# Confined Space Entry Plan

# Chapter 296-809 WAC


**Columbia Basin College**
**Environmental Safety & Health**
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**Revised 6/2019**

**CBC CONFINED SPACE ENTRY PLAN**

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**COLUMBIA BASIN COLLEGE**
**CONFINED SPACE ENTRY PLAN**

## I. CONFINED SPACE ENTRY PLAN OVERVIEW

Columbia Basin College ("CBC" or the "College") is committed to providing a safe and healthy workplace free from recognized hazards. Such hazards may exist for employees entering a confined space to perform inspection, repair, maintenance, or other work where they may encounter hazards ranging from toxic gases, corrosive chemicals and flammable solvents, to machinery that starts unexpectedly. As such, this Confined Space Entry Plan (the "Plan") is written to ensure affected employees know how to evaluate the confined space for hazards, establish appropriate procedures that ensure employee/entrant safety, and to prevent injuries to those entering and working in confined spaces at CBC. This Plan is written to comply with the requirements of Chapter 206-809 WAC.

## II. DEFINITIONS

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

**Attendant:** An individual stationed outside the permit space who monitors the authorized entrants and who performs all attendants' duties assigned in the permit space plan.

**Blanking or Blinding**: The absolute closure of a pipe, line, or duct by the 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 meets the following criteria:

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

**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 capture of a person by a liquid or finely divided (flowable) solid substance that can be inhaled 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.

**Entrant:** Employee who is authorized to enter a permit space.

**Entry:** Action by which a person passes through an opening into a permit-required confined space and includes work activities in that space. Entry occurs as soon as any part of the entrant's body breaks the plane of the opening into the space.

**Entry Permit:** The written or printed document provided by CBC allowing and controlling entry into a permit space.

**Entry Supervisor:** The person (such as the supervisor, foreman, or crew chief) responsible for:

- Determining if acceptable entry conditions are present at a permit space where entry is planned;
- Authorizing entry and overseeing entry operations; and
- Terminating entry as required by this section.

**Hazardous Atmosphere:** An atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue, injury, or acute illness from one or more of the following:

- Flammable gas, vapor, or mist in excess of 10 percent of its lower explosive limit (LEL);
- Airborne combustible dust at a concentration that meets or exceeds its LEL;
- Atmospheric oxygen concentration below 19.5 percent or above 23.5 percent; and
- Atmospheric concentration of any substance for which may exceed a permissible exposure limit.

**Immediately Dangerous to Life or Health (IDLH):** Any condition that poses an immediately or delayed threat to life or what would cause irreversible adverse health effects or that would interfere with an individual's ability to escape unaided from a permit space.

**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, including hydraulic or electric; or blocking or disconnecting all mechanical linkages.

**Non-Permit Confined Space:** A confined space that does not contain actual hazards or potential hazards capable of causing death or serious physical harm.

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

- Contains or has the potential to contain a hazardous atmosphere;
- Contains a material that has the potential for engulfing an entrant;
- 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; and
- Contains any other recognized serious safety or health hazard.

**Retrieval System:** Equipment used for non-entry rescue of persons from a permit space, such as a retrieval line, full-body harness, wristlets, and a lifting device or anchor.

## III. RESPONSIBILITIES

Various departments and employees have specific responsibilities under this Plan. The Confined Space Entry Plan establishes these responsibilities, contains guidelines to assist in fulfilling the responsibilities, and most importantly, provides a means in which CBC employees will be better informed and protected from hazards during the performance of their duties. (See Appendix 1 – Confined Space Entry Plan Responsibility Matrix)

### A. Environmental Safety & Health (ES&H) Committee

The ES&H Committee (the "Committee") is responsible for establishing and maintaining a Confined Space Entry Plan that provides maximum employee protection and complies with state industrial safety and health regulations. The Committee will also perform periodic reviews to ensure compliance with the Plan as part of its routine and special inspections.

### B. Supervisors

Supervisors (any authorized entry supervisor) are responsible for implementing and ensuring overall employee compliance with the Confined Space Entry Plan. Additionally, supervisors must ensure appropriate safety equipment is available to employees performing confined space work, communicate with contractors about confined space work and known hazards, and periodically review the Plan with the ES&H Committee to ensure its effectiveness.

### C. Employees

Employees (any authorized entrant or attendant) entering a confined space are required to be trained on confined space hazards and proper procedures, follow proper entry procedures to perform assigned work, and use appropriate personal protective equipment when entering a confined space.

### D. Human Resources (HR) ES&H Consultant

The HR ES&H Consultant is responsible for working with departments to fully implement the Plan for the confined spaces they manage. Additionally, the HR ES&H Consultant will assist in the evaluation and identification of confined spaces on campus, develop and implement training on proper confined space entry procedures, and maintain applicable training records for employees.

