Place hands on front thigh for support, if necessary
- ✓ Keeping both heels on the ground and both feet facing forward, slowly bend front knee and lower body forward
- ✓ Slowly bend the back knee slightly until a comfortable stretch near the ankle of the back leg (back heel should remain on ground)
- ✓ Maintain normal, steady breathing

Recommendations

- ✓ Perform 1-2 stretches on each leg, hold each stretch a minimum of 15-30 seconds

Conditioning Effect

- ✓ Stretches the calf muscles of the lower leg, especially near the ankle
- ✓ Variations
- ✓ If a wall is available, you may place hands on wall at shoulder level for support (as opposed to having hands on thigh)

Precautions/Contraindications

- ✓ This stretch may be contraindicated for some individuals with ankle problems

6 Standing Hamstring

- ✓ Stand with feet placed shoulder-width apart and abdominal muscles contracted to ensure torso stabilization
- ✓ Extend one leg forward and place heel on the ground and point toes upwards
- ✓ Bend opposite knee slightly
- ✓ Place hands on thigh of straight leg for support if necessary
- ✓ Keeping thighs aligned, bend at hips until a comfortable stretch is felt in the back of the thigh of extended leg (sit into the stretch)
- ✓ Hold back straight and keep head aligned with spine
- ✓ Hold, relax; repeat on opposite side
- ✓ Maintain normal, steady breathing

Recommendations

- ✓ Perform 1-2 stretches on each leg, hold each stretch a minimum of 15-30 seconds

Conditioning Effect

- ✓ Stretches the back of thigh (hamstrings)

Precautions/Contraindications

- ✓ Avoid pressing on the knees
- ✓ This stretch may be contraindicated for some individuals with back problems

Barton Malow

Attachment AP

STRETCH + FLEX PROGRAM

FRIDAY

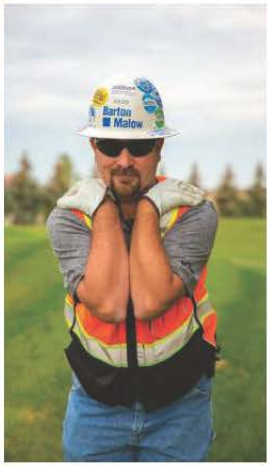
Stretching Program - Leader's Guide

1 Walking Warm-Up

Perform 1 minute of brisk walking.
Then stop and begin stretching routine.

2 Low Back Extension

3 Upper Back/Chest Stretch



4 Tricep Stretch

5 Three Point Neck Stretch

6 Standing Quad Stretch

Barton Malow

Attachment AP

STRETCH + FLEX PROGRAM

FRIDAY

Stretching Program - Leader's Guide

1 Walking Warm-Up

- ✓ Perform 1-3 minutes of brisk walking, then stop and begin stretching routine

Precautions/Contraindications

- ✓ If walking inside, avoid congested/hazardous areas; if walking outdoors in a heavy traffic area, be aware of motorists.
- ✓ This stretch may not be appropriate for some individuals with back, leg, foot or hip problems.

2 Low Back Extension

- ✓ Stand with feet placed shoulder-width apart, and abdominal muscles contracted to hold torso stable
- ✓ Cross arms across chest so hands are resting on opposite shoulders (shoulders should be relaxed)
- ✓ Lean back slightly until a slight stretch is felt in the lower back, not to exceed 30 degrees (caution, do not overextend)
- ✓ Hold; relax; repeat
- ✓ Maintain normal, steady breathing

Recommendations

- ✓ Perform 2-4 stretches, hold each stretch a minimum of 15-30 seconds

Conditioning effect

- ✓ Stretches the lower back

Precautions/contraindications

- ✓ Do not stretch beyond the point of mild tension
- ✓ This stretch may be contraindicated for some individuals with back problems

3 Upper Back/Chest Stretch

- ✓ Stand with feet placed shoulder-width apart, and abdominal muscles contracted to hold torso stable
- ✓ Place fingertips on shoulders, raise elbows to shoulder level and point them out to the sides
- ✓ Bring elbows together in front of the body until a stretch is felt in the upper back (round the upper back for a deeper stretch); hold
- ✓ Move the elbows back to sides until a stretch is felt in the chest; hold
- ✓ Relax and repeat
- ✓ Maintain normal, steady breathing

Recommendations

- ✓ Perform 1-2 stretches to front and back, hold each stretch a minimum of 15-30 seconds

Conditioning effect

- ✓ Stretches the upper back and chest

Precautions/contraindications

- ✓ Do not stretch beyond the point of mild tension

4 Tricep Stretch

- ✓ Stand with feet placed shoulder-width apart, and abdominal muscles contracted to hold torso stable
- ✓ Reach both arms overhead
- ✓ Bend one arm at the elbow, dropping the hand behind the head and touching it to the mid-back
- ✓ Grasp top of raised elbow with opposite hand and gently press down and in, toward center of body
- ✓ Hold; relax and repeat on other arm
- ✓ Maintain normal, steady breathing

Recommendations

- ✓ Perform 1-2 stretches on each arm; hold each stretch a minimum of 15-30 seconds

