ILLINOIS OSHA INCIDENT REPORT

524 South 2nd Street, Suite 400, Springfield, IL 62701 • 217.782.9386

INCIDENT HIGHLIGHTS

DATE:
February 23, 2023

TIME:
11:48 AM

VICTIM:
20-year-old employee

INDUSTRY/NAICS CODE:
Water Supply and Irrigation Systems/221310

EMPLOYER:
Municipal Water Department

SAFETY & TRAINING:
IL OSHA noted significant deficiencies in safety practices and training.

SCENE:
Water main vault

LOCATION:
Northeast Illinois

EVENT TYPE:
Fatality (drowning)

INSPECTION #: 1652863 REPORT DATE: Mar. 4, 2025

The Deming Incident: Water Department Employee Drowns During Repair of Valve in Water Main Vault

SUMMARY

A 20-year-old male maintenance worker drowned due to engulfment in a flooded water main vault and entrapment of his right hand during repair of a leaking valve for a 12” water main.

CONTRIBUTING FACTORS

Key contributing factors identified in this investigation include:

- Lack of compliance with several confined space standards.
- Lack of oversight and auditing by management.
- Insufficient training on operating in confined spaces.
- A charged 12” water main was not isolated and drained.
- Lack of hazard assessment and reassessment.
- Lack of rescue capability at the worksite.
- Lack of tools to isolate water valves at the worksite.
- Inadequate personal protective equipment.

RECOMMENDATIONS (DEFENSES)

To reduce the risk of similar occurrences:

- Implement a compliant, specific, written confined space program.
- Ensure strict compliance with confined space standards through initial and refresher training, and supervision.
- Continually assess and control risks.
- Implement briefings and a “start work” program.
- Stop and reassess when plan “A” does not work.
- Ensure a rapid and effective rescue capability.
- Require management oversight and auditing of operations.
- Ensure a workplace culture where employees can speak up if something doesn’t seem right.
- Detailed recommendations on page 12-13.

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SUMMARY

On February 23rd, 2023, at 2:16 PM, The Illinois Department of Labor – Division of Occupational Safety and Health ("IL OSHA") received notice of the death of a village employee that had occurred approximately 30 minutes earlier. IL OSHA opened an inspection to investigate the circumstances involving a water department employee that drowned while repairing a water main valve in an underground vault. The incident prompted a large emergency response and rescue effort from multiple agencies. The worker was removed from the vault after approximately 52 minutes, transported to a nearby hospital, and pronounced dead.

BACKGROUND

The victim, age 20, had attended the local high school as a student-athlete where he graduated in 2020. He was hired by the village as a seasonal employee from 2019 to 2021 before becoming a part-time water maintenance worker in September 2021. He was hired as a full-time water maintenance worker in January 2023. The victim worked an average of 40 hours per week, working 7:30 AM to 4:00 PM Monday through Friday. Documents showed that he had been involved in at least six valve repairs and eight water main breaks prior to the incident.

The village water department has nine employees that operate and maintain a public drinking water system that serves approximately 24,000 people and processes 3.2 million gallons of drinking water per day. The department maintains 1,343 fire hydrants, 7,021 service connections, 1,200 valves, and 91 miles of water main throughout the village.

The involved water main vault was an underground, concrete, cylinder-shaped structure approximately four feet in diameter and five feet deep. The vault was only accessible through a standard manhole cover that provided an 18" diameter access hole. A 12" polyvinyl chloride ("PVC") water main pipe equipped with a "butterfly" valve ran through the vault. These valves are installed in water distribution systems to isolate parts of the system for maintenance or repair.

INCIDENT

The village utilized a private contractor to exercise and assess water valves throughout the system. On Tuesday, February 21st, 2023, two days before the incident, the contractor advised the village that a 12" underground water main valve at East 60th Street and Deming Place (Figure 1) was leaking and in need of repair.

On February 22nd, 2023, the water department supervisor and foreman met to review the scope of work for the repair. This included shutdown of water service and issuing boil order notices for affected residents to the immediate east and west of the valve (indicated in blue in Figure 1). The repair work was scheduled for the next day and was not considered an emergency repair.

