Work scope details:

Title: Boost Pressure to Wet Pipe Sprinkler System via FDC

Work Scope Summary: This work involves boosting the water pressure of the wet pipe sprinkler system using a fire engine's pumping capabilities via the Fire Department Connection (FDC). The operation requires careful coordination among personnel to ensure safety and effective communication while monitoring the sprinkler system's pressure.

Key Work Scope Components:

• Deployment of a fire engine to the FDC location.

• Connection of a pre-connected 2.5-inch hose to the FDC.

• Monitoring of the sprinkler system's pressure during operation.

• Communication among team members using operable radios.

• Post-work testing of the sprinkler system for pressure stability.

Relevant previous events and lessons learned:

Event Title	Event Summary	Lessons Learned	Reference Link
Fire Pump Failure Incident	A fire pump failed to engage during a routine pressure test, leading to a delay in response time during a fire drill.	Ensure regular maintenance checks and training on emergency procedures for all operators.	N/A
Over-Pressurization of Sprinkler System	An incident where a sprinkler system was over-pressurized due to miscommunication, resulting in pipe damage.	Establish clear communication protocols and monitoring systems to prevent over-pressurization.	N/A
Equipment Malfunction During Maintenance	A fire engine's pump malfunctioned during a critical maintenance operation, causing a safety hazard.	Conduct thorough pre-operation checks and ensure all personnel are trained on equipment use.	N/A
Confined Space Rescue Failure	A rescue operation was hindered due to inadequate communication and lack of proper PPE, resulting in injuries.	Reinforce the importance of PPE and communication in high-risk environments.	N/A
Improper Hose Connection	A hose was improperly connected to the FDC, leading to a leak and loss of pressure during a test.	Implement a checklist for hose connections and ensure all personnel are trained on proper procedures.	N/A

Missing Hazards:

Hazard	Missing or Inadequate Mitigation in Current Work Control Document	Recommended Mitigation for Revision	Reference Link	SBMS Link
Heat Stress	Not addressed	Implement hydration breaks and monitor for signs of heat stress.	N/A	N/A
Manual Material Handling	Inadequate guidance on weight limits	Specify weight limits for lifting and provide lifting aids.	N/A	N/A
Noise Exposure	Not addressed	Conduct a noise assessment and provide hearing protection if necessary.	N/A	N/A
Communication Failures	Inadequate procedures for communication	Establish a communication protocol and conduct a briefing before work starts.	N/A	N/A
Over-Pressurization	Not adequately addressed	Implement a pressure monitoring system with alarms for over-pressurization.	N/A	N/A
Equipment Failure	Not addressed	Schedule regular maintenance and operator training sessions.	N/A	N/A
Confined Space Hazards	Not addressed	Identify and assess any confined spaces and ensure proper entry protocols are followed.	N/A	N/A
First-Time Task Risks	Not addressed	Provide additional training and supervision for first-time operators.	N/A	N/A

Failure mode analysis:

Current Control	Failure Mode of the Control	Effect of Failure	Cause of Failure	Recommended Action
Pre-operation checks	Checks not performed	Equipment failure during operation	Lack of adherence to procedures	Reinforce the importance of pre-operation checks through training.

Current Control	Failure Mode of the Control	Effect of Failure	Cause of Failure	Recommended Action
PPE requirements	PPE not worn or inadequate	Increased risk of injury	Lack of enforcement or awareness	Conduct regular PPE audits and training sessions.
Communication protocols	Miscommunication among team members	Delays in response and potential accidents	Lack of clarity in communication channels	Establish clear communication protocols and conduct pre-job briefings.
Equipment maintenance	Maintenance not performed on schedule	Equipment failure	Poor scheduling or oversight	Implement a strict maintenance schedule with accountability measures.
Training and competency verification	Inadequate training for operators	Unsafe operation of equipment	Lack of training programs	Develop a comprehensive training program with regular assessments.
Emergency response procedures	Procedures not followed	Ineffective response to emergencies	Lack of drills or training	Conduct regular emergency response drills and reviews.
Tool availability	Tools not available or inadequate	Delays in work and increased risk	Poor inventory management	Implement a tool inventory system to ensure availability.
Monitoring systems	Pressure monitoring not in place	Risk of over-pressurization	Lack of proper monitoring equipment	Install pressure monitoring systems with alarms for alerts.

This comprehensive risk assessment report identifies potential hazards, references relevant historical safety events, and provides specific mitigation recommendations tailored to the work plan for boosting pressure to the wet pipe sprinkler system.