Columbus State Community College

Confined Space

Entry Program

May 19, 1997
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Part 1 - Introduction

A. Columbus State Community College is committed to providing a safe work environment for all of its employees. The college has permit-required confined spaces which may contain dangers such as toxic, explosive or asphyxiating atmospheres. Only individuals who are authorized by the college and have been certified to do so may enter a confined space.

B. This written entry program contains the details of the permit system, classifications of confined space, procedures for persons entering the confined space, permits, evaluations and a listing of terms and definitions relating to confined space operations. Additionally, this plan includes a listing of duties and training requirements for those who are affected by the standard.

C. The written Confined Space Entry Program is available to all employees and authorized persons.

D. This program shall be revised annually by the Supervisor of Safety and Security, and College Safety Coordinator and whenever a review or entry operations indicate that the permit program may not be adequate to protect employee(s). The following shall require a review of this program:

1. Any injury or accident arising from a confined space entry.
2. Changes in the use, access, or additions of confined space(s).
3. Changes in the hazards associated in the confined space not covered by the permit.
4. Any unauthorized entry into a confined space.
5. Employee concerns about the entry into confined spaces.

Subsequent entries shall not take place until such revisions are completed and authorized by the Confined Space Entry Supervisor or their designee.

E. Contractors desiring access shall conform to all procedures set forth under the OSHA Standard 29 CFR 1910.146 as well as the college written procedure. All access shall be approved by the College Safety Coordinator or his or her designee.
Part 2 - Terms and Definitions

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

**Attendant** - A person stationed outside one or more permit spaces who monitors the authorized entrants and who performs all the attendant duties assigned in the confined space program.

**Authorized Entrant** - A person whom is authorized and certified by the college to enter a confined space.

**Blanking or Blinding** - The absolute closure of a pipe, line, or duct by fastening of a solid plate 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 and so configured that a person can enter and then perform assigned work; and
2. Has limited or restricted means of entry or exit; and
3. Is not designed for continuous employee occupancy.

**Double Block and Bleed** - The closure of a pipe, line, or duct by locking or tagging two in-line values 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 the authorized entrant(s).

**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 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 a space.

**Entry Permit** - The written or printed document that is provided to allow and control entry into a permit space.
Entry Supervisor - The person who is responsible for determining if acceptable entry conditions are present at a permit space when entry is planned, for authorized entry 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 requires by this section for each role he or she fills. Also, the duties of the entry supervisor may be passed from one individual to another during the course of an entry operation.

Hazardous Atmosphere - An atmosphere that may expose a person to the risk of death, incapacitation, impairment of ability to self-rescue (i.e. 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 the lower flammable limit (LFL);
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 (five) feet (1.52 m) or less.
3. Atmospheric oxygen concentration below 19.5 % or above 23.5 %;
4. Atmospheric concentration 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 the Part and which could result in 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, impairment of ability to self-rescue, injury, or acute illness due to its health effects is not covered by this provision

5. Any condition that is immediately dangerous to life or health (IDLH)

NOTE: For air contaminants for which OSHA has not determined a dose or permissible exposure limit, other sources of information, such as Material Safety Data Sheets (MSDS) that comply with the Hazardous Communications Standard 1910.1200 of this Part, published information, and internal documents can provide guidance in establishing acceptable atmospheric conditions.

Hot Work Permit - The written authorization to perform any operation capable of producing 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 a person's ability to escape unaided from a permit area.

**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 a space by such means as: blanking or blinding; misaligning or removing sections of lines, pipes, or ducts; a double blocking 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 materials, an inert gas, or any fluid at a volume, pressure, or temperature capable of causing injury.

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

**Oxygen Deficient Atmosphere** - An atmosphere that contains less than 19.5 % oxygen by volume.

**Oxygen Enriched Atmosphere** - An atmosphere that contains more than 23.5 % oxygen by volume.

**Permit - Required Confined Space (Permit Space) (PRCS)** - A confined space that possess one or more of the following characteristics:

1. Contains or has the potential to contain a hazardous atmosphere;
2. Contains material that has the potential for engulfing entrants;
3. Has the internal configuration which could trap the entrant;
4. Contains any other recognized serious safety or health hazards.

**Permit - Required Confined Space Program (Permit Space Program)** - The overall program for controlling, and, where appropriate, for protecting employees from, permit space hazards and for regulating entry into a permit space.

**Permit System** - A written procedure for preparing and issuing permits for entry into a confined space, and for returning the permit space to service following termination of entry.

**Prohibited Condition** - Any condition in a permit space that is not allowed by the permit during the period that a entry is authorized.
**Rescue Services** - Personnel designated to rescue employees from the permit spaces.