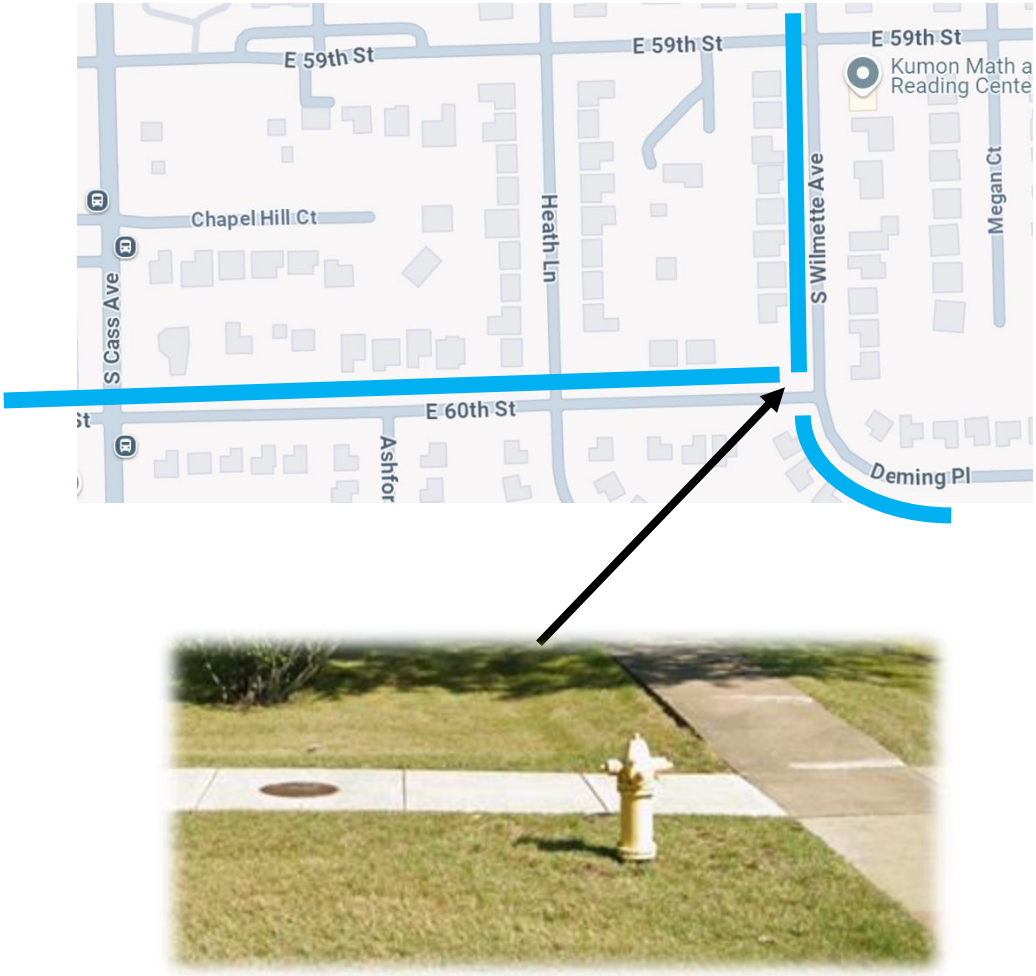

Figure 1 – Street map of area with photo of worksite. Manhole cover (above left) provides access to valve vault. (Photo credit: google earth)

NOTE: It is undetermined if any formal work plan was communicated from the foreman to the employees performing the repair as the foreman left service with the village and is out of contact.

The following is an approximate timeline of events on February 23rd, 2023:

7:30 AM: Employees began the day at the water department "shop" to gather tools and equipment to perform the valve repair.

8:00 AM: The foreman, the victim ("worker #1"), and another worker ("worker #2") arrived at the worksite. The foreman drove a utility truck, worker #1 drove a pickup truck, and worker #2 drove a vacuum truck.

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After arriving at the site, the foreman began closing water valves to the west of the valve planned for repair using a valve key. Valve keys are t-handled wrenches of various lengths used to open/close underground water valves. The foreman and worker #2 opened hydrants on the west side of the valve planned for repair to relieve water pressure and drain the isolated part of the system. Water valves were **not** closed on the east side of the valve as originally planned. It is unknown why this did not occur.

8:15 AM: The vault's manhole cover was removed. The vacuum truck was used to remove water, debris, and gravel in the vault to expose the leaking valve. Worker #1 entered the vault to assist with vacuuming and cleaning out an area around the bottom of the valve. The repair involved replacing a leaking gasket on the west side of the valve. Worker #1 then removed the valve flange on the west side of the valve and slid it back on the water main pipe. Initial attempts by worker #1 to remove the rubber gasket failed (Figure 2).

