



CITY OF KETTERING

**PERMIT REQUIRED CONFINED
SPACE ENTRY PROGRAM
Policy 15**

CITY OF KETTERING
Safety & Health Program
Permit Required Confined Space Entry Program

Responsibility for Safety

All City employees are responsible for safety.

The City Manager:

- Commits to a safe working environment consistent with requirements of applicable laws.
- Assigns the responsibility of complying with this commitment to the individual operating Department Directors.
- Assigns responsibility for coordinating required training to the Director of Human Resources.
- Assigns central record keeping to the Human Resource Department.
- Assigns the Human Resource Director the responsibility to develop and maintain a Safety Committee to coordinate mutual needs including development of safety programs.

Responsibilities of Department Directors

Department Directors are responsible for providing the support, financial resources, and overall safety leadership in the department.

- Enforcing safety rules and regulations.
- Supporting supervisors in their safety responsibilities.
- Keeping staff informed of new regulations and compliance issues.
- Assigning a safety representative (may be Director or others) to run departmental safety operation and participate on safety committee.

Responsibilities of Safety Coordinator/Executive Committee

The Safety Coordinator and the Executive Committee are responsible for facilitating the Committee's development of policies and procedures designated to enhance safety within the City of Kettering and educating employees.

The Safety Coordinator and Executive Committee are responsible for:

- Practicing and promoting safe work practices and compliance with safety regulations.
- Setting a good example for others.
- Conducting meetings at least quarterly with the Safety Committee.
- Taking immediate corrective action, as appropriate under the circumstances, for hazardous conditions that exist that would cause personal injury to staff, citizens or damage to equipment or buildings.
- Notifying the Director of Human Resources, as well as the Department Director/Manager responsible for areas in question.
- Enforcing safety regulations and City safety policy.
- Addressing hazards identified by employees.
- Making recommendations to improve the safety performance of the department.

- Supporting safety training efforts and following-up on information learned in training programs.
- Educating employees in each department/work group as to safety policies, training opportunities, and workplace hazards.

Responsibilities of Supervisors

Supervisors are responsible for ensuring work is completed in a safe manner by setting a good example, having a positive, supportive attitude toward safety and enforcing safety policies.

Supervisors are responsible for:

- Practicing and promoting safe work practices and compliance with safety regulations.
- Assuring that all operations are conducted safely.
- Assuring that all employees are trained and competent for the jobs they perform.
- Supporting safety training efforts and following-up on information learned in training programs.
- Reporting all accidents, incidents and injuries immediately in accordance with policy.
- Being alert to safety and health hazards and correcting or reporting them.
- Enforcing safety regulations and City safety policies.
- Addressing hazards identified by employees.
- Making recommendations to improve the safety performance of the department.
- Making sure employees understand the hazards of the job, necessary precautions and proper use of personal protective equipment.
- Assuring that accident reports are completed and submitted in a timely manner.

Responsibilities of All Employees

Each employee of the City of Kettering has a personal and vital responsibility to work safely and promote safety. Employees are required to perform their work in a way that will prevent injury and illness to themselves and fellow workers, and prevent property damage.

All City employees are responsible for:

- Maintaining active interest and participation in safety.
- Complying with all City safety policies and regulations.
- Reporting all accidents, incidents and injuries immediately.
- Being alert to safety and health hazards and correcting or reporting them.
- Performing all work in a safe manner.
- Operating vehicles and equipment and doing tasks only when trained and competent to do so.
- Using equipment and vehicles safely and for their intended use.
- Attending scheduled safety training programs.
- Encouraging fellow employees to work safely.
- Wearing personal protective equipment when required and when it makes good sense.
- Keeping work areas clean, orderly and free from hazards.
- Setting a good example for others.

CITY OF KETTERING
Safety & Health Program
Permit Required Confined Space Entry Program

1. **Confined Space Policy**

The City of Kettering is committed to provide a safe and healthful work environment for all City employees. In pursuit of this endeavor, the following written program is in place to first identify any permit-required confined spaces and to eliminate or control hazards associated with confined space operations. This program is in accordance with the Occupational Safety and Health Administration's (OSHA) Permit-Required Confined Spaces standard (29 CFR 1910.146).*

2 **Confined Space Safety Statement**

In order to protect the welfare of employees, an examination of safety factors will be weighed to provide a good work environment for the employee and the employer.

An employee will not be required to work in conditions in which he/she identifies valid safety concerns. An employee should make any safety concerns known to his/her supervisor. In such cases where an employee feels unsafe conditions exist, a review of current safety measures will be done to ensure proper safety precautions are in place. Should an unsafe condition exist, new safety measures will be developed to eliminate the safety hazard and determine how the oversight occurred. If, however, it is determined that all reasonable safety measures are in place, the work will continue following appropriate review of safety measures and procedures with the employee.

3. **Definitions**

Acceptable Entry Conditions: The conditions that must exist in a permit space to allow entry and to ensure that employees involved with a permit-required confined space entry can safely enter into and work within the space.

Attendant: An individual stationed outside one or more permit spaces who monitors the authorized entrants and who performs all attendant duties assigned in the employer's permit space program.

Authorized Entrant - An employee who is authorized by the employer to enter a permit space.

Blanking or Blinding: The absolute closure of a pipe, line, or duct by the fastening of a solid plate (such as a spectacle blind or a skillet blind) that completely covers the bore and that is capable of withstanding the maximum pressure of the pipe, line, or duct with no leakage beyond the plate.

Confined Space: A space that:

- (1) Is large enough, so configured that an employee can bodily enter, and perform assigned work;
- (2) Has limited or restricted means for entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits are spaces that may have limited means of entry); and
- (3) Is not designed for continuous employee occupancy.

