CONFINED SPACE HAZARD ASSESSMENT FORM - 2009

Location:	Date of Assessment:
Description of Location:	

1. CONFINED SPACE CLASSIFICATION

This space is a:	❑ Permit-Required Space	❑ Non-Permit Required Space
	❑ Not a Confined Space	❑ Inventory Number

2. CONFINED SPACE LOCATION/DESCRIPTION

Building Name: _____

Confined Space Description: _____

Department Name/Location: _____

Street Address: _____

Space:	❑ At Ground/Floor Level	❑ Indoors
	❑ Below Ground/Floor Level	❑ Outdoors
	❑ Elevated	(If outdoors, give reference points and distance)
	Details: _____	
	_____	

Dimensions: _____ Volume (cubic feet): _____

No. of Access Openings: _____ Primary Access Point: _____

Standard Drawings Available: ❑ YES ❑ NO If yes, Drawing Number: _____

Means of Access Into Space:	❑ Portable Ladder	❑ Existing Ladder
	❑ Stairwell	❑ Above Ground, Hand Railing provided
	❑ Horizontal	❑ Elevated
	❑ Vertical	❑ Other: _____

3. PROCESS/ WORK PERFORMED IN SPACE

Identification of Process: _____

Chemicals/Hazardous Materials in Use? ❑ YES ❑ NO

	Chemical/Material Name	Supplier
If Yes:	❑ _____	_____
	❑ _____	_____
	❑ _____	_____
	❑ _____	_____

Copy of MSDS required at worksite ❑ YES ❑ NO

Waste Products/Sludge Present When Space is Emptied? ❑ YES ❑ NO

4. ENTRY INTO SPACE IS CARRIED OUT ❑ Yes ❑ No If YES:

Primary Reason for Entry	❑ Preventative Maintenance	❑ Inspection
	❑ Maintenance Repair	❑ Cleaning
	❑ Fire	❑ Other: _____

Frequency of Entry	❑ Daily	❑ Weekly	❑ Monthly	❑ Other: _____

5. NOTIFICATION

❑ Notification to be given to the affected department of service interruption and entry work :

Department = _____

❑ Pre-Entry briefing on specific hazards and control measures to Confined Space Team

6. SITE CONTROL ❑ Yes ❑ No If YES:

❑ Barricades/Guardrails	❑ Rope/Warning Tape	❑ Traffic Protection Plan
❑ Warning Signs	❑ Secure Access Doors	❑ Other: _____

7. SPACE PREPARATION METHODS ❑ Yes ❑ No If YES:

❑ Empty	❑ Purge	❑ Depressurize	❑ Ventilating
❑ Clean	❑ Cool	❑ Cool	❑ Other: _____

8. LOCKOUT / TAGOUT ❑ Yes ❑ No If YES:

❑ Electrical	❑ Hydraulic	❑ Pneumatic	❑ Chemical	❑ Thermal	❑ Radiation
❑ Gravity	❑ Gases	❑ Chemical/ Fluids	❑ Blocking/ Cribbing	❑ Other: _____	

❑ Reference established Lockout/Tagout written procedure.

9. PIPELINE ISOLATION ❑ Yes ❑ No If YES:

❑ Broken	❑ Blanked/ Blind	❑ Capped	❑ Vented	❑ Double Valve & Bleed	❑ Isolation Valve

10. HAZARD IDENTIFICATION

A. Atmospheric Hazards ❑ Yes ❑ No

If **YES** complete Section A. If **NO** proceed to Section B.