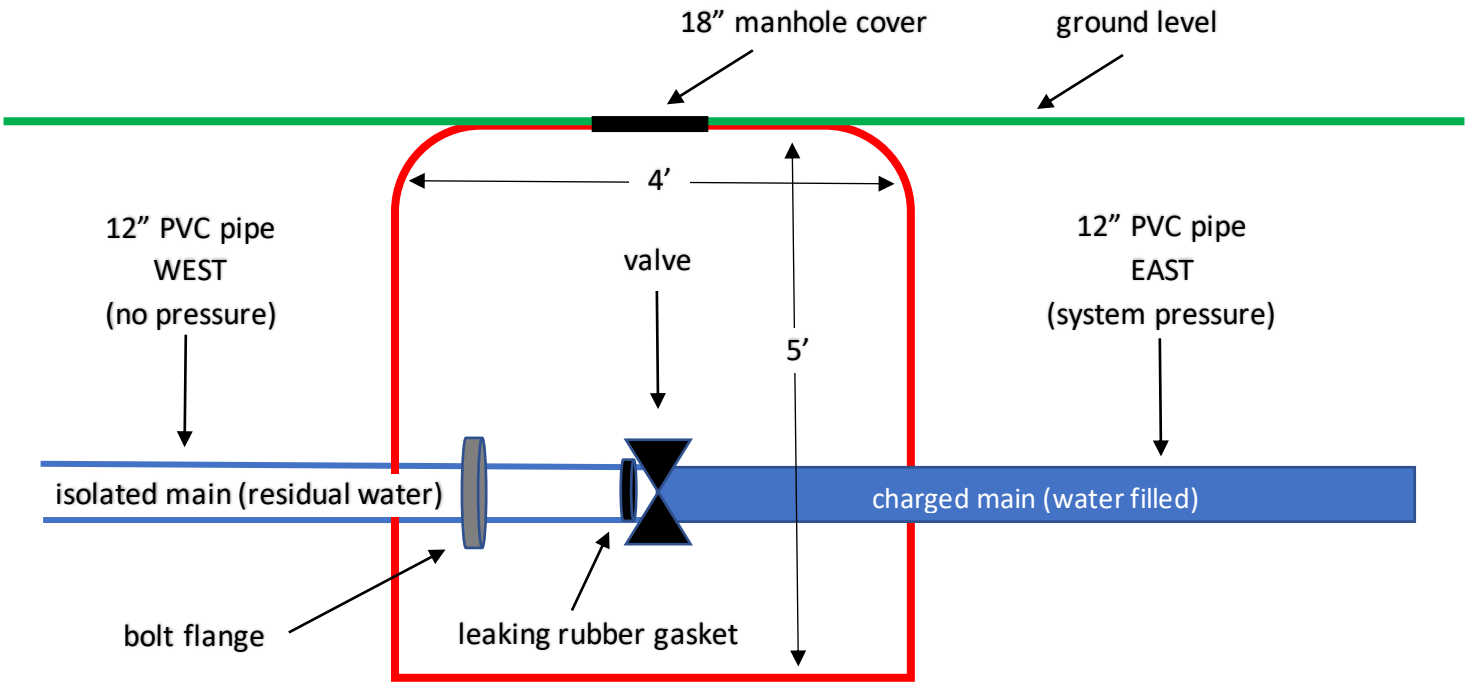

Figure 2 – Illustration of water main valve vault.

9:27 AM: The foreman decided the isolated PVC water main pipe needed to be cut to complete the valve repair. The foreman went back to the shop to pick up additional tools, equipment, and a repair sleeve. During that time, worker #1 attempted other methods of removing the gasket including using a screwdriver, trowel, and a battery-powered reciprocating saw. After failing to remove the gasket, worker #1 exited the vault. Worker #1 and worker #2 waited in their vehicles until the foreman returned.

After the foreman returned, worker #1 went back into the vault to insert screws into the gasket. He likely used pliers to pull on the screws to attempt to free the gasket from the valve body. This was also unsuccessful. Worker #1 then began to use a hydraulically-powered chainsaw to cut the isolated pipe (Figure 3). Worker #2 continued to use the vacuum truck to remove groundwater in the vault as well as unpressurized residual water that was coming out of the cut in the isolated pipe. The chainsaw became stuck and worker #1 was unable to pull it out of the cut. Worker #2 switched from using the large vacuum truck to a smaller portable pump to continue removing water. Worker #1 then used a reciprocating saw to attempt to free the hydraulic saw. Worker #2 was sent back to the shop to wash out the vacuum truck and check in at the water plant. Worker #2 was not planning to return to the site unless he was called.

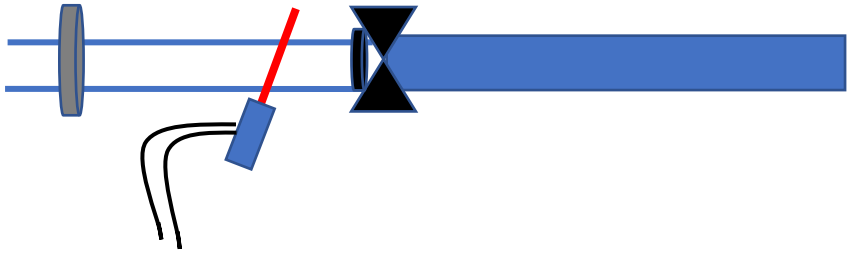

Figure 3 – Illustration of worker #1 using a hydraulically-powered chainsaw to cut the drained main.

Between 10:30 and 11:00 AM, the foreman called another worker ("worker #3") to bring a backhoe to the site. A written statement from the foreman stated the purpose was to, "put a strap on the backhoe to remove tension on the pipe." The village street department delivered a backhoe to the site.

11:25 AM: The foreman texted worker #2 that he needed more pipe. Worker #2 attempted to call the foreman to ask how much pipe was needed, but there was no answer. Worker #2 then drove a pickup truck to the site to talk to the foreman. Worker #2 and the foreman discussed how much pipe was needed for the repair. Worker #1 was in the vault during this conversation. Worker #2 went back to the shop to gather additional pipe.