Double Block and Bleed: The closure of a line, duct, or pipe by closing and locking or tagging two in-line valves and by opening and locking or tagging a drain or vent valve in the line between the two closed valves.

Emergency: Any occurrence (including any failure of hazard control or monitoring equipment) or event internal or external to the permit space that could endanger entrants.

Engulfment: The surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can be aspirated to cause death by filling or plugging the respiratory system or that can exert enough force on the body to cause death by strangulation, constriction, or crushing.

Entry: The action by which a person passes through an opening into a permit-required confined space. Entry includes ensuing work activities in that space and is considered to have occurred as soon as any part of the entrant's body breaks the plane of an opening into the space.

Entry Permit (permit): The written or printed document that is provided by the City of Kettering to allow and control entry into a permit-required space and that contains important information.

Entry Supervisor: The person (such as the employer, foreman or crew chief) responsible for determining if acceptable entry conditions are present at a permit space where entry is planned, for authorizing and overseeing entry operations, and for terminating entry.

NOTE: An entry supervisor also may serve as an attendant or as an authorized entrant, as long as that person is trained and equipped as required by this section for each role he or she fills. In addition, the duties of entry supervisor may be passed from one individual to another during the course of an entry operation.

Hazardous Atmosphere: An atmosphere that may expose employees to the risk of death, incapacitation, and impairment of ability to self-rescue (this is, escape unaided from a permit space), injury, or acute illness from one or more of the following causes:

1. Flammable gas, vapor, or mist in excess of 10% of its LFL (lower flammable limit).
2. Airborne combustible dust at a concentration that meets or exceeds its LFL. *NOTE: This concentration may be approximated as a condition in which the dust obscures vision at a distance of 5 feet (1.52 m) or less.*

3. Atmospheric oxygen concentrations below 19.5% or above 23.5%.
4. Atmospheric concentrations of any substance for which a dose or a permissible exposure limit is published in Subpart G, Occupational Health and Environmental Control; or in Subpart Z, Toxic and Hazardous Substances, of this part and which could result in employee exposure in excess of its dose or permissible exposure limit.

NOTE: An atmospheric concentration of any substance that is not capable of causing death, incapacitation, and impairment of ability to self-rescue, injury, or acute illness due to its health effects is not covered by this provision.

Hot Work Permit: Written authorization of the permit to perform operations (for example, riveting, welding, cutting, burning, and heating) capable of providing a source of ignition.
Immediately Dangerous to Life or Health (IDLH): Any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a permit space.

Immediately Dangerous to Life or Health (IDLH) - means any condition that poses an immediate or delayed threat to life or that would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a permit space.

Inerting: The displacement of the atmosphere in a permit space by a non-combustible gas (such as nitrogen) to such an extent that the resulting atmosphere is non-combustible.

Isolation: The process by which a permit space is removed from service and completely protected against the release of energy and material into the space by such means as: blanking or blinding; misaligning or removing sections of lines, pipes, or ducts; a double block and bleed system; lockout or tagout of all sources of energy; or blocking or disconnecting all mechanical linkages.

Line Breaking: The intentional opening of a pipe, line, or duct that is or has been carrying flammable, corrosive, or toxic material, an inert gas, or any fluid at a volume, pressure, or temperature capable of causing injury.

Lockout/Tagout (OSHA 29 CFR 1910.147): The process by which an energy source, fluid, chemical, gas or any other product has a lock and/or tag in place so that it cannot be activated and endanger the entrants of a permit-required confined space.

Non-Permit Confined Space: A confined space that **does not** contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

Oxygen Deficient Atmosphere: An atmosphere containing less than 19.5% oxygen by volume.

Oxygen Enriched Atmosphere: An atmosphere containing more than 23.5% oxygen by volume.

Permissible Exposure Limit (PEL): The maximum average concentration to which an employee can be safely and repeatedly exposed to over an 8 hour day of a 40 hour week. This exposure limit is established by OSHA.

Permit Required Confined Space (Permit Space): A confined space that has one or more of the following characteristics:

- (1) Contains or has a potential to contain a hazardous atmosphere.
 - (2) Contains a material that has the potential for engulfing an entrant.
 - (3) Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section, or
 - (4) Contains any other recognized serious safety or health hazard.
- Note: For the purpose of rescue, all confined spaces will be treated as permit required.

Permit-Required Confined Space Program (permit space program): The employer's overall program for controlling, and where appropriate, for protecting employees from permit space hazards and for regulating employee entry into permit spaces..

Permit System: The written procedure for preparing and issuing permits for entry and for returning the permit space to service following termination of entry.

Pre-Entry/Entry Checklist: The form used to determine safety of a confined space.

Prohibited Condition: Any condition in a permit space that is not allowed by the permit during the period when entry is authorized.

Rescue Service: The personnel designated to rescue employees from permit spaces.

Retrieval System: The equipment (including a retrieval line, chest or full-body harness, wristlets, if appropriate, and a lifting device or anchor) used for non-entry rescue of persons from permit spaces.

Safety Data Sheet (S.D.S.): The paperwork provided by the manufacturers and compounders of chemicals, with minimum information about chemical composition, physical and chemical properties, health and safety hazards, emergency response and waste disposal of materials as required by OSHA 29 CFR 1910.120.

Testing: The process by which the hazards that may confront entrants of a permit space are identified and evaluated. Testing includes specifying the tests that are to be performed in the permit space.

Threshold Limit Value (TLV): Allowable air contaminant level established by the American Conference of Government Industrial Hygienists.

