ACCIDENT PREVENTION PROGRAM
HAZARD ANALYSIS

SAFETY HEIRARCHY

Engineering Controls

Work Practices

Personal Protective Equipment (PPE)
ACCIDENT PREVENTION PROGRAM
HAZARD ANALYSIS

AHA IS PUTTING

SAFETY

FIRST!
WHAT ARE WE TRYING TO AVOID ON OUR JOB SITES?

AHA’S PRE-PLAN ACTIVITIES TO AVOID UNPLANNED EVENTS
WHEN DOES THE CONTRACTOR SUBMIT THE A.H.A?
ACTIVITY HAZARD ANALYSIS

Prior to start of any new phase or type of work presenting hazards not previously experienced, a new/different work crew or sub-contractor are employed.
ACCIDENT PREVENTION PROGRAM
HAZARD ANALYSIS

Who would normally develop the A.H.A?
THE CONTRACTOR WHO WILL ACTUALLY BE DOING THE WORK
DOES THE PRIME CONTRACTOR SUBMIT HIS A.H.A WITH THE ACCIDENT PREVENTION PLAN?

I SAW SOMETHING IN THE APP??
Submit the AHA for the **Preparatory Phase** before each phase of work and at **initial phase meeting**. Submit subsequent AHA for each major phase of work prior to start of that phase. Format subsequent AHA as amendments to the Accident Prevention Plan specs section 013526

**NO WORK WILL START UNTIL THE AHA HAS BEEN ACCEPTED BY THE GOVERNMENT REPRESENTATIVE.**

**APPENDIX A MINIMUM BASIC OUTLINE FOR ACCIDENT PREVENTION PLANS SECTION 2 BACKGROUND INFORMATION (d)**

*Brief project description, description of work to be performed and location; phases of work anticipated (these will require an AHA)*
SAFETY HIERARCHY

Engineering Controls Example:
Three foot high parapet wall on building

Work Practice Examples:
Working from bucket truck to bolt steel instead of climbing steel

Personal Protective Equipment
Safety Harness
AHA can be used to evaluate and identify all substances, agents, and environments that present a hazard and the recommendations for control measures. Physical controls should be considered first (work practices), and in cases where not possible, then PPE may be used.

Yea I Remember!
1st Engineering Controls
2nd Work Practices (physical controls)
3rd PPE
AHAs:
- Risk Assessment Tool
- Defines the Activity or Work to be Performed
- Identifies Hazards
- Establishes Controls to Reduce the Hazard to an Acceptable Risk Level
- Living Document
  - Changes with Site Conditions or Operations
  - Changes of competent/qualified personnel
Contractor Required – AHA (New Format)

Activity Hazard Analysis (AHA)

<table>
<thead>
<tr>
<th>Activity/Work Task:</th>
<th>Overall Risk Assessment Code (RAC) (Use highest code)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Project Location:</th>
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<th>Contract Number:</th>
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<table>
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<tr>
<th>Date Prepared:</th>
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<table>
<thead>
<tr>
<th>Prepared by (Name/Title):</th>
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<table>
<thead>
<tr>
<th>Reviewed by (Name/Title):</th>
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<table>
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<tr>
<th>Notes: (Field Notes, Review Comments, etc.)</th>
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</table>

<table>
<thead>
<tr>
<th>Severity</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catastrophic</td>
<td>E</td>
</tr>
<tr>
<td>Critical</td>
<td>E, H</td>
</tr>
<tr>
<td>Marginal</td>
<td>H, M</td>
</tr>
<tr>
<td>Negligible</td>
<td>M, L</td>
</tr>
</tbody>
</table>

**Risk Assessment Code (RAC) Matrix**

<table>
<thead>
<tr>
<th>Severity</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catastrophic</td>
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</tr>
</tbody>
</table>

**Step 1:** Review each “Hazard” with identified safety “Controls” and determine RAC (See above)

**Step 2:** Identify the RAC (Probability/Severity) as E, H, M, or L for each “Hazard” on AHA. Annotate the overall highest RAC at the top of AHA.

<table>
<thead>
<tr>
<th>Job Steps</th>
<th>Hazards</th>
<th>Controls</th>
<th>RAC</th>
</tr>
</thead>
</table>

| Equipment to be Used | Training Requirements/Competent or Qualified Personnel name(s) | Inspection Requirements |
Contractor Required - AHA

- **COE EM 385-1-1, para 01.A.13.a:** AHAs shall define the activities being performed and identify the work sequences, the specific anticipated hazards, site conditions, equipment, materials and the control measures to be implemented to eliminate or reduce each hazard to an acceptable level of risk.

