Mirvac

Confined Space Audit

23 Furzer Street, Phillip ACT 2606

20 June 2022

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Confined Space Audit

Prepared for
Mirvac

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Executive Summary

Tetra Tech Coffey Pty Ltd (Coffey) was commissioned by Mirvac to conduct an audit of confined spaces at 23 Furzer Street, Phillip ACT 2606 on 11th April 2022. Phoebe Quessy of Tetra Tech Coffey carried out the inspection, Mirvac Management provided access and information regarding the site, and provided guidance assistance accessing a number of areas of the site. For the purpose of this inspection, the principal definition of a confined space is that described in the ACT WHS Regulation 2011 and any further interpretation (if required) has been obtained from the Australian Standard AS2865:2009 Confined Spaces. Additional reference has also included the National Workplace Health and Safety Regulations.

The Confined Space Register (Section 5) lists confined spaces identified in the audit and this considers the definition in relation to normal conditions and also those spaces which have potential to fit the definition of confined spaces under anticipated or expected changing conditions.

As part of the Confined Spaces assessment Coffey inspected areas of concern throughout the building, designated Confined Spaces were identified which included water tanks, hazardous chemical storage facilities and underground pits. The Confined Spaces that were identified at the site are presented in the body of the report.

The survey concluded:

- Various categories of potential confined spaces were identified at the subject site; and
- Confined Spaces identified may exist under normal conditions or could be defined as confined spaces under certain or changing conditions.

It is recommended that:

- For those identified confined spaces all controls required for working on or in a confined space must be implemented. For those spaces which can become confined spaces under certain or changing conditions a full risk assessment is required prior to the work commencing to determine to the extent possible the potential for the space becoming a confined space.
- To confirm if the space is not a confined space, testing and monitoring is required to cover various normal conditions and activities; a non-confined space is determined as not liable at any time to have an atmosphere with harmful concentrations of atmospheric contaminants (e.g. Exceeding the National Exposure Standards (NES)), unsafe level of oxygen or cause engulfment.
- Major hazards anticipated in confined spaces at the subject site include but are not limited to: engulfment, noxious gases, biological contaminants from raw sewage, flammable gases, oxygen deficiency and elevated levels of hydrogen sulphide; other hazards to be considered include manual handling from lifting heavy covers, falls, slips and psychological hazards;
- A standard emergency retrieval system is not practicable for all these confined spaces however it is recommended that confined space harnesses or approved retrieval system be worn prior to entry to make rescue easier. In addition, it is recommended to secure the entry to each confined space; and
- The confined spaces management system/strategy needs to be reviewed and further developed to ensure all confined spaces on site are appropriately sign posted and managed.

Tetra Tech Coffey is able to assist the client to develop and implement these recommendations.

1. Introduction

Mirvac commissioned Tetra Tech Coffey Pty Ltd to undertake confined spaces audit at 23 Furzer Street, Phillip ACT 2606 on 11th April 2022. Phoebe Quessy of Coffey conducted the identification and preliminary risk assessment of the identified confined spaces.

Identified confined spaces were not entered by personnel at the time of inspection therefore the risk assessment contained in this report is limited to general observations made. A more detailed specific risk assessment is required prior to entering any confined space identified in this report.

1.1. Background

The management of confined spaces is an integral part of a corporation's safety system. The degree of risk associated with working in a confined space is estimated to be 50 times greater than work not associated with confined space entry.

The ACT Work Health and Safety Regulation 2011: Dictionary.

"Confined space", in relation to a place of work, means an enclosed or partially enclosed space that:

- is not intended or designed primarily to be occupied by a person, and
- is, or is designed or intended to be, at normal atmospheric pressure while any persons is in the space, and
- is or is likely to be a risk to health and safety from;
- an atmosphere that does not have a safe oxygen level, or
- contaminants, including airborne gases, vapours and dusts, that may cause injury from fire or explosion,
- harmful concentrations an airborne contaminant, or
- cause engulfment.

The previous Draft Work Health and Safety Regulations included the following criteria;

- May (but need not) have restricted means of entry and exit.

And also defined "safe oxygen level" means a minimum oxygen content in air of 19.5% by volume under normal atmospheric pressure and a maximum oxygen content in air of 23.5% by volume under normal atmospheric pressure.

Australian Standard AS 2865:2009, Safe Working in a Confined Space elaborates on the definition of a confined space.

Confined spaces can be present in a wide variety of workplaces and are recognized as having the potential for fatal or serious injuries.