Toxic Atmosphere: An atmosphere containing a concentration of a substance above known safe levels. (See Hazardous Atmosphere)

Zones

- (1) Hot Zone - means the confined spaces and any area outside of the space that may be contaminated or hazardous.
- (2) Warm Zone - means the area outside the hot zone where attendants, and rescue equipment are setup. The Rescue Safety Officer must stay in the warm zone throughout the rescue assignment.
- (3) Cold Zone - means the area outside the warm zone, which should remain safe throughout the incident. The command post, medical, and staging should be in the cold zone.

4. Training Requirements

- 4.1 General requirements — Employees responsible for supervising, planning, entering or participating in entry or rescue operations should be adequately trained in their functional duties prior to any entry or rescue operation. The Director/Manager of the following departments/units are responsible for ensuring that all affected personnel in their department are properly trained and that refresher training is given to ensure that the employees understand the specific hazards associated with the confined spaces found within its department operations. Personnel who may be included are any authorized entrants, attendants, entry supervisors, on-site rescue team members, and employees who may potentially enter the space. Each department will maintain training records to reflect that their employees have received proper training associated with entry operations under OSHA 1910.146.
 - 4.1.1 Public Service Department
 - 4.1.2 Parks, Recreation and Cultural Arts Department
 - 4.1.3 Planning and Development Department
 - 4.1.4 Engineering and Transportation Engineering Department.
 - 4.1.5. Fire Department (In addition, the Fire Department shall maintain a periodic observance of confined space operations to ensure that its employees are trained to safely rescue a victim from any of the City's confined spaces.)
- 4.2 Atmospheric Monitoring Training: Employees identified as using testing equipment will receive training on their department's air monitoring equipment; its uses, limitations, hazards, field calibration and record keeping.
- 4.3 Training Activities: Whenever possible training activities shall be conducted in real confined spaces, where practical and safe. Representative spaces shall be used to simulate those spaces that cannot be trained in safely or economically.
- 4.4 Training Contents: A record of each training session shall include stated goals and objectives, a list of practical exercises performed and an evaluation of student comprehension.

- 4.5 Training Equipment: Actual equipment will be removed from service for use in training. Once training is completed, that equipment will be inspected and placed back in operational status. **NOTE:** Ropes for training purposes will be maintained by the Fire Department.
- 4.6 Training Documentation: Each training session shall be recorded and shall include:
 - a) A student roster,
 - b) Name of instructor,
 - c) Duration of training, and
 - d) A breakdown of training time per subject.
- 4.7 Rescue Training Frequency: Rescue training sessions shall be held on an annual basis. These sessions are to include the entry departments as regular participants so that a working bond can be established between the departments involved with confined space entry.
- 4.8 Refresher Training: Refresher training shall be provided at least every three years, and more often if necessary, to each employee involved in operating a process to assure that the employee understands and adheres to the current operating procedures of the process. The employer, in consultation with the employees involved in operating the process, shall determine the appropriate frequency of refresher training.

5. **Entry Team Responsibilities**

The entry team in all permit-required confined space entry operations will consist of the following designated employees: attendants, entrants, entry supervisors and rescue personnel. Each position carries with it certain responsibilities.

5.1 Attendant Duties

- 5.1.1 Know the hazards that may be faced during entry.
- 5.1.2 Know the symptoms of hazard exposure to entrants.
- 5.1.3 Continuously maintain an accurate count of entrants in the space.
- 5.1.4 Always remain outside of permit space during entire entry operations.
- 5.1.5 Maintain continuous communication with entrants.
- 5.1.6 Monitor conditions in and around the space.
- 5.1.7 Order immediate evacuation of space if problems arise.
- 5.1.8 Perform non-entry rescue procedures.
- 5.1.9 Summon rescue if entrants require emergency services.

5.1.10 Perform appropriate measures to prevent unauthorized personnel from entering the permit space.

5.1.11 Not become involved in any other activities during operations that might interfere with primary duty to monitor and protect the entrants.

5.2 Authorized Entrant Duties

5.2.1 Know the hazards that they may face during entry.

5.2.2 Properly use equipment required for safe entry operations.

5.2.3 Maintain continuous communication with the attendant.

5.2.4 Alert the attendant in the event of an emergency.

5.2.5 Evacuate the space if an emergency occurs.

5.3 Entry Supervisor Duties

5.3.1 Know the hazards, symptoms and consequences of exposure.

5.3.2 Verify that all testing, checks and procedures specified on the permit have been followed.

5.3.3 Verify that rescue services are available and have been notified.

5.3.4 Responsible to terminate the entry and cancel the permit as required.

5.3.5 Contact the Kettering Police Department to assist with unauthorized individuals in or around the confined space.

5.3.6 Determine that entry operations remain consistent with the terms printed on the authorized permit and that acceptable entry conditions are maintained at all times.

6. Rescue and Emergency Services

6.1 The Fire Department shall ensure that its employees have documented proof of training to the level of entrant and then to the level of rescuer.

6.2 The Fire Department shall provide advance life support for the victim and separate advanced life support equipment and crew for the rescue team.

6.3 The rescue team shall utilize safety retrieval lines during all entry operations.

6.4 During any operation where a victim or rescuer is exposed to a hazardous material for which an SDS is available, a copy of the SDS shall be given to the medic crew and forwarded to the hospital.

6.5 Requesting rescue services shall be made at least 24 hours in advance if possible. This is due to manning and arrangements for extra personnel. If an

unforeseen problem occurs that requires an immediate entry, contact with the Fire Department should be made as soon as possible so that a rescue team can be assembled if indicated.

- 6.6 No permit-required entry shall be permitted into a space from which the Fire Department is not prepared to perform a rescue for a victim.