Y	N		
		Oxygen Content:	
❑	❑	Deficiency < 19.5%	_____
❑	❑	Enrichment > 23.0%	_____
		Toxic, Explosive & Gases:	
			(LEL% – UEL%)
❑	❑	Acetone	(2.6 - 12.8) _____
❑	❑	Ammonia	(16.0 - 25.0) _____
❑	❑	Benzene	(1.3 - 7.1) _____
❑	❑	Carbon Dioxide	(900 mg/m^3) _____
❑	❑	Carbon Monoxide	(12.5 - 70.0) _____
❑	❑	Ethyl Alcohol	(3.3 - 19.0) _____
❑	❑	Gasoline	(1.4 - 7.6) _____
❑	❑	Hexane	(1.1 - 7.5) _____
❑	❑	Hydrogen Sulphide	(4.0 - 44.0) _____
❑	❑	Methane	(5.3 - 14.0) _____
❑	❑	Methyl Alcohol	(7.3 - 36.0) _____
❑	❑	Nitrogen Dioxide	(310 mg/m^3) _____
❑	❑	Propane	(2.4 - 9.5) _____
❑	❑	Sulphur Dioxide	(13 mg/ m^3) _____
❑	❑	Toluene	(1.2 - 7.1) _____
❑	❑	Xylene	(1.1 - 7.0) _____
		Fumes, Dusts & Smoke:	
❑	❑	Fogs	_____
❑	❑	Smoke	_____
		Biological Agents:	_____

B. Configuration Hazards ❑ Yes ❑ No

If **YES** complete Section B. If **NO** proceed to Section C.

❑	❑	Interior shape or slope
❑	❑	Low overhead clearance
❑	❑	Drop offs
❑	❑	Complex layout
❑	❑	Structural integrity
❑	❑	Compartmentalized
❑	❑	Elevated Work Surfaces
❑	❑	Sharp surfaces
❑	❑	Inwardly converging walls
❑	❑	Maneuverability

C. Potential Energy Sources ❑ Yes ❑ No

If **YES** complete Section C. If **NO** proceed to Section D.

Y	N	
❑	❑	Electrical
❑	❑	Hydraulic
❑	❑	Pneumatic
❑	❑	Mechanical
❑	❑	Steam
❑	❑	Piping systems
❑	❑	Gravity
❑	❑	Other: _____

_____

_____

D. Safety Hazards ❑ Yes ❑ No

If **YES** complete Section D. If **NO** proceed to Section E.

❑	❑	Entry/ Exit (access/egress)
❑	❑	Ventilation Systems
❑	❑	Machinery
❑	❑	Piping/ Distribution Systems
❑	❑	Residual chemicals/ materials
❑	❑	Visibility
❑	❑	Physical obstacles
❑	❑	Temperature extremes
❑	❑	Humidity
❑	❑	Noise
❑	❑	Vibration
❑	❑	Hazardous animals
❑	❑	Other: _____

_____

E. External Hazards ❑ Yes ❑ No

If **YES** complete Section E. If **NO** proceed to Section 10.

❑	❑	Traffic
❑	❑	Machinery / equipment
❑	❑	Work in neighboring compartments
❑	❑	Terrain
❑	❑	Processes
❑	❑	Weather If yes, give examples:

_____

_____

_____

❑ ❑ Others_____

_____

_____

11. HOT WORK

Hot Work Permit Is Required ❑ Yes ❑ No

If YES: Special Precautions for Welding / Cutting: _____

Space must be re-evaluated for hazards and appropriate measures and precautions must be taken.

❑ NO SMOKING PERMITTED IN SPACE AT ANY TIME

❑ Yes ❑ No Portable Fire Extinguisher

If **YES**: (type) _____ Size: _____

12. ELECTRICAL EQUIPMENT (TO TAKE INTO SPACE) ❑ Yes ❑ No If YES:

❑ Double Insulated Tools	❑ Battery Operated	❑ Low Voltage	❑ Ground Fault Circuit Interrupter (GFCI)
❑ Generator	❑ Positively Grounded Tool / Equipment	❑ Explosion Proof Equipment	❑ Other _____

13. ILLUMINATION (TO TAKE INTO SPACE) ❑ Yes ❑ No If YES:

❑ Portable Electric Safety Lamp	❑ Low Voltage	❑ Battery Operated Lighting (ex. Flashlights)
❑ Light Stations	❑ Light Sticks	❑ Explosion Proof Equipment
❑ Lighting Provided within space	❑ String of Lights	❑ Others_____