## IV. CONFINED SPACE ENTRY PLAN PROCEDURES

### A. Identification of Confined Spaces

A list of all identified confined spaces is maintained in the Human Resources Office and Plant Operations Office. Since this list is subject to continual updates, inclusion alone should not be relied upon to identify whether a location qualifies as a confined space. Potential entrants are trained to always review the characteristics of a potential confined space. Anyone suspecting that a space meets the definition of a Permit-Required Confined Space may not enter the space until it has been evaluated. (See Appendix 2 – Confined Space Evaluation Form)

#### 1. Non-Permit Confined Space

A space that meets the following criteria:

- Is large enough and so configured that an employee can fully enter and perform assigned work;
- Has limited or restricted means for entry or exit (for example, tanks, vessels, storage bins, vaults, pits, and excavations are spaces that may have limited means of entry);
- Is not designed for continuous employee occupancy; and
- Does not contain actual hazards or potential hazards capable of causing death or serious physical harm.

#### 2. Permit-Required Confined Space

A space that meets all of the criteria for a confined space, and also has one or more of the following characteristics:

- Contains or has the potential to contain a hazardous atmosphere;
- Contains a material that has the potential for engulfing an entrant;
- 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; and
- Contains any other recognized serious safety or health hazard.

## B. Control of Confined Space Entry

Confined spaces that do not contain known hazards have reduced requirements for entry. Spaces classified as Non-Permit do not involve hazards that are considered serious. Non-Permit spaces do not require a written permit or attendant for entry. Non-Permit spaces also do not require any special testing or training.

All Permit-Required Confined Spaces at CBC must be labeled with appropriate signage as designated below. Departments managing the spaces are responsible for posting these signs. If a department cannot label a space, it must consult with the HR ES&H Consultant about an alternative method of preventing entry into the space.



## C. Hazards and Safe Work Practices

The following kinds of hazards may potentially exist in confined spaces on campus. Each hazard is followed by a description of recommended safe work practice(s) for eliminating or appropriately controlling the hazard.

### 1. Atmospheric Hazards

Atmospheric hazards are among the most common hazards posed by confined spaces. The atmosphere inside a confined space is considered hazardous if it contains dangerous concentrations of certain contaminants, is deficient in or overly enriched with oxygen, or contains sufficient flammable vapors or gas to be potentially explosive.

Safe Work Practice: Confined spaces must always be tested prior to entry to determine whether an oxygen deficient, flammable, or toxic atmosphere exists. Acceptable atmospheric levels are:

- Oxygen 19.5 to 23.5%
- Flammability (% of Lower Explosive Limit) <10%
- Carbon Monoxide <35 ppm
- Hydrogen Sulfide <10 ppm

Atmospheric monitoring must be made with a calibrated alarming multiple gas monitor. Employees may only enter a confined space after initial testing indicates that no atmospheric hazards exist; continuous monitoring is required while a confined space is occupied. Workers must immediately leave the space if any of the gas monitor alarm set points are reached. Workers may not return into the space until forced ventilation has been completed and the gas detector indicates that it is safe to re-enter. In addition to the multi-gas meter, individuals entering into atmospheric hazard confined spaces must also wear a personal, direct reading, alarming oxygen meter calibrated to the same set points as above.

**2. Electrical Hazards**

Confined spaces may also present serious electrical shock or electrocution hazards from potentially defective cables, the presence of water (flooded vault) in contact with electrical wiring, or by accidental physical contact with charged cables or wire leads.

Safe Work Practice: The risks from electrical hazards depend upon the presence and condition of electrical sources and conduits inside the space, the physical configuration of access, and the activity or work to be conducted inside the confined space. Employees are cautioned to NOT ENTER THE SPACE if an electrical shock potential is identified.

Note: Underground Electrical Vaults may be entered without additional electrical hazard protections for "routine work" only. "Routine work" here refers to non-invasive, low hazard activities such as inspection, meter or dial reading, housekeeping, and other similar work. Entries into these kinds of locations for any purpose other than routine work may only occur under either a Permit-Required or Alternate Entry Procedure, using the appropriate entry permit, attendant, and rescue equipment.

**3. Engulfment Hazards**

Engulfment hazards are either active or potential conditions that could crush, suffocate, drown, or otherwise engulf and incapacitate an entrant. The most common examples of confined space engulfment hazards on campus are the presence of high water levels or the potential for flooding while working inside a confined space. Other less common engulfment hazards are possible from the shifting or collapse of surrounding soil or sand, and the release or falling of supplies or other materials stored inside a confined space.

