
PROCESS IMPROVEMENT MEMORANDUM No.1

TO: Principals at Partner Architecture Firms and General Contractors

FROM: Clint Russell

COPY: Capital Deployment AVPs, Directors and Managers

DATE: May 7, 2019

SUBJECT: Recommendations for Prevention of Job Site Incidents on HCA Construction Projects

HCA has experienced an increased number of job site incidents on the company's construction projects in 2018. In response to this trend, the Capital Deployment team performed root-cause analysis of 50 job site incidents that occurred in 2017 and 2018 (through September). The team met with General Contractor project delivery teams to understand the circumstances surrounding each incident and discuss recommendations, best practices, and prevention measures necessary to mitigate and eliminate future incidents.

Below is the list of resulting best practices that HCA would like to see implemented on all construction projects going forward. We appreciate your help in implementing these recommendations with a goal to eliminate job site incidents on HCA construction projects.

Condition: Vertical Expansion

1. Risk assessment
 - a. In the beginning of the project, discuss with the roofing subcontractor the strategy for best weather protection measures and develop a weather protection plan
 - i. General contractor (GC) to present the weather protection plan to HCA Construction Manager
2. Drains
 - a. Develop a drain connection plan and have it reviewed by the plumbing subcontractor to make sure the drains can accommodate anticipated amount of water (include facility DPO in discussions)
 - b. Obtain an engineer's opinion on the temporary measures (since water goes differently side-to-side than up/down) (include facility DPO in discussions)

3. Inspection
 - a. Have a dedicated person (e.g., GC superintendent) monitor the temporary roofing measures at the start and finish of each work day and before weather events
 - b. Engage a roofing subcontractor as required during steel erection through building dry-in
 - i. Bring a roofing subcontractor in when weather or work justifies

Condition: Fire Sprinkler, Domestic Water, and Hydronic Systems Work

1. Develop a plan for demolition
 - a. Use protective cages on sprinkler heads and turn heads up
 - b. If a facility asks for out-of-sequence work, discuss risks and ways to mitigate
 - c. Discuss pre-task activities at daily huddles
 - d. Treat demolition as lock-out/tag-out process performed by a safety manager
 - e. Review valves, their status, operability, and what they serve
2. Develop and use isolation measures, focusing on training and cross-training all trades
 - f. Create and stage spill kits
 - g. Utilize sprinkler head guns
 - h. Create maps with locations of shut-off valves (it is good practice to physically walk crews to valves during training)
3. Do not allow the fire sprinkler subcontractor to turn the system back on without the subcontractor being present to monitor for potential leaks and GC supervising
4. Do not assume that a sprinkler line is dead
5. When possible, cut new valves to isolate the construction area (following the principle that “valves are cheap insurance”)
 - a. Perform shut off valve analysis early, e.g., during the Early Design Involvement (EDI) process, and include this analysis in the weather protection plan (item 1a)

Condition: Existing Utilities/Life Safety/Underground/Site Utilities

1. Refer to the exploratory and investigative work listed in the Request for Proposal (RFP)
 - a. GC should feel free to propose additional beneficial measures to HCA Construction Manager

Other Best Practices

1. If warranted, recommend to HCA Construction Manager that each trade have a full-time QA/QC/safety person

2. Dedicate more time at project kick-off to discuss risks, using critical-thinking approach to develop a comprehensive risk mitigation plan
3. Communicate any incidents to HCA Construction Manager as soon as they are known via phone and text, including the impact of the incident on patient care and/or hospital operations
 - a. Upon initial occurrence, GC to communicate to HCA Construction Manager and Director, once it is safe to do so, via phone and text
 - b. Upon completion of repair of the damage from the incident, GC to communicate all incident details to HCA Construction Manager using the “Incident Reporting Form” (see attached)