- **COE EM 385-1-1, para 01.A.13.b:** Work will not begin until the AHA for the work activity has been accepted by the Government Designated Authority (GDA) and discussed with all engaged in the activity, including the Contractor, subcontractor(s), and Government on-site representative at preparatory and initial control phase meetings.

- **COE EM 385-1-1, para 01.A.13.c:** Identify the names of the Competent/Qualified person(s) required for a particular activity as specified by OSHA and EM 385-1-1. (i.e., Excavation, Fall Protection, Scaffolding, etc.)

- **COE EM 385-1-1, para 01.A.13.d:** AHAs shall be reviewed and modified as necessary to address changing site conditions, operations, or change of competent/qualified personnel. **Living document**
Develop Site Specific AHAs
Six Step Process

• Step 1:
  – Identify: **Definable Features of Work**
    ✓ Reference
      • Contractor Quality Control Plan
      • Contractor Project Schedule
        – Subcontractors and suppliers working on the project shall also contribute in developing an accurate “Project Schedule”.
        – Within each “Definable Features of Work” there may be other sub-phases of work to complete the “Definable Features of Work” such as
          ✓ Set-up/Demobilization of office trailers
          ✓ Staging of construction materials
          ✓ Demolition of walls, HVAC systems, etc.
          ✓ Asbestos/Lead abatement activities
How to Develop Site Specific AHAs
Six Step Process

• **Step 1:**
  ◦ Identify: **Definable Features of Work**
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      ◦ Contractor Quality Control Plan
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    • Set-up/Demobilization of office trailers
    • Staging of construction materials
    • Demolition of walls, HVAC systems, etc.
    • Asbestos/Lead abatement activities
Definable Features of Work

Examples of “Definable Features of Work” from start to finish

Within each “Definable Features of Work” there may be other sub-phases of work to complete the “Definable Features of Work”

For Example: Mobilization

Sub-phases:
- Placement of project field office
- Utilities tie-in
- Erection of project fencing
- Establishing lay-down areas
- Environmental controls
- Erection of USACE project sign
- Etc.

Identify “Definable Features” of work from start to finish
List “Definable Features of Work” and sub-phases of work on AHAs under “Job Steps:

For Example:

Mobilization

Placement of project field office

Utilities tie-in

Erection of project fencing

Establishing lay-down areas

Environmental controls

Erection of NAVFAC project sign
Hazards

- **Step 2:**
  - Identify: Recognized or anticipated hazards for each definable and/or sub-phases of work
    - **Ask yourself the following to help identify hazards (not all inclusive):**
      - Is there a danger of the employee of being struck by something (falling objects, moving equipment, etc.) from above, side, behind or in front?
      - Can the employee slip or trip?
      - Can the employee be caught in or between objects, machinery, collapsing walls, confined space, etc.?
      - Strains or sprains?
      - Electrical shock?
      - Can the employee fall from same or different levels?
      - Can employee or equipment come into contact with overhead lines or underground utilities?
      - Can employee be exposed to hazardous environments or chemicals?
  - **Utilize past experiences, Accident Trends, common sense, etc. to help identify hazards**
Hazards

List “Hazards” on the AHAs under Hazards

Examples of Hazards (not all inclusive):
- Struck By
- Struck by Falling Object
- Struck Against
- Fall on Same Level
- Fall on Different Level
- Slipped/ Tripped (No fall)
- Punctured By
- Laceration
- Caught On
- Caught By
- Caught Between
- Lifted, Strained by (Single Action)
- Contacted by (Object was moving)
- Electric Shock
- Impaled
- Downing
- Oxygen Deficient Atmosphere
- Exposed To
- Stung By
- Equipment Failure
- Equipment Rollover
- Fire
- Cave-In
Controls

**Step 3:**

- Identify: Site specific control measures to eliminate or reduce each hazard to an acceptable risk level
  - Ask yourself the following (not all inclusive):
    - How can the working condition or process be changed?
    - Can the hazard be eliminated with engineering controls?
    - What type of PPE can we use?
    - Can the hazard be eliminated with administrative controls?
    - What can the employee do to prevent an accident or eliminate the hazard?
  - Utilize past experiences, Lessons Learned, After Action Reports, Accident Trends, common sense, etc. to help formulate control measures.
  - GOAL: Reduce each Hazard to Acceptable Risk Level
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<tr>
<td><strong>Mobilization:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project field office placement</td>
<td>Stuck by moving equipment</td>
<td>Wear reflective vests.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Establish “No Zone” with flagging or barrier tape. Authorized personnel only!</td>
</tr>
<tr>
<td></td>
<td>Fall from elevated heights</td>
<td>Back up alarms.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operators maintain eye contact with spotters at all times.</td>
</tr>
<tr>
<td><strong>Utilities tie-in</strong></td>
<td></td>
<td>Provide ladder for safe access to roof.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Personnel shall wear full body harness with lanyard.</td>
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<td></td>
<td></td>
<td>Install manufacture approved anchor point at least 6 ft (1.8 m) from the roof line.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>100 percent tie-off at all times.</td>
</tr>
</tbody>
</table>
Competent/Qualified Personnel