11:48 AM: Pressurized water from the charged (east) section of 12" water main pipe blew the valve off the pipe bringing a tremendous volume of water that quickly began to flood the small vault. Worker #1 told the foreman that he was stuck. The foreman grabbed worker #1 and attempted to pull him out of the vault but he was not able to. In seconds, water completely engulfed worker #1 and began to erupt from the manhole. The foreman waved down a village police officer who was driving by and told him, "Call 911, I got a guy down there stuck, and the water valve blew off, and he's stuck, and I can't get him out." The foreman then ran one block to the north (E 59th St. and S Wilmette Ave.) attempting to shut off water valves. The foreman also attempted to call worker #2 to obtain longer valve keys to close the water valves but was unable to reach him.

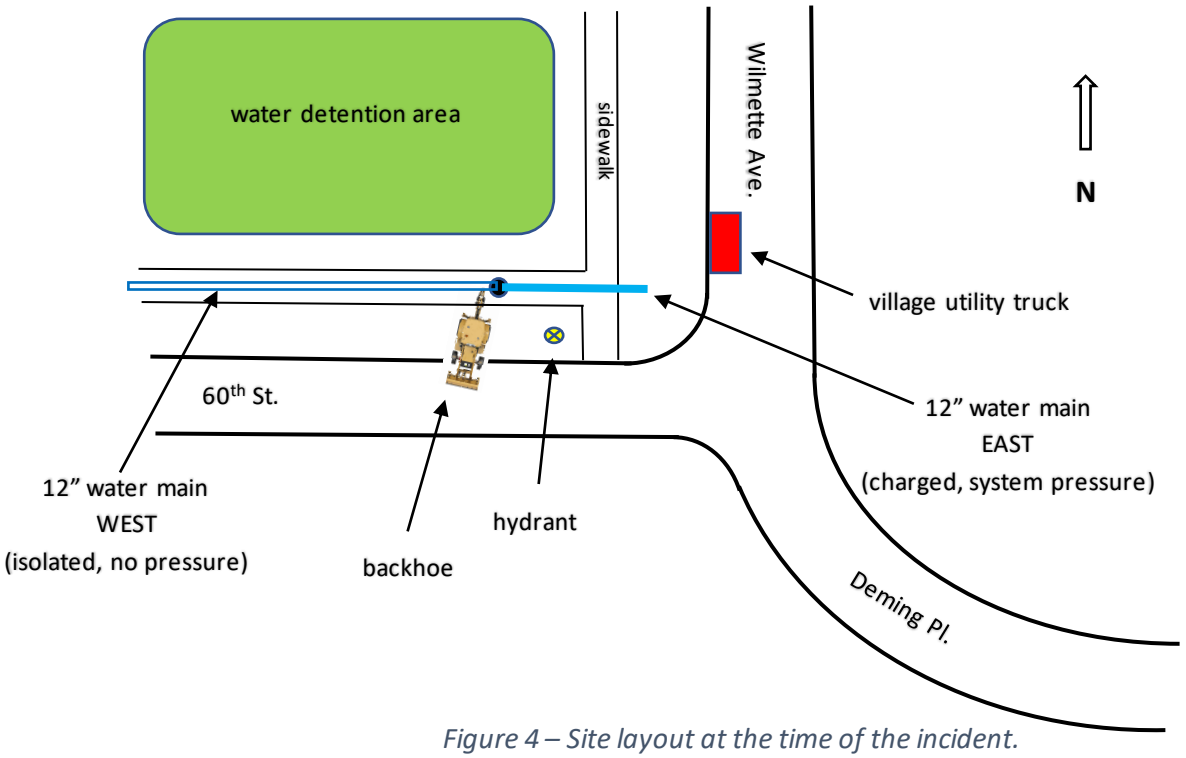

Figure 4 – Site layout at the time of the incident.

Figure 5 – Still photo of a police officer body camera shows the volume of water that was pouring out of the vault. Note the chain attached to the backhoe going into the manhole.

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First responders were alerted via radio by the police officer on the scene of a worker who was trapped in an underground water main vault at the intersection of East 60th Street and Deming Place. The village fire chief heard the call and immediately requested a "structure fire" type response, bringing a full complement of equipment and responders to the scene.

11:50 AM: The first fire department units quickly arrived on the scene. The fire department response drew 10 certified technical rescue technicians to the scene in approximately 10 minutes.

11:51 AM: While worker #2 was back at the shop (approximately 1.5 miles from the incident) loading up pipe, he noticed missed calls from the foreman on his phone. Worker #2 tried calling back several times, eventually contacting the foreman who said, "The valve came loose." The foreman told worker #2 to get the long valve keys to shut the water off as the key the foreman had was not long enough. While driving to meet the foreman worker #2 was delayed by a train. While en route, worker #2 was approached by the village street supervisor and public works director asking what was happening. The street supervisor advised worker #2 that someone was trapped. Worker #2 was not aware of this as the foreman had only told worker #2 about the valve coming loose.

11:57 AM: The foreman attempted to make several calls to worker #2 but experienced cell phone service issues. Worker #2 eventually spoke with the foreman while driving to the site and was instructed to go to 59th & Wilmette. Upon arrival, worker #2 observed fire and police personnel conducting rescue operations. Worker #2 handed the long valve key to the foreman at 59th & Wilmette and then proceeded to 60th & Wilmette to close another valve. Worker #2 then helped first responders restart the previously used portable pump to divert water away from the area of rescue operations.