**Retrieval Systems** - 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.

**Testing** - The process by which the hazards that may be confronted by the entrants are identified and evaluated. Testing includes the proper order of the test being conducted as well as the recording of same. Proper testing procedures for atmospheric conditions shall consist of testing for oxygen first, then combustible gases second (LFL), and finally toxic gases and vapors.
Part 3 - Confined Space Evaluations and Classification

A. The Campus Safety Coordinator shall evaluate and classify each confined space to determine if the area is permit-required confined space.

B. The following areas have been determined to be permit required confined space(s).

1. Tunnel between Aquinas and Franklin Halls:
   Contains communications and electrical lines.
   Vertical ladder accesses on Aquinas Hall end and a floor/roof hatch in Franklin Hall. (Note: Franklin Hall access is at times locked and/or blocked by materials stacked over hatch.)

2. Tunnel between Aquinas and Rhodes Halls:
   Contains communications, gas, water, and electric lines.
   Vertical ladder (elevated) access from Aquinas and access panel (locked) from Rhodes Hall.

3. Tunnel between Rhodes and Madison and ending at Eibling Hall:
   Contains communications, gas, water, and electric lines.
   Vertical ladder (elevated) access from Eibling Hall; an access panel in Madison Hall and finally ends at Rhodes Hall behind piping.

4. Oil/Water Inceptor Pit located in Delaware Hall Automotive Lab (North Bay)
   Entry to this area is prohibited to all Columbus State Employees. Should entry be necessary by an outside contractor conforming to all aspects of 29 CFR 1910.146 will be enforced by the Supervisor of Safety and Security or their designee.

5. Electrical Pit(s) (4)

   Non-Entry Areas:                                    Places entry needed:
   a. Southwest corner of Eibling Hall              a. East side of Nestor Hall
   b. East end of Columbus Hall                     Reason: - Sump Pump
   c. Southeast side of Union Hall
   d. Ground floor Center for Technology and Learning
   e. West of 339 Cleveland Avenue
   f. East end of Center for Technology and Learning
6. Water Meter Pits:

All have vertical ladders.

1. Southwest corner of 1-E Lot.
   Has only water piping.
   Has some standing water located in bottom.

2. West of Madison Hall.
   Has only water piping.
   Has some standing water located in bottom.

3. Bolton Field - next to north driveway entrance.
   Has some standing water.
   Has electric located in it (Lights and sump pump).

7. Communications Pit(s)

1. Delaware Hall Ramp.
2. Grass Area west of Columbus Hall.
3. Center Tear Drop Area.
5. Edwards Street in sidewalk west of Cleveland Avenue
6. West of 339 Cleveland Avenue.
7. Nestor Hall Archway next to drop off area.
8. Mt. Vernon Avenue east of driveway in grassy area.
9. Mt. Vernon Avenue west of driveway in grassy area. (To TL).
11. Corner of Cleveland and Edwards Street (Southeast corner).
12. North of 356 North Grant next to Grant Avenue.
13. South of 375 North Grant in driveway/sidewalk.
15. Northwest of 389 North Grant (supplies 384 North Sixth and Physical Plant).

Some have vertical ladders.
Some have electric for lighting and sump pumps.
All have standing water potential.

8. Service Pit:
1. South end of Nestor Hall Auditorium.
   Vertical ladder.
   Only has Fire Department standpipe running through pit.

2. Northwest corner of Davidson Hall.
   Only has Fire Department standpipe running through pit.

3. Northwest corner of Madison Hall close to roadway and sidewalk.
   Vertical ladder.
   Only has Fire Department standpipe running through pit.

4. Ground Floor Center for Technology and Learning. (X2)
   Sump Pump Area

5. North of Center for Technology and Learning (HVAC Pit)

6. EB 02 Mechanical Room Waste Water Sump

7. EB 02 Mechanical Storm Water Sump

9. Pipe Chases;

   1. Eibling Hall
      1. Ground Floor
      2. First Floor
      3. Second Floor
      4. Third Floor
      5. Fourth Floor

   2. Center for Technology and Learning
      1. First Floor
      2. Second Floor
      3. Third Floor

      All have limited access panels.
      All have electric.
      All have potential atmospheric hazard.
C. Every confined space shall be evaluated as well as a “Confined Space Evaluation/Entry/Permit System Form” completed prior to entry. A copy of this form can be found in Appendix A. The Confined Space Entry Supervisor shall be responsible to be sure these forms are completed and correct.

D. A danger sign shall be posted at the entrance of each permit required confined space which states the following: “DANGER -- CONFINED SPACE -- AUTHORIZED PERSONNEL ONLY”. The Physical Plant Department shall be responsible for posting these signs. The College Supervisor of Safety and Security shall notify the Physical Plant Department when new signs are needed or signs are in need of repair.