Safe Work Practice: Before an entry is performed, confined spaces must be thoroughly visually inspected for potential engulfment hazards. Accumulated water must be pumped out of the space before entry is made. If there is a potential for flooding from an incoming feed pipe or valve, an appropriate lock-out/tag-out must be applied to prevent inadvertent filling.

**4. Accumulated Water Hazards**

Small amounts of water often accumulate in the base of many confined spaces, especially those located outdoors. When water accumulates in excess of dampness or minor wetting, it can create or mask other hazards. These include slippery walking surfaces, the obscuring of trip or fall hazards, and increasing the potential for electrical hazards.

Safe Work Practice: Prior to entry, accumulated water must be pumped down to ensure a clear and unobstructed view into the space, and visually confirmed as free from other recognizable hazards. Portable electrical lighting and other equipment for use inside a wet or damp confined space must be limited under most circumstances to self-contained battery operated devices, low voltage equipment, or protected by a functioning ground-fault circuit interrupter (GFCI).

**5. Entrant-Generated Hazards**

Certain maintenance and repair operations performed in confined spaces have the potential to generate their own hazards. Some examples include:

- The use of volatile cleaning, stripping, or coating chemicals that can pose toxicity, flammability, or oxygen displacement hazards;
- Introduction of flames and other ignition sources through welding or cutting work; and
- High potential exposures to silica and metal during sandblasting operations.

Safe Work Practice: Prior to making any confined space entry, the authorized entrant(s) and their supervisors must review the anticipated purpose of the entry and any planned work activities. Special attention must be given to evaluating and controlling hazards from in-space work activities, e.g., additional local exhaust or supply ventilation, changing chemical products to lower hazard materials, working remote, etc.

## D. Entry Permits

Most confined spaces on campus carry very low hazard potential, and generally may be entered safely as a non-permit confined space. However, for the small subset of higher hazard locations, Entry Permits must be completed prior to entry. Entry Permits are standardized written documents that help ensure appropriate precautions are taken prior to entry into higher hazard Permit-Required Confined Spaces. They require supervisor authorization before entry and must be posted continuously at the entry site for the duration of work.

There are two kinds of Entry Permits available, depending upon the type of space to be entered:

- **Permit-Required Confined Space Entry Permit** (Appendix 3); and
- **Alternate Entry Permit** (Appendix 4), which is used when the only potential hazard is atmospheric and it can be safely managed.

Regardless of type, Entry Permits must remain at the job site until entry work is completed. After use, permits must be returned to the applicable supervisor, and retained in department records for at least one year or at least 30 years if the permit includes air monitoring data.

## E. Entry Procedures

1. **Permit-Required Confined Space Entry Procedures** (Appendix 3)

**Step 1** **Organize and obtain required form and equipment as follows:**

- Identify space with date, time and reason for entry, entry point and communication.
- List Hazard Identification & Control.
- Provide Safety & Emergency Rescue Information.
- Record Atmospheric Monitoring.

**Step 2** **Issue/Use of the Permit must not deviate from the requirements of the permit, including the time required to complete the assignment.**

- Entry must not be longer than one shift.
- During entry, permits must be posted at or near the entry location or by equally effective means. It is the responsibility of the Entry Supervisor to ensure permits are posted.
    - In the event the entry supervisor must leave campus, duties can be transferred to another qualified and trained personnel.

**Step 3** **Upon conclusion of operations/cancellation of the Entry Permit, the authorized Entry Supervisor is responsible for terminating the entry and canceling the permit.**

- The Entry Supervisor is also required to terminate entry and cancel the permit when condition exists that is not acceptable by the permit.
- Entry must not exceed the expiration date and time posted on the Entry Permit.

**2. Alternate Entry Procedures (Appendix 4)**

Permit-Required spaces that have as their only hazard an actual or potential hazardous atmosphere may use alternate entry procedures as outlined below.

**Step 1** **Eliminate unsafe conditions before removing entrance covers**.

- After removing entrance covers, promptly guard the opening with a railing, temporary cover, or other temporary barrier to prevent accidental falls through the opening and protect entrants from objects falling into the space.
- Certify that pre-entry measures have been taken (such as safe removal of the cover and having protection needed to gather pre-entry data), with the date, location of the space, and signature of the person certifying.
- Make the pre-entry certification available to each entrant before entry.

**Step 2** **Before an employee enters the confined space, test the internal atmosphere with a calibrated, direct-reading instrument for all the following, in this order:**

- Oxygen content.
- Flammable gases and vapors.
- Potential toxic air contaminants.