- **Step 4:**
  - Identify: Names of the Competent or Qualified Personnel required for the activity or job step
    - Reference
      - EM 385-1-1
      - OSHA
    - Proof of competency/qualification shall be submitted to the GDA for acceptance prior to start of work
    - Attached competency/qualification documentation to AHA
  - Examples of Competent/Qualified Personnel
    - Excavation
    - Scaffolding
    - First Aid/CPR
    - Electrical
    - Confined Space
Competent/Qualified Personnel

- Names of the Competent or Qualified Personnel required for the activity or job step
- Reference
  EM 385-1-1 OSHA
- Attached competency/qualification documentation to AHA

Activity Hazard Analysis (AHA)

Activity/Work Task: [Insert Activity/Work Task]
Project Location: [Insert Project Location]
Contract Number: [Insert Contract Number]

Overall Risk Assessment Code (RAC) (Use highest code)

<table>
<thead>
<tr>
<th>Severity</th>
<th>Frequency</th>
<th>Likely</th>
<th>Occasional</th>
<th>Seldom</th>
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<td>Catastrophic</td>
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<td>M</td>
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<td>L</td>
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<td>M</td>
<td>L</td>
<td>L</td>
<td>L</td>
<td>L</td>
</tr>
</tbody>
</table>

Step 1: Review each "Hazard" with identified safety "Control(s)" and determine RAC (See above)

- Equipment to be Used
- Training Requirements/Competent or Qualified Personnel name(s)
- Inspection Requirements
Risk Assessment Code (RAC)

- **Step 5:**
  - Identify: Risk Assessment Code (RAC)
  - Review each “Hazard” for “**Probability**” and “**Severity**” per Risk Assessment Code Matrix chart

  - **Probability:** Likelihood of the hazard to cause a incident, near miss, or accident
    - Frequent - Occurs very often, known to happen regularly
    - Likely - Occurs several times, a common occurrence
    - Occasional - Occurs sporadically, but is not uncommon
    - Seldom - Remotely possible, could occur at some time
    - Unlikely - Can assume will not occur, but not impossible
Risk Assessment Code (RAC)

- **Step 5 cont’:**
  - **Severity:** Outcome/degree of the incident, near miss, or accident
    - Catastrophic - Death or permanent total disability; Major property damage
    - Critical - Permanent partial disability or temporary total disability; Extensive damage to equipment or systems
    - Marginal - Lost workdays due to injury or illness; Minor damage to equipment or systems, property, or the environment
    - Negligible - First aid or minor medical treatment; Slight equipment or system damage, but fully functional or serviceable; Little or no property or environmental damage
Risk Assessment Code (RAC)

- **Step 5 con’t:**
  - Ask yourself: How often *(probability)* will this hazard result in a incident, near miss, or accident?
    - For Example:
      - Employee falling from roof or elevated heights (Hazard)
      - Probability: Occasional
  - Ask yourself: What will be the outcome or degree *(severity)* of injury or property damage if the incident, near miss, or accident did occur on site?
    - For Example:
      - Broken arm or leg with lost time (outcome or degree)
      - Severity: Marginal
  - Review “Risk Assessment Code (RAC) Matrix” chart to determine Risk Assessment Code (RAC) as E, H, M, or L
  - RAC: M (Moderate Risk)
**Risk Assessment Code (RAC)**

- **Probability:** Occasional

- **Moderate Risk (M)**
- **Identify (M) as RAC for the hazard on AHA**
- **Repeat RAC process for each hazard**
## Risk Assessment Code (RAC)

<table>
<thead>
<tr>
<th>Job Steps</th>
<th>Hazards</th>
<th>Controls</th>
<th>RAC</th>
</tr>
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<tr>
<td>Mobilization: Project field office placement</td>
<td>Stuck by moving equipment</td>
<td>Wear reflective vests. Establish “No Zone” with flagging or barrier tape. Authorized personnel only! Back up alarms. Operators maintain eye contact with spotters at all times.</td>
<td>L</td>
</tr>
<tr>
<td></td>
<td>Fall from elevated heights</td>
<td>Provide ladder for safe access to roof. Personnel shall wear full body harness with lanyard. Install manufacture approved anchor point at least 6 ft (1.8 m) from the roof line. 100 percent tie-off at all times.</td>
<td>M</td>
</tr>
</tbody>
</table>

Most RACs will be (M) or (L) after safety controls have been identified, but some RACs may be classified as (H) or (E) after safety controls have been identified. See next slide.
CM/ET/GDA Action Based on Accepted AHA

1. AHA’s with Risk Assessment Codes that are E (Extremely High Risk) or H (High Risk) require on site visit to verify all conditions agreed to in accepted AHA are as stated before beginning work.
   a. First time high risk operations must have mutual GO/NO GO point where the contractor and GDA agree it is safe to continue work.

