

**APPENDIX A**

**CONFINED SPACE ENTRY  
AND RESCUE PROCEDURE**

ORDINANCE #200-5

CITY OF BAXTER

PUTNAM COUNTY, TENNESSEE

AN ORDINANCE OF THE CITY OF BAXTER, TENNESSEE, ADOPTING A  
CONFINED SPACE ENTRY AND RESCUE PROCEDURE.

The City Council of the City of Baxter, Tennessee hereby resolves as follows:

Section 1: Statement of Purpose

In the interest of the City of Baxter and its employees the City Council adopts an addendum to resolution 1993-017 that sets policy and procedures for the use of confined space entry and rescue entry and rescue procedures as follows:

CONFINED SPACE ENTRY AND RESCUE PROCEDURES

I. Policy Objectives

To establish minimum standards and procedures that shall be mandatory for the adequate protection of employees and other persons who may be required to enter dangerous confined spaces as defined below:

- A. Any enclosed and/or confining space that may contain or be subject to the entry of and/or accumulation of toxic gases, flammable gases and/or have the atmosphere rendered deficient in breathable oxygen.
- B. Any work area that has limited room for movement and/or ready access or egress by workers. In particular, any confining work area or space that will require special equipment and preparations for the safe and injury free recovery of a worker that becomes disabled.
- C. Dangerous confined spaces shall include, but not be limited to, sewer and storm drain pipes, utility access, wet wells, pump stations, vaults, tanks (including fresh water tanks) and similar types of structures.

## II. Responsibility

It is the policy of the City of Baxter to require all employees assigned to work in and around confined spaces to be adequately trained and protected from the hazards that might be encountered. All persons, supervisors, overseer and lead persons working in or near confined spaces shall rigidly follow the procedures set forth herein.

## III. Hazardous Conditions Definitions

- A. Confined Space - A space defined by the concurrent existence of the following conditions:
  - 1. Existing ventilation is insufficient to remove dangerous air contamination and/or oxygen deficiency which may exist or develop.
  - 2. Ready access or egress for the removal of a suddenly disabled employee is difficult due to the location and/or size of the opening(s).
  
- B. Dangerous Air Contamination - An atmosphere presenting a threat of causing death, injury, acute illness, or disablement due to the presence of flammable and/or explosive, toxic, or otherwise injurious or incapacitating substances.
  - 1. Dangerous air contamination due to the flammability of a gas or vapor is defined as an atmosphere containing the gas or vapor at a concentration greater than 20 percent of its lower explosive (lower flammable) limit.
  - 2. Dangerous air contamination due to a combustible particulate is defined as a concentration greater than 20 percent of the minimum explosive concentration of the particulate.
  - 3. Dangerous air contamination due to the toxicity of a substance is defined as the atmospheric concentration immediately hazardous to life or health.

NOTE: This definition of dangerous air contamination due to the toxicity of a substance does not preclude the requirement to control harmful exposures, toxic substances at

concentrations less than those immediately hazardous to life or health.

- C. Oxygen deficiency - An atmosphere containing oxygen at a concentration of less than 19.5 percent by volume.

NOTE: Authority cited: WAC 296-62-1.45 through 296-62-14529;  
WAC 296-62-071 through 296-62-07121;  
WAC 296-79-230; ANSI 2117.1 1977;  
WAC 196-24-715; WAC 296-24-722; NIOSH 80-106

IV: Procedures - Pre-Entry

- A. Prior to the entry of any person into any dangerous and/or hazardous spaces, a confined space entry permit shall be completed by the confined space attendant for the entry.
- B. Testing shall be done with a device that shall sound an audible alarm and have lighted signal to indicate violation of any of the threshold limit values.

Threshold Limit Values

- 1. Toxic - Greater than 10-ppm Hydrogen Sulfide (HS)
  - 2. Flammable - Greater than 20% of the explosive level of Methane (CH)
  - 3. Oxygen Deficiency - Less than 19.5% by volume.
- C. Two separate tests shall be made as follows:
    - 1. A pre-opening test where in a sample is drawn through a hose attached to the detection device. The hose shall be inserted in the pick hole or small opening of a utility access or the exhaust vent of a lift station that has continuous ventilation.
    - 2. A pre-entry test where in the probe hose detection device is lowered to the bottom and at various levels inside the confined space.

- D. The above test results are to achieve the following determination:
1. "Safe for Entry" - The testing device did not alarm indicating that no hazardous conditions above threshold limit values were detected.
  2. "Unsafe for Entry" - The testing device had one or more of its alarms activated. No person shall enter any confined space where the required preentry testing indicates the space is "Unsafe for Entry". Exceptions to this rule shall be only as prescribed by written permission from the Community Service Director or for the emergency rescue of a disabled fellow employee. In each case, proper self-contained breathing apparatus shall be used. All persons who may participate in functions relative to entry into a confined space shall be fully trained in these procedures and the hazards that may be found in this work.

NOTE: Employees have the right to refuse to work in unsafe conditions. This included working with untrained personnel.