**Step 3** **Provide entrants, or their authorized representatives, with an opportunity to observe the pre-entry and periodic testing.**

- Make sure the atmosphere within the space is not hazardous when entrants are present.

**Step 4** **Use continuous forced air ventilation, as follows:**

- Wait until the forced air ventilation has removed any hazardous atmosphere before allowing entrants into the space.
- Direct forced air ventilation toward the immediate areas where employees are, or will be, and continue ventilation until all employees that have left the space.
- Provide the air supply from a clean source and make sure it does not increase hazards in the space.

**Step 5** **Test the atmosphere within the space as needed to make sure hazards do not accumulate.**

**Step 6** **If a hazardous atmosphere is detected during entry, proceed as follows:**

- Evacuate employees from the space immediately.
- Evaluate the space to determine how the hazardous atmosphere developed.
- Implement measures to protect the employees from the hazardous atmosphere before continuing the entry operation.
- Verify the space is safe for entry before continuing the entry operation.

**Step 7** **Sign approved Alternate Entry Procedures and Permit form and give copy to Maintenance Program Coordinator. Post approved entry permit at entry site.**

- Remove entry permit when finished and return original to Maintenance Program Coordinator.

### F. Outside Contractors

Outside contractors must be informed of the following:

- Presence of a confined space that requires a permit for entry;
- Hazards of the space;
- CBC's experience with the space; and
- Precautions and procedures CBC has implemented for protecting employees in or around the space.

Contractors, vendors, and other visitors are responsible for their own safety and health program, including plans for any confined space entry work. Their program and plans must meet the requirements of this plan, at the minimum.

## V. RESCUE AND EMERGENCY SERVICES

Emergencies during a Permit-Required Confined Space Entry can have catastrophic consequences if entrants, attendants, and potential rescuers have not developed a plan of action in advance. When planning any entry, the availability of adequate rescue and emergency services must be ensured. Not all local fire and emergency resources where CBC facilities exist can provide effective responses to confined space emergencies. CBC departments must plan their entry and communicate with local fire department or rescue services prior to entry to determine available rescue resources and seek alternatives when local resources are insufficient. This information is to be documented on the permit.

Prior to entry, determine the methods, equipment, and personnel needed to effectively and safely extract entrants. Some conditions that may warrant having an on-site rescue resource during entry include:

- Entries into spaces where traditional retrieval equipment is not practical;
- Entries into spaces where the atmosphere cannot be made safe without the use of supplied air respiratory equipment;
- Spaces with openings not large enough to allow entry by personnel with typical rescue gear; and
- Entries into spaces fully or partially submerged in water requiring special equipment for access.

### A. Evacuation and Rescue Procedures

- Attendant will notify all Entrants to evacuate.
- Attendant will contact the local fire department or rescue services (if applicable) by dialing 911. Tell them it is a “Confined Space Emergency” and give detailed information.
- Attendant will execute any "non-entry" rescue procedures appropriate to the situation.
- Rescue involving confined space entry will not be performed by CBC employees.
- The Entry Supervisor will immediately cancel the Entry Permit.

### B. Supervisors and Attendant Responsibilities

- Provide the rescue service with information on the work being done.
- Provide the Entry Permit to rescue service personnel.
- Provide the rescue service with any observations or information about the emergency.
- Keep unauthorized personnel out of the area.
- Forward information on any chemicals involved in exposures to the emergency responders or the emergency department treating exposed victims.

### C. Accident/Incident Reporting

For all accidents/incidents, the involved person or supervisor completes and submits the CBC Accident Report form within 24 hours (8 hours if serious injury or hospitalization) to the Campus Security Office and HR ES&H Consultant.

## VI. TRAINING

Employees working with Permit-Required Confined Spaces must receive training before they are first assigned to duties in Permit Spaces. The HR ES&H Consultant will provide training to employees working as attendants, authorized entrants, and entry supervisors for safe performance of assigned duties in confined space areas. Trainees must demonstrate proficiency of the tasks required before the training is complete. Training is not required of employees entering Non-Permit areas; however, online Confined Space Entry Awareness training is available from the HR ES&H Consultant to make employees aware of potential hazards.

### A. Frequency

Affected employees must receive training before the first assignment of work in Permit-Required Confined Spaces. Employees will receive periodic refresher training and additional training anytime there is a change in assignment, operation, or procedures.

### B. Documentation

All training will be documented with the date the training was completed and a listing of trainees**.** (See Appendix 5 – Training Record for Confined Space Entry Plan)

## VII. PERIODIC REVIEWS

### A. Post-Entry Review

The ES&H Committee and/or the department will review specific entry operations under the following circumstances:

- Unauthorized entry;
- Detection of hazards not addressed on a permit;
- A condition prohibited by the permit occurs during entry;
- An injury or near-miss occurs during entry;
- There is a change in the use or configuration of a Permit Space; or
- There are complaints of the effectiveness of entry procedures.