14. PRE-ENTRY AND ENTRY ATMOSPHERIC TESTING (ALWAYS REQUIRED)

* Oxygen	❑ Continuous	❑ Periodic – Frequency
* Combustible Gas	❑ Continuous	❑ Periodic – Frequency
* Toxic ❑ H_2S ❑ CO	❑ Continuous	❑ Periodic – Frequency

Other: _____ PEL: H_2S = 10 ppm, CO = 35 ppm

INSTRUMENTATION:

❑ 3-Gas Meter ❑ 4-Gas Meter ❑ Draeger Tubes ❑ Accessories _____ ❑ Other: _____

3-Gas meter = % oxygen / % LEL / Toxic. 4-gas meter = % oxygen / % LEL / Toxic / Toxic

15. RESPIRATORY PROTECTION ❑ Yes ❑ No If YES:

❑ Half Mask Air Purifying Respirator for: _____	❑ Powered Air Purifying Respirator for: _____
❑ Full Mask Air Purifying Respirator for: _____	❑ Air-Line Supplied with 5 minute escape cylinder
❑ Self-Contained Breathing Apparatus (SCBA): _____	

16. PERSONAL PROTECTIVE EQUIPMENT ❑ Yes ❑ No If YES:

❑ Safety Glasses	❑ Welding Helmet	❑ Protective Clothing (type) _____	
❑ Impact Goggles	❑ Hard Hat	❑ Protective Footwear	
❑ Chemical Goggles	❑ Face shield	❑ Gloves (type) _____	
❑ Cutting Goggles	❑ Hearing Protection	❑ Double Hearing Protection	❑ Traffic Vest

***PPE requirements must be determined from the activity being performed within the Confined Space. ***

17. FALL PROTECTION AND RESCUE DEVICES ❑ **Yes** ❑ **No** **If YES:**

- ❑ Davit System / Tripod System
- ❑ Full Body Harness with "D" Ring
- ❑ Escape SCBA
- ❑ Barricades/ Guard Rails
- ❑ Personal Alert and Distress Device
- ❑ Lifeline with Safety Hooks (type) _____
- ❑ Material Handling Winch Length: _____
- ❑ Special Attachment/ Anchor Requirements: _____

18. COMMUNICATION EQUIPMENT ❑ **Yes** ❑ **No** **If YES:**

Attendant Required? ❑ YES ❑ NO

Between Attendant and Entrant(s):

❑ Verbal (voice) ❑ Radio ❑ Personal Communication Device ❑ Other: _____

Emergency Notification:	❑ Portable Radio ❑ Telephone ❑ Walkie-talkie Emergency Telephone Number: _____ Location of Nearest Working Telephone: _____

19. RESCUE TEAM

❑ Emergency Services (Fire Dept.) ❑ Notify Stand-By Personnel:

_____

_____

_____

20. SPECIAL HAZARDS / REQUIREMENTS / NOTES

21. PERFORMED BY:	**Name**	**Signature**	**Date**
JHSC Worker Member			
JHSC Management Member			
Department Representative			
Health and Safety Services Rep			

CONFINED SPACE ENTRY PERMIT

Issued (date/time): _____ Expired (date/time): _____

Confined Space Location: _____

Description of Work: _____

Attendant: _____ Supervisor: _____

List of team members:	Name:	Training:	Signature(s):
Attendant(s)			
Entrant(s)			
Communications/Scribes			
Labourer(s)			

Description of Confined Space

Hazard(s)	Lock-out	Locked	Initial	Removed	Initial

Atmospheric Testing

Air Monitoring Equipment	Identification No.	Calibration Date	Calibrated By

Bump Testers Signature to Confirm Test	
Confirmation of O_2, LEL, CO and H_2S Sensors	

Pre-test

	O_2 (19.5% to 23%)	LEL (Alarm 25%)	CO (Alarm 25ppm)	H_2S (Alarm 10ppm)
Top/Opening				
Middle/ 1.0m				
Middle/ 2.0m				
Bottom				