- E. The following rules shall apply to the entry of an employee into any confined space where in pre-testing has shown that the space is "Safe for Entry".
1. The space shall have been previously inspected (without entry) by a competent supervisor or worker who shall have accomplished the following:
    - a. Listing and layout of necessary traffic control and warning equipment, when appropriate.
    - b. Directed preparation for entry by requiring necessary or desired cleaning or other preentry work deemed necessary for safety.
    - c. Prepared the safety equipment items that will be required for entry into the confined space.
    - d. Prepared the necessary tools and materials covering the demands of the work that is to be done by the crew at the confined space entry site.

- e. Discussed and provided necessary listing to job site lead person and make certain that all of the special and general conditions are fully understood.

V. Entry Procedures

No person shall enter any confined space unless all of the following conditions have been met:

- A. In addition to the fully trained employee who will enter the space, not less than one additional fully trained person shall be present. At least one of the persons shall be trained in First Aid and CPR. Exceptions are listed below.
- B. One of the persons present shall be designated the Confined Space Attendant and shall never leave the confined space access point while employee is inside. The Confined Space Attendant shall be in voice or radio contact with the employee inside the confined space at all times.
- C. Confined Space Attendant shall keep a written log of all work activities.
- D. The entering employee shall be suitably attired in desirable clothing for confined space work.
  - 1. Suitable Coveralls
  - 2. Hard Hat
  - 3. Suitable Gloves
  - 4. Rubber Boots
- E. All pre-entry test and other functions have been properly accomplished.
- F. The entering employee is properly wearing a proper safety harness.
- G. A suitable tripod/winch device is attached to the proper safety harness. This will permit one individual to recover the employee from the confined space in the event of difficulties.
- H. An atmospheric alarm unit (Gas Detector) is worn by, or accompanies the employee into the confined space.

- I. A fresh air supply with an installed or portable ventilation system is in operation to supply fresh air to the confined space.
  - J. Necessary traffic control equipment and required flagperson are in place.
  - K. Suitable plans for summoning emergency assistance (ambulance, Fire Department, Police Department, etc.) Have been made and fully understood by all job Sites employees.
  - L. Lines that may convey flammable, injurious, or incapacitating substances into the space shall be disconnected, blinded, or blocked off by other positive means to prevent the development of dangerous air contamination and/or oxygen deficiency within the space. The disconnection or blind shall be so located or done in such a manner that inadvertent reconnection of the line or removal of the blind are effectively prevented.
- VI. Lift Station Crew or Other Two-person Work Crews.
- A. All two-person work crews shall contact the Community Service Director by radio and do the following.
    - 1. Give time of entry
    - 2. Check in with the Director every 15 minutes
    - 3. Check in when job is complete
  - B. The Director will do the following:
    - 1. Log time of entry
    - 2. Log check-in time
    - 3. Log completion time
  - C. If the Director does not hear from the crew at check-in time, the Director shall dispatch another unit in the area to check on the lift station crew.
- VII: While An Employee is Inside of Any Confined Space, The Following Shall be Rigidly Enforced:
- A. There shall be no smoking or open flames permitted within ten feet of the confined space or any access points to the confined space While it is occupied by an employee.

- B. No person except the confined space attendant shall be permitted to enter within ten feet of the confined space access opening except at the direction of and in strict conformance With the instructions of the confined space attendant.
  - C. The confined space attendant shall maintain continuous communications with frequent replies required of the employee inside of the confined space.
  - D. There shall be no other conversation with the confined space attendant by other job site employees except absolutely necessary and these shall be kept as brief as possible.
  - E. Monitoring shall be continuous during operation. In event any of the alarms of the atmospheric unit (Gas Detector) are activated, or any condition of suspected safety develops, the employee shall be brought out of the confined space immediately. Re-entry shall not be made until all conditions are deemed to be safe.
- VIII. The Third Fully Trained Person At The Confined Space Entry Job Site Shall Be Designated As A Lead Person Or The Standby Person Shall Accomplish The Following Functions and Comply with the Following Rules:
- A. While an employee is inside of the confined space, the stand-by person shall never be out of reasonable hailing distance of the Confined Space Attendant.
  - B. If called by the Confined Space Attendant, the stand-by person shall make an immediate reply and provide whatever assistance or perform whatever function he may be directed to do by the Confined Space Attendant.
  - C. The stand-by person shall maintain surveillance and awareness of conditions in the job site and shall take the following actions as required:
    - 1. Prevent other employees or on-lookers from approaching the confined space entry point or attempting to interfere with the Confined Space Attendant.
    - 2. Enforce the no smoking or open flame rule.