Subsequent entries will not be authorized until the review is completed with all necessary revisions made.

### B. Plan Review

The Confined Space Entry Plan must be reviewed when there is any reason to believe the procedures may not protect employees, and it must be revised before allowing subsequent entries to Permit-Required or Alternate Entries.

Permits must be reviewed within one year of the date of cancellation of the permit to evaluate the plan and the protection provided to employees entering confined spaces. The ES&H Committee and the department may perform a single annual review meeting covering all entries performed during a 12-month period. The Plan must be updated as necessary.

## VIII. APPENDICES

**COLUMBIA BASIN COLLEGE**
**CONFINED SPACE ENTRY PLAN RESPONSIBILITY MATRIX**

| Responsibility | Departments | ES&H Committee | HR ES&H Consultant | Employee |
|---|---|---|---|---|
| Confined Space Entry Plan | Comply with the provisions of the plan and WAC/WISHA requirements. | Develop and implement a Confined Space Entry Plan for the impacted college community. Comply with the provisions of the plan and WAC/WISHA requirements. Serve as custodian of the written plan. | Comply with the provisions of the plan and WAC/WISHA requirements. | Understand and comply with the provisions of the plan and the protection afforded by WISHA. |
| Confined Space Entry Plan Procedures | Ensure that standard precautions are understood and executed by authorized employees in the evaluation of Confined Space Entry. | Promote practices, procedures, and methods for Confined Space Entry evaluation that comply with the plan. | Advise campus community in proper confined space entry evaluation. | Notify supervisor and ES&H if job tasks and responsibilities are in area you believe is a Confined Space and has not already been identified. |
| Training | Ensure employees receive training in proper tools, equipment and procedures. | Provide training recommendations to the HR ES&H Consultant. | Develop and implement training on proper Confined Space procedures. Maintain training records for employees. | Participate in all required training. |
| Periodic Reviews | Evaluate reported hazards and suggest improvements in processes to reduce preventable hazards. | Conduct an annual review of the plan to ensure it is up to date with any changes in WAC requirements. | Provide necessary support to departments and ES&H Committee in conducting periodic reviews. | Regularly report hazards and suggest improvements in processes to reduce preventable hazards. |

**COLUMBIA BASIN COLLEGE**
**CONFINED SPACE EVALUATION FORM**

| **SECTION 1: CONFINED SPACE IDENTIFICATION AND LOCATION** | | | |
|---|---|---|---|
| Location of space (e.g., site, area, room): | | | |
| Description of space (physical characteristics, configuration, number of entry points, etc.): | | | |
| Person in charge of space or responsible individual: | | | |
| **Is the space a confined space?** ☐ **Yes** ☐ **No**<br><br>(*See questions 1-3 on the right. If the answers to questions 1, 2, and 3 are "YES," then the space is a confined space. If YES, complete Section 2. If NO, consult other applicable OSHA standards and guidelines.*) | **1. Can the space be entered?** | ☐ **Yes** | ☐ **No** |
| | **2. Does the space have limited or restricted entry/exit?** | ☐ **Yes** | ☐ **No** |
| | **3. Is the space not designed for continuous human occupancy?** | ☐ **Yes** | ☐ **No** |
| **SECTION 2: PERMIT-REQUIRED CONFINED SPACE DETERMINATION** | | | |
| **Is the confined space a Permit-Required Confined Space (PRCS)?** ☐ **Yes** ☐ **No**<br><br>(*See questions 1-3 on the right. If the answers to questions 1, 2, 3, or 4 are "YES," then the space is a PRCS. Review Section 3: Confined Space Decision Flowchart to see what type of permit is required.* | **1. Are there atmospheric hazard(s) present?** | ☐ **Yes** | ☐ **No** |
| | **2. Is there the potential for engulfment?** | ☐ **Yes** | ☐ **No** |
| | **3. Are there internal configuration hazards?** | ☐ **Yes** | ☐ **No** |
| | **4. Are there other serious safety or health hazards?** | ☐ **Yes** | ☐ **No** |