2. AHA’s for sites with previous mishaps involving the same type of work require a site visit to verify conditions are as stated in accepted AHA

3. Sites with AHA’s that require a visit to check on conditions;
   a. Remote Locations
   b. New contractor teams i.e. first time working with a new sub.
   c. After hours-work
   d. Lessons learned in the past for same contractor

Special Note: This is also the time to check for changed conditions, either in the AHA stated objectives or site conditions
Step 6:
- Identify: Equipment to be Used, Training Requirements, and Inspection Requirements
  - Reference:
    - EM 385-1-1
    - OSHA 29 CFR 1926
    - Manufacture Instructions/Recommendations (Operator Manual)
    - Industry Practices
- Utilize past experiences,
- Lessons Learned,
- After Action Reports, Accident Trends, common sense, etc.
- Communicate with subcontractors, suppliers, etc.
Risk Assessment Code (RAC)

- **Step 5 con’t**
  - RACs that are **E (Extremely High Risk)** or **H (High Risk)** after safety controls
    - Contact QAET, CM/PM/DM,
    - Potential E or H activities or job steps
      - Contractor diving operations
      - Entry into Permit Required Confined Spaces
      - Hot Work on or around fuel systems
      - Critical lift crane ops
      - Many others
  - Review and acceptance from GDA for all (E) or (H) mandatory prior to work beginning.
### Risk Assessment Code (RAC)

| Job Steps                          | Hazards                                      | Controls                                                                                       | RAC |
|------------------------------------|----------------------------------------------|------------------------------------------------------------------------------------------------|
| Mechanical Works                   | Loss of load during crane lift               | Develop critical lift plan IAW EM 385-1-1, para 16.H. Submit critical lift plan to GDA for acceptance and review plan with all involved with the lift. Inspect rigging. Detail rigging plan Verify wind speed prior to lift Inspect crane prior to use Load test crane | H   |
| Installation of new 200 ton HVAC cooling tower |                                              |                                                                                                |     |

RACs classified as (H) or (E) after identifying safety controls require additional review and acceptance from GDA. Seek guidance or instruction from GDA before start of work.
Step 6:
- Identify: Equipment to be Used, Training Requirements, and Inspection Requirements
  - Reference:
    - EM 385-1-1
    - OSHA 29 CFR 1926
    - Manufacture Instructions/Recommendations (Operator Manual)
    - Industry Practices
  - Utilize past experiences, Lessons Learned, After Action Reports, Accident Trends, common sense, etc.
  - Communicate with subcontractors, suppliers, etc.
# Equipment, Training, and Inspection

<table>
<thead>
<tr>
<th>Equipment to be Used</th>
<th>Training Requirements</th>
<th>Inspection Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excavator</td>
<td>30 OSHA Construction Safety</td>
<td>SSHO/QC Daily Site Inspections</td>
</tr>
<tr>
<td>Generator</td>
<td>Indoctrination Training</td>
<td>Scaffolding</td>
</tr>
<tr>
<td>Scaffolding (Frame or Tube Clamp?)</td>
<td>First Aid/CPR</td>
<td>Shoring Systems for Excavation</td>
</tr>
<tr>
<td>Full body Harness with Lanyard</td>
<td>Fall Protection</td>
<td>Monthly First Aid Kits</td>
</tr>
<tr>
<td>Portable Toilets</td>
<td>Daily Tool Box Meetings (Japan)</td>
<td>Fall Protection PPE and Anchors</td>
</tr>
<tr>
<td>5 Ma GFCI</td>
<td>Weekly/Monthly Safety Training</td>
<td>All Heavy Equipment</td>
</tr>
<tr>
<td>Power Cord Sets</td>
<td>Respirator</td>
<td>Power Cord Sets (Daily)</td>
</tr>
<tr>
<td>Crane</td>
<td>Emergency Response Procedures</td>
<td>GFCIs (at least Monthly)</td>
</tr>
<tr>
<td>First Aid Kit</td>
<td>Fire Extinguisher</td>
<td>Grounding (Monthly)</td>
</tr>
<tr>
<td>Safety Shoes</td>
<td>Qualified Crane Operator</td>
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</tr>
<tr>
<td>Safety Glasses</td>
<td>Qualified Heave Equipment Operator</td>
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<tr>
<td>Hardhat</td>
<td>Qualified Electricians</td>
<td></td>
</tr>
<tr>
<td>Respiratory Protection</td>
<td>Qualified Scaffold Erectors</td>
<td></td>
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<td></td>
<td><strong>Note:</strong></td>
<td></td>
</tr>
</tbody>
</table>
Conclusion