Conditioning effect

- ✓ Stretches the muscles of the upper arm and shoulder

Precautions/contraindications

- ✓ Press/pull elbow gently; avoid stretching beyond a comfortable level
- ✓ This stretch may be contraindicated for some individuals with shoulder and neck problems

5 Three Point Neck Stretch

- ✓ Keeping shoulders relaxed, slowly lower head forward; bring chin towards chest
- ✓ Hold; return to starting position
- ✓ Slowly lower head toward either side; bring the ear toward the shoulder
- ✓ Hold; return to starting position and repeat on other side
- ✓ Maintain normal, steady breathing

Recommendations

- ✓ Perform 1-2 stretches at each point, hold each stretch a minimum of 10-20 seconds

Conditioning effect

- ✓ Stretches the neck and upper back

Precautions/contraindications

- ✓ Do not stretch beyond the point of mild tension
- ✓ This stretch may be contraindicated for some individuals with neck problems

6 Standing Quad Stretch

- ✓ Stand with feet together, and abdominal muscles contracted to hold torso stable
- ✓ Keeping knees aligned, bend one knee and raise foot toward buttocks
- ✓ Grasp ankle (or back of pant leg) of bent leg with same side hand; do not grasp toes (use one hand to hold on to support object, if necessary)
- ✓ Tuck the buttocks under the hipbones to yield a stretch in the front of the thigh
- ✓ Keep the body erect
- ✓ Hold; relax; repeat on opposite side
- ✓ Maintain normal, steady breathing

Recommendations

- ✓ Perform 1-2 stretches on each leg; hold each stretch a minimum of15-30 seconds

Conditioning effect

- ✓ Stretches the front of the thighs (quadriceps)

Precautions/contraindications

- ✓ Lift foot straight back; do not lift to the side
- ✓ Avoid pulling the lower leg too close to the thigh; this may strain the knee
- ✓ This stretch may be contraindicated for some individuals with knee problems, ankle problems , poor posture or poor balance

STRETCH & FLEX PROGRAM

BARTON MALOW SAFETY STANDARD

We have one Barton Malow Safety Standard Promote Safety – Quality – Productivity on every Barton Malow Project

Lead by example with Zero Tolerance for Unsafe Acts or Conditions

Work towards a best-in-class safety culture that includes education, mentoring, empowerment, and accountability.

STOP the job any time a worker has a safety concern

Work with subcontractors that share our pursuit of excellent safety performance

Manage every incident to reduce impact on performance

"Build it Safe...No Exceptions"

BENEFITS OF STRETCHING

- ✓ Stretching increases flexibility. Flexible muscles can improve your daily performance. Tasks such as lifting packages and bending to tie your shoes become easier and less tiring.
- ✓ Stretching improves range of motion of your joints. Good range of motion keeps you in better balance, which will help keep you mobile and less prone to injury from falls – especially as you age.
- ✓ Stretching improves circulation. Stretching increases blood flow to your muscles. Improved circulation can speed recovery after muscle injuries.
- ✓ Stretching promotes better posture. Frequent stretching keeps your muscles from getting tight, allowing you to maintain proper posture and minimize aches and pains.
- ✓ Stretching can relieve stress. Stretching relaxes the tense muscles that often accompany stress.
- ✓ Stretching may help prevent injury. Preparing your muscles and joints for activity can protect you from injury, especially if your muscles or joints are tight.

STRETCHING ESSENTIALS

- ✓ Target major muscle groups. When you're stretching, focus on your calves, thighs, hips, lower back, neck and shoulders. Also, stretch muscles and joints that you routinely use at work or play.
- ✓ Warm up first. Stretching muscles when they're cold increases your risk of injury, including pulled muscles. Warm up by walking while gently pumping your arms.
- ✓ Hold each stretch for a minimum of 15-20 seconds. It takes time to lengthen tissues safely. Hold your stretches for at least 15-20 seconds and up to 60 seconds for additional flexibility. That can seem like a long time, so keep an eye on your watch. Then repeat the stretch on the other side.
- ✓ Don't bounce. Bouncing as you stretch can cause small tears in the muscle. These tears can leave scar tissue as the muscle heals, which tightens the muscle even further – making you less flexible and more prone to pain.
- ✓ Focus on a pain-free stretch. Expect to feel tension while you're stretching. If it hurts, you've gone too far. Back off to the point where you don't feel any pain, then hold the stretch.
- ✓ Relax and breathe freely. Don't hold your breath while you're stretching.

Resource: Stretching: Focus on flexibility. http://www.mayoclinic.com/health/stretching/HQ01447

Barton Malow COMPANY

CRISIS INCIDENT MANAGEMENT

COMMUNICATION FLOW

INCIDENT OCCURS

SUPERINTENDENT
NOTIFIES TRADEWORKERS + SUBCONTRACTORS

PROJECT MANAGER
NOTIFIES SAFETY LEADERSHIP TEAM MEMBER

SAFETY LEADERSHIP TEAM MEMBER
NOTIFIES CRISIS TEAM + SCHEDULES CALL IF NECESSARY

CRISIS TEAM
ADDRESSES INCIDENT AGENDA + ASSIGNS RESPONSIBILITIES

MEDIA PROTOCOL

The Safety Leadership Team Member will direct the flow of information and communication to necessary individuals. The officer-in-charge or corporate resources will manage all media inquiries in the event of an incident or crisis.

