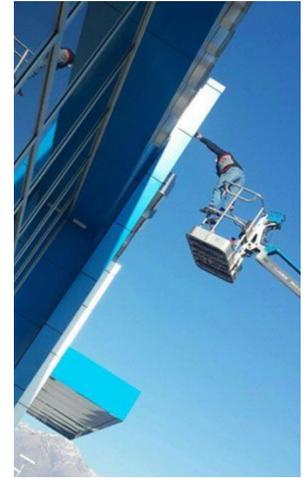
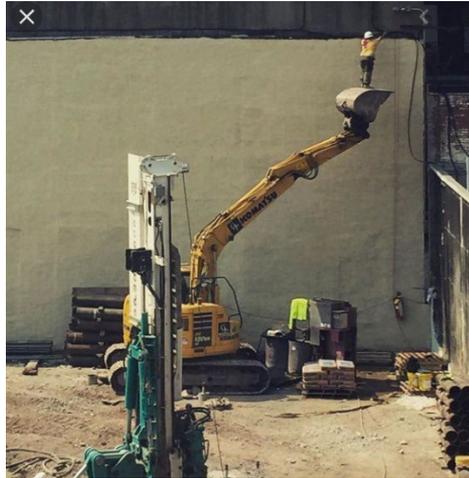




THE OHIO STATE UNIVERSITY

Construction Site Safety

Facilities Design & Construction



“Gee Bill, no steel-toed boots?!”



We can see the humor in these images....until someone is seriously hurt or even killed on a jobsite. Almost every jobsite accident is preventable.



Background and Overview

- In the Summer of 2020, a working group developed recommendations to increase the level of safety on construction sites on our campuses without assuming unnecessary liability for the University.
- The recommendations and implementation included the following:
 - Construction safety guidelines to be more structured and consistent.
 - A Site Specific Safety Plan (SSSP) will be required to be submitted for every project.
 - FDC processes will be integrated with Office of Risk Management (ORM) and Environmental Health and Safety (EHS) to create a more comprehensive safety program on all of our projects.
 - Processes and tools developed to be utilized by FDC staff, external contractors and consultants.



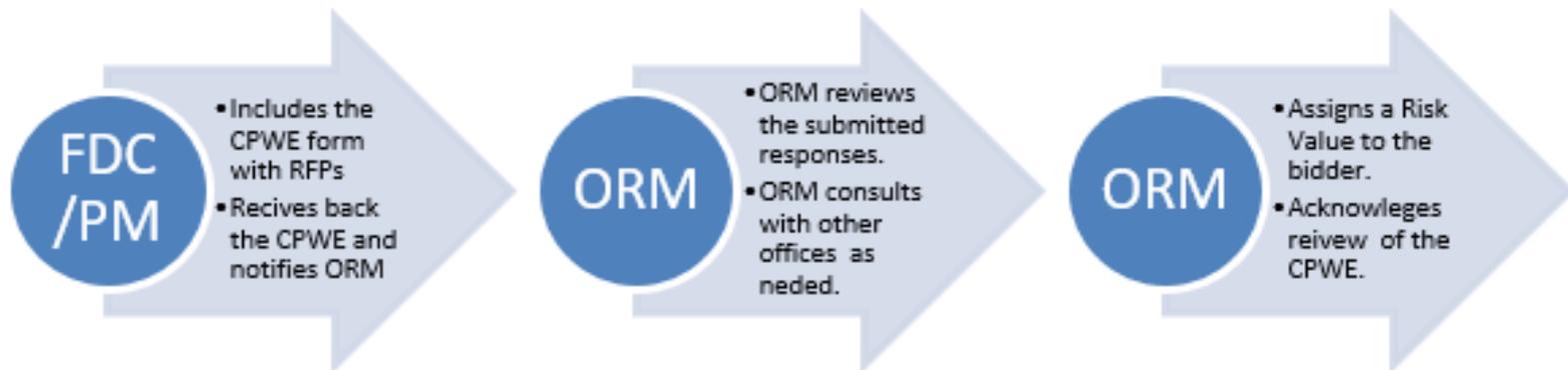
Improving Construction Safety Measures:

- Use assessment process of Contractor Pre-Work Evaluation.
- Prepare list of documents to be included in the safety plan.
- Ensure requirement for additional subcontractor safety plans.
- Follow new approval process for Site Specific Safety Plans.
- Conduct site safety activity coordination as appropriate for the project scope.
- Perform periodic project safety audits.
- Involvement with Serious Incident/Accident Investigation.
- Updates Building Design Standards (Appendix V, Safety Health & Environment)
- Implement safety into project design specifications.



Assessment Process of the Contractor Pre-Work Evaluation

- FDC PM / CM coordinates with ORM to conduct a Contractor Pre-Work Evaluation (CPWE)
- Construction Team completes and submits the CPWE form to FDC PM who forwards to ORM
- ORM conducts independent assessment of the metrics and responses based on their Risk Methodology Guidelines. ORM may consult with EHS, Legal Affairs or other industry sources
- ORM provides a response to FDC PM regarding the acceptability or other standing of the Construction Team based on the CPWE





Assessment Process of the Contractor Pre-Work Evaluation

- Contractor Pre-Work Evaluation form
- CPWE form was developed by the Office of Risk Management
- Required to be submitted on all projects over \$200K; projects over \$500K will go to ORM for review
- CMR/DB/GC completes this information and ORM evaluates to assess the safety structure and history of bidding contractors prior to contract award
- CMR and DB provide CPWE info during the RFP process. GC's provide the CPWE info with their bidder's qualification documentation