- Construction work is inherently dangerous
- AHAs are a risk management tool to help identify hazards or risks and formulate controls to reduce the hazard to an acceptable risk level
- Communicate with subcontractors, suppliers,
- AHAs shall be reviewed and modified as necessary to address changing site conditions, operations, or changes of competent/qualified personnel
- Safety requires a TEAM EFFORT!
“Life is tough, but it’s tougher if you’re stupid”

Sergeant John M. Stryker, USMC, in “The Sands of Iwo Jima”
ACTIVITY HAZARD ANALYSIS

THE NAMES OF THE COMPETENT/QUALIFIED PERSON(s) REQUIRED FOR A PARTICULAR ACTIVITY (COMPETENT PERSON MENTIONED over 75 TIMES IN EM-385 AND QUALIFIED PERSON MENTIONED over 71 TIMES.)

FOR EXAMPLE,

EXCAVATIONS, SCAFFOLDING, FALL PROTECTION,

Other Activities As Specified By OSHA And This Manual, Shall Be Identified And Included In The AHA. Proof Of Their Competency/Qualification Shall Be Submitted To The GDA For Acceptance Prior To The Start Of That Work Activity

APP must state requirements that no work shall be performed unless a designated competent person is present on the job site.

Appendix Q (9) (d)
QUESTION?

Once the AHA has been completed and accepted by the Government the project work can start. Is it necessary to do another AHA for this same phase of work on this same project?
CONTRACTOR QC DUTIES

AS PART OF THEIR QUALITY CONTROL RESPONSIBILITIES
CONTRACTOR QC PERSONNEL SHALL CONDUCT & DOCUMENT DAILY SAFETY INSPECTIONS
01.A.12 b & SPECS. 013526
WHAT IS AN ACCEPTABLE A.H.A?

CLASS EXCERISE AHA

Construct new masonry wall that is 12 foot high and 20 foot long.
ACCIDENT PREVENTION PROGRAM
HAZARD ANALYSIS

Prime Contractor: ABC Construction
Superintendent: Joe Can Do
Masonry Sub-Contractor: Masonry Inc.
Forman for Sub-Contractor: I. Know-It-All

Materials: All Materials on site
Equipment: On site ready to perform work
Electric Mortar Mixer
Forklift on Site
Scaffolding on Site

Personnel: All Prime and Masonry sub-contractor personnel on site
Under what circumstances should a contractors work operations be stopped?
IMMINENT DANGER !!!!
IMMINENT DANGER DEFINITION

Immediately dangerous to life or health (IDLH –respiratory hazard):
an atmosphere that poses an immediate threat to life, would
cause irreversible adverse health effects, or would impair an
individual’s ability to escape from a dangerous atmosphere

Immediately dangerous to life or health (IDLH-confined space):
any condition that poses an immediate or delayed threat
to life or that would cause irreversible adverse health effects
or would interfere with an individual’s ability to escape unaided from a permit space

APPENDIX Q page Q-40
The observation of ANY IMMINENT DANGER situation---the work and/or situation shall immediately stop... the imminent danger eliminated .... then resolution action can be worked out after employees/situation are no longer in jeopardy.
SUMMARY

Prime Contractor submit APP listing phases of work and qualifications of personnel, QC does document safety

AHA submitted before work starts to be accepted by GDA

Imminent danger requires ACTION!
SAFETY QUESTION

WHEN SHOULD A CONTRACTOR SUBMIT HIS ACCIDENT PREVENTION PLAN?
SAFETY QUESTION

WHAT IS THE NAME OF THE DOCUMENT THAT MUST BE COMPLETED AND ACCEPTED BY THE GOVERNMENT REPRESENTATIVE BEFORE ANY PHASE OF WORK IS STARTED?
SAFETY QUESTION

WHO USUALLY IS RESPONSIBLE FOR COMPLETING THE AHA?
WHY?