7. **Confined Space Evaluation Form**

7.1 **City of Kettering Confined Space Recognition / Assessment / Evaluation Checklist**

General Location Description: _____

Reason for Assessment: New Discovery Y/N Re-evaluation Y/N

Date: ____/____/____

Name of Evaluator: _____

Department: _____

Is the Space Marked? Y/N Is the Entry Point Secured? Y/N

Section I

- 1. Can an employee bodily enter and perform work? Y/N
- 2. Does the space have limited means of entry & exit? Y/N
- 3. Is the space designed for "continuous" human occupancy? Y/N

If the answers for questions 1 & 2 in Section I are "Yes" and the answer for question 3 in Section I is "No," then this is a confined space. Otherwise, this is not a confined space. If you have determined that this is a confined space, continue with the assessment; otherwise, stop with this assessment and file this report to be cataloged.

Section II

- 1. Does this space have the real potential for a hazardous atmosphere? Y/N
-

Section III

- 1. Does the space contain a material that has the potential for engulfing an entrant?
Y/N
 - 2. Does the space have an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section?
Y/N
 - 3. Does the space contain any other recognized serious safety or health hazard?
Y/N
-

If you answered "Yes" to any question in Section III, then this is a Permit-Required Confined Space.

If you answered "No" to all questions in Section III, but answered "Yes" to the question in Section II, then this is a space that may have the opportunity to be reclassified as a Non-Permit Required Confined Space on an entry by entry basis, but until it is reclassified it must be considered a Permit-Required Confined Space.

If you answered "No" to all questions in Section II & III, then this is a Non-Permit Required Confined Space by Configuration.

7.2 City of Kettering Permit Required Confined Space Description

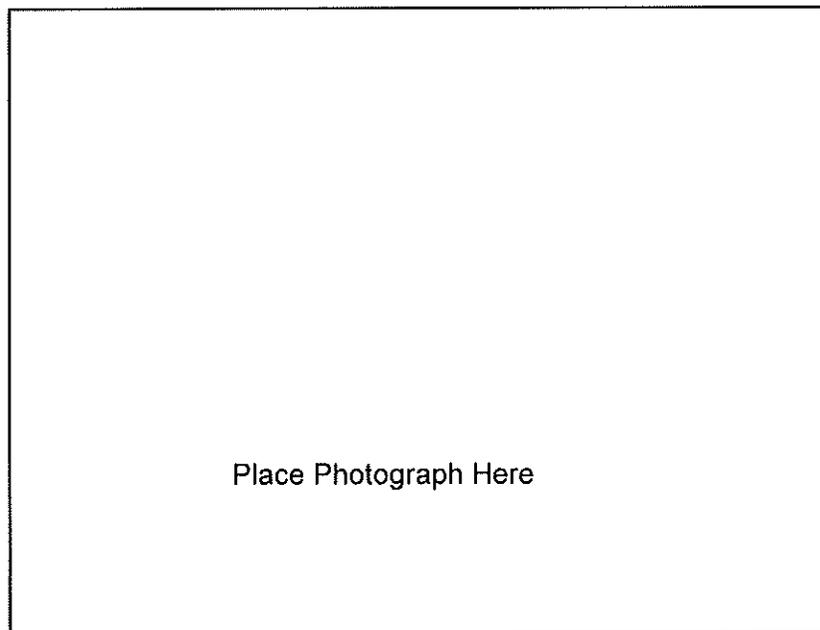
Date: ____/____/____

Name of Evaluator: _____

Department: _____

Physical Location of Space: _____

Photograph of area around entrance to space



Hazard Analysis

Atmospheric Conditions: 0.2%: ____ LEL%: ____ CO ppm: ____
H2S ppm: ____ Specific Toxins % or ppm
____ %/ppm ____ || ____ %/ppm ____
____ %/ppm ____ || ____ %/ppm ____

Other Hazards: _____

8. Confined Space Permit System

- 8.1 Preparing the permit shall be accomplished by first obtaining the completed, site specific description form 8.2 of this document, and reviewing the associated hazards for the space being prepared for entry. From this review, a checklist is created to help provide for all safety concerns, atmospheric monitoring, and isolation problems to be identified and the proper method to correct or monitor each identified area. Difficulties in accessibility are also identified and methods to provide easy and safe access are documented for check off. Once a checklist is established for the confined space being prepared for entry, a permit can be created which identifies each hazard, its control measure and its acceptable entry condition.
- 8.2 Using the permit shall be accomplished by the confined space entry team. They shall use the pre-entry checklist to ensure they have assembled the proper equipment and are following the site specific procedures associated with isolation and safe entry into the confined space. Once they have begun the pre-entry checklist, they will document their findings upon the permit issued for this entry. If control measures and/or atmospheric ventilation is necessary, then those measures shall begin and the results will be re-evaluated per the pre-entry checklist and description form 8.2. When the entry supervisor is satisfied that all necessary control measures are operating properly and that acceptable entry conditions exist, the permit may be signed and certified for entry for the time given by the entry supervisor. **NOTE:** Once the space has been abandoned (vacated), the permit is automatically rescinded and must be re-certified by the entry supervisor.
- 8.3 Termination of the permit and return of the space to normal service shall take place as soon as possible upon completion of the scheduled work at the site. This is to help reduce inadvertent entry into the space and reduce the possibility of improper re-activation of the equipment associated with the space. The entry supervisor shall ensure that the space is returned to proper service by specific termination procedures (usually the reverse of the pre-entry checklist) or specific manufacturer's instructions associated with the space or equipment directly involved in the entry procedures. **NOTE:** There shall be no cases where the space is left in a condition that creates confusion as to its service status.