In the event that the media does contact the jobsite directly, the following statement should be used:
"My name is_____ and I am the_____ for Barton Malow Company. Our first priority is the welfare of the workers. Due to the current emergency, we do not have verifiable information at this time. Please give us time to gather facts and take care of our responsibilities. In the meantime, please remain in the safety area. Thank you for your cooperation."

RESPONSIBILITIES

SAFETY LEADERSHIP TEAM MEMBER RESPONSIBILITIES

- **FIND OUT** - What happened? Who was involved and what firm do they work for? What hospital was the injured person taken to? What time did it happen and where?
- **NOTIFY** Crisis Team.
- **SCHEDULE** a conference call within one hour of notification to include:
  - Executive Leadership
  - Business Unit VP
  - Project Director
  - Project Team
  - VP of Branding + Communications
- **DRAFT** Incident Report (**Attachment L in Barton Malow Safety Manual**).
- **PROVIDE** information for leadership to communicate with the company within 24 hours of incident.
- **FOLLOW-UP** with Crisis Team upon conclusion of incident.

PROJECT TEAM RESPONSIBILITIES

- **CALL 911** or appropriate emergency phone number.
- **INSTRUCT** Superintendent or Project Safety Professional to address project site safety needs.
- **DISCONNECT** camera on jobsite.
- **SECURE** project site & set-up temporary safety + egress access.
- **ENACT** Site Specific Emergency Preparedness Protocols. Notify Safety Leadership Team Member of Incident.
- **FIND OUT** - What happened? Who was involved and what firm do they work for? What hospital was the injured person taken to? What time did it happen and where?
- **INSTRUCT** Barton Malow project team not to make any statements to the media or other workers. DO NOT SEND EMAILS, PHOTOS, OR TEXT MESSAGES TO ANYONE OTHER THAN SAFETY LEADERS.
- **CONTACT** the owner regarding the incident and meet in person to discuss next steps.
- **CONTACT** Trade Contractor Representative of injured tradesperson. DO NOT GIVE MEDICAL UPDATE - LEAVE THAT TO MEDICAL PROFESSIONAL.
- Consider when notifying: time of day, layout of jobsite, number of workers on-site, and size of project footprint.

TOM PORTER
Vice President of Safety
248.766.1875
tom.porter@bmco.com

MIKE MUELLER
Union Self-Perform Safety Lead
248.918.8632
mike.mueller@bmco.com

Barton Malow

Attachment AR

REQUEST FOR DEMO REMOVAL/RELOCATION SUBMITTAL

Contractor: _____ **Date:** _____

Work Area: _____

Description: _____

_____

Work to be Performed: _____

_____

Items Identified: _____

Removal/Relocate: _____

Disconnects

	Yes	No	N/A	Comments
Gas:				
Water:				
Plumbing:				
HVAC:				
Communication				
Fire-protection:				
Electrical:				
Air:				
Lead Survey:				
Asbestos:				
Concerns:				
Dust Enclosures:				
Reviewed Drawings:				
Layouts Verified:				
Other:				
_____				
_____				
_____				
_____				
_____				
_____				

Completed Sign off

Barton Malow _____ **Date:** _____

_____ **Date:** _____

_____ **Date:** _____

_____ **Date:** _____

_____ **Date:** _____

Attachment AS

RESPIRATOR MEDICAL EVALUATION QUESTIONNAIRE (RMEQ)

EMPLOYEE: *Barton Malow allows you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. A Barton Malow supervisor is available if you need assistance, but to maintain your confidentiality, your completed questionnaire shall only be reviewed by a Licensed Health Care Practitioner (LHCP). You will be provided with information on how this questionnaire will be sent or delivered to the health care professional who will review it.*

Part A. Section 1. (Mandatory) Every employee selected to use any type of respirator must provide the following information (please print).

Date:_____

Name: _____

Job title: _____

Date of Birth: _____ Gender: Male ❑ Female ❑

Height: _____ Weight: _____

A phone number where the health care professional can reach you (if needed):
(_____) _____

The best time to phone you at this number: _____

Below is the contact information for the Health Care Professional that will review this questionnaire. You may write it down for your records or ask for it at any time and it will be provided to you.

_____

Check the type of respirator you will use (you can check more than one category):

a. N, R, or P disposable respirator (filter-mask, non-cartridge type only).

b. Other type (for example, half or full-face type, powered-air purifying, supplied-air, self-contained breathing apparatus).

Have you ever worn a respirator (check one)? ..... Yes ❑ No ❑

If "yes," what type(s)? _____

Barton Malow

Attachment AS

RESPIRATOR MEDICAL EVALUATION QUESTIONNAIRE (RMEQ)

Part A. Section 2. (Mandatory) Every employee selected to use any type of respirator must answer questions 1 through 9 below (please check "yes" or "no").

