



Operational Procedure		Page: 1 of 8
Doc No.: IS-OPS-P002	Original Date: 04/09/90	Developed By: Grant Boutin
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Operating Procedure IS-OPS-P002 Confined Space Entry

05-004

Origin: Under the *Occupational Health and Safety Act, R.S.O. 1990*, the *Confined Space Regulations 632/05* provide that if an employer’s workplace includes a confined space that workers may enter to perform work, the employer shall ensure that a written program for the confined space is developed and maintained with the above regulation before a worker enters the confined space.

Purpose: To ensure procedures are in place to protect Associates from the dangers associated with working in confined spaces.

Scope: This guideline must be followed anytime any Associate, contract employee, consultant or contractor engaged by the Town must enter or work in a confined space.

Definitions: confined space” means a fully or partially enclosed space,

- that is not both designed and constructed for continuous human occupancy, and
- in which atmospheric hazards may occur because of its construction, location or contents or because of work that is done in it;

“atmospheric hazards” means,

- the accumulation of flammable, combustible or explosive agents,
- an oxygen content in the atmosphere that is less than 19.5 per cent or more than 23 per cent by volume, or
- the accumulation of atmospheric contaminants, including gases, vapours, fumes, dusts or mists, that could,
 - (i) result in acute health effects that pose an immediate threat to life, or
 - (ii) interfere with a person’s ability to escape unaided from a confined space;



Operational Procedure		Page: 2 of 8
Doc No.: IS-OPS-P002	Original Date: 04/09/90	Developed By: Grant Boutin
Revision No.: 5	Revision Date: 03/24/10	Authorized By: Grant Boutin

Operating Procedure IS-OPS-P002 Confined Space Entry

PROCEDURE

General:

All workers who have to enter or be the attendant of a confined space entry shall have received training in Confined Space Entry Procedures to the operations level and be familiar with the Occupational Health and Safety Act, the Regulations for Industrial Establishments and Construction Projects, and any Corporate policies, procedures and guidelines. The attendant shall hold valid certification in First Aid/CPR.

Confined Space Entry Procedure

1. Preplan

- a) Refer to the appropriate hazard assessment. The assessment is to be reviewed by both the entrant and the attendant prior to any entry.
Hazard assessment is to be confirmed during completion of the Confined Space Entry Permit (CSEP).
- b) Are any specialized tools or equipment required?
- c) Determine what lighting levels exist and what may be required. If temporary lighting is required, it must be intrinsically safe (explosion proof).
- d) Confined Space Entry Permit is to be completed.
- e) Emergency / Rescue Team on site – See **Emergency Procedure** section of this guideline

2. Check equipment:

- a) Ensure that all gas monitoring equipment is calibrated as per the manufactures instructions and record on CSEP.
- b) A system of communication will be in place between the entrant, the attendant and Fort Erie Base Station and record on CSEP
- c) Check that all equipment to be used is in good repair and working order and record on CSEP.

3. Traffic control:

Town of Fort Erie		
C:\DOCUME~1\Bradnam\LOCALS~1\Temp\notes\FCBCEE\Confined Space SOP.doc	Last Review	03/25/10
	Next Review Scheduled	02/15/11



Operational Procedure		Page: 3 of 8
Doc No.: IS-OPS-P002	Original Date: 04/09/90	Developed By: Grant Boutin
Revision No.: 5	Revision Date: 03/24/10	Authorized By: Grant Boutin

Operating Procedure IS-OPS-P002 Confined Space Entry

If the entry is to be made where vehicular traffic is a hazard, the appropriate traffic control plan and set up must be initiated to facilitate work zone protection as per "Temporary Conditions Manual, Book 7".

4. Initial Testing

- a) Whenever possible an initial test read of the atmospheric conditions within the confined space shall be done prior to opening the cover and recorded on the Confined Space Entry Permit.
- b) If unsafe atmospheric hazards are detected take all reasonable caution to protect the onsite crew and contact immediate supervisor.