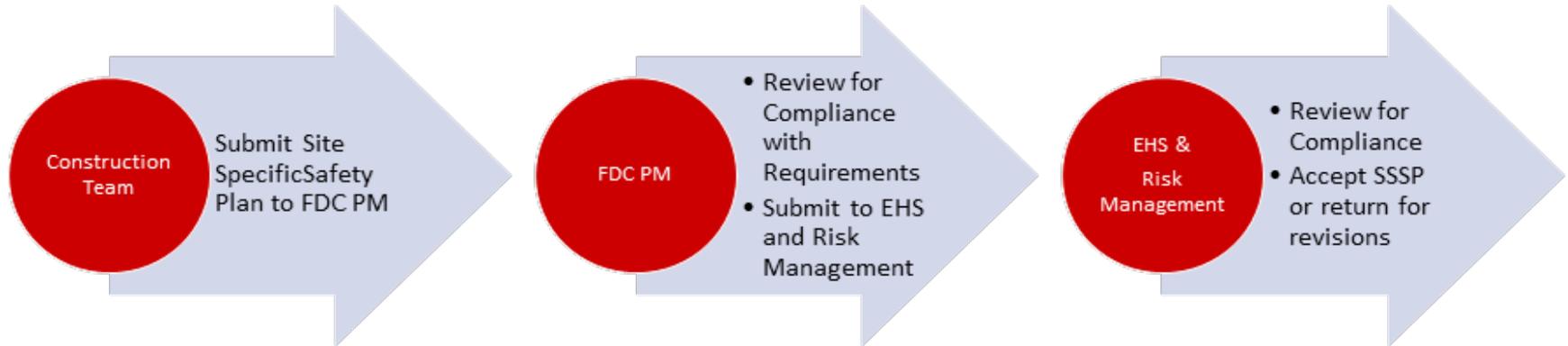


Appendix F – Contractor Pre-Work Evaluation Checklist

THE OHIO STATE UNIVERSITY		CONTRACTOR PRE-WORK EVALUATION		
Today's Date: [Date]				
PROJECT DETAILS				
Project No.: <i>Enter project no.</i>		Project Name: <i>Enter project name</i>		
Projected Start Date:		Projected End Date:		
CONTRACTOR DETAILS				
Contractor Representative Name: <i>Enter representative</i>		Company/Business Name and average number of employees: <i>Enter company name and number</i>	Previous Company/Business Name: <i>Enter previous company name</i>	
Total Case Rate (TCR) for the last year: <i>Enter TCR for previous year</i>	Days Away, Restricted, or Transferred (DART) Rate for the last year: <i>Enter DART for previous year</i>	Number of all regulatory citations for the last year: <i>Enter no. of citations</i>	Number of all unresolved citations in the last year: <i>Enter no. of citations</i>	Total USD fines incurred in the last year: <i>Enter value of citations</i>
Total number of ALL worker fatalities reported to OSHA by the company: <i>Enter no. of fatalities</i>	Total number of company environmental citations in the last year: <i>Enter no. of citations</i>	Brief description or nature of circumstances to which the previous year's safety or environmental fines were applied:		
CONTRACTOR SAFETY MANAGEMENT SYSTEM-ASSESSMENT CRITERIA				
Has the company/business or associated subcontractors ever been placed in the OSHA Severe Violator Enforcement Program.				<input type="radio"/> Yes <input type="radio"/> No
A company Health and Safety Policy is current and in use, and a copy will be located at the worksite.				<input type="radio"/> Yes <input type="radio"/> No
Contractor Competence and Training:				
A General Orientation is provided to all contract workers prior to work start.				<input type="radio"/> Yes <input type="radio"/> No
A New Employee Safety and Health Orientation is provided for all contract workers.				<input type="radio"/> Yes <input type="radio"/> No
On-Site Safety Operations:				
A site-specific safety plan is reviewed by all workers including sub-contractors.				<input type="radio"/> Yes <input type="radio"/> No
Worksite Safety Operations:				
Worksite safety inspections are conducted on a regular basis by a qualified supervisor.				<input type="radio"/> Yes <input type="radio"/> No
Assessments of work practices are conducted on a regular basis by a qualified supervisor.				<input type="radio"/> Yes <input type="radio"/> No
Worksite Hazard Management:				
Use of personal protective equipment is required at all times.				<input type="radio"/> Yes <input type="radio"/> No
Use of warning signage, barriers, and fall guarding is required.				<input type="radio"/> Yes <input type="radio"/> No
Project safety management planning and safe work practices are required.				<input type="radio"/> Yes <input type="radio"/> No
Regular Safety Meetings or Tool Box sessions are held with all workers.				<input type="radio"/> Yes <input type="radio"/> No
New hazards in the workplace are identified and communicated to all workers.				<input type="radio"/> Yes <input type="radio"/> No
Site-specific and hazard-specific Emergency Response procedures are practiced, and plans will be located at the worksite.				<input type="radio"/> Yes <input type="radio"/> No
Safety Data Sheets (SDS) are available for all hazardous materials used in the workplace, and will be located at the worksite.				<input type="radio"/> Yes <input type="radio"/> No
Incident Reporting and Documentation:				
A written Accident Reporting Procedure for all workers is in use.				<input type="radio"/> Yes <input type="radio"/> No
Incident reporting requirements and training is provided to all workers.				<input type="radio"/> Yes <input type="radio"/> No
All safety incidents and accidents will immediately be reported to university contacts.				<input type="radio"/> Yes <input type="radio"/> No
Contractor Certification of Information				
Additional comments:				
The above information is true and valid to the best of my knowledge.				
Contractor Representative				Date



Approval Process for SSSP



- Construction Team submits SSSP to FDC PM at least 10 days prior to construction start
- FDC PM reviews for completeness and provides comments back
- Construction Team makes necessary adjustment and resubmits
- FDC PM submits to Office of Risk Management and EHS for their review/comment
- Construction Team makes necessary adjustment and submits final plan for acceptance
- FDC PM submits final SSSP to ORM and EHS and generates acceptance letter to Construction Team

FDC PM leads safety focused discussion during kickoff meeting prior to start of construction:

- Larger projects – dedicated separate meeting
- Smaller projects – agenda item during preconstruction meeting
- Under \$200K projects – discussion with DB or GC about FDC safety guidelines



What should be included in SSSP?