1. Do you currently smoke tobacco, or have you smoked tobacco in the last month? .....Yes ❑ No ❑
2. Have you ever had any of the following conditions?

a. Seizures (fits) .....Yes ❑ No ❑
b. Diabetes (sugar disease) .....Yes ❑ No ❑
c. Allergic reactions that interfere with your breathing .....Yes ❑ No ❑
d. Claustrophobia (fear of closed-in places) .....Yes ❑ No ❑
e. Trouble smelling odors .....Yes ❑ No ❑

3. Have you ever had any of the following pulmonary or lung problems?

a. Asbestosis .....Yes ❑ No ❑
b. Silicosis .....Yes ❑ No ❑
c. Asthma .....Yes ❑ No ❑
d. Pneumothorax (collapsed lung) .....Yes ❑ No ❑
e. Chronic bronchitis.....Yes ❑ No ❑
f. Lung cancer.....Yes ❑ No ❑
g. Emphysema.....Yes ❑ No ❑
h. Broken ribs.....Yes ❑ No ❑
i. Pneumonia.....Yes ❑ No ❑
j. Any chest injuries or surgeries.....Yes ❑ No ❑
k. Tuberculosis .....Yes ❑ No ❑
l. Any other lung problem that you have been told about.....Yes ❑ No ❑

4. Do you currently have any of the following symptoms of pulmonary or lung illness?

a. Shortness of breath .....Yes ❑ No ❑
b. Shortness of breath when walking fast on level ground or walking up a slight hill or incline .....Yes ❑ No ❑
c. Shortness of breath when walking with other people at an ordinary pace on level ground.....Yes ❑ No ❑
d. Have to stop for breath when walking at your own pace on level ground.....Yes ❑ No ❑
e. Shortness of breath when washing or dressing yourself .....Yes ❑ No ❑
f. Shortness of breath that interferes with your job .....Yes ❑ No ❑
g. Coughing that produces phlegm (thick sputum) .....Yes ❑ No ❑
h. Coughing that wakes you early in the morning .....Yes ❑ No ❑
i. Coughing that occurs mostly when you are lying down.....Yes ❑ No ❑
j. Coughing up blood in the last month.....Yes ❑ No ❑
k. Wheezing .....Yes ❑ No ❑
m. Chest pain when you breathe deeply .....Yes ❑ No ❑
n. Any other symptoms that you think may be related to lung problems .....Yes ❑ No ❑

5. Have you *ever* had any of the following cardiovascular or heart problems?

a. Heart attack .....Yes ❑ No ❑
b. Stroke .....Yes ❑ No ❑
c. Angina.....Yes ❑ No ❑
d. Heart failure .....Yes ❑ No ❑
e. Swelling in your legs or feet (not caused by walking).....Yes ❑ No ❑
f. Heart arrhythmia (heart beating irregularly).....Yes ❑ No ❑
High blood pressure .....Yes ❑ No ❑

h. Any other heart problems that you have been told about .....Yes ❑ No ❑

6. Have you *ever* had any of the following cardiovascular or heart symptoms?

a. Frequent pain or tightness in your chest .....Yes ❑ No ❑
b. Pain or tightness in your chest during physical activity .....Yes ❑ No ❑
c. Pain or tightness in your chest that interferes with your job.....Yes ❑ No ❑
d. In the past 2 years, have you noticed your heart skipping or missing a beat.....Yes ❑ No ❑
e. Heartburn or indigestion that is not related to eating.....Yes ❑ No ❑
f. Any other symptoms that you think may be related to heart or circulation problems.....Yes ❑ No ❑

7. Do you *currently* take medication for any of the following problems?

a. Breathing or lung problems .....Yes ❑ No ❑
b. Heart trouble .....Yes ❑ No ❑
c. Blood pressure .....Yes ❑ No ❑
d. Seizures (fits) .....Yes ❑ No ❑

8. If you have used a respirator, have you *ever* had any of the following problems? (If you have *never* used a respirator continue to question 9)

a. Eye irritation .....Yes ❑ No ❑
b. Skin allergies or rashes .....Yes ❑ No ❑
c. Anxiety .....Yes ❑ No ❑
d. General weakness or fatigue .....Yes ❑ No ❑
e. Any other problem that interferes with your use of a respirator ..... Yes ❑ No ❑

9. Would you like to discuss your answers with the health care professional who will review this questionnaire? .....Yes ❑ No ❑

Barton Malow

Attachment AS

RESPIRATOR MEDICAL EVALUATION QUESTIONNAIRE (RMEQ)

Questions 10 to 15 are ONLY for use of either a full-face respirator or a self-contained breathing apparatus (SCBA).