E. A permit-required confined space may be reclassified as a non-permit confined space providing the following procedure:

1. If the permit space poses no actual or potential atmospheric hazard and if all hazards within the space are eliminated, not just controlled, without entry into the space, the permitted space then may be reclassified as a non-permit confined space for as long as the non-atmospheric hazards are eliminated.

2. If it is necessary to enter the permit space to eliminate hazards, such entry shall be performed under the regular permit space entry procedures. If testing and inspection during this entry determined that the hazards have been eliminated the permit space may be reclassified into a non-permit confined space as long as the hazards remain eliminated.

3. The documentation and certification that the hazards have been eliminated that contains the date, the location of the space, and the signature of the person making the determination.

4. If hazards arise within a permit space that has been declassified to a non-permit space, each employee in the space shall exit the space. The College Safety Coordinator will re-evaluate the space and determine whether it must be reclassified as a permit space.

F. The Supervisor of Safety and Security or Campus Safety Coordinator shall classify the confined space areas into like hazard groups. Re-evaluation of the confined space(s) shall be done by the Entry Supervisor before entry into the area is made to determine if hazards have changed. Hazard groupings can be found under Appendix C.
Part 4 - Duties of Personnel

A. Authorized Entrants shall:

1. Know the hazards that may be encountered during the entry, including information on the mode, signs, or symptoms, and consequences of the exposure.

2. Proper use of equipment required to safely enter the confined space including equipment for testing and monitoring, ventilating, communications, personal protection, lighting and ingress/egress.

3. Communicate with the attendant as necessary to enable the attendant to monitor entrant status and to alert entrant of the need to evacuate the space.

4. Alert the attendant whenever:
   
   a. The entrant recognizes any warning signs or symptoms of exposure to a dangerous situation, or
   b. A prohibited condition is detected.

5. Exits from the permit space as quickly as possible whenever:
   
   a. An order to evacuate is given by the attendant or entry supervisor,
   b. The entrant recognizes any warning signs or symptoms of exposure to a dangerous situations,
   c. The entrant detects a prohibited condition, or
   d. An evacuation alarm is activated.

B. Attendant shall:

1. Know the hazards that may be encountered during the entry, including information on the mode, signs, or symptoms, and consequences of the exposure.

2. Be aware of possible behavioral effects of hazard exposure in authorized entrants.

3. Continuously maintain an accurate count of authorized entrants in the permit space and ensure that the permit accurately identifies who is in the permit space.
4. Remain outside the permit space during entry operations until relieved by another attendant.

5. Communicate with authorized entrants as necessary to monitor entrants status and to alert entrants of the need to evacuate the space.

6. Monitor activities inside and outside the space to determine if it is safe for entrants to remain in the space and order the authorized entrants to evacuate the permit area immediately under any of the following conditions:
   a. If the attendant detects a prohibited condition;
   b. If the attendant detects the behavioral effects of hazard exposure to the authorized entrant;
   c. If the attendant detects a situation outside the space that could endanger the authorized entrant;
   d. If the attendant cannot effectively and safely perform all the required duties.

7. Summon rescue and other emergency service as soon as a determination is made that an entrant may need assistance to escape from the confined space.

8. Keeps unauthorized persons away.


10. Performs no duties that might interfere with the attendants primary duty to monitor and protect authorized entrants.

C. Entry Supervisor shall:

1. Know the hazards that may be encountered during the entry, including information on the mode, signs, or symptoms, and consequences of the exposure.

2. Verify all tests, procedures, and equipment are in place.

3. Verify that the Confined Space Evaluation/Entry/Permit System Forms are filled out completely and accurately.

4. Terminate permit and cancel entry as required.

5. Verify rescue service and means for summoning.

6. Remove unauthorized individuals who may enter or attempt to enter the confined space worksite.
7. Determine that entry operations remain consistent with the entry permit and that acceptable entry conditions are maintained, and/or transferred as necessary.

8. The Supervisor of Safety and Security, Campus Safety Coordinator, or their designee, shall serve as the Entry Supervisor.

9. The Entry Supervisor shall add additional safety precaution(s) to the Entry Permit as deemed necessary for the safe entry into a confined space. At no time will entry take place without all aspects of safety and health being covered as required.
Part 5 - Entry Into A Confined Space

A. Before any entry is authorized into a confined space, a Confined Space Evaluation/Entry/Permit System Form shall be completed to determine if the space is safe to enter. See Appendix A.

B. The Confined Space Entry Supervisor shall be sure these forms are filled out completely and correctly. Before the entry begins, the Entry Supervisor shall verify that all necessary precautions have been taken and then sign the entry form.

C. The completed form/permit will be made available at the time of entry to all authorized entrants and shall be maintained by the attendant. Additionally, all aspects of the evaluation form shall be discussed at the briefing prior to entrance into the confined space.

D. The Confined Space Entry Supervisor shall terminate entry and cancel the entry permit when:

1. The entry operations covered by the permit have been completed, or
2. A condition that is not allowed under the permit arises in or near the permit space.