- Critical Safety Plans and Documents – varies depending on project size and scope
- The safety plan should be customized for the current project.
- A checklist has been developed to assist FDC PMs and CMs with this requirement (all items on the checklist don't necessarily apply to all projects)
- Individual Subcontractor Safety Plans should be included if not covered in the GC/CM/DB's Safety Plan



Critical Safety Plan Checklist

Note: Items listed below are dependent on the specific project scope.

<u>Contractor's Site Specific Safety Plan Items</u>	<u>Description</u>
Emergency Call List	List of emergency contacts; include primary and secondary contacts
Site Security Plan	Plan to secure site from intrusions, theft, vandalism
Emergency Action Plan/ Crisis Management Plan	Protocol to follow in case of: accident/injury, active shooter, workplace violence, bomb threat, fire, tornado, earthquake, confined space, high angle rescue, suicide, COVID 19 Response, gas leak, etc.
Accident/Incident Investigation Protocol	Define action to take and reporting methods.
Maintenance of Traffic Plan	Plan to manage traffic in and around construction zone.
Site Evacuation Plan	Plan to get all personnel safely off site in an emergency; should have 2 routes if possible.
Hoisting Plan and Pedestrian Safety Plan	Plan for controlled lifting, rigging with emphasis on safety and potential risk to personnel below.
Overhead Pedestrian Safety Plan	Plan to protect pedestrians from potential falling debris from overhead work.
Interior- Temporary Partition Plan	Plan to ensure compliance with egress, life safety and ADA pathways
Safety Training Plan	Plan for ongoing training of personnel on site.
Hazard Communication Plan	Provides info to on hazards of chemicals on the jobsite to prevent illness or injury.
Housekeeping Plan	Plan to keep jobsite orderly and neat to prevent trip or fire hazards.
Hand and Power Tool Safety Plan	Training on proper use of hand tools to prevent injury
Mechanized Equipment Safety Plan	Training on proper use of mechanized equipment to prevent injury or accidents.
Trenching and Excavation Safety Plan	Proper procedures for trenching and excavation to prevent collapse or cave-in of soil.
Fall Protection Safety Plan	Plan to protect workers at an elevated height to prevent falls.
PPE Safety Plan	Personal Protective Equipment to minimize exposure to specific hazards.
Lock-out/ Tag-out Plan	Proper locking and tagging of hazardous energy (electric, gas, steam, etc.) to avoid accident or injury
Hot Work Safety Plan	Work that generates sparks
Environmental Safety Plan	Hazardous material removal (i.e. asbestos, lead paint, etc.



Weekly Site Safety Activity Checklist

- FDC PM / CM coordinates with Construction Team to have safety focused discussions/meetings for significant activities.
- Invite University subject matter experts (i.e. EHS, Public Safety, TTM, Engie, etc.) depending on the activity to ensure requirements and parameters are understood by all.
- Larger projects should be dedicated meeting.
- Smaller projects can be an agenda item during the progress meeting.
- Checklist has been developed to assist FDC PM/CM in this effort.

Weekly Site Safety Activity Checklist

The list below includes construction activities that require a specific meeting or agenda item to discuss the plan in detail with the construction team and pertinent University entities.