10. Have you ever lost vision in either eye temporarily or permanently? .....Yes ❑ No ❑

11. Do you currently have any of the following vision problems?
    a. Wear contact lenses.....Yes ❑ No ❑
    b. Wear glasses.....Yes ❑ No ❑
    c. Color blind .....Yes ❑ No ❑
    d. Any other eye or vision problem .....Yes ❑ No ❑

12. Have you ever had an injury to your ears, including a broken ear drum? …….Yes ❑ No ❑

13. Do you currently have any of the following hearing problems?
    a. Difficulty hearing.....Yes ❑ No ❑
    b. Wear a hearing aid .....Yes ❑ No ❑
    c. Any other hearing or ear problem .....Yes ❑ No ❑

14. Have you ever had a back injury?.....Yes ❑ No ❑

15. Do you currently have any of the following musculoskeletal problems?
    a. Weakness in any of your arms, hands, legs, or feet .....Yes ❑ No ❑
    b. Back pain .....Yes ❑ No ❑
    c. Difficulty fully moving your arms and legs.....Yes ❑ No ❑
    d. Pain or stiffness when you lean forward or backward at the waist.....Yes ❑ No ❑
    e. Difficulty fully moving your head up or down .....Yes ❑ No ❑
    f. Difficulty fully moving your head side to side .....Yes ❑ No ❑
    g. Difficulty bending at your knees.....Yes ❑ No ❑
    h. Difficulty squatting to the ground.....Yes ❑ No ❑
    i. Climbing a flight of stairs or a ladder carrying more than 25 pounds …….. Yes ❑ No ❑
    j. Any other muscle/skeletal problem that interferes with using a respirator ....Yes ❑ No ❑

Part B. Section 1. The health care professional who will review this questionnaire may add these questions and any other questions not listed at their discretion.

1. In your present job are you working at high altitudes (over 5,000 feet) or in a place that has lower than normal amounts of oxygen?.....Yes ❑ No ❑

    a. If “yes,” do you have feelings of dizziness, shortness of breath, pounding in your chest, or other symptoms when you are working under these condition? .....Yes ❑ No ❑

2. At work or at home, have you ever been exposed to hazardous solvents, hazardous airborne chemicals (e.g., gases, fumes, or dust), or have you come into skin contact with hazardous chemicals? .....Yes ❑ No ❑

a. If "yes," name the chemicals if you know them:

_____

_____

3. Have you ever worked with any of the materials, or under any of the conditions listed below:?

a. Asbestos ….....Yes ❑ No ❑
b. Coal (for example, mining) .....Yes ❑ No ❑
c. Silica (e.g., sandblasting) .....Yes ❑ No ❑
d. Iron ….....Yes ❑ No ❑
e. Tungsten/cobalt (grinding or welding this material) .....Yes ❑ No ❑
f. Tin ….....Yes ❑ No ❑
g. Dusty environments .....Yes ❑ No ❑
h. Beryllium ….....Yes ❑ No ❑
i. Any other hazardous exposures .....Yes ❑ No ❑
j. Aluminum ….....Yes ❑ No ❑

If "yes," describe these exposures:

_____

_____

4. List any second jobs or side businesses you have:

_____

5. List your previous occupations:

_____

_____

6. List your current and previous hobbies:

_____

7. Were you ever in the military services?.....Yes ❑ No ❑

a. If "yes" were you exposed to biological or chemical agents (either in training or combat)? .....Yes ❑ No ❑

8. Have you ever worked on a HAZMAT team?.....Yes ❑ No ❑
9. Other than medications for breathing and lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire, are you taking any other medications for any reason (including over-the-counter medications)? .....Yes ❑ No ❑

a. If "yes," name the medications if you know them:

_____

_____

_____

Part B. Section 2. TO BE COMPLETED BY BARTON MALOW REPRESENTATIVE. Supplemental information for the health care professional.

10. Will the employee use any of the following items with your respirator(s)?

a. HEPA filters .....Yes ❑ No ❑

b. Canisters (i.e., gas masks) .....Yes ❑ No ❑

c. Cartridges .....Yes ❑ No ❑

11. How often will the employee use the respirator(s)? (Mark "yes" or "no" for all answers that apply.)

a. Escape only (no rescue).....Yes ❑ No ❑

b. Less than 2 hrs. per day .....Yes ❑ No ❑

c. Emergency rescue only.....Yes ❑ No ❑

d. 2 to 4 hrs. per day .....Yes ❑ No ❑

e. Less than 5 hrs. per week .....Yes ❑ No ❑

f. Over 4 hrs. per day .....Yes ❑ No ❑

12. When the employee uses the respirator(s), is their work effort:

a. Light (less than 200 kcal per hour):.....Yes ❑ No ❑

If "yes," how long does this period last during the average shift? _____ hrs. _____ mins.

Examples of light work effort are sitting while writing, typing, drafting, or performing light assembly work; or standing while controlling machines.

b. Moderate (200 to 350 kcal per hour):.....Yes ❑ No ❑

If "yes," how long does this period last during the average shift? _____hrs. _____mins.

Examples of moderate work effort are sitting while nailing or filing: driving a truck, drilling, nailing performing assembly work, or transferring a moderate load (about 35 pounds) at trunk level; walking on a level surface about 2 mph or down a 5-degree grade about 3 mph; or pushing a wheelbarrow with a heavy load (about 100 pounds) on a level surface.

c. Heavy (above 350 kcal per hour): .....Yes ❑ No ❑

If "yes," how long does this period last during the average shift? _____hrs. _____mins.