3. Immediately advise the Confined Space Attendant of any circumstances affecting the safety of the work site and its personnel.
  4. Handle questions of any curious on-lookers.
  5. Provide tools or other materials to the Confined Space Attendant.
- IX. It Shall Be The Responsibility Of The Confined Space Attendant To Maintain Written Records Of Each Function Of A Confined Space Entry By An Employee. These Records Shall Include But Not Be Limited To, All Of The Following Notations; On Appendix A Of This Policy.
- A. Date
  - B. Location and type of confined space entered.
  - C. Purpose of entry.
  - D. Time and results of pre-opening atmospheric test.
  - E. Time and results of per-entry atmospheric test.
  - F. Names and assignments of confined space entry work force members.
  - G. Times of entry of employee into confined space
  - H. Times employee was brought out of space.
  - I. Descriptions of any injuries/emergencies, or other notable circumstances with comments on actions that were taken and results obtained.
- X. Procedure For Contaminated Confined Spaces.
- The following procedures shall apply wherein pre-testing has shown that the confined spaces "Unsafe for Entry" or it is suspected that a space is contaminated or a space becomes contaminated While working in the space.
- NOTE: Unless it is absolutely necessary to work in a confined space, no employee shall enter or continue to work in a contaminated space.
- A. Should the confined space become contaminated, the worker shall evacuate the space.
  - B. All workers shall evacuate the immediate area -- at least 50 feet.
  - C. Notify your supervisor immediately.

- D. One worker shall don the appropriate self-contained breathing apparatus and establish safe perimeter around the confined space with the aid of a gas detector, continue to monitor area until supervision arrives.
- E. The Supervisor shall determine the extent and type of contamination. If unable to determine, call 911 and/or close the confined space.
- F. If work is to continue, purge the confined space (record time) until it reaches a safe level. Monitor with direct reading while purging.
- G. Stop purging and monitor space to see how quickly the space re-contaminates. If the space becomes recontaminated, before a worker can safety evacuate the space. DO NOT ENTER SPACE.
- H. If tests indicate a safe exit time, continue to purge space before worker re-enters space.
- I. Before the employee re-enters the previously contaminated space, the worker shall be wearing the following items:
  - 1. Appropriate protective clothing
  - 2. Appropriate gloves
  - 3. Self-contained breathing apparatus where needed
  - 4. Safety harness attached to a tripod and safety line
  - 5. Hard hat
  - 6. Rubber Boots
  - 7. Gas detector
- J. While worker is inside confined space the Confined Space Attendant shall establish voice contact and maintain communication at regular intervals.
- K. Confined Space Attendant shall fill out a written report.
- L. Post as contaminated, if necessary.
- XI. Certified First Aid And CPR Person At Job Site.

Entry into any confined space shall require that there is at least one person present at the job site that holds a current certification in First Aid training and in the administration of CPR (cardiopulmonary resuscitation).

## XII. Sewer Work Force Immunizations

All employees who will be required to work in sewer collection system structures and in conjunction with sewage and waste disposal in any way must current immunization. These will be specified by the Health Department and will require renewal at frequencies as designated by the Health Department.

## XIII. Required Safety Equipment At The Job Site.

The following items and quantities shall always be present at any job site Wherein an employee may be required to enter a confined space

- A. At least an atmospheric alarm unit.
- B. At least one proper safety harness including necessary devices for connection to a lifeline. Lifeline shall be 2,000 pounds test.
- C. At least one winch device for lifting a person out of a utility access or other underground structure.
- D. At least two explosion proof flashlights with one set of fresh spare batteries for each.
- E. At least one ventilation blower with hose and hose storage drum. This must include necessary power supply wiring and hook-ups for operation.
- F. At least one fully equipped first aid kit.
- G. At least one eyewash unit filled with fresh and clear water.
- H. Fresh water with soap and paper towels.
- I. Suitable lanyards and buckets for supplying tools and other work requirements to the confined space workman.
- J. Adequate traffic control safety devices.
- K. Other devices and equipment as may be required for the completion of all work in the confined space.

#### XIV. Work Force Training

It shall be the responsibility of the City to provide training of all employees who may be assigned to a confined space entry work force. This training shall include complete instruction in all of the subjects as listed below:

- A. Instruction in the hazards that can be encountered in a confined space.
- B. Instructions in the methods of assuring maximum employee protection from these hazards.
- C. Instruction in the purpose, functional applications and proper operation and use of safety equipment.
- D. Instruction in standard and emergency procedures at confined space entry job site.
- E. Instruction in post confined entry procedures for maximum health and protection.

#### XV. Safety Equipment: Care, Inspection And Testing.

It shall be the special responsibility of every employee of the City of Baxter to be continuously aware of the location and condition of the safety equipment provided for the work force. The assignment shall include all of the following coverages.

- A. Inspection and checking of the condition of snaps, buckles, hardware, straps, seams and stitching of approved safety harnesses, lanyards, ropes, strap ladders, rope ladders and winch units as are used with confined space entry.
- B. Testing, necessary lubrication, and service to the ventilation blower units.
- C. Daily battery recharging, oxygen calibration and operational condition of the atmospheric hazard alarm unit. Weekly testing of this unit with the use of a gas test kit. Keep a written record of the weekly test.

- D. Inventory and inspection of first aid kits with any required replacements for items missing or not in a condition for suitable use.

Section 3: This ordinance shall be effective immediately upon passage by the board of mayor and aldermen.