**Will the PRCS be entered by any personnel?** ☐ **Yes** ☐ **No**

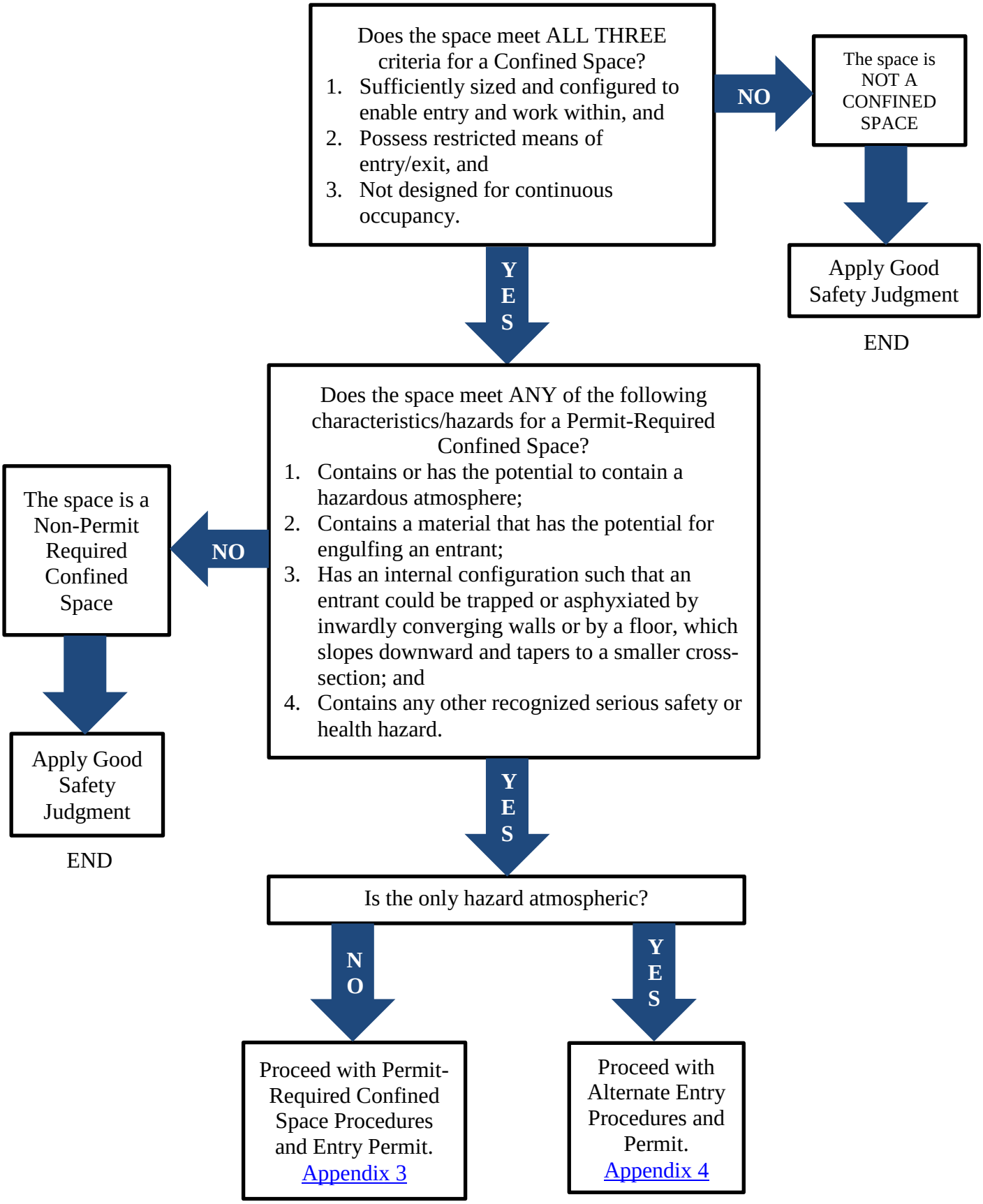
**If NO, what measures have been taken to prevent entry?**

☐ Posted danger signs
☐ Blocked, barricaded, or locked entrance
☐ Informed exposed employees

**If YES, complete a PRCS Entry Procedures and Permit form or Alternate Entry Procedures and Permit form for all entries.**

| | | |
|---|---|---|
| **Date of evaluation:**<br>**Evaluation completed by:** | **Confined space name or number:** | **Type of Permit:**<br><br>☐ **PRCS**<br>☐ **Alternate Entry** |

## SECTION 3: CONFINED SPACE DECISION FLOWCHART



**COLUMBIA BASIN COLLEGE**
**PERMIT-REQUIRED CONFINED SPACE ENTRY PROCEDURES AND PERMIT**

**Permit valid for one shift only. Permit must be posted near entry point. Keep permit on file for one year or 30 years if it includes air monitoring data.**