5. Open the confined space

- a) The opening of any confined space should be done with the correct tools

6. Secondary Testing

- a) Care should be taken performing this test to ensure that the entire work area and full depth of the space is tested, and that sufficient time be taken to allow the sensors to respond properly.
- b) ***Should either test show a hazardous atmosphere DO NOT enter the confined space – Contact supervisor immediately.***

7. Set Up means of escape/retrieval

- a) There must be a means of adequately retrieving an unconscious worker in the case of an emergency
- b) Full body harness attached to a lifeline is a mandatory requirement for the entrant.
- c) Retrieval hoist and wench inspected and noted on the CSEP
- d) The attendant shall hold valid certification in First Aid/CPR

8. Personal Protective Equipment (PPE)

Town of Fort Erie		
C:\DOCUME~1\BBradnam\LOCALS~1\Temp\notes\FCBCEE\Confined Space SOP.doc	Last Review	03/25/10
	Next Review Scheduled	02/15/11



Operational Procedure		Page: 4 of 8
Doc No.: IS-OPS-P002	Original Date: 04/09/90	Developed By: Grant Boutin
Revision No.: 5	Revision Date: 03/24/10	Authorized By: Grant Boutin

Operating Procedure IS-OPS-P002 Confined Space Entry

Minimum PPE for confined space entry is CSA approved safety boots, harness, lifeline, hardhat, long pants, long sleeve shirt or coveralls. Additional PPE may be required depending on the scope of required work.

9. Entry

- a) Prior to entering the confined space, contact Fort Erie Base and indicate that Confined Space Entry is about to commence and provide the following:
 - Name of entrant
 - Name of attendant
 - Location of confined space
 - Purpose of entry
- b) Prior to entry ensure atmospheric readings are obtained at intermittent levels of the confined space.
- c) Entrant to be suited with body harness and attached to retrieval device
- d) Continuous monitoring of the atmospheric conditions is required for worker protection while in the confined space.

10. Commence Work

- a) If the gas monitoring equipment sounds an alarm, the worker shall evacuate the confined space immediately and,
- b) Contact supervisor immediately.

11. Exiting

- a) Complete the Confined Space Entry Permit, and
- b) Contact Fort Erie Base and advise that the confined space entry is completed, and
- c) The Confined Space Entry Permit is now expired.

Emergency Procedure

Town of Fort Erie

C:\DOCUME~1\BBradnam\LOCALS~1\Temp\notesFCBCEE\Confined Space SOP.doc	Last Review	03/25/10
	Next Review Scheduled	02/15/11



Operational Procedure		Page: 5 of 8
Doc No.: IS-OPS-P002	Original Date: 04/09/90	Developed By: Grant Boutin
Revision No.: 5	Revision Date: 03/24/10	Authorized By: Grant Boutin

Operating Procedure IS-OPS-P002 Confined Space Entry

Prior to any confined space entry the entrant and attendant will be accompanied by a fully equipped Fire Service Rescue Vehicle manned by two first aid/CPR/SCBA certified rescue team associates.

If a worker is in the confined space and the gas monitoring equipment alarm sounds, the worker must leave the space immediately and notify their supervisor.

If a worker is not in the confined space and the gas monitoring equipment alarm sounds, **no worker shall enter the confined space – notify Fort Erie Base and your supervisor immediately.**

At no time shall the attendant enter the confined space to attempt an emergency rescue of the entrant. In the event that the entrant is unable to evacuate the confined space the attendant is to contact Fort Erie Base and request the immediate dispatch of Emergency Medical Services. Rescue team associates will coordinate entrant evacuation through engagement of retrieval mechanism. On site first aid will be performed with follow up medical attention as may be required.