E. The duration of the permit will not exceed one working day, nor work not covered by the permit.

F. A debriefing of personnel shall occur after authorized entrants have completed their assignment or an emergency exists.

G. Each canceled Confined Space Evaluation/Entry/Permit System Form shall be retained for at least one year by the Campus Safety Coordinator in order to review any problems and to maintain records of entry.

H. The college shall provide all necessary equipment required for personal protection, testing, lighting, and safe entry.

I. Testing procedures for atmospheric conditions shall consist of testing for oxygen first, then combustible gases second (LFL), and finally toxic gases and vapors.
Part 6 - Emergencies and Rescue Procedures

A. Should an emergency occur, the attendant will immediately contact the predetermined emergency contact listed on the permit. This person shall immediately contact the CAMPUS POLICE Department at ext. 2525 for assistance.

B. To facilitate non-entry rescue, retrieval system or methods shall be used whenever a authorized entrant enters into a permit confined space. Retrieval systems shall meet the following requirements:

1. Each authorized entrant shall use a full chest or body harness, with a retrieval line attached to the center of the entrant’s back, near shoulder level, or above their head.

2. The other end of the retrieval line shall be attached to a mechanical device or fix point outside the permit space in such manner that rescue can begin as soon as the attendant and/or rescuer becomes aware that a rescue is necessary.

C. Should rescue be necessary, Columbus Fire Department shall be immediately notified via 911 by the Campus Police Department.

D. Attendants are never to enter a permit space to attempt rescue.

E. If an injured entrant is exposed to a substance for which a Material Safety Data Sheet (MSDS) or similar written information is required to be kept on the worksite, that written information shall be made available to the medical facility treating the exposed victim(s).
Part 7 - Training

A. All employees who will be authorized to enter a confined space or serve as an attendant shall receive training and demonstrate that they have acquired an understanding, knowledge, and skills necessary for the safe performance of their assigned duties.

B. The frequency of this training shall be:

1. Before duties are first assigned;
2. Before changes in assigned duties;
3. Whenever a new hazard can be present;
4. Whenever an employee’s knowledge or use of these procedures is inadequate; or
5. A new or revised procedures is introduced.

C. Training shall include the following:

1. Operation of the permit system;
2. The specific duties of each person involved in the operations;
3. The hazards of the confined spaces including information on the mode, signs or symptoms, and consequences of exposure;
4. The proper use of equipment required during the entry including testing and monitoring equipment, ventilation equipment, communications equipment, personal protective equipment, lighting, barriers, shields, ingress/egress equipment, rescue and emergency equipment for non-entry rescue, and any other equipment necessary for the safe entry into a confined space;
5. Evaluation and evacuation procedures;
6. Procedure for summoning assistance;
7. Other items necessary for the safe entry into a confined space.

D. Proficiency examination to determine the employees understanding and knowledge shall be required.

E. Training certification, signed by a trainer, shall be maintained in the Human Resource Department as well as in the employees’ department.

F. Rescue Service members shall receive training comparable to the authorized entrants. Whenever schedules allow, arrangements will be made such that rescue service personnel and Columbus State employees can train together.
Part 8 - Outside Contractors

A. Contractors desiring access shall conform to all procedures set forth under the OSHA Standard 29 CFR 1910.146 as well as the college written procedure. All access shall be approved by the College Safety Coordinator or their designee.

B. The Supervisor of Safety and Security or their designee, shall inform the contractor(s) of the permit required confined space areas upon being notified of their activity in these areas.

C. The Supervisor of Safety and Security shall apprise the contractor(s) of the elements of the confined space as well as precautions, permits, or like information the college has implemented for the protection of its employees in and near the work area.

D. The Supervisor of Safety and Security or College Safety Coordinator shall coordinate the entry of operations where both authorized entrant(s) of the college as well as the contractor(s) are working simultaneously so that employees of one or both do not endanger the employees of another.

E. Each contractor shall:

1. Comply with all sections of OSHA Standard 29 CFR 1910.146 as well as the written procedures of the college.
2. Obtain any information available regarding the confined space hazards and entry operations from the Supervisor of Safety and Security or their designee.
3. Coordinate with the Supervisor of Safety and Security or their designee any work being performed with employees of the college.
4. Inform the College Confined Space Entry Supervisor of the contractor(s) confined space entry program and procedure they will follow for entry, emergencies, rescues, or like conditions.
5. The contractor(s) shall be responsible for all rescue operations of their employees.
6. Provide the Supervisor of Safety and Security a copy of the permit cancellation.
7. Hold a debriefing with the Supervisor of Safety and Security or their designee upon completion or immediately upon any problem detected.
8. Provide the college with any Material Safety Data Sheet(s) (MSDS’s) that are required.