Construction Activity	Description	University Participants
Site Logistics - Site Perimeter, Site Security, Maintenance of Traffic Plan	Fence & gate locations, access, traffic control, pedestrian vs vehicular paths, exterior security lighting, fencing, security systems, check in locations, etc.	Public Safety, TTM, FDC PM/CM
Hazardous materials removal	Removal of asbestos, mold, lead paint, etc. Verification of proper containment and disposal	EHS, FDC PM/CM
Major Building Demolition	Demolition of entire or partial major building elements	FDC PM/CM
Trenching and excavation	Verify protection from cave ins, falls, etc. Any trenching or holes outside the fence need to consider protections for the visually impaired.	EHS, FDC PM/CM
Overhead Work	Work over pedestrian pathways; need to consider protection from falling debris.	FDC PM/CM
Hot Work	If working in an occupied building and doing welding, cutting, soldering, grinding, roofing kettles, etc.	EHS, FDC PM/CM
Work in Confined Space	Includes work in tunnels, chases etc. Verify emergency egress plan.	EHS, FDC PM/CM
Elevator Repair Work	Verify notifications of elevator being out of service, verify plan for lock out/tag out.	FOD Elevator Manager, FDC PM/CM
Roof Work and Fall Protection	Verify proper fall arrest and fall protection plan.	EHS, FDC PM/CM
Scaffolding and Lifts	Need to consider pedestrian safety	FDC PM/CM
Crane erection and lifts	Crane location, swing radius, height and location may need communicated with Med Flight	FDC PM/CM
Structural steel erection	Confirm and communicate large steel deliveries, truck routes, traffic impacts, crane lifts, etc.	FDC PM/CM
Planned Utility Outages	Outage for power, gas, water, steam needs proper notice and communication.	Engie, Operations, FDC PM/CM
Temporary partitions and egress paths	If working in an occupied building and changing egress and circulation pathways, confirm plan is safe and meets egress code requirements. Ensure proper signage.	Public Safety, Building Coordinator, FDC PM/CM
Large concrete pours	Confirm and communicate concrete truck routes, any traffic impacts	FDC PM/CM
Fire Protection Shutdowns	Confirm proper notification and fire watch during outage of fire alarm or suppression systems.	Public Safety, Fire Shop Personnel, FDC PM/CM
Use of Power Actuated Fasteners	Confirm proper training and use of power actuated fasteners. Coordinate with EHS and equipment rep. as required.	EHS, FDC PM/CM



Safety Audits During Construction

- FDC PM / CM needs to ensure forms are completed and turned in to confirm compliance with the SSSP.
- Frequency depends on project size, scope and duration, but at least once during the construction phase.
- Template has been developed to assist FDC PM / CM with this task (shown on next slide)





Safety Audits During Construction

- Site/Job Hazard and Risk Register



Site/Job Hazard and Risk Register

List significant site- or job-specific hazards only. Do not record minor tasks or activities here.

#	Potential Hazard and/or Harm List the more significant hazards that will occur during your activities on site. Where possible, note the potential harm that could arise from these hazards.	Initial Risk Evaluate the risk level without controls using the risk matrix.	Controls Identify your control methods.	Residual Risk Reevaluate the risk level with controls using the risk matrix.
1				
2				
2				
3				
4				
5				
6				
7				
8				
9				



Safety Audits During Construction

- Hazardous Products and Substances Inventory/Register



Hazardous Products and Substances Inventory/Register

Return this form to the Contractor, regardless of content.

- Hazardous products and substances include glues, resins, solvents, fuels, expanders, adhesives, bonding agents, and cleaning agents, etc.
- Complete this form for all the materials you will bring onsite.
- You are required to have a Safety Data Sheet (SDS) for every potentially harmful product, substance, or material you bring to the site. Supply copies of the Safety Data Sheets with this SSSP.
- Print as many copies of this form as required.

#	Product, Substance, Material Name	Indicate Form:	Total Volume Onsite	Location of SDS Onsite	UN Class & Packing Group	OSHA Approval Number & Group Standard	OSHA Classification	Storage Location Onsite	Special Storage Requirements	PPE Requirements
		L = Liquid S = Solid G = Gas								
1										
2										
3										
4										
5										
6										
7										
8										
9										



Safety Audits During Construction

- Training and Qualification Register



Training and Qualification Register

Complete this information for each of your workers who will be attending the site, noting the training, qualification, and/or experience that are relevant to this job.