9. Non-Permit Required Confined Space Entry Procedures

- 9.1 When entry is required in a previously identified non-permit required space, the entry team shall review the description form 8.2 to determine if there is equipment needed to help in the entry process. A pre-entry checklist can be created from the description form and the entry team can then proceed with site evaluation and entry. If at any time unacceptable conditions are created or become apparent, the space is to be evacuated and the space re-evaluated prior to re-entry.

10. Non-Permit Required by Reclassification Confined Space Entry Procedures

- 10.1 First and foremost, this is a space that shall always be considered a permit-required confined space until pre-entry procedures and checklists have proven otherwise. The entry team shall review the description form 8.2 to determine a pre-entry checklist and the hazards associated with the space and the proper procedures for removing the hazards from the space. All pre-entry checks shall be done from outside the space and no one is permitted to enter the space until all pre-entry checks are complete and acceptable entry conditions are satisfied.
- 10.2 If a prohibited condition is discovered during entry operations, the evacuation alarm shall be activated and all entrants shall leave the space immediately.
- 10.3 The prohibited condition shall be corrected from the outside or the space shall be reclassified as a permit-required confined space and the permit system shall be instituted to continue the entry operations.

11. Contractor Requirements

- 11.1 Contractors for the City of Kettering shall comply with this entire program.
- 11.2 Contractors shall provide written documentation to show that their employees on site performing work in and for the City of Kettering have received the proper training.
- 11.3 The City of Kettering shall make a copy of this program available to contractors and shall be available to answer any questions the contractor may have.
- 11.4 The City of Kettering shall require all contractors to comply with this program.
- 11.5 Non-compliance or any exception to this program may be grounds for forfeiture of a contract, termination of payment and seizure of any bonds required previously by the City of Kettering.

12. Rescue Procedures

- 12.1 The Kettering Fire Department shall be considered the primary responder for confined space rescue for the employees for the City of Kettering and will coordinate rescue activities. If circumstances arise that necessitate a change from this section, the alternative rescue team shall provide no less protection than the Fire Department.
- 12.2 The rescue team shall maintain a safety line on all rescuers entering the spaces so as to facilitate non-entry rescue if necessary, unless the safety line would create a greater life-safety hazard.
- 12.3 The rescuers shall wear Class III full-body rescue harnesses compliant with NFPA 1983, unless the harness would create a greater life-safety hazard.
- 12.4 All rescue activities shall comply with NFPA 1983 and OSHA 1910.146.

12.5 Rescue teams shall use the incident command system to facilitate accountability of its team members.

* As a public employer, the City of Kettering is subject to the jurisdiction of Public Employment Risk Reduction Program (PERRP); however oftentimes, PERRP regulations and Occupational Safety and Health Administration (OSHA) regulations are parallel. In some limited circumstances regarding confined space, OSHA has jurisdiction over the City of Kettering along with PERRP.

The City Manager hereby delegates the appropriate responsibility and authority to administer this Confined Space Program to the Department Directors.

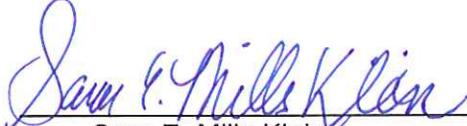
Approved:

6.30.18
Date


Mark W. Schwieterman
City Manager

Issued:

6/30/18
Date


Sara E. Mills Klein
Director of Human Resources

—Reviewed 05/18.

ATTACHMENT A

Non-Permit Required Confined Spaces by Configuration

Type of Space	Location of Space	Associated Hazards of Space	PPE and/or Reduction Methods
<p>Difficult means of entry. Not intended for human occupancy.</p>	<p>Kettering Middle School Restroom Building 3000 Glengarry Drive</p> <p>A. Pipe chase in restroom building by diamonds</p> <p>State Farm Park 2510 Blackhawk Drive</p> <p>A. Pipe chase in restroom</p> <p>Indian Riffle Park 2801 E. Stroop Rd.</p> <p>A. Pipe chase in restroom building</p> <p>Recreation Complex 2900 Glengarry Drive</p> <p>A. Tot Pool Water Control Area (within Tot Pool area)</p>	<p>No significant hazards</p>	

Non-Permit Required Confined Spaces by Configuration

Type of Space	Location of Space	Associated Hazards of Space	PPE and/or Reduction Methods
Elevator Pit (4)	Recreation Complex 2900 Glengarry Drive Government Center 3600 Shroyer Road Justice Building 3600 Shroyer Road	Crush injuries	Lockout/tagout procedures
Bleacher Space (2)	A. Police Department Jail B. Police Department Lobby Recreation Complex 2900 Glengarry Drive A. Gym — Electric retracting B. Arena	Crush injuries Limited accessibility	Lockout/tagout procedures and mechanical blocking Lockout/tagout on Zamboni and an Attendant present

ATTACHMENT B

Permit Required Confined Spaces

Type of Space	Location of Space	Associated Hazards of Space	PPE and/or Reduction Methods
Vault	<p>Civic Commons 675 Lincoln Park Blvd.</p> <p>A. Sump Pump Pit in basement of Concession</p> <p>B. Deduct meter pit - Montgomery County</p> <p>C. Main Water Meter Pit - Montgomery County</p> <p>D. Water Fountain Pit</p> <p>Fraze Pavilion 695 Lincoln Park Blvd.</p> <p>A. Main Water Meter Pit</p> <p>B. Orchestra Pit (when partially covered)</p> <p>Government Center - North Bldg. 3600 Shroyer Road</p> <p>A. Main and deduct water meter pit - Montgomery County</p> <p>Government Center - South Bldg. 3600 Shroyer Road</p> <p>A. Main and deduct water meter pit - Montgomery County</p>	<p>Oxygen deficient atmosphere</p> <p>Carbon monoxide contaminated atmosphere</p>	<p>Atmospheric monitoring</p> <p>Ventilation</p>