F. A Pre-entry briefing shall be held with the Supervisor of Safety and Security or their designees as well as at the completion of the project.
Appendix A

COLUMBUS STATE COMMUNITY COLLEGE
CONFINED SPACE EVALUATION/ENTRY/PERMIT SYSTEM FORM

PART 1: CONFINED SPACE ENTRY DECISION FLOW CHART

Will a confined space entry be made today? NO. Stop. Not applicable to work being conducted.

YES

Does space have known or potential atmospheric or physical hazards? NO. Space is a NPCS. Entry may commence according to NPCS Entry Procedures.

YES

Can known or potential atmospheric or physical hazards be eliminated or controlled? NO. STOP IMMEDIATELY and contact Confined Space Entry Supervisor. (Campus Safety Coordinator).

YES

Are acceptable conditions met including site safeguards? NO. STOP IMMEDIATELY and eliminate hazards.

YES

Entry can commence according to Confined Space Entry Procedures.

PART 2: EVALUATION FORM (To be completed prior to entry for all confined spaces)

Entry Date: ____________________________  Entry Time: __________________
Person Completing Evaluation: ________________________________________
Location of Confined Space Entry: ______________________________________
Reason for Entering Confined Space: ______________________________________

POTENTIAL PHYSICAL HAZARDS

<table>
<thead>
<tr>
<th>Electric</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface Water</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

| Flammable/Combustible Materials | Yes | No |
| Unusual Slip/Fall Hazards | Yes | No |

Has potential physical hazard been controlled and/or eliminated? NO! STOP WORK. Contact Confined Space Supervisor. (Campus Safety Coordinator).

YES

Continue with form.
Page Two
Part 2 (Con’t)

**POTENTIAL ATMOSPHERIC HAZARDS**

Equipment Calibration:

<table>
<thead>
<tr>
<th>Type and S/N</th>
<th>Date</th>
<th>Time</th>
<th>Calibrated by</th>
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<tr>
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</tbody>
</table>

Initial Atmospheric Testing:

Location: _________________________________

By: _______________________________

Date ____________

<table>
<thead>
<tr>
<th>Time</th>
<th>% Oxygen (19.5-23.5%)</th>
<th>% LFL (&lt;10% LFL)</th>
<th>% Carbon Monoxide (PEL = 50 PPM)</th>
<th>% Hydrogen Sulfide (TLV = 10 PPM)</th>
<th>Other (PEL = ____ PPM)</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

Is the above testing within proper limits?  

NO! STOP WORK IMMEDIATELY! Contact Confined Space Supervisor. (Campus Safety Coordinator)

YES

Continue following form.

**Personal Protection/Safety Equipment Needed**

<table>
<thead>
<tr>
<th>Special Eye Protection</th>
<th>Yes</th>
<th>No</th>
<th>Hard Hat</th>
<th>Yes</th>
<th>No</th>
<th>Lighting</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ventilation Equipment</td>
<td>Yes</td>
<td>No</td>
<td>________</td>
<td>Yes</td>
<td>No</td>
<td>________</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Barricades</td>
<td>Yes</td>
<td>No</td>
<td>________</td>
<td>Yes</td>
<td>No</td>
<td>________</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Hearing Protection</td>
<td>Yes</td>
<td>No</td>
<td>________</td>
<td>Yes</td>
<td>No</td>
<td>________</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Mandatory Listing:

Communications (Radio) Yes

Rescue Equipment Yes

**Confined Space Preparation**

<table>
<thead>
<tr>
<th>Atmosphere to be tested:</th>
<th>Continuously</th>
<th>Periodically, every ________</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forced Ventilation to be used:</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Are all energy sources locked and tagged out?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Is pit drained (No standing water)?</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Page Three
Part 3: Pre-Entry Briefing

Name(s) of those entering confined space: ______________________________     ______________________________
Name of Attendant ___________________________________________________
Name of Entry Supervisor __________________________________________
Have ALL those listed above been adequately trained certified?    NO!  Stop work and contact Confined Space and
Yes
Supervisor.  (Campus Safety Coordinator).

Has means of emergency response/rescue been established and explained in detail? Yes (Mandatory) No
Describe: _____________________________________________________________________________________________
Name: ___________________________________________  Phone Number: _____________________________________
Emergency communications to whom and on what channel?
Whom: _________________________________     Radio Communications Channel: _______________________________
Describe any hazards that may or have the potential of existing?
1. ________________________________________________________________________________________________
2. ________________________________________________________________________________________________
3. ________________________________________________________________________________________________
4. ________________________________________________________________________________________________
5. ________________________________________________________________________________________________

Part 4: Entry Permit:

Entry Authorized by:
Name: ________________________________ Title  _________________________________________
Signature: _______________________________ Date ________________  Time: ____________
Comments: __________________________________________________________________________________________
____________________________________________________________________________________________________