We can’t start work until you finish the AHA!
SAFETY QUESTION

WHAT OTHER DUTIES DOES THE CONTRACTOR QUALITY CONTROL PERSON HAVE BESIDES QUALITY CONTROL?
SAFETY QUESTION

WHEN YOU ARE VISITING A JOB SITE. HOW CAN YOU KNOW WHAT PHASES OF WORK ARE IN PROGRESS?

HINT: See 01.A.06d

I am praying for a break from this class

Why are you on your knees??
# Activity Hazard Analysis (AHA)

**Activity/Work Task:** Scaffolding Erection  
**Overall Risk Assessment Code (RAC) (Use highest code):** M

<table>
<thead>
<tr>
<th>Project Location:</th>
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<th>M</th>
</tr>
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<tbody>
<tr>
<td>Contract Number:</td>
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### Risk Assessment Code (RAC) Matrix

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<td>L</td>
</tr>
<tr>
<td>Marginal</td>
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### Notes: (Field Notes, Review Comments, etc.)

Crane set-up and use are on a separate AHA.

### Job Steps

**General Safety Requirements all Steps**

**Exposure to Cold or Hot Weather**

**Dehydration**

**Add additional potential hazards for general on site safety requirements.**

The above hazards are not all inclusive and the Site Safety and Health Officer including the Quality Assurance Representative (QAR) shall review the AHAs.

### Hazards

- Exposure to Cold or Hot Weather
- Dehydration

### Controls

**Minimum Personal Protective Equipment Dress:**
- Long Pants
- Shirts with Sleeves
- Hardhat
- Covered Shoes (Steel Toe Preferred)
- Safety Glasses (Potential Eye Hazard Areas)

**Weather:**
- Wear appropriate clothing for hot or cold weather.
- (List specific clothing or refer to Company quick sheet, SOPs, plan, etc. for specific details)
  - Sun block
  - Lip balm

**Dehydration:**
- Drink at least ½ liter of water an hour
- Refer to Company quick sheet, SOPs, plan, etc. for specific details on heat stress signs and symptoms.
<table>
<thead>
<tr>
<th>Job Steps</th>
<th>Hazards</th>
<th>Controls</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1b. Size up load before lifting.</td>
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<td></td>
<td></td>
<td>1c. Ask for help when lifting heavy items more than 50 lbs.</td>
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<td></td>
<td>2. Lacerations on hands</td>
<td>2. Wear leather gloves.</td>
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<td></td>
<td>3. Scaffold failure due to damaged scaffolding components.</td>
<td>3a. <strong>INSPECT</strong> all scaffolding components defects or damage such as</td>
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<td>cracks, excessive rust, metal fatigue, unauthorized repairs, bent</td>
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<td>tubing or frame, etc.</td>
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<td>- Frames</td>
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<td>- Tubing</td>
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<td>- Base Plates</td>
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<td>- Locking Pins</td>
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<td></td>
<td>- Access Ladder</td>
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<td></td>
<td>- Planking (Wood or Metal)</td>
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<td>- Cross Braces</td>
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<td></td>
<td>3b. <strong>REMOVE</strong> damaged or defective scaffold components immediately.</td>
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<td>3c. Attach tag or label &quot;DO NOT USE&quot; on scaffold component.</td>
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<td></td>
<td>4. Struck by mechanized equipment.</td>
<td>4a. <strong>ALWAYS</strong> maintain eye contact with operator of equipment.</td>
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<td>4b. <strong>NEVER</strong> stand behind (Blind Spots) equipment.</td>
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<td>4c. <strong>NEVER</strong> stand near unloading or moving of scaffold components.</td>
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<td>4d. ONLY qualified operators shall operate equipment.</td>
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<td><strong>See above &quot;Notes box&quot;</strong></td>
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<td></td>
<td>5. Loss of load</td>
<td>5a. Secure loads from displacement with ropes, cables, chains, etc.</td>
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<td></td>
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<td>before movement</td>
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<td>5b. Ensure load to be lifted is secured, balanced, etc.</td>
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<td>5c. Keep hands, fingers, or other body parts away from pinch points.</td>
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<td></td>
<td>6. Stuck by suspended loads or material</td>
<td>6a. <strong>NEVER</strong> stand underneath suspended loads.</td>
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<td>6b. Use taglines to control loads when elevated.</td>
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<td></td>
<td>7. Electrical Shock</td>
<td>7a. Check above for overhead power lines.</td>
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<td>7b. <strong>NEVER</strong> erect scaffolding within 10 ft (3 m) of overhead power</td>
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<td>lines. Refer to EM 385-1-1, Table 11-1 for Minimum Clearance from</td>
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<td></td>
<td></td>
<td>Energized Overhead Electrical Lines</td>
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<td>7c. <strong>NEVER</strong> string or hang temporary power cords, wires, etc. on</td>
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<td>metal scaffolding. <strong>Consult with Safety Officer.</strong></td>
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<td>7d. Check below for overhead power lines.</td>
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<td>7e. <strong>NEVER</strong> erect scaffolding within 5 ft (1.5 m) of overhead power</td>
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<td></td>
<td>lines. Refer to EM 385-1-1, Table 11-1 for Minimum Clearance from</td>
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<tr>
<td></td>
<td></td>
<td>Energized Overhead Electrical Lines</td>
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<td></td>
<td></td>
<td>8a. Inspect ground conditions (level and firm).</td>
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<td>8b. Stable base is necessary for proper scaffold assembly.</td>
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<td>8c. Scaffold shall be tied into structure when the scaffold height</td>
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<td>exceeds <strong>four times</strong> the minimum scaffold base dimension per EM 385-</td>
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<td>1-1, para 22 B.09</td>
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<tr>
<td></td>
<td>8. Scaffold failure due to improper set-up</td>
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<tr>
<td>Job Steps</td>
<td>Hazards</td>
<td>Controls</td>
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<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
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</tbody>
</table>
| 2. Assembly of Scaffolding | 1 Fall from Elevated Heights          | 1a. 100 percent fall protection required during assembly.  
1b. Personnel shall not be exposed to unprotected sides or falls greater than 6 ft (1.8 m).  
1c. Scaffolding shall not exceed 14 inches (35.5 cm) from the planking to the face of the building or structure.  
1d. Scaffolding more than 14 inches (35.5 cm) from the planking to the face of the building or structure shall be guardrails and/or the use of personal fall protection.  
1e. Personnel shall be tied off to a vertical lifeline with a rope grab during assembly of scaffolding.  
1f. Vertical lifeline shall be secured to an anchor point of at least 5,000 lbs (2,267.9 kg) per individual.  