Ventilate then Test				
	O_2 (19.5% to 23%)	LEL (Alarm 25%)	CO (Alarm 25ppm)	H_2S (Alarm 10ppm)
Top/Opening				
Middle/ 1.0m				
Middle/ 2.0m				
Bottom				

Supervisor Sign-off		
Date:	Time:	Signature:

Entrant Personal Protective Equipment					
Entrant Equipment List	Inspected By	Date	Rescue Equipment	Inspected By	Date

Entrant/Attendant Accountability					
Entrant Name	Attendant	PPE Checked	Training Checked	Time in:	Time out:

Monitoring					
Time:	**Location in Space**	**O_2 (19.5% to 23%)**	**LEL (Alarm 25%)**	**CO (Alarm 25ppm)**	**H_2S (Alarm 10ppm)**

Signature of Competent Supervisor Closing Permit: _____

Date/Time: _____

Permit No.: _____

HOT WORK PERMIT

Type of Operation: ❑ Welding ❑ Cutting ❑ Open Flame ❑ Burning ❑ Other: _____

Permit issued to (name of person): _____
Representing: _____ Telephone Number: ( ) _____
Supervisor: _____ Telephone Number: ( ) _____

Start Date: _____ Permits are valid from _____ until _____ on the date of issue only

Work done by:
❑ City Staff ❑ HVAC ❑ Plumbing ❑ Gen Maintenance ❑ Contractor _____ ❑ Other _____

Location where work will be performed [be specific about the location of work – Bldg. Floor, Column and approximate distance from column (s)]:

Brief Description of work (be specific when describing the work to be performed):

Fire Watch _____ (identify who will provide the fire watch):

THIS PERMIT IS TO BE ACCOMPANIED BY A JOB WRITE-UP WHEN HOT WORK IS TO BE PERFORMED ON LINES, AIR DUCTS OR BESSEL NORMAL CONTAINING COMBUSTIBLE MATERIALS SUCH AS OIL, DOWTHERM OR ADIPIC ACID.

VERIFY ALL OF THE FOLLOWING:

Y	N	
❑	❑	Hot work equipment will be inspected and determined to be good repair prior to the start of work
❑	❑	No sprinklers will be taken out of service while this work is being done
❑	❑	The potential for smoke, heat, airborne dust, etc. to trigger a fire alarm has been evaluated
❑	❑	There are no combustible fibers, dusts, vapours, gases or liquids in the area. There are no tanks or equipment that previously contained flammable liquids in this area or they will be purged and the absence of explosive gases developing in nearby piping, equipment, or tanks containing flammable liquids or gases, the area will be continuously monitored for hazardous conditions with appropriate instruments.
❑	❑	All combustibles will be relocated 20 feet from the operation and the remainder protected with metal guards or flame-proofed curtains or covers (no ordinary tarpaulins).
❑	❑	Fire alarms will not be taken out of service or a suitable fire watch will be arranged
❑	❑	Surrounding floors will be swept clean and, if combustible, wet down
❑	❑	Ample portable fire extinguishers and trained personnel to use them will be available at the job site. At a minimum, a 5 lb ABC rated extinguisher must be present in addition to the normal compliment of building extinguishers.
❑	❑	Prior to starting work, workers will determine the location of the nearest: building fire extinguisher and telephone (accessible) and verify a clear escape route from the wok area

SAFETY PRECAUTIONS

Y	N		Y	N	
❑	❑	Special Job write-up attached	❑	❑	Rope off area
❑	❑	Post warning sign	❑	❑	Remove Combustible Material
❑	❑	Shield Arc Welding	❑	❑	Protect Critical Surfaces from heat
❑	❑	Fire Watch	❑	❑	Special Ventilation
❑	❑	Protect electrical and instrumentation conduits, cables and tubing from heat and spark damage			
❑	❑	Minimum size, 5 lb dry chemical or equivalent fire extinguisher on hand			
❑	❑	Protect ceiling and floor opening from welding g spark and slag			
❑	❑	Other: _____			

IMPORTANT: All fires, even those of a minor nature are to be reported in writing to the fire hall immediately **following the incident**