Permit Required Confined Spaces

Type of Space	Location of Space	Associated Hazards of Space	PPE and/or Reduction Methods
	<p>Polen Farm 5099 Bigger Road</p> <p>A. Main Water Meter Pit - Montgomery County</p> <p>B. Retention Tanks – Splash Pad</p> <p>Oak Creek Park A. Water fountain Pit</p> <p>Recreation Complex 2900 Glengarry Drive</p> <p>A. Main and deduct water meter pit - Montgomery County</p> <p>B. Main Pool Drain Valve - (12'D x 4' Diameter)</p> <p>Service Center Yard 1015 E. Dorothy Lane</p> <p>A. Manhole - water meter pit B. Manhole - water valve pit C. Manhole - water valve pit</p> <p>State Farm Park 2510 Blackhawk Drive</p> <p>A. Water valve pit B. Main water meter pit - Montgomery County C. Water fountain pits</p>	<p>Oxygen deficient atmosphere</p> <p>Carbon monoxide contaminated atmosphere</p>	<p>Atmospheric monitoring</p> <p>Ventilation</p>

Permit Required Confined Spaces

Type of Space	Location of Space	Associated Hazards of Space	PPE and/or Reduction Methods
Vault	Indian Riffle Park 2801 E. Stroop Rd. A. Main water meter pit B. Water fountain pits C. Water fountain pits		
	Delco Park 1845 E. Dorothy Lane A. Water meter pit - S.W. corner of Park B. Water fountain pit C. Water fountain pit D. Water fountain pit Ernst Park 1030 E. David Road A. Water Fountain Pit B. Water Fountain Pit Kantner Park 1512 Brownleigh Rd A. Water Fountain Pit Kennedy Park A. Water Fountain Pit B. Water Fountain Pit	Oxygen deficient atmosphere Carbon monoxide contaminated atmosphere	Atmospheric monitoring Ventilation

Permit Required Confined Spaces

Type of Space	Location of Space	Associated Hazards of Space	PPE and/or Reduction Methods
	<p>Tait Park 3750 Tait Rd.</p> <p>A. Water Fountain Pit</p> <p>Van Buren Park 1450 Scottsdale Drive</p> <p>A. Water Fountain Pit</p> <p>Fire Station #34 2700 Patterson Road</p> <p>A. Water Meter Pit</p>		
Electric Vault *	<p>Recreation Complex 2900 Glengarry Drive</p> <p>A. Electric vault near locker exit at Ice Rink</p> <p>Fraze Pavilion 695 Lincoln Park Blvd.</p> <p>A. Electric vault in grass area of Amphitheater</p>	<p>Electrocution</p> <p>Oxygen deficient atmosphere</p>	<p>Atmospheric monitoring</p> <p>Ventilation</p>

Permit Required Confined Spaces

Type of Space	Location of Space	Associated Hazards of Space	PPE and/or Reduction Methods
<p>Entrapment by Configuration</p>	<p>Service Center Yard 2800 Acorn Avenue</p> <p>A. Manhole - DP&L High Voltage</p> <p>Recreation Complex 2900 Glengarry Dr.</p> <p>A. Cooling tower sump tank indoors</p> <p>Government Center - North Bldg. 3600 Shroyer Road</p> <p>A. Plumbing & HVAC chases behind Jail Cells</p>	<p>Oxygen deficient atmosphere</p> <p>Suffocation by strangulation</p>	<p>Atmospheric monitoring</p> <p>Ventilation</p> <p>Work platforms</p>
<p>Engulfment Vaults *</p>	<p>Recreation Complex 2900 Glengarry Drive</p> <p>A. Filter Room Pit</p> <p>B. Main Pool Deck Inside Pit in Pump Room</p> <p>C. Main Pool Deck Strainer Pit</p> <p>Vehicle Maintenance Center 1015 E. Dorothy Lane</p> <p>A. Truck Lift Sump Pump (3 ea.)</p>	<p>Oxygen deficient atmosphere</p> <p>Suffocation by drowning</p> <p>Crush injuries</p>	<p>Atmospheric monitoring</p> <p>Ventilation</p>

Note (*) A significant isolation issue exists at that type of space and OSHA 1910.147 should be observed.

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Type of Space	Location of Space	Associated Hazards of Space	PPE and/or Reduction Methods
<p>Sanitary & Storm Sewer System Including Manholes</p> <p>■</p>	<p>Civic Commons 675 Lincoln Park Blvd.</p> <p>2 Manholes</p> <p>A. In Ackerman median B. LPCC Manhole</p> <p>Recreation Complex 2900 Glengarry Drive</p> <p>A. Sanitary Manholes around pool deck outside of Main Pool B. Storm Manhole near Traffic Circle</p>	<p>Oxygen deficient atmosphere</p> <p>Contaminated atmosphere</p> <p>Possibility of getting lost</p> <p>Slippery surfaces, fall & trip hazards</p> <p>Explosive atmosphere</p>	<p>Atmospheric monitoring</p> <p>Ventilation</p> <p>Emergency escape pack</p> <p>Full body Type III Harness with Lifeline</p> <p>SCBA (Self-Contained Breathing Apparatus)</p> <p>Chemical Protective Clothing</p> <p>Hoist</p>
<p>Sanitary & Storm Sewer System Including Manholes</p> <p>■</p>	<p>Service Center Yard</p> <p>A. 7 Manholes</p> <p>B. 1 Manhole north side of the Steel Storage Building in lawn area, oil/water separator to sanitary.</p> <p>C. 1 Manhole east side of VMC, oil/water separator to sanitary.</p>	<p>Oxygen deficient</p> <p>Contaminated atmosphere</p>	<p>Atmospheric monitoring</p> <p>Ventilation</p> <p>Emergency escape pack</p>