**Date: ____/ ____/____ Entry Time: _____ AM _____PM Permit Expiration Time: _____AM _____ PM**

**Confined Space Name/ID:_____ Location:_____ Reason for Entry:_____**

**Entry Point:** ☐ Top ☐ Bottom ☐ Side

**Communication Used:** ☐ Voice ☐ Hand Signal ☐ Radio

☐ Other (Explain): _____

## HAZARD IDENTIFICATION & CONTROL

*Identify potential or known hazards for the confined space. For "OTHER" explain in notes.*

***Atmospheric Hazards*** present or potentially present. ☐ **YES** ☐ **NO**

**Check all that apply:**

☐ Oxygen Deficient <19.5% ☐ Flammable Gases, Vapors when ≥ 10% LFL ☐ Airborne Combustible Dust

☐ Oxygen Enriched ≥ 23.5% ☐ Toxic Gases, Vapors when ≥ PEL ☐ Other _____

**Control:**

☐ Test before entry ☐ Continual monitoring ☐ Natural ventilation ☐ Force air ventilation

☐ Other _____

***Engulfment & Entrapment Hazards*** present or potentially present. ☐ **YES** ☐ **NO**

**Check all that apply:**

☐ Flowing material ☐ Hang up, bridged, crusted material ☐ Inwardly converging walls

☐ Sloping Floors ☐ Other _____

**Control:**

☐ LO/TO ☐ Fill and/or emptying equipment ☐ Lock gates ☐ Block spouts/pipes ☐ Drain/empty

☐ Lifeline use

| **Potential / Known Hazard** | **YES** | **NO** | **Type / Control Used** | **Potential / Known Hazard** | **YES** | **NO** | **Type / Control Used** |
|---|---|---|---|---|---|---|---|
| Egress hazards | ☐ | ☐ | | Respiratory hazards | ☐ | ☐ | |
| Insufficient lighting hazard | ☐ | ☐ | | Skin hazards | ☐ | ☐ | |
| Chemical hazards | ☐ | ☐ | | Heat/Cold hazards | ☐ | ☐ | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Mechanical hazards (unguarded items) | ☐ | ☐ | | Snake, Rodent, Animal and Insect hazards | ☐ | ☐ | |
| Electrical hazards | ☐ | ☐ | | Vehicle hazards | ☐ | ☐ | |
| Fall hazards | ☐ | ☐ | | Noise hazards | ☐ | ☐ | |

**Other Hazards & Control:**

## SAFETY & EMERGENCY RESCUE INFORMATION

| | YES | NO | N/A | | YES | NO | N/A |
|---|---|---|---|---|---|---|---|
| Entry area secure | ☐ | ☐ | ☐ | Safety harness & retrieval line | ☐ | ☐ | ☐ |
| LOTO/de-energization & isolation | ☐ | ☐ | ☐ | PPE inspection completed before use | ☐ | ☐ | ☐ |
| Lighting (rated for type of space) | ☐ | ☐ | ☐ | Mechanical retrieval device | ☐ | ☐ | ☐ |
| Hot work permit | ☐ | ☐ | ☐ | Respirator | ☐ | ☐ | ☐ |
| GFCI equipment | ☐ | ☐ | ☐ | Hearing Protection | ☐ | ☐ | ☐ |
| Non-sparking tools | ☐ | ☐ | ☐ | Other PPE_____ | ☐ | ☐ | ☐ |

*Entrants should always wear hard hats, work books, and eyewear.*

Rescue equipment available? ☐ **YES** ☐ **NO** Type: _____

Attendant used? ☐ **YES** ☐ **NO** Name(s): _____

CPR trained person available? ☐ **YES** ☐ **NO** Name(s): _____

## ATMOSPHERIC MONITORING (*Acceptable atmospheric entry conditions must meet the limits stated below)*

Monitor calibrated? ☐ **YES** ☐ **NO** Date calibrated: ____/ ____/____

Monitor functioning correctly? ☐ **YES** ☐ **NO**

Bump test conducted against known concentration of gases, your meter is set up to check? ☐ **YES** ☐ **NO**

**Pre-entry / Initial Air Monitor Readings**

| Time | O2 19.5 –23.5 | LFL <10% | CO ≤ 50 | H2S ≤10 ppm | PH3 ≤ 0.3 | NH3 ≤ 25 | Other | Signature |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |

**Periodic Air Monitor Readings –** *Test every ½ hour unless entrant wears meter continuously*

| Time | O2 | LFL | CO | H2S | PH3 | NH3 | Other | Signature |
|---|---|---|---|---|---|---|---|---|
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| | | | | | | | | |

**NOTES:**

*I have been trained for the confined space job duties assigned and agree with the conditions listed on the entry permit.*

