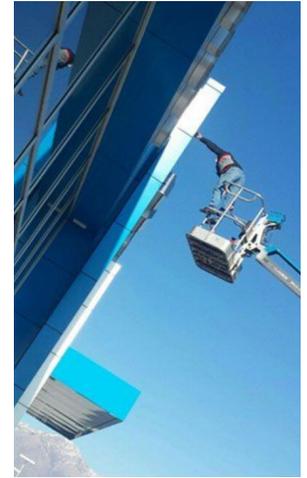
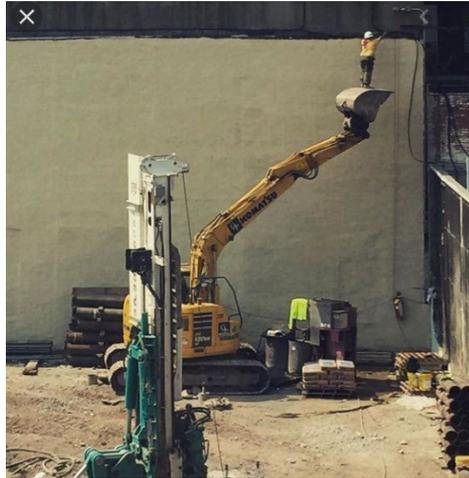




THE OHIO STATE UNIVERSITY

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

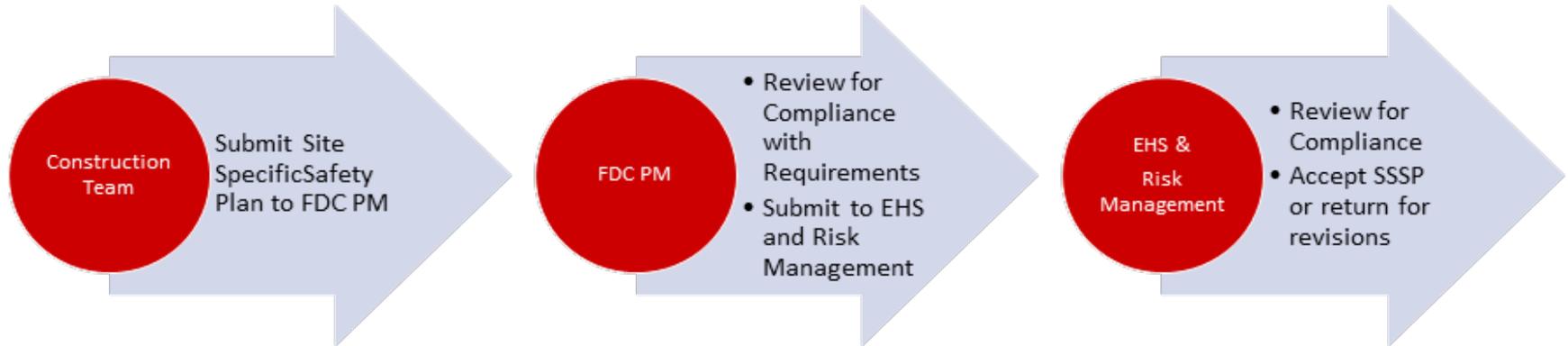


Appendix F – Contractor Pre-Work Evaluation Checklist

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



Note: For the purposes of this document, references to "Contractor" shall include those entities in direct contractual relationship with the Owner, (i.e. CM@Risk, D-B, General Contractor). Similarly, "Subcontractor" references shall include all entities who have a contractual agreement with the "Contractor" as it relates to this specific project.