Develop a site specific Fall Protection Plan IAW EM 385-1-1, para 21.C.01 and refer to EM 385-1-1, Section 21.

1g. Contact Safety Officer for additional guidance on fall protection requirements.  
2a. See diagram below and refer EM 385-1-1, Section 22 for specific requirements (i.e., toe boards, guard rails, safe access, etc.)  
2b. Scaffolding shall be assembled on mud sills and base plates.  
2c. Mud sills shall be at least 2 times the size of the base plates to disperse total weight of scaffolding.  
2d. Scaffolding shall be plumb and level.  
2e. Working levels shall be fully decked and/or planked.  
2f. Planking shall extend over the end supports not less than 6 in (30.4 cm).  
2g. Planking shall be secured, supported, or braced to prevent excessive spring or deflection and secured to prevent loosening, tipping, or displacement. Use of tie wire, cleats, etc. are options.  
2h. Planking shall overlapped at least 12 inches (30.4 cm) or secured from movement.  
2i. Scaffold shall be capable of supporting without failure at least 4 times the maximum anticipated loads.  
2j. Scaffolding shall be all required cross, horizontal, or diagonal braces to secure vertical members laterally.  
2k. Scaffolding shall be rigid.  
3a. Utilize proper lifting techniques.  
3b. Size up load before lifting.  
3c. Ask for help when lifting heavy items more than 50 lbs.  
4. Wear leather gloves. |
<p>| 2. Scaffold Failure      |                        |                                                                                                                                                                                                     | M   |
| 3. Back Strain           |                        |                                                                                                                                                                                                     | L   |
| 4. Lacerations on hands  |                        |                                                                                                                                                                                                     | L   |</p>
<table>
<thead>
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<tbody>
<tr>
<td>2. Assembly of Scaffolding</td>
<td>1. Scaffold Failure</td>
<td>1a. DO NOT overload more than 4 times the maximum load rating.</td>
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<tr>
<td>(Diagram)</td>
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<td>1b. DO NOT attach hoists or other material lifting devices without</td>
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<td>Safety Officer approval.</td>
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<td>1c. Scaffolding shall be tied into building whenever height of the</td>
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<td>scaffold exceeds 4 times the minimal base. Refer to EM 385-1-1, para</td>
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<td>22.B.09 for additional guidance.</td>
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<td>1d. Scaffold usage shall cease during high winds or severe inclement</td>
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<td>weather conditions.</td>
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<tr>
<td>3. Use of Scaffolding</td>
<td>2. Falls from Heights</td>
<td>2a. Guardrails shall be used as primary fall protection. Guard rails</td>
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<td></td>
<td></td>
<td>shall be installed IAW EM 385-1-1, para 21.B.02.</td>
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<td></td>
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<td>2b. Securing of personal fall protection devices to scaffolding is</td>
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<td>prohibited.</td>
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<td>2c. Personnel shall have fall protection whenever above 6 ft (1.8 m).</td>
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<td>2d. Climbing of braces or cross bracing is prohibited.</td>
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<td>2e. Safe access (ladder) shall be provided.</td>
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<td>2f. Personnel shall not stand on mid rails.</td>
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<td>2g. Ladders shall extend at least 3 ft (0.9 m) past the work area.</td>
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<td>3. Slips, Trips, or Fall</td>
<td>3. Walking surfaces on and around scaffolding shall be clear of debris.</td>
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<tr>
<td>3. Use of Scaffolding</td>
<td></td>
<td>[Scaffold Inspection Checklist]</td>
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<tr>
<td></td>
<td>1 Fall from Elevated Heights</td>
<td>[Frame Scaffold]</td>
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<tr>
<td>4. Disassembling of Scaffolding</td>
<td></td>
<td>[Diagram of scaffold with checklist]</td>
</tr>
<tr>
<td>1a. 100 percent fall protection required during disassembly.</td>
<td></td>
<td>[Explain requirements and checklist]</td>
</tr>
<tr>
<td>1b. Personnel shall not be exposed to unprotected sides or falls greater than 6 ft (1.8 m).</td>
<td></td>
<td>[Provide specific protection methods]&gt;</td>
</tr>
<tr>
<td>1c. Personnel shall be tied off to a vertical lifeline with a rope grab during assembly of scaffold.</td>
<td></td>
<td>[Detail specific safety measures]</td>
</tr>
<tr>
<td>1d. Vertical lifeline shall be secured to an anchor point of at least 5,000 lbs (2,267.9 kg) per individual.</td>
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<td>[Note: Develop a Site Specific Fall Protection Plan IAW EM 385-1-1, para 21.C.01 and refer to EM 385-1-1, Section 21.</td>
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### Equipment to be Used
- Scaffold components
- Hammers
- Mud sills
- Full body harness
- Lanyard
- Lifeline
- Fall protection anchor points
- Float
- Crane
- Electric Hand Tools (Battery type)
- Portable Generator
- 5 Ma GFCIs
- Power Cords
- Ladders
- First Aid Kit