After several additional valves were closed the water system was isolated and water was pumped out of the vault. This allowed rescue workers to access, extricate, and remove worker #1 from the vault at 12:40 PM, approximately 52 minutes after the valve blew off (Figure 7). Worker #1 was transported to a nearby level-one trauma center and pronounced dead at 1:37 PM.

Figure 6 – Street map of area with valve open/closed status before and after the valve blew off.

Figure 7 – Aerial view of incident scene as worker #1 is removed from the vault.
(Photo credit: ABC 7 News Chicago)

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INVESTIGATION BY IL OSHA

IL OSHA opened an inspection to investigate the incident and the village water department. Information was gathered from public and private sources, employer and employee interviews, and photographs and video evidence of the scene. Records, logs, and policy documents were also reviewed. The information was analyzed to establish a timeline of events and conditions to determine if any violations of the Illinois Occupational Safety and Health Act occurred.

Three months before the incident, the village had hired a new public works director after realizing the need to change the safety culture of the department. It is unlikely the new director had a full understanding of the practices and culture in place at the time of the incident.

The incident revealed critical lapses in safety practices and procedures that resulted in an environment with little room for error. Failure to adhere to IL OSHA regulations regarding permit-required confined spaces ("PRCS"), personal protective equipment ("PPE"), and hazard assessments led to a cascading series of events that were fatal for a 20-year-old who had just a few months of full-time work experience.

Prior to the incident, the water department had not properly evaluated and identified permit-required confined spaces that employees were expected to enter. Additionally, a lack of awareness of the department confined space written program among employees and supervisors underscored systemic deficiencies in safety management and communication. Furthermore, while some employees had received training on permit required confined spaces in 2021, the training was generic in nature. There was no evidence that the water department had completed any permits for confined space entries since 2017.

Specific to the incident, the water department did not prepare a permit before allowing entry into the confined space, violating IL OSHA standards that require documenting and verifying safety measures are in place. Inadequate isolation and control of hydraulic energy in the water system created an engulfment hazard for worker #1. After pressurized water blew the valve off the pipe, worker #1 was trapped with no realistic rescue capability on-site. Notably, he was not wearing a full-body harness with a retrieval line and hoist as required by the employer's own written program and IL OSHA standards. Additionally, the foreman who was the only employee present outside of the vault at the time the valve blew off, left the immediate worksite. This led to confusion among the initial arriving responders as no one was present to brief them.

While IL OSHA cannot definitively identify the specific action that resulted in the valve blowing off, available evidence suggests the following series of events. Once the drained pipe (west) was cut, the opposing force pressing the valve against the pressurized water on the east side of the valve was compromised. After the cuts, the strength of the gasket and flange interface between the valve and the pressurized pipe (east) was all that was holding the valve in place. A significant amount of force from the pressurized water pushed against the closed valve plate. It is possible that additional cutting and/or use of a chain attached to the backhoe to remove tension on the pipe was enough for the pressurized water to blow the valve off the pipe. As this occurred worker #1's right hand became trapped in the cut section of pipe, preventing his escape.

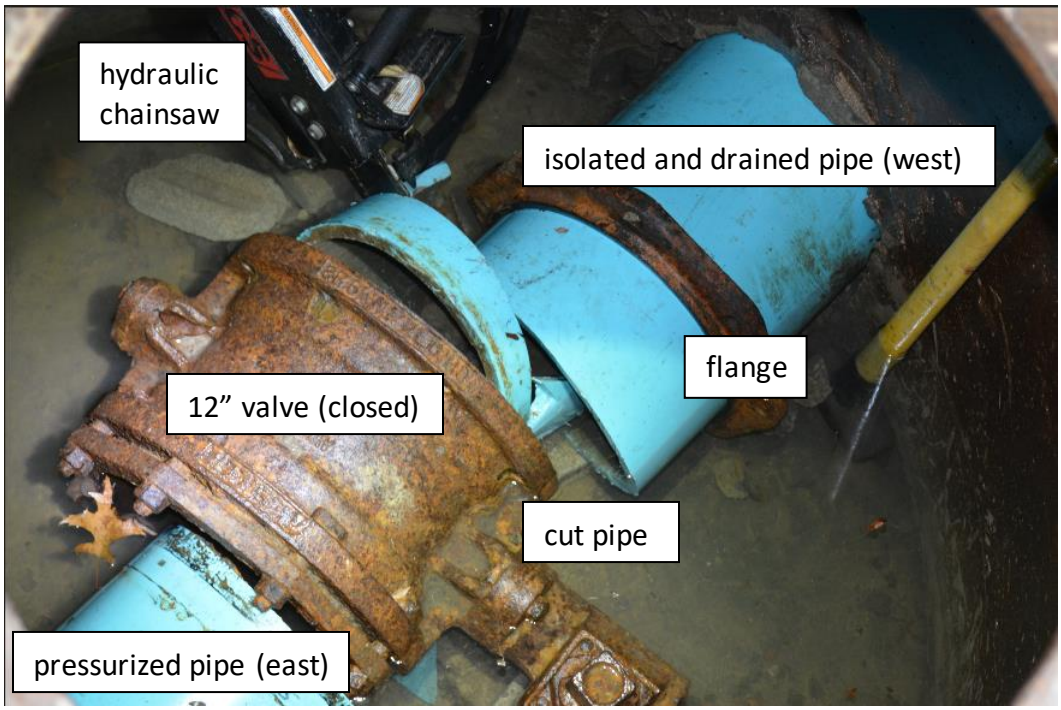

Figure 8 – Post-incident photo of work area in the vault.