Confined Space Listing

Town of Fort Erie		
C:\DOCUME~1\Bradnam\LOCALS~1\Temp\notesFCBCEE\Confined Space SOP.doc	Last Review	03/25/10
	Next Review Scheduled	02/15/11



Operational Procedure		Page: 6 of 8
Doc No.: IS-OPS-P002	Original Date: 04/09/90	Developed By: Grant Boutin
Revision No.: 5	Revision Date: 03/24/10	Authorized By: Grant Boutin

Operating Procedure IS-OPS-P002 Confined Space Entry

Type of Confined Space	Method of Rescue	Lock Out Source	Type of Work Being Conducted	Other Considerations
Sanitary/Storm Sewer Manhole	Vertical Rescue, Entrant is attached to lifeline at all times	N/A	Inspection or Repair	<ul style="list-style-type: none"> • Prior readings • Minimum 3 attendants • First Aid / CPR • Constant monitoring
Valve/Meter Chambers	Vertical Rescue, Entrant is attached to lifeline at all times	N/A	Inspection, Repair or Meter Reading	<ul style="list-style-type: none"> • Minimum 3 attendants • First Aid / CPR • Constant monitoring
Underground Storage Tanks / Wastewater	Vertical Rescue, Entrant is attached to lifeline at all times	N/A	Inspection or Cleaning	<ul style="list-style-type: none"> • Prior readings • Minimum 3 attendants • First Aid / CPR • Power Ventilate

Confined Space Hazard Assessment

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Town of Fort Erie

C:\DOCUME~1\Bradnam\LOCALS~1\Temp\notesFCBCEE\Confined Space SOP.doc	Last Review	03/25/10
	Next Review Scheduled	02/15/11



Operational Procedure		Page: 7 of 8
Doc No.: IS-OPS-P002	Original Date: 04/09/90	Developed By: Grant Boutin
Revision No.: 5	Revision Date: 03/24/10	Authorized By: Grant Boutin

Operating Procedure IS-OPS-P002 Confined Space Entry

Type of Confined Space	Potential Hazard	Hazard Abatement
1. Sanitary/Storm Sewer Manhole	Oxygen Deficiency or Enrichment	<ul style="list-style-type: none"> Gas Monitor Continuous Monitoring
	Explosive Atmosphere	<ul style="list-style-type: none"> Gas Monitor Continuous Monitoring
2. Valve/Meter Chambers	Toxic Atmosphere	<ul style="list-style-type: none"> Gas Monitor Continuous Monitoring
	Hazardous Chemicals	<ul style="list-style-type: none"> Gas Monitor Continuous Monitoring
3. Underground Storage Tanks / Wastewater	Electrical Hazard	<ul style="list-style-type: none"> Not Normally Applicable Lock Out / Tag Out
	Moving Machinery	<ul style="list-style-type: none"> Not Normally Applicable
	Falling Hazard	<ul style="list-style-type: none"> Body Safety Harness Retrieval Device
	Slip Hazard	<ul style="list-style-type: none"> Proper Safety Footwear Constant Awareness
	Poor Lighting / Visibility	<ul style="list-style-type: none"> Flashlights as Required
	Temperature Thermal Hazards	<ul style="list-style-type: none"> Proper Clothing Constant Communication
	Access / Egress	<ul style="list-style-type: none"> Properly Secured Ladder Inspection of Confined Space Equipped Rungs
	Traffic	<ul style="list-style-type: none"> Work Zone Protection Traffic Control Plan as per Book 7
	Weather	<ul style="list-style-type: none"> Confined Space Entry may be deferred during severe weather events

THIS GUIDELINE TAKES EFFECT IMMEDIATELY AND REMAINS IN EFFECT UNTIL REPLACED BY A NEW GUIDELINE OR SUPERSEDED BY LEGISLATION/REGULATION

Town of Fort Erie		
C:\DOCUME~1\Bradnam\LOCALS~1\Temp\notes\FCBCEE\Confined Space SOP.doc	Last Review	03/25/10
	Next Review Scheduled	02/15/11



TOWN OF FORT ERIE
 INFRASTRUCTURE SERVICES
 OPERATIONS DIVISION

Operational Procedure		Page: 8 of 8
Doc No.: IS-OPS-P002	Original Date: 04/09/90	Developed By: Grant Boutin
Revision No.: 5	Revision Date: 03/24/10	Authorized By: Grant Boutin

Operating Procedure IS-OPS-P002 Confined Space Entry



 Employer Co-Chair, JHSC



 Worker Co-Chair, JHSC

Town of Fort Erie		
C:\DOCUME~1\Bradnam\LOCALS~1\Temp\notesFCBCEE\Confined Space SOP.doc	Last Review	03/25/10
	Next Review Scheduled	02/15/11



CONFINED SPACE ENTRY PERMIT

1. Confined Space Entry Permit must be posted by the confined space area.
2. The safety conditions noted here must not be changed while work is in progress.
3. Completed permit must be forwarded to the Supervisor at the completion of the work.