Entrant(s): _____

***Print Name*** ***Signature*** ***Print Name*** ***Signature***

Attendant(s): _____

***Print Name*** ***Signature*** ***Print Name*** ***Signature***

***I certify all conditions and actions necessary for safe entry have been performed and the entry is authorized.***

***Entry Supervisor*** _____ ***Print Name*** _____

**Permit Cancellation Time:** _____AM PM

Structure returned to operating condition? ☐ **YES** ☐ **NO**

**Entry Supervisor Signature:** _____ **Date:** ____/ ____/____

*Ensure employee has received the appropriate training for the job & tasks and the training is documented.*

**COLUMBIA BASIN COLLEGE**
**ALTERNATE ENTRY PROCEDURES AND PERMIT**

| | |
|---|---|
| **Location of Area:** | |
| **Purpose of Entry:** | |
| **Date and Time In/Out:** | |

| **ALTERNATE ENTRY PROCEDURES** | | |
|---|---|---|
| **STEP** | | **ACTION** |
| **1** | ☐ | **Eliminate unsafe conditions before removing entrance covers.**<br>• After removing entrance covers, promptly guard the opening with a railing, temporary cover, or other temporary barrier to prevent accidental falls through the opening and protect entrants from objects falling into the space.<br>• Certify that pre-entry measures have been taken (such as safe removal of the cover and having protection needed to gather pre-entry data), with the date, location of the space, and signature of the person certifying.<br>• Make the pre-entry certification available to each entrant before entry. |
| **2** | ☐ | **Before an employee enters the confined space, test the internal atmosphere with a calibrated, direct-reading instrument for all the following, in this order:**<br>• Oxygen Content<br>• Flammable gases and vapors<br>• Potential toxic air contaminants |
| **3** | ☐ | **Provide entrants, or their authorized representatives, with an opportunity to observe the pre-entry and periodic testing.**<br>• Make sure the atmosphere within the space is not hazardous when entrants are present. |
| **4** | ☐ | **Use continuous forced air ventilation, as follows:**<br>• Wait until the forced air ventilation has removed any hazardous atmosphere before allowing entrants into the space.<br>• Direct forced air ventilation has removed any hazardous atmosphere before allowing entrants into the space.<br>• Provide the air supply from a clean source and make sure it does not increase hazards in the space. |
| **5** | ☐ | **Test the atmosphere within the space as needed to make sure hazards to not accumulate.** |
| **6** | ☐ | **If a hazardous atmosphere is detected during entry, proceed as follows:**<br>• Evacuate employees from the space immediately.<br>• Evaluate the space to determine how the hazardous atmosphere developed.<br>• Implement measures to protect the employees from the hazardous atmosphere before continuing the entry operation.<br>• Verify the space is safe for entry before continuing the entry operation. |

| | | |
|---|---|---|
| **7** | ☐ | **Sign approved alternate entry permit, give copy to Maintenance Program Coordinator and post approved permit at entry site. Remove when finished and return original to Maintenance Program Coordinator.** |

| |
|---|
| **I certify that the hazards have been eliminated from the Permit-Required Confined Space.** |
| **Print Name:** |
| **Entry Supervisor Signature:** |
| **Date and Time:** |
| **Cancellation of Permit Date and Time:** |

**APPENDIX 5**

**COLUMBIA BASIN COLLEGE**
**TRAINING RECORD FOR CONFINED SPACE ENTRY PLAN**

Note: Employees that are designated Entry Supervisors, Authorized Entrants, and Attendants will be provided additional training as outlined below and a copy of this record must be given to the HR ES&H Consultant to be placed in the employee's file.

ADDITIONAL TRAINING FOR EMPLOYEES AUTHORIZED FOR CONFINED SPACE ENTRY

Name: Department:

Campus Ext. /Number: Supervisor:

Training Conducted By: Date:

| TRAINING ITEMS | MARK "X" IF COMPLETED |
|---|---|
| Information on the location of the Washington Administrative Code (WAC 296-809) Confined Spaces. | ☐ |
| Location and availability of the written Confined Space Entry Plan. | ☐ |
| Location of all identified confined spaces on campus and how to request a confined space evaluation. | ☐ |
| Hazards that may potentially exist in confined spaces on campus and a description of recommended safe work practices for eliminating or appropriately controlling the hazard. | ☐ |
| Methods and observation techniques used to determine Permit-Required Confined Spaces. | ☐ |
| Permit-Required Confined Space Entry Procedures and Permit, as well as when an Alternate Procedure and Entry Permit is permissible. | ☐ |
| Rescue and Emergency Services to determine the methods, equipment, and personnel needed to effectively and safely extract entrants. | ☐ |
| Documented training for Entry Supervisors, Authorized Entrants, and Attendants for safe performance of assigned duties in confined space areas. | ☐ |

**Employee Signature:** **Date:**