1. Project Name and Location		
2. Scope of Work (brief outline of work being undertaken)		
3. Subcontractor Identification		
Will you be using subcontractors for any part of your contracted work? <input type="checkbox"/> yes <input type="checkbox"/> no		
a. If yes, provide the business name of each subcontractor.		
b. As evidence of due diligence, attach a copy of your subcontractor's SSSP Agreement section to the back of this SSSP, either now or when the subcontractor begins work on the site.		
4. Significantly Hazardous Activities (check all that apply)		
Record checked items in your Hazard/Risk Register. This list is not exhaustive. You may record other significant hazards that are not on this list.		
<input type="checkbox"/> Excavations more than 3' deep	<input type="checkbox"/> Direct drive nail gun use	<input type="checkbox"/> Generating wood dust
<input type="checkbox"/> Structural demolition	<input type="checkbox"/> Using combustion engine in enclosed spaces	<input type="checkbox"/> Use of highly toxic, inflammable, or explosive substances or materials
<input type="checkbox"/> Structural propping and false-works	<input type="checkbox"/> Activities that could affect the public or other workers	<input type="checkbox"/> Lead paint removal or coating
<input type="checkbox"/> Crane lifts	<input type="checkbox"/> Activities that create risks to eyes, hands, head	<input type="checkbox"/> Work in or around deep water or other fluids
<input type="checkbox"/> Confined space entry	<input type="checkbox"/> Truck(s) loading or unloading	<input type="checkbox"/> Exposure to equipment or power tools that create vibrations
<input type="checkbox"/> Tools or materials possibly falling from heights	<input type="checkbox"/> Work undertaken on steep slopes	<input type="checkbox"/> Close approach to above- or underground services
<input type="checkbox"/> Generating silica dust	<input type="checkbox"/> Manual handling of heavy or repetitive loads	<input type="checkbox"/> Using supplied breathing air
<input type="checkbox"/> Using products or machinery requiring spill control	<input type="checkbox"/> Working at heights more than 15'	<input type="checkbox"/> Isolated workers
<input type="checkbox"/> Hot works, including activities that generate sparks	<input type="checkbox"/> Height activities requiring harness(es)	<input type="checkbox"/> Inexperienced workers or with unknown skills, backgrounds
<input type="checkbox"/> MEWP use (any type)	<input type="checkbox"/> Asbestos-related activities	<input type="checkbox"/> Activities that could have an environmental impact
<input type="checkbox"/> Operating plant & heavy machinery	<input type="checkbox"/> Tower crane erection or dismantling	<input type="checkbox"/> Creating slip, trip, fall hazards
<input type="checkbox"/> Concrete pumping	<input type="checkbox"/> Live electrical work	<input type="checkbox"/> Working from a swinging stage or BNU
<input type="checkbox"/> Generating noise in excess of 85 dB	<input type="checkbox"/> Work in or around any potential fall hazard	<input type="checkbox"/> Using or storing hazardous products, substances, materials
<input type="checkbox"/> Other – explain:		



6. Critical Risk Activities Requiring a Safe Work Plan (check all that apply)		
a. All activities that come under OSHA "Particular Hazardous Work" will require a Safe Work Plan before proceeding. Do not create a Safe Work Plan until it is needed.		
b. A Safe Work Plan may be one or a combination of: Task Analysis, Job Safety Analysis, Safe Work Method Statement, Permit to Work, Safe Operating Procedure (this last must be made relevant to the site and project) or other methods as mutually agreed with the Contractor.		
c. This list is not exhaustive. You may create Safe Work Plans for high risk situations that are not on this list.		
<input type="checkbox"/> Operating plant & heavy machinery	<input type="checkbox"/> Generating silica dust	<input type="checkbox"/> Tower crane erection or dismantling
<input type="checkbox"/> Structural demolition	<input type="checkbox"/> All asbestos-related activities	<input type="checkbox"/> Live electrical work
<input type="checkbox"/> Structural propping & false-works	<input type="checkbox"/> Hot works, including all activities that generate sparks	<input type="checkbox"/> Work in or around any potential fall hazard
<input type="checkbox"/> Crane lifts	<input type="checkbox"/> Excavations more than 5' deep	<input type="checkbox"/> Generating wood dust
<input type="checkbox"/> Confined spaces	<input type="checkbox"/> Erecting or dismantling scaffold over 5m	<input type="checkbox"/> Using or storing hazardous products, substances, materials
<input type="checkbox"/> Tools or materials possibly falling from heights	<input type="checkbox"/> Height activities requiring harness(es)	<input type="checkbox"/> Using products or machinery requiring spill control
6. Risk Assessment Process		
A Risk Assessment Process must be part of all records relating to high risk activities. Risk is the outcome of the likelihood of a hazardous event occurring and the severity of injury or illness, if an event occurs.		
a. The hazards listed in both the Hazard/Risk Register and in any Safe Work Plan must be assessed for level of risk before any controls are applied (this is the base or "initial" risk) and again after suitable controls have been identified. (This is the "residual" risk). The goal is to ensure the residual risk is acceptably lower than the initial risk.		
b. If the residual risk is not acceptable, revise and improve the controls until residual risk level is appropriate for the situation.		
c. Note that some risk levels may be or will be deemed unacceptable by the Contractor, so these will require significant replanning to reduce the risk appropriately.		
Check here <input type="checkbox"/> to indicate that you have read and understand this section.		
7. Notification to OSHA		
a. Will activities require notification to OSHA? <input type="checkbox"/> yes <input type="checkbox"/> no		
b. If yes, provide details of any notifiable activities:		
8. Declaration		
To be signed by both parties when the SSSP contents are finalized. This provides both parties with certainty of what is expected and what will be done.		
Contractor (Principal, Main Contractor)		Subcontractor
We have read the Site-Specific Safety Plan information provide by the Contractor and agree that it is the appropriate approach to health and safety relating to this site for the duration of the contract.		We acknowledge that we have seen and understand the Contractor's Health & Safety Plan for this site, and we agree to act in accordance with that plan. We will treat this SSSP as a live document for the duration of the project and ensure the Contractor is kept up to date with any changes.
Signature		Signature
Date		Date



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?