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Type of Space	Location of Space	Associated Hazards of Space	PPE and/or Reduction Methods
	<p>State Farm Park 2510 Blackhawk Drive</p> <p>1 Manhole</p> <p>Delco Park 1845 E. Dorothy Lane</p> <p>1 Manhole</p> <p>Fire Station #31 2350 S. Dixie Drive</p> <p>1 Manhole</p> <p>Fire Station #32 250 W. Dorothy Lane</p> <p>A. Manhole/Oil Separator to Sanitary</p> <p>Fire Station #33 2861 Bobbie Place</p> <p>A. Manhole/Oil Separator to Sanitary</p>	<p>Possibility of getting lost</p> <p>Slippery surfaces, fall & trip hazards</p> <p>Possible explosive atmosphere</p>	<p>Full boy Type III Harness with Lifeline</p> <p>SCBA (Self-Contained Breathing Apparatus)</p> <p>Chemical Protective Clothing</p> <p>Hoist</p>
<p>Sanitary & Storm Sewer System Including Manholes</p> <p>■</p>	<p>Fire Station #36 4500 Bigger Road</p> <p>A. Manhole/Drain - Oil Separator to Sanitary</p>	<p>Oxygen deficient atmosphere</p> <p>Contaminated atmosphere</p>	<p>Atmospheric monitoring</p> <p>Ventilation</p>

■ NOTE: As a practical matter, without physically surveying each and every location, the City of Kettering will identify any storm sewer openings that can be entered as confined spaces.

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Type of Space	Location of Space	Associated Hazards of Space	PPE and/or Reduction Methods
Cylindrical Liquid Tanks*	Fire Station #37 3780 Tait Road	Possibility of getting lost	Emergency escape pack
	A. Floor Drain Separator Tank to Sanitary	Slipper surfaces, fall & trip hazards	Full body Type III Harness with Lifeline
	Parks Maintenance Center 3170 Valleywood Dr.		
	A. Stormwater Separator (oil/solids)		
	Van Buren Park 1450 Scottsdale		
	A. Manhole to Storm	Explosive atmosphere	SCBA (Self-Contained Breathing Apparatus) Chemical Protective Clothing Hoist
	Parks Maintenance Center 3170 Valleywood Dr.	Oxygen deficient atmosphere	Atmospheric monitoring
	A. Spray Truck	Chemical contamination	Ventilation
	B. Spray Truck	Chemically contaminated atmosphere	Residue testing
	C. Spray Truck		Dilution of residue
D. Water Truck		MSDS of chemical to determine chemically compatible protective clothing	
E. Water Tank			
Recreation Center 2900 Glengarry Drive	A. Water heater tank in Bubble Air Handler Room		

Permit Required Confined Spaces

Type of Space	Location of Space	Associated Hazards of Space	PPE and/or Reduction Methods
<p>Large Metal Box (Leaf Box) **</p>	<p>Service Center Yard 2800 Acom</p> <p>A. 20 - 22 leaf boxes</p>	<p>Oxygen deficient atmosphere</p> <p>Organic contamination</p> <p>Organic toxins contaminating atmosphere</p> <p>Crush hazard with end gate</p>	<p>Atmospheric monitoring</p> <p>Ventilation</p> <p>Residue testing</p> <p>Dilution of residue</p> <p>MSDS of chemical to determine chemically compatible protective clothing</p>
<p>Machinery *</p>	<p>Street Division 2800 Acom</p> <p>A. K-22 Asphalt Trailer Hopper</p> <p>B. K-23 Asphalt Trailer Hopper</p> <p>C. K-15 Asphalt Trailer</p> <p>D. Trk 216 Vacuum Truck</p> <p>E. Trk 218 Vacuum Truck</p>	<p>Oxygen deficient atmosphere</p> <p>Organic contamination</p> <p>Crush hazards</p> <p>A. End gates</p> <p>B. Moving parts</p> <p>1. Compactors</p> <p>2. Augers</p> <p>3. Vacuum Fans</p> <p>4. Hydraulic Gates</p> <p>Thermal hazards</p>	<p>Atmospheric monitoring</p> <p>Ventilation</p> <p>Residue testing</p> <p>Dilution of residue</p> <p>MSDS of chemical to determine chemically compatible protective clothing</p>

+ NOTE: This assumes the boxes are in use on the trucks or are assembled in the yard. They are a non-permit space if torn down.

Permit Required Confined Space

Type of Space	Location of Space	Associated Hazards of Space	PPE and/or Reduction Methods
<p>Entry, Exit & Through Ways From Waterway Overflows</p>	<p>F. Trk 2 Street Sweeper G. Trk 4 Street Sweeper H. Cylindrical Liquid Tank, Equipment: two I. Slide-in Brine Tank Truck Apparatus</p>		
	<p>Recreation Complex 2900 Glengarry Drive</p> <p>A. Cooling tower at addition B. Cooling tower from Ice Rink C. Air Handler Plenums (8)</p>	<p>Oxygen deficient atmosphere Contaminated atmosphere Engulfment Hypothermia</p>	<p>Atmospheric monitoring O2, LEL, CO, H2S Full body harness Life line, escape pack</p>
	<p>Civic Commons 675 Lincoln Park Blvd.</p> <p>A. L.P.C.C. Dam Overflow</p>		<p>Poss. ventilation and/or SCBA (Self-Contained Breathing Apparatus)</p>
	<p>Indian Riffle Park 2801 E. Stroop Road</p> <p>A. Pond overflow</p>		