Entrants:
Name: ________________________________ Time In: _____ Time Out: ____ Time In: _____ Time Out: ____
Name: ________________________________ Time In: _____ Time Out: ____ Time In: _____ Time Out: ____
Name: ________________________________ Time In: _____ Time Out: ____ Time In: _____ Time Out: ____
Name: ________________________________ Time In: _____ Time Out: ____ Time In: _____ Time Out: ____

Attendant:
Name: __________________________________  Name: ______________________________

Supervisor:
Name: __________________________________

Date of Permit:   ___________
Duration of Permit: _________ Hours

Signature: _______________________________________ Phone Number: ____________________________________

Page Four
## On-Going Atmospheric Testing:

<table>
<thead>
<tr>
<th>Time</th>
<th>% Oxygen (19.5-23.5%)</th>
<th>% LFL (&lt;10% LFL)</th>
<th>% Carbon Monoxide (PEL = 50 PPM)</th>
<th>% Hydrogen Sulfide (TLV = 10 PPM)</th>
<th>Other (PEL = ___ PPM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>__________</td>
<td>__________</td>
<td>__________</td>
<td>__________</td>
<td>__________</td>
<td>__________</td>
</tr>
<tr>
<td>__________</td>
<td>__________</td>
<td>__________</td>
<td>__________</td>
<td>__________</td>
<td>__________</td>
</tr>
<tr>
<td>__________</td>
<td>__________</td>
<td>__________</td>
<td>__________</td>
<td>__________</td>
<td>__________</td>
</tr>
<tr>
<td>__________</td>
<td>__________</td>
<td>__________</td>
<td>__________</td>
<td>__________</td>
<td>__________</td>
</tr>
</tbody>
</table>

Is the above testing within proper limits?  **NO! STOP WORK IMMEDIATELY!**  Contact Confined Space Supervisor.

---

**Yes**

Continue entry.

---

### Permit Cancellation:

Signature ____________________________  Date: ____________________

Reason for Cancellation:

- Work Completed
- or
- Prohibited Condition:

---

### Part 6: Post Entry Evaluation:

Describe any problems encountered during the entry:

_____________________________________________________________________________________________________
|                                                                                                               |
|                                                                                                               |
|                                                                                                               |

---

PERMIT MUST BE SENT TO THE SUPERVISOR OF SAFETY AND SECURITY UPON COMPLETION.

THE CAMPUS POLICE DEPARTMENT AT EXT. 2525 IS TO BE CONTACTED IMMEDIATELY IF ANY PROBLEMS OCCUR.
Appendix B

Confined Space Grouping by Hazards

On August 16, 1996 hazard assessment for the confined space areas were conducted throughout campus and Bolton Field. The following are the results of this survey:

Group # 1.  Potential Atmospheric and Electrical Hazards.

1. All Communication Tunnels.  (X 3).
2. All Communication Pits.  (X 4).
3. All Water Meter Pits.  (X 3).
4. Electrical Pit - East side of Nestor Hall (Sump Pump).

Group # 2.  Potential Atmospheric

1. Service pit - South of Nestor Hall.
2. Service pit - Northwest corner of Academic B.
3. All Pipe chases behind restrooms in Eibling Hall (all floors).
4. All Pipe chases in Center of Technology and Learning (all floors).

Group # 3.  No Entry Permitted by Columbus State Employees.

1. Oil/Water Interceptor Pit in Automotive Lab.
2. Electrical Vaults:
   a. Southwest corner of Eibling Hall.
   b. East end of Columbus Hall.
   c. Southeast side of Union Hall.
3. EB 02 Mechanical Room Waste Water Sump
4. EB 02 Mechanical Storm Water Sump
5. TL Sump Pump Areas (x2)
Appendix C

Confined Space Testing Results August 21, 2003

On August 21, 2003 atmospheric monitoring of the confined spaces were again conducted throughout main campus and Bolton Field. Testing equipment used during this process was the AIM LOGIC 501 Gas Detection Device. Based upon the results of this testing, it has been determined all levels of atmospheric conditions are within acceptable levels. (Note: Limits for oxygen is to be between 19.5-23.5%. Additionally, no environmental controls were used during the testing procedure.)