Figure 9 – 12” valve, and gasket that was leaking.

Figure 10 – Valve vault after excavation, post-incident.

FINDINGS

Direct Cause: Drowning due to submersion in a flooded water main vault following cutting of a water main pipe and subsequent entrapment of the right upper extremity within the pipe.

Indirect Causes:

1. Workers involved were not aware of the water department's written confined space program.

2. Some of the workers involved received training in permit-required confined spaces, but the training was generic and several years old.

3. The department's safety culture tolerated employees entering permit-required confined spaces with little to no hazard controls. Management oversight and internal auditing was absent.

4. The department failed to properly identify and classify permit-required confined spaces, including the involved valve vault, that employees were expected to enter.

5. The department had not conducted a personal protective equipment hazard assessment for confined space operations, leading to a lack of appropriate protective equipment for workers.

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6. A permit was not completed before entering the confined space involved in the incident.

7. The 12" water main was not isolated on both sides of the leaking valve, creating an engulfment hazard.

8. No realistic rescue capability was available at the worksite during the entry.

9. After the initial and each subsequent gasket removal method failed, workers did not reassess the situation or plan between each method for potential hazards and potential outcomes.

10. The perceived risk of working in the vault was low, however the actual risk was high.

11. At least one employee, serving as the legally-required attendant, did not remain at the immediate worksite after the valve blew off to brief first responders and assist with the rescue.

12. Long valve keys used to open and close water valves were not at the worksite, delaying efforts to isolate the charged water main and drain the valve vault where worker #1 was trapped.

CONCLUSION

The absence of compliance with IL OSHA standards, absence of hazard controls and safety measures, along with inadequate training, supervision, and oversight resulted in worker #1 being engulfed with a tremendous volume of water while working in a confined space. Furthermore, after the valve blew off, there was nothing in place on-site with which to attempt a rescue, nor were the longer valve keys on-site to isolate the charged water main. Overall, the incident highlights the importance of compliance with IL OSHA standards, continuous risk assessment, effective team communication, rapid and effective rescue capabilities, and management oversight and audit of high-risk operations.

IL OSHA emphasizes the importance of having an on-site, rapid rescue capability for confined space entry operations. The emergency response to this incident was fast, personnel and resource rich, and technically proficient. Despite likely being one of the most capable responses to a confined space incident across the state, the tremendous effort was still not fast enough to make a rescue.

RECOMMENDATIONS (DEFENSES)

Maintenance workers:

- Speak up if you have a question or something doesn't seem right.
- Tell your supervisor if you believe you have not had appropriate training for work you are expected to perform.
- Perform an initial and ongoing individual risk assessment using the STOP-THINK-ACT method.
- Maintain awareness of conditions at the overall worksite and avoid being 100% task-oriented.

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Supervisors:

- Acquire full knowledge of and comply with IL OSHA standards for permit-required confined space operations as well as any additional policies required by the department-specific written confined space entry program.
- Conduct worksite briefings with all involved workers prior to starting work. Include a review of the approved entry permit in the briefing. Ensure all equipment, conditions, hazard controls, contingency plans, notifications, and other measures are verified prior to starting work. Ensure and encourage all workers to speak up and ask questions prior to starting work, during work, and after work.
- If repair plan "A" does not work, stop, reassess hazards, risks, and potential outcomes. Adjust hazard controls, contingency plans, and other measures before implementing plan "B."
- Understand and apply the hierarchy of hazard controls at the worksite.
- Expect the need to rescue the entrant. Ensure a rapid and effective rescue capability is available. Train and drill on the capability regularly.

Department Leaders:

- Evaluate confined spaces that employees are expected to enter and use appropriate methods to eliminate or reduce entries.
- Develop, implement, and periodically update a department-specific, compliant, written confined space entry program.
- Perform and periodically update an operation-specific hazard assessment with appropriate personal protective equipment and other hazard controls.
- Communicate the confined space program and hazard assessment to employees and make them easily accessible.
- Provide significant oversight and internal auditing of high-risk operations.
- Ensure employees receive initial, department-specific, high-quality training for operations before they are expected to perform them, as well as periodic refresher training.
- Develop and periodically update a Geographical Information System (GIS) map for municipal water/sewer/storm systems and train employees on use of the system that can be easily accessed in the field.
- Ensure defenses identified by IL OSHA are captured in written department policies and materials.

VIOLATIONS CITED

- ***Serious – 1910.146(e)(1): Permit-required confined spaces. Before entry is authorized, the employer shall document the completion of measures required by paragraph (d)(3) of this section by preparing an entry permit.***

  On February 23, 2023, and before, the employer did not prepare a permit prior to allowing an employee to enter a 12" water main valve vault (60th Street and Deming Place) exposing the employee

to caught-in and asphyxiation hazards. The employer document "Confined Space Operations" requires the preparation of an entry permit on pages 10-12. Employees routinely enter spaces requiring an entry permit, however, the last entry permit on record was from 2017.