### Training Requirements/Competent or Qualified Personnel name(s)
- Competent/Qualified Personnel:
  - Mr. ____________ – CP/Scaffolding
  - Mr. Safety Man – QP/First Aid and CPR
  - Mr. Work Man – QP/First Aid and CPR
  - Mr. Fall Safety – CP/Fall Protection
  - Mr. Shocker Cord – QP/Electrical
  - Mr. Lift Boom – QP/ Crane Operator

### Inspection Requirements
- Inspect scaffold components prior to use
- Inspect scaffold daily (Use Checklist)
- Inspect level and plumb of scaffoldings during erection and daily when in use.
- Daily Housekeeping of work areas and scaffolding
- Inspect PPE to include fall protection harnesses and lanyards prior to use.
- Inspect fall protection anchor points.
- Inspect crane IAW manufacture instructions.
- Inspect power cord sets prior to use.
- Inspect temporary power panel box, circuit breakers, grounding, etc. at least monthly.
- Inspect first aid kit at least monthly.
- Daily site safety inspections by SSHO and CQC.
AHA PRACTICE

CONSTRUCT A 12' HIGH x 20' LONG MASONRY WALL

1) PPE (STANDARD)  
2) ADDITIONAL PPE?? (Block Cutter)  
3) ELECTRICAL CORDS?  
4) SCAFFOLDING (COPY OF GUIDANCE FROM THE SCAFFOLDING, SHORING, AND FORMING INSTITUTE ON SITE?)  
5) COMPETENT PERSON AHA DETAILING INFEASIBILITY OF FALL PROTECTION SUBMITTED AND ACCEPTED?  
6) WHAT WEIGHT WILL BE ON THE SCAFFOLD? MUST SUPPORT 4 TIMES THE MAXIMUM ANTICIPATED LOAD.  
7) EQUIPMENT/QUALS/TRAINING  
8) MSDS INFORMATION (Mortar)  
9) DESIGNATED COMPETENT PERSON AND USING A COLOR CODED TAGGING SYSTEM (GREEN=SAFE, RED=UNSAFE)  
10) MORTAR MIXER (GFCI)  
11) BLOCK SAW (GFCI)  
12) TRAINING DOCUMENTATION  
13) LIMITED ACCESS ZONE??  
14) BRACING OF WALL OVER 8 FOOT?
FINAL QUESTION: WHAT TIME IS IT?

Time to BREAK!