Examples of heavy work are lifting a heavy load (about 50 pounds) from the floor to your waist or shoulder; working on a loading dock; shoveling; standing while bricklaying or chipping castings; walking up an 8 degree grade about 2 mph, climbing stairs with a heavy load (about 50 pounds).

13. Will the employee wear protective clothing and/or equipment (other than the respirator) when using their respirator? ..... Yes ❑ No ❑

If "yes," describe this protective clothing and/or equipment:

_____

_____

14. Will they be working in hot conditions (temps more than 77 degrees F)? ……. Yes ❑ No ❑

15. Will they be working in humid conditions?..... Yes ❑ No ❑

16. Describe the work they will be doing while using their respirator(s):

_____

_____

17. Describe any special or hazardous conditions they might encounter when using a respirator(s) (for example, confined spaces, life threatening gases):

_____

_____

18. Provide the following information, if you know it, for each toxic substance that they will be exposed to when using their respirator(s):

Name of the first toxic substance: _____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift: _____

Name of the second toxic substance: _____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift: _____

Name of the third toxic substance:_____

Estimated maximum exposure level per shift: _____

Duration of exposure per shift:_____

Name of any other toxic substances that they will be exposed to while using a respirator:

_____

_____

Describe any special responsibilities they will have while using their respirator(s) that may affect the safety and well-being of others (i.e., rescue, security):

_____

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Attachment AT

RESPIRATOR USER AUTHORIZATION + TRAINING RECORD

EMPLOYEE INFORMATION

Employee Name: _____ Project: _____

Job Title / Role: _____ Employee D.O.B.: _____

RESPIRATOR MEDICAL EVALUATION

☐ Approved ☐ Approved with Restrictions (Specify) _____ ☐ Not Approved

Date of Evaluation: _____ Evaluation Expiration (per employee's age): _____

RESPIRATOR INFORMATION

Type/Make/Model/Size	Filter/Filtering Element	Date Assigned

Anticipated Respirator Use (hours per day & times per week): _____

Recommended Frequency of filter or cartridge disposal/change

☐ Every ____ Hours ☐ Every ____Days ☐ Other (Specify) _____

RESPIRATOR FIT TEST (If Applicable – Only for Tight Fitting Respirators)

Date of Fit Test: _____ Fit Test Conducted By: _____

Result: ☐ Pass ☐ Fail

RESPIRATOR USER TRAINING (Check each upon completion of training)

☐ Respiratory hazard, signs, symptoms, health effects, and how to identify each.
☐ Why a respirator is needed
☐ Limits and capabilities of a respirator, and physical/medical conditions that may affect safe use
☐ Purpose of the medical evaluation and fit testing
☐ Proper donning, fit, adjustment, use, cleaning, maintenance and storage of respirator
☐ How does improper fit or incorrect use of respirator compromise safety?
☐ Use of respirators in emergency situations and how to correct basic respirator malfunctions
☐ How to report problems, issues, or questions about respirator or hazard

ACKNOWLEDGEMENT

Respirator User Signature: _____ Date: _____

Trainer Signature: _____ Date: _____

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Attachment AU

SUPERVISOR'S RISK ASSESSMENT FORM

Supervisor's Risk Assessment Form		
Project Name:		Location:
Date:		Supervisor's Name:
Stages	**Information**	
1. Identify the Task	Task:	
	Location:	
	Timing:	
2. Select a MEWP	Classification:	
3. Risk Assessment & Mitigation	Use this section to assess risk, identify control measures and safety protocol. Communicate the risk assessment and mitigation measures to operators, occupants and affected workers.	
Is the operator properly trained and occupant familiarized with the equipment? Occupants must be familiarized by operator on PFAS and anchor points, how their actions can affect stability, any site-specific hazards, how to use MEWPS accessories (if needed) and emergency rescue procedures?	Yes☐	All operators are trained on equipment used within 3 years and have a licensed issued from Barton Malow. The trained operator will familiarized all occupants on their responsibilities and safety requirements Comments:_____
Will the MEWP adequately reach the work area?	Yes☐	The height needed is: _____ Type of lift (scissor or boom):_____
Surface & soil conditions have sufficient strength to withstand all floor/ground load forces imposed by the MEWP in all configurations. See operator's manual.	Yes☐	A placard on the lift that provides weight. List weight restrictions: _____
Pedestrian traffic where the lift will be operated is properly barricaded or controlled by trained spotters	Yes☐	No one allowed under booms or work platforms Name of spotter if used:_____
Public roadways, spotter, signal person	Yes☐	Proper training needed for flaggers. High visibility vests worn as required.
Precautions for other moving equipment, conveyors, etc are in-place. Traffic control, barricades, LOTO equipment, etc.	Yes☐ N/A☐	List the preventative measures needed: _____
Overhead obstructions and crushing hazards are identified or will not pose a hazard.	Yes☐	List hazard & list preventative measures needed: _____
Ramps and other sloped surfaces that could affect the vehicle's stability are identified and protected.	Yes☐	List proper procedure: _____