A feasible means of abatement would be to provide IL OSHA with properly completed entry permits that satisfy the requirements of paragraph (d)(3) for a period of at least 60 days after resuming entry operations. A signed Abatement Certification is required.

Reference 1910.146(d)(3): Develop and implement the means, procedures, and practices necessary for safe permit space entry operations, including, but not limited to, the following: Specifying acceptable entry conditions; Providing each authorized entrant or that employee's authorized representative with the opportunity to observe any monitoring or testing of permit spaces; Isolating the permit space; Purging, inserting, flushing, or ventilating the permit space as necessary to eliminate or control atmospheric hazards; Providing pedestrian, vehicle, or other barriers as necessary to protect entrants from external hazards; and verifying that conditions in the permit space are acceptable for entry throughout the duration of an authorized entry.

- ***Serious – 1910.146(d)(3)(iii): Develop and implement the means, procedures, and practices necessary for safe permit space entry operations, including, but not limited to, the following: Isolating the permit space.***

  On February 23, 2023, and before, the employer did not implement the means, procedures and practices necessary for safe permit space entry operations in a 12" water main valve vault (60th Street and Deming Place) exposing an employee to caught-in and asphyxiation hazards from the release of stored hydraulic energy (water).

  A. Prior to entry, the water main entering the vault from the west was flushed and emptied up to the valve, however, the water main entering the vault from the east was charged at normal system pressure up to the valve.

  B. After the charged water main released water into the utility vault, it was recognized that the tool to shut off the main was not at the worksite.

  A feasible means of abatement would be to 1) develop task specific procedures with layered defenses for entry operations, and 2) ensure that these procedures are implemented prior to allowing employees to start an entry operation and maintained throughout entry operations. A signed Abatement Certification is required.

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- ***Repeat Serious – 1910.132(d)(1): Personal Protective Equipment. The employer shall assess the workplace to determine if hazards are present, or are likely to be present, which necessitate the use of personal protective equipment (PPE). If such hazards are present, or likely to be present, the employer shall: * Select, and have each affected employee use, the types of PPE that will protect the affected employee from the hazards identified in the hazard assessment; * Communicate selection decisions to each affected employee; and, *Select PPE that properly fits each affected employee. Note: Non-mandatory Appendix B contains an example of procedures that would comply with the requirement for a hazard assessment.***

  On February 23, 2023, and before, the employer could not demonstrate that a personal protective equipment (PPE) hazard assessment for water main repair operations had been performed, exposing employees to multiple physical hazards.

  The employer was previously cited for a violation of this occupational safety and health standard during IL OSHA inspection 1545410. The citation was affirmed as a final order on November 5, 2021. A feasible means of abatement would be to 1) perform a personal protective hazard assessment for all public works field operations, 2) communicate the PPE required for each operation to employees through training and a written document, and 3) enforce use of PPE through supervision. A signed Abatement Certification is required.

- ***Serious – 1910.146(c)(1): Permit-required confined spaces. The employer shall evaluate the workplace to determine if any spaces are permit-required confined spaces.***

  On February 23, 2023, and before, the employer did not properly evaluate the workplace to determine if spaces are permit-required confined spaces. The employer document "Confined Space Operations" did not identify the involved 12" water main valve vault (60th Street and Deming Place) or similar valve vaults in the workplace as a permit-required confined space.

  A feasible means of abatement would be to 1) perform a comprehensive evaluation of all spaces in the workplace to determine all permit-required confined spaces, 2) identify each specific space in a written document, and 3) ensure the list is reviewed and updated as necessary. A signed Abatement Certification is required.

- ***Serious – 1910.146(g)(3): Permit-required confined spaces. The training shall establish employee proficiency in the duties required by this section and shall introduce new or revised procedures, as necessary, for compliance with this section.***

  On February 23, 2023, and before, it was discovered that employees and supervisors were not aware of the employer's confined space entry procedures, not aware of the employer document "Confined Space Operations," and had not received training related to permit-required confined space entry.

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A feasible means of abatement would be to 1) provide employees, supervisors, and administrators with appropriate training so they perform their duties related to confined space entry safely and satisfactorily, 2) verify the effectiveness of training through proficiency demonstrations, and 3) provide refresher training on a periodic basis. A signed Abatement Certification is required.

- ***Serious – 1910.146(i)(4): Duties of attendants. The employer shall ensure that each attendant remains outside the permit space during entry operations until relieved by another attendant.***

  On February 23, 2023, the employer did not ensure that the attendant/supervisor remained outside the permit space until relieved during entry operations in a 12" water main valve vault (60th Street and Deming Place).

  A feasible means of abatement would be to 1) provide employees that serve as attendants with appropriate training so they perform their duties safely and satisfactorily, 2) verify the effectiveness of training through proficiency demonstrations, and 3) provide refresher training on a periodic basis. A signed Abatement Certification is required.