The following results were obtained during this test:

<table>
<thead>
<tr>
<th>Test Location</th>
<th>Oxygen</th>
<th>LFL</th>
<th>Toxic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tunnel between Aquinas and Franklin Hall</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquinas Beginning</td>
<td>20.2%</td>
<td>-0-</td>
<td>-0-</td>
</tr>
<tr>
<td>1/4 through</td>
<td>20.2%</td>
<td>-0-</td>
<td>-0-</td>
</tr>
<tr>
<td>1/2 way</td>
<td>20.2%</td>
<td>-0-</td>
<td>-0-</td>
</tr>
<tr>
<td>Franklin End</td>
<td>20.1%</td>
<td>-0-</td>
<td>-0-</td>
</tr>
<tr>
<td>Tunnel between Aquinas and Rhodes Halls</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquinas beginning</td>
<td>20.5%</td>
<td>-0-</td>
<td>-0-</td>
</tr>
<tr>
<td>Rhodes end</td>
<td>20.4%</td>
<td>-0-</td>
<td>-0-</td>
</tr>
<tr>
<td>Tunnel beginning at Eibling passing through Madison continuing to Rhodes Hall</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eibling Hall beginning</td>
<td>20.5%</td>
<td>-0-</td>
<td>-0-</td>
</tr>
<tr>
<td>Madison Hall</td>
<td>20.7%</td>
<td>-0-</td>
<td>-0-</td>
</tr>
<tr>
<td>Rhodes Hall</td>
<td>20.7%</td>
<td>-0-</td>
<td>-0-</td>
</tr>
<tr>
<td>Location</td>
<td>Entering Manhole</td>
<td>Bottom of Pit (East)</td>
<td>Bottom of Pit (West)</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>------------------</td>
<td>----------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Communications Pit - Delaware Hall Ramp</td>
<td>20.6%</td>
<td>-0-</td>
<td>-0-</td>
</tr>
<tr>
<td>Communications Pit - Grass Area West of Columbus Hall</td>
<td>20.5%</td>
<td>-0-</td>
<td>-0-</td>
</tr>
<tr>
<td>Communication Pit - Center Teardrop Area</td>
<td>20.6%</td>
<td>-0-</td>
<td>-0-</td>
</tr>
<tr>
<td>Communication Pit - Nestor Hall Archway</td>
<td>20.8%</td>
<td>-0-</td>
<td>-0-</td>
</tr>
<tr>
<td>Water Meter Pit - West of Madison Hall</td>
<td>20.9%</td>
<td>-0-</td>
<td>-0-</td>
</tr>
<tr>
<td>Water Meter Pit - Southwest corner of 1-E Lot</td>
<td>20.5%</td>
<td>-0-</td>
<td>-0-</td>
</tr>
<tr>
<td>Water Meter Pit - Bolton Field</td>
<td>20.1%</td>
<td>-0-</td>
<td>-0-</td>
</tr>
</tbody>
</table>
Electrical Pit - East of Nestor Hall

<table>
<thead>
<tr>
<th>Location</th>
<th>Entering Manhole</th>
<th>Bottom of Pit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entering Manhole</td>
<td>20.9%</td>
<td>-0-</td>
</tr>
<tr>
<td>Bottom of Pit</td>
<td>20.8%</td>
<td>-0-</td>
</tr>
</tbody>
</table>

Service Pit - Between Nestor and Madison Halls

<table>
<thead>
<tr>
<th>Location</th>
<th>Entering Manhole</th>
<th>Bottom of Pit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entering Manhole</td>
<td>20.8%</td>
<td>-0-</td>
</tr>
<tr>
<td>Bottom of Pit</td>
<td>20.6%</td>
<td>-0-</td>
</tr>
</tbody>
</table>

Service Pit - Northwest Corner of Academic B

<table>
<thead>
<tr>
<th>Location</th>
<th>Entering Manhole</th>
<th>Bottom of Pit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entering Manhole</td>
<td>20.9%</td>
<td>-0-</td>
</tr>
<tr>
<td>Bottom of Pit</td>
<td>20.6%</td>
<td>-0-</td>
</tr>
</tbody>
</table>

Pipe Chase behind restrooms in Eibling Hall

<table>
<thead>
<tr>
<th>Location</th>
<th>Entering Space</th>
<th>Mid-way</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground Floor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entering Space</td>
<td>20.9%</td>
<td>-0-</td>
</tr>
<tr>
<td>Mid-way</td>
<td>20.9%</td>
<td>-0-</td>
</tr>
<tr>
<td>First Floor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entering Space</td>
<td>20.9%</td>
<td>-0-</td>
</tr>
<tr>
<td>Mid-way</td>
<td>20.5%</td>
<td>-0-</td>
</tr>
<tr>
<td>Second Floor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entering Space</td>
<td>20.8%</td>
<td>-0-</td>
</tr>
<tr>
<td>Mid-way</td>
<td>20.7%</td>
<td>-0-</td>
</tr>
</tbody>
</table>
Third Floor

Entering Space 20.8% -0- -0-
Mid-way 20.5% -0- -0-

Forth Floor

Entering Space 20.7% -0- -0-
Mid-way 20.5% -0- -0-

Atmospheric survey does not include the following areas as these areas are not to be accessed by any employee at any time:

1. Oil/Water Inceptor - Delaware Hall Automotive Lab
2. Electrical Pits:
   a. Southwest corner of Eibling Hall
   b. East end of Columbus Hall
   c. Southeast side of Union Hall
   d. Ground Floor Center for Technology and Learning. (Sump Area x2)
   e. EB 02 Mechanical Room Waste Water Sump
   f. EB 02 Mechanical Storm Water Sump
   g. East end of Center for Technology and Learning
Appendix D

Confined Space Testing Results March 21, 2006

On March 21, 2006 atmospheric monitoring of the confined spaces were again conducted throughout main campus and Bolton Field. Testing equipment used during this process was the AIM LOGIC 501 Gas Detection Device. Based upon the results of this testing, it has been determined all levels of atmospheric conditions are within acceptable levels. (Note: Limits for oxygen is to be between 19.5-23.5%. Additionally, no environmental controls were used during the testing procedure.)

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<td></td>
</tr>
<tr>
<td>Aquinas Beginning</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Aquinas beginning</td>
<td>20.9%</td>
<td>-0-</td>
<td>-0-</td>
</tr>
<tr>
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<td>-0-</td>
</tr>
<tr>
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<td>20.8%</td>
<td>-0-</td>
<td>-0-</td>
</tr>
<tr>
<td>Rhodes Hall</td>
<td>20.8%</td>
<td>-0-</td>
<td>-0-</td>
</tr>
<tr>
<td>Pit Location</td>
<td>Entering Manhole</td>
<td>Bottom of Pit (East)</td>
<td>Bottom of Pit (West)</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>------------------</td>
<td>----------------------</td>
<td>----------------------</td>
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<tr>
<td>Water Meter Pit - Bolton Field</td>
<td>20.1%</td>
<td>-0%</td>
<td>-0%</td>
</tr>
</tbody>
</table>
### Electrical Pit - East of Nestor Hall

<table>
<thead>
<tr>
<th>Location</th>
<th>Entering Manhole</th>
<th>Bottom of Pit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entering Manhole</td>
<td>20.9%</td>
<td>-0-</td>
</tr>
<tr>
<td>Bottom of Pit</td>
<td>20.8%</td>
<td>-0-</td>
</tr>
</tbody>
</table>

### Service Pit - Between Nestor and Madison Halls

<table>
<thead>
<tr>
<th>Location</th>
<th>Entering Manhole</th>
<th>Bottom of Pit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entering Manhole</td>
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</tr>
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<td>-0-</td>
</tr>
</tbody>
</table>

### Service Pit - Northwest Corner of Academic B

<table>
<thead>
<tr>
<th>Location</th>
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</tr>
</thead>
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</tr>
<tr>
<td>Bottom of Pit</td>
<td>20.6%</td>
<td>-0-</td>
</tr>
</tbody>
</table>

### Pipe Chase behind restrooms in Eibling Hall

#### Ground Floor

<table>
<thead>
<tr>
<th>Location</th>
<th>Entering Space</th>
<th>Mid-way</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entering Space</td>
<td>20.9%</td>
<td>-0-</td>
</tr>
<tr>
<td>Mid-way</td>
<td>20.9%</td>
<td>-0-</td>
</tr>
</tbody>
</table>

#### First Floor

<table>
<thead>
<tr>
<th>Location</th>
<th>Entering Space</th>
<th>Mid-way</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entering Space</td>
<td>20.9%</td>
<td>-0-</td>
</tr>
<tr>
<td>Mid-way</td>
<td>20.5%</td>
<td>-0-</td>
</tr>
</tbody>
</table>

#### Second Floor

<table>
<thead>
<tr>
<th>Location</th>
<th>Entering Space</th>
<th>Mid-way</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entering Space</td>
<td>20.8%</td>
<td>-0-</td>
</tr>
<tr>
<td>Mid-way</td>
<td>20.7%</td>
<td>-0-</td>
</tr>
</tbody>
</table>
Third Floor

<table>
<thead>
<tr>
<th></th>
<th>Entering Space</th>
<th>Mid-way</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20.8%</td>
<td>-0-</td>
</tr>
<tr>
<td></td>
<td>20.5%</td>
<td>-0-</td>
</tr>
</tbody>
</table>

Forth Floor

<table>
<thead>
<tr>
<th></th>
<th>Entering Space</th>
<th>Mid-way</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20.7%</td>
<td>-0-</td>
</tr>
<tr>
<td></td>
<td>20.5%</td>
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</tr>
</tbody>
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4. Electrical Pits:
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   b. East end of Columbus Hall
   c. Southeast side of Union Hall
   d. Ground Floor Center for Technology and Learning. (Sump Area x2)
   e. EB 02 Mechanical Room Waste Water Sump
   f. EB 02 Mechanical Storm Water Sump
   g. East end of Center for Technology and Learning

Note: Subsequent testing for additional years is kept on file in the Department of Public Safety.