Date: _____

Location: _____

Reason for confined space entry: _____

Special Instructions:

I have been informed of Confined Entry Program and have been properly instructed in the entry and exit from this confined space and understand my responsibilities.

Entrant Name Entrant Signature

Attendant Name Attendant Signature

Time Confined Time of
Space entered: _____ Work completion: _____

All air monitor readings must be recorded on this Permit prior to entry and while the work is being done. Confined space should not be entered if oxygen is less than 19.5% or greater than 23%, and/or carbon monoxide above 25ppm, and/or H2S above 10ppm, and/orLEL above 10%. The monitor will sound when any of these levels are at an unsafe level. **At the sound of the alarm, the confined space must be evacuated.**

Initial Monitor Readings

Time: _____ O2: _____ CO: _____

H2S: _____ LEL: _____

Subsequent Monitor Readings

Time: _____ O2: _____ CO: _____

H2S: _____ LEL: _____

Time: _____ O2: _____ CO: _____

H2S: _____ LEL: _____

Before entering the confined space, this Permit must be satisfactorily "Verified" by the employee entering confined space, and initialed by the Attendant:

1. Confined space last contained material? _____
2. Air monitor is checked and operating?
 Yes N/A _____ Verified _____ Initials
3. Safety equipment is nearby the attendant, such as rope, flashlight, fire extinguisher, etc.?
 Yes N/A _____ Verified _____ Initials
4. Respirator fit testing has been conducted, if required?
 Yes N/A _____ Verified _____ Initials
5. All materials to do the work are lowered into space prior to the work being done?
 Yes N/A _____ Verified _____ Initials
6. Radio contact established in case of emergency?
 Yes N/A _____ Verified _____ Initials
7. Harness, Retrieval Hoist and wench inspected?
 Yes N/A _____ Verified _____ Initials
8. Electrical lockouts verified by employee and attendant entering the confined space?
 Yes N/A _____ Verified _____ Initials

Protective Equipment

- Dust Respirator _____
- Goggles _____
- Harness _____
- Retrieval _____
- Protective Clothing _____
- Face Shield _____
- Safety Gloves _____
- Gas Monitor _____
- Communications Established (explain) _____

I certify that I am familiar with Confined Entry Program and that all necessary precautions have been taken to make this confined space safe for entering and carrying out prescribed work during the specific time shown.

Supervisor Name Supervisor Signature

Upon completion of work in confined space:

1. Entry point secured, lockouts removed, confined space reinstated for use.
 Yes N/A _____ Verified _____ Initials
2. Return completed Permit to Supervisor.
 Yes N/A _____ Verified _____ Initials

Confined Space Hazard Assessment

Confined Space Type:	
Location:	
Type of Work to be Performed:	

**** Checkmark the hazards that may be present ****

Hazards	✓ or N/A	Hazard Abatement /Control Method
<i>Oxygen Deficiency or Enrichment</i>		
<i>Explosive Atmosphere</i>		
<i>Toxic Atmosphere</i>		
<i>Hazardous Chemicals</i>		
<i>Electrical Hazard</i>		
<i>Moving Machinery</i>		
<i>Falling Hazard</i>		
<i>Slip Hazard</i>		
<i>Poor Lighting / Visibility</i>		
<i>Temperature Thermal Hazards</i>		
<i>Access / Egress</i>		
<i>Traffic</i>		
<i>Weather</i>		
<i>Other Hazards</i>		

This confined space has been assessed taking into consideration its design, location, use and the types of hazards that may develop during an entry.

Signature: _____

Date: _____