  NOTE: When the employer's permit entry program allows attendant entry for rescue, attendants may enter a permit space to attempt a rescue if they have been trained and equipped for rescue operations as required by paragraph (k)(1) of this section and if they have been relieved as required by paragraph (i)(4) of this section.

- ***Serious – 1910.146(k)(3)(i): Permit-required confined spaces. Each authorized entrant shall use a chest or full body harness, with a retrieval line attached at the center of the entrant's back near shoulder level, above the entrant's head, or at another point which the employer can establish presents a profile small enough for the successful removal of the entrant. Wristlets may be used in lieu of the chest or full body harness if the employer can demonstrate that the use of a chest or full body harness is infeasible or creates a greater hazard and that the use of wristlets is the safest and most effective alternative.***

  On February 23, 2023, the employer did not ensure that an employee entering a permit-confined space utilized a full-body harness with a retrieval line. The employer document "Confined Space Operations" requires the use of a full body harness for entrants on pages 9-10.

  A feasible means of abatement would be to provide IL OSHA with proof of proper use of entrant retrieval systems for a period of at least 60 days after resuming entry operations. A signed Abatement Certification is required.

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HAZARD ALERT LETTER

The employer (village) also received a hazard alert notification about confined space rescue:

> If the village intends to continue utilizing the municipal fire department for confined space rescue and emergency services it must recognize that, like many area fire departments, the fire department relies on a regional team comprised of members from area fire departments to provide technical rescue response. While this regional team is highly capable, it also takes time to assemble and respond. As such, whereas the initial fire department response time to a technical rescue incident may be less than five minutes, it could be several minutes before the regional team is on scene and able to actually affect a rescue. The village must understand these capabilities and limitations to ensure employees operating in confined spaces can be rescued in a timely manner.
>
> Please note that Appendix F of 1910.146, the standard for permit-required confined spaces provides non-mandatory criteria for evaluating rescue services and teams.

SETTLEMENT AGREEMENT

After issuance by IL OSHA, the village contested the citation that included willful violations with monetary penalties. After several discussions, IL OSHA reached a settlement, and the village agreed to the following provisions:

1. The penalty amount was adjusted to $16,000 and two violations were amended from a classification of willful to a classification of serious.

2. Cooperate with IL OSHA on writing this incident report that is designed as a learning tool.

3. Cooperate with IL OSHA on an approximate one-hour presentation to be delivered in person at least once in each of the five IL OSHA enforcement districts, and at least twice virtually with the presence of a village employee and an employee of IL OSHA.

4. Engage the services of a vendor to produce an outreach video on confined space safety lasting between 10 and 15 minutes and gift it to IL OSHA.

5. Send supervisors, managers, and directors to OSHA 10/30 hour general industry/construction courses.

6. Engage a third-party safety consultant to conduct on-site, bi-annual safety audits of the public works department and send the results as well as corrective action plans and results to IL OSHA within 30 days of receipt of the written safety audit report.

7. Allow IL OSHA to perform warrantless inspections for 48 months.

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8. Create a $30,000 scholarship fund in the name of the deceased employee with preference in safety-related occupations.

9. Prior to employees entering permit-required confined spaces (PRCS), the village agreed to the following plan:
   - Until all elements of the plan are complete, contract out PRCS entries to a qualified third-party.
   - If intending to resume PRCS entries with their own employees, contact IL OSHA at least 90 days prior to the first planned entry to ensure compliance with IL OSHA standards.
   - If resuming an employee PRCS entry program, provide IL OSHA with a 48-hour notice for all planned PRCS entries for the department including the date, time, anticipated duration, location, anticipated personnel involved, reason, work plan, and rescue plan for the entry.
   - Revise and update the PRCS written program, including a catalog of all PRCS spaces in the village, in cooperation with a third-party safety consultant.
   - Assess all spaces designated as PRCS with a third-party safety consultant and evaluate if any of the spaces can be re-engineered or modified to remove the PRCS designation or allow employees to perform operations that currently require PRCS entry to non-entry.
   - Develop a Geographical Information System (GIS) map that is updated at least annually for the municipal water and storm drain systems, train employees on the use of the map system, and ensure ready access to electronic devices for viewing the map in the field.
   - Ensure attendants, entrants, and field supervisors complete a four-hour course on confined spaces. Other personnel who work around confined spaces complete a one-hour course.
   - Demonstrate an example of possible rescue procedures as part of the confined space training for entrants, attendants, and supervisors, including either emergency services or another employee using a non-entry rescue device to retrieve a training manikin from a confined space.
   - Develop a "start work" program for PRCS entries that ensures controls are in place before starting operations. This is in addition to the PRCS permit required by the standard.
   - For 24 months after resuming an employee PRCS entry program, provide IL OSHA with a 48-hour notice for planned PRCS entries and a four-hour notice (meaning a notification within four hours after the entry has been completed) for all completed emergency PRCS entries including the date, time, duration, location, personnel involved, reason, work plan, and rescue plan for the entry.

TRAINING VIDEO

Visit the Illinois Department of Labor's YouTube channel to view the companion training video on confined space safety.