Training and/or Qualification Examples – EWP (elevated work platform), PAT (powder actuated tool), FL (fork lift), FA (fall arrest), SCA (scaffold), DOG (dogman), LBP (Licensed Building Practitioner – card type and number), CRA (crane – specify type), MP (mobile plant – specify type), RELECT (registered electrical worker), ELTAG (electrical testing and tagging), STMS (site traffic management supervisor), TC (traffic controller), EXP (explosives), OSHA (trade or safety units)

#	First and Last Name	Indicate Key Role or Task	Training and/or Qualifications Relevant to the Job	# of Years Experience
	Add ID No. if applicable	S = Supervisor H&S = Health & Safety FA = First Aid	Any site safe training, trade and skills training, formal qualifications, certificates, licenses, cards, unit standards, etc.	Relative to Role or Task
1				
2				
3				
4				
5				
6				
7				
8				
9				



Involvement with Incident/Accident Investigation

Construction Teams shall report all work-related injuries, illnesses, property damage, and environmental release incidents, to ORM within 24 hours of the occurrence, specifically:

- An OSHA recordable, including any incident resulting in a disability or lost time;
- Participant seeks medical attention (OSU Student Health Services, health care provider, urgent care center, or hospital emergency department);
- Emergency Service response is called.
- Any property damage event resulting in a loss to the university.
- Any significant release of hazardous materials into the worksite.

- Incident/Accident report is provided to ORM as follows:
 - Contractor notifies FDC PM immediately and PM promptly notifies DoP and FDC AVP
 - Contractor fills out their incident form and submits to FDC PM
 - FDC PM sends to ORM, David Smith (and copy Stacey Houser)
 - ORM receives and reviews incident and may follow up with Contractor for more detail as required.

- ORM provides recommended action as warranted.



Communicating Safety Requirements to Construction Teams

- Include University's requirements and expectations in:
 - RFQ templates for A/Es, CMs and DBs
 - RFPs for CMR and DB teams
 - Supplementary Conditions for General Contractors
- Training video, forms and checklists will be available on FOD Vendor Resource webpage
- Email notices will be sent to existing Construction Teams



Tools and Resources

- BDS Appendix V- Safety Health & Environment
- Contractor Pre-work Evaluation Checklist
- Critical Safety Plan Checklist
- Weekly Site Safety Activity Checklist
- Site Specific Safety Plan Audit Form
 - Site/Job Hazard and Risk Register
 - Hazardous Products Inventory/Register
 - Training and Qualification Register

Note: Forms and tools will be available on the FDC Project Delivery website or on the FOD Vendor Resources page.



Upcoming Integration with Ebuilder Processes:

- SSSP approval process for ORM/EHS to receive and approve
- CPWE submittal to ORM for review and comment
- Incident/Accident Reports submittal to ORM
- Safety documents to be filed in eBuilder under Construction/Site Safety *(folders will be added to new projects)*

NOTE: *Until the eBuilder processes are developed, email the SSSP, CPWE and Incident Reports to ORM: osurisk@osu.edu*

For specific questions for Risk Management, contact:

- *David Smith smith.4629@osu.edu*
- *Stacey Houser houser.61@osu.edu*



Primary Takeaways:

- FDC will take a proactive role to increase the level of safety on our construction sites.
- CPWE to be provided to Office of Risk Management before contract award.
- FDC and ORM will have increased collaboration on jobsite safety
- Every project needs an approved Site Specific Safety Plan
- Tools and checklists are available to help improve jobsite safety.
- FDC PMs and CMs are expected to have a keen awareness of safety on their construction sites, be a leader in promoting safety and have the confidence to speak up if they see something unsafe.



Questions?