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Attachment AU

SUPERVISOR'S RISK ASSESSMENT FORM

Drop-offs or holes, including those concealed by water, ice, mud, etc are identified or protected	Yes☐	List measures needed: _____
Housekeeping, is adequate for safe use	Yes☐	Comments:
Bumps or floor obstructions are identified or protected	Yes☐	Comments:_____
Hazardous environmental locations where the vehicle will be operated are identified.	Yes☐ N/A☐	Hazard(s):_____ Location(s):_____
Electrocution hazards, MEWP operators will stay 20 feet away or notify power company to Lock Out power. Operators will not exceed minimum approach distance. Refer to Operators Manual	Yes☐ N/A☐	Hazards:_____ Location(s): _____
Closed environments and other areas where insufficient ventilation or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust has been checked and does not pose a health or safety concern	Yes☐ N/A☐	Location(s):_____ Type of monitoring needed:_____
Wind and weather conditions - lightning, wind limited to manufacturers' requirements	Yes☐ N/A☐	Comments:
Other possible unsafe conditions		

If any of the above conditions change, STOP and revise risk assessment.

4. Emergency Rescue	The following protocol will be used to safely rescue workers from an elevated work platform.
Rescue Types	Options
Self-rescue – by person involved	Main option:
	Back up option:
Assisted rescue – by other(s) in the work area	Main option:
	Back up option:
Technical rescue – by emergency services	Main Option:

**Rescue planning for your site may require a more comprehensive plan. If there are any concerns regarding adequate emergency response planning, please reach out to your supervisor or safety professional*

Attachment AV

RETURN TO WORK CONFIDENTIALITY

CONFIDENTIALITY
All personal or medical information provided and discussed by Barton Malow personnel regarding the specific injured/ill worker will be held in confidence and not disclosed to anyone other than those with a legitimate need to know. It is our policy to treat our team members with dignity and respect at all times. Every effort will be made to maintain the privacy and confidentiality of our team members if they sustain an injury or illness.

Team member Receipt Acknowledgement

I, _____, hereby acknowledge the receipt of a copy of Barton Malow's Return to Work policy. I have read and familiarized myself with the contents, and I understand my responsibility for adhering to this policy. I agree to abide by the Barton Malow policy.

_____
Team Member Signature & Date

Barton Malow

Attachment AW

HEALTHCARE PROVIDER'S LETTER AND STATEMENT

Dear Healthcare Provider:

Barton Malow is very interested in the health and well-being of our team members. To that end, we have instituted several workplace standards that will keep team members at work more safely and streamline the regulatory paperwork. Barton Malow has a Temporary Transitional Return to work process that allows for accommodations for most restrictions so that the patient/team member may continue to work. Additionally, as prescription medications affect OSHA recordability, we are also concentrating on that aspect of treatment. We would appreciate your help and cooperation in the following areas:

1. Assist us in returning our team members back to work on a transitional basis with restrictions as opposed to being totally restricted from work for moderate problems. We are prepared to assign light duty work consistent with required restrictions.

2. Complete the attached form, identify the patient's work restrictions, and/or what the team member can do.

3. Use non-prescription strengths of anti-inflammatories and analgesics versus prescription strength medications, when consistent with the patient's medical needs.

We appreciate the high quality of medical care that you provide and do not wish to compromise the medical treatment, but when the situation allows for flexibility, we ask that you assist us with the above requests. If any treatment questions arise, please contact me directly.

Sincerely,

Debbie Drouillard, CWCP
Workers' Compensation Specialist
Email: Debbie.Drouillard@bartonmalow.com
Phone: (248) 436-5488
Fax: (248) 436-5489

Barton Malow

Attachment AW

HEALTHCARE PROVIDER'S LETTER AND STATEMENT

Healthcare Provider's Statement - Patient Functional Capacity (Part A)

Team member Name: **Occupation:** **Claim No:**

To The Healthcare Provider: Barton Malow has a comprehensive Return to Work (RTW) process that allows team members to RTW in many situations. Please consider Transitional, Modified, or Alternative employment opportunities when estimating the period of disability for your patient. Barton Malow's transitional work process is defined as the temporary period of time when the team member initially comes back to work until the time when they are fully functional in their job. This process allows for a maximum of 12 calendar weeks.

Return to Work Status – Completed by Healthcare Provider

☐ Return to "**Full Duty**" (Team member can return to work in their regular working role with no restrictions)
☐ Return to "**Transitional Work**" (Team member can return to work with restrictions, modifications, reduced hours, or alternative job duties).