Permit Required Confined Space

Type of Space	Location of Space	Associated Hazards of Space	PPE and/or Reduction Methods
	<p>B. Pond inlet pipe C. Pond outlet pipe</p> <p>Delco Park 1845 E. Dorothy Lane</p> <p>A. Pond overflow pipe - N.E. corner of pond B. Pond inlet pipe - West side of pond</p> <p>Pondview Park 2320 Pondview Drive</p> <p>A. Pond overflow pipe B. Outlet pipe under Pondview Drive</p>		
<p>Entry, Exit & Through Ways From Waterway Overflows</p>	<p>Blackhawk Park 3005 Blackhawk Drive</p> <p>A. Storm pipe West of County Line Road Bridge B. Stream inlet pipe - North side of Little Beaver Creek C. Stream inlet pipe - North side of Little Beaver Creek</p>	<p>Oxygen deficient atmosphere</p> <p>Contaminated atmosphere</p> <p>Engulfment</p> <p>Hypothermia</p>	<p>Atmospheric monitoring</p> <p>02, LEL, CO, H2S</p> <p>Full body harness</p> <p>Life line, escape pack</p>

Permit Required Confined Space

Type of Space	Location of Space	Associated Hazards of Space	PPE and/or Reduction Methods
<p>Entry, Exit & Through Ways From Waterway Overflows</p>	<p>J.F. Kennedy Park 5073 Bigger Road</p> <p>A. Storm inlet pipe (middle of park by sidewalk)</p> <p>B. Storm inlet pipe (NE corner of park in ditch)</p> <p>Southdale Park 3036 Bellflower Avenue</p> <p>A. Inlet storm pipe - West end of stream</p> <p>B. Outlet storm pipe - goes under Bellflower Ave.</p> <p>Van Buren Park 1450 Scottsdale</p> <p>A. Storm Drain Pipe</p> <p>Walther Park 4421 Overland Trail</p> <p>A. Storm pipe</p>	<p>Oxygen deficient atmosphere</p> <p>Contaminated atmosphere</p>	<p>Poss. ventilation and/or SCBA (Self-Contained Breathing Apparatus)</p> <p>Atmospheric monitoring</p> <p>02, LEL, CO, H2S</p>

Permit Required Confined Space

Type of Space	Location of Space	Associated Hazards of Space	PPE and/or Reduction Methods
	Wenzler Park 3535 Sharewood A. Storm pipe	Engulfment	Full body harness
	Rushland Detention Basin A. Storm Pipe	Hypothermia	Life line, escape pack
	Marshall Road Detention Basin A. Storm Pipe		Positive ventilation and/or SCBA (Self-Contained Breathing Apparatus)
	Parks Maintenance Center 3170 Valleywood Drive A. Storm Pipe - Creek north of Building		

ADDENDUM

Equipment for Confined Space Rescue

The Kettering Fire Department currently possesses a highly advanced and comprehensive rope rescue equipment cache. The list below outlines what the Kettering Fire Department has already purchased.

- (6) 200' ½" Rescue Ropes
- (6) Rope Bags
- (6) Small Equipment Bags
- (2) Haul Safe System
- (80) 1" Nylon Webbing Runners (450 ft.)
- (20) 8mm Prusik Cord (40 ft.)
- (8) CMI Ascenders
- (4) Gibbs Ascenders
- (6) Single, Rescue Pulleys
- (6) Double, Rescue Pulleys
- (12) Rescue 8 Descenders
- (2) Break Bar Rappel Rack
- (100) Stubi Offset 'D' Carabiners
- (8) Roco, Class 3 Rescue Harness
- (8) Harness Bags
- (8) Rescue Knives
- (8) Helmet Lights
- (4) Pick-Off Straps
- (6) Nylon Rope Edge Protectors
- (2) Edge Roller Edge Protectors
- (2) Half-Back Rescue Extricators
- (2) SKED Stretchers
- (1) Ventilator Blower & Hose
- (2) Four Gas Air Monitors
- (1) Rescue Tri-Pod
- (6) Anchor Plates

Street Department

Equipment for Confined Space Entry and Rescue

- (1) 24 inch pipe ball plug, pneumatic
- (2) 12-inch pipe ball plug, pneumatic
- (2) 6-inch pipe ball plug, pneumatic
- (4) 4-inch pipe ball plug, pneumatic
- (1) 20-foot utility rope, poly
- (6) 5-foot hose extensions
- (1) manhole cage
- (2) 3-ton chain hoist
- (9) 6 inch x 10 foot vent tubing, canvas / plastic
- (6) 12 inch x 10 foot vent tubing, canvas / plastic
- (4) equipment cable winches
- (1) Unihoist with Reese hitch and base plate
- (2) tripod personnel winches
- (5) 3/8th. 100 foot tag line
- (1) bag assorted utility rope
- (2) rescue t lifts
- (1) 175-foot tagline
- (1) 50 foot tagline
- (2) tie off adapters
- (1) equipment bucket with rescue wristlets
- (2) CMC / Roco professional rescue harness with chest harness
- (2) large Rose work harness
- (4) large DBI work harness
- (1) 8-foot tripod
- (1) 12-foot tripod
- (2) 6-inch manhole vent tubes
- (1) 6-inch electric blower
- (2) 3 section sewer ladders
- (2) single pulleys
- (3) harness bags
- (4) zippered rope bags
- (2) zip string rope bags
- (9) equipment bags
- (2) 4-gas TMX412 monitors
- (1) dual battery charger
- (4) leather carrying cases
- (1) sampling pump
- (1) 10-foot sampling tubing
- (2) spare ni – cad batteries
- (3) 9-volt battery conversion packs
- (6) 10 minute self-contained escape air apparatus
- (1) calibration kit
- (2) Ear Mark wireless com kit
- (2) spare Ear Mark headsets