- Transitional Work may begin _____ Transitional Work is projected to last until _____
- Estimated return to full duty date _____
- Next Follow-up Appointment is scheduled for: _____

☐ The injured worker is unable to work in any capacity at this time

Please complete the following items based on your estimated clinical evaluation of this team member's functional capacity. See attached job description and physical demands analysis. **(Circle full capacity for each activity & check boxes)**

Based on an 8-hour workday	Total Hours/Day	Continuously/Unlimited	Intermittently (list amount/hr)
A. Sitting	0 1 2 3 4 5 6 7 8	☐	☐
B. Standing	0 1 2 3 4 5 6 7 8	☐	☐
C. Walking	0 1 2 3 4 5 6 7 8	☐	☐
D. Hand Use Right	0 1 2 3 4 5 6 7 8	☐	☐
E. Hand Use Left	0 1 2 3 4 5 6 7 8	☐	☐
F. Data Entry PC use	0 1 2 3 4 5 6 7 8	☐	☐
G. Simple Grasping	0 1 2 3 4 5 6 7 8	☐	☐
H. Power Grasping	0 1 2 3 4 5 6 7 8	☐	☐

Minutes/total time per 8 hour work day		Occasional 30 mins. to 2.5 hours/day	Frequent 2.5 to 5.25 hours/day	Continuously More than 5.25 hours/day	Never 0%
I. Lifting	0-10 lbs.	☐	☐	☐	☐
	11-20 lbs.	☐	☐	☐	☐
	21-50 lbs.	☐	☐	☐	☐
	50-100 lbs.	☐	☐	☐	☐
J. Carrying	0-10 lbs.	☐	☐	☐	☐
	11-20 lbs.	☐	☐	☐	☐
	21-50 lbs.	☐	☐	☐	☐
	50-100 lbs.	☐	☐	☐	☐
		Occasional	Frequent	Continuously	Never
K. Bending/Stooping (at waist)		☐	☐	☐	☐
L. Neck Flexion/Extension		☐	☐	☐	☐
M. Squat/Crouch/Kneeling/Crawling		☐	☐	☐	☐
N. Climbing stairs/ladder/incline		☐	☐	☐	☐
O. Reaching at shoulder level		☐	☐	☐	☐
P. Reaching above shoulder level		☐	☐	☐	☐
Q. Pushing/Pulling		☐	☐	☐	☐

Barton Malow

Attachment AW

HEALTHCARE PROVIDER'S LETTER AND STATEMENT

Healthcare Provider's Statement - Patient Functional Capacity (Part B)

Team member Name:	Occupation:	Claim No:

(Check boxes based on capacity to tolerated conditions below)

Item	Environmental Conditions	Yes	No
A.	Driving cars, trucks, forklifts and other equipment?	☐	☐
B.	Working around equipment and machinery?	☐	☐
C.	Walking on uneven ground?	☐	☐
D.	Exposure to excessive noise?	☐	☐
E.	Exposure to extremes in temperature, humidity or wetness?	☐	☐
F.	Exposure to dust, gas, fumes, or chemicals?	☐	☐
G.	Working at heights?	☐	☐
H.	Operation of foot controls or repetitive foot movement?	☐	☐

Comments:

Healthcare Provider Name (Print Name): Date Form Completed:

Healthcare Provider Signature: License No.:

If you have any specific questions regarding Barton Malow's RTW process or would like additional information, please contact the Workers' Compensation Specialist

PLEASE RETURN THIS COMPLETED FORM TO:

Debbie Drouillard, CWCP
Workers' Compensation Specialist
Email: Debbie.Drouillard@bartonmalow.com
Phone: (248) 436-5488
Fax: (248) 436-5489

- Or -

Barton Malow
26500 American Drive
Southfield, MI 48034
Phone: (248) 436-5500
Email: RMHelpDesk@bartonmalow.com

Barton Malow

Attachment AW

TRANSITIONAL DUTY RETURN TO WORK AGREEMENT

Transitional Duty – Return to Work Agreement

Employee Name: _____

I understand that I am returning to work with restrictions as outlined by the attached physician document. I further understand that it is my responsibility to stay within these restrictions and will not deviate from them while at work or outside of work. If I believe I am assigned work outside of my restrictions or outside of my capabilities by a coworker or any level of management, I will stop and notify my supervisor immediately. If my supervisor is not available, below are two additional contacts either of whom I should notify:

_____ _____

(please print name) *(please print name)*

Employee:

My supervisor and I have discussed my work duties and my work restrictions. I agree to abide by these restrictions, follow my treatment plan and keep my supervisor updated on my appointment schedule. I agree to notify my supervisor after each medical appointment to provide an update on my capabilities and discuss my transitional duty work options.

I understand that all Barton Malow policies, including attendance, punctuality and call off procedures, will apply as usual during this transitional work period. I also understand restrictions apply to work, home and leisure activity.

_____ _____

Employee's Signature Date

Supervisor:

I have reviewed the work restrictions and I will not assign work outside of these restrictions.

_____ _____

Supervisor's Signature Date

This agreement shall be in effect until the physician of record feels that you are physically capable of resuming regular work, and that work continues to be available.

Non-acceptance of Position:

I have read and understand the work restrictions outlined and I am rejecting the transitional duty position offered to me. I understand my workers' compensation benefits and employment may be impacted by this decision since work is available within my capabilities and I have been released as outlined.

Employee's Signature: _____ Date: _____