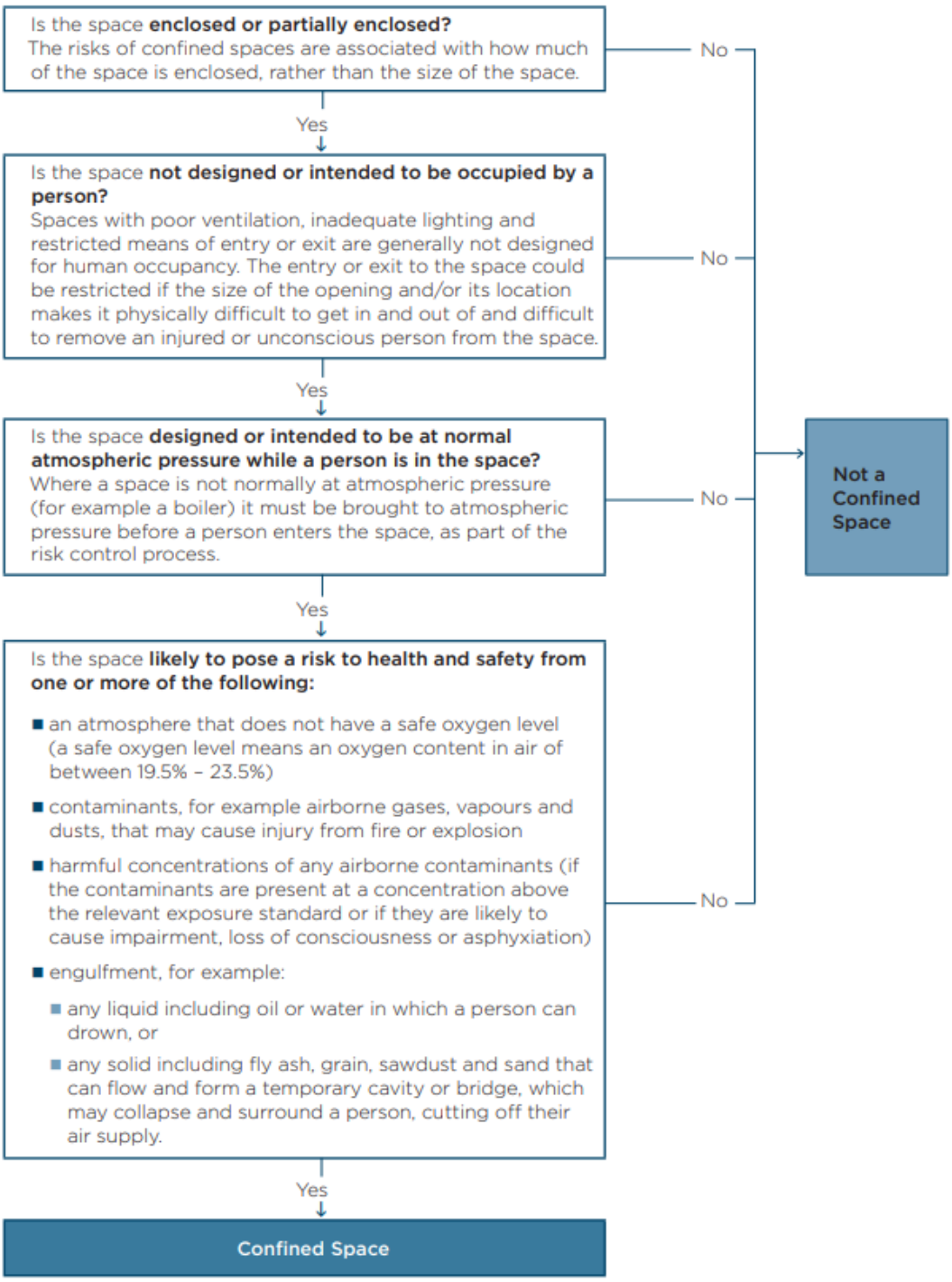
Confined spaces can be considerably more hazardous than normal workplaces with usually a smaller tolerance for error. Seemingly minor alterations in conditions or practices can often change the status of these workplaces from relatively harmless to life threatening.

THE DEFINITION OF A CONFINED SPACE

A confined space definition is determined by the hazards associated with a set of specific circumstances and not exclusively because of the physical characteristics used to classify an enclosed or partially enclosed space.

The definition is not intended as, nor should it be used as a risk assessment of the level of hazard. Many other characteristics not included in the definition may be major sources of hazard and should be addressed.

Further explanation is provided in the Confined Space Code of Practice ACT 2011.



Source: Confined Space Code of Practice ACT 2011

In some cases, such as exhaust ventilation tunnels or large silos, there may be unrestricted access; however, the prime reasons for being defined as a confined space could still be present. The size or position of the access alone will not change the classification of a space.

CONFINED SPACE HAZARDS

Confined spaces often contain many hazards, including atmospheric, lighting (low levels or glare), impact / strike hazard areas or isolation of workers, any of which, either singularly or in combination, may present a major hazard. For example, poor access and lighting glare could cause a person to fall and if isolated they could sustain a higher level of injury than would normally be anticipated. Each of the hazards singularly and in combination needs to be addressed in the risk assessment.

According to the Safe Work Australia Code of Practice for Confined Spaces:

Confined spaces pose dangers because they usually have poor ventilation which allows hazardous atmospheres to develop quickly, especially if the space is small. The hazards are not always obvious and may change from one entry to the next.

Workers may enter confined spaces to carry out work unaware that they are entering a potentially hazardous work environment. The risks of working in confined spaces include:

- loss of consciousness, injury or death due to the immediate effects of airborne contaminants
- fire or explosion from the ignition of flammable contaminants
- difficulty rescuing and treating an injured or unconscious person, and
- asphyxiation resulting from oxygen deficiency or immersion in stored material, such as grain, sand, flour or fertiliser.

EXCEPTIONS

The confined spaces definition and requirements have sometimes been applied to enclosed or partially enclosed spaces that have the potential for atmospheric hazards but do not meet the other requirements of the definition, for example vehicle fumes in workshops, fumes in offices and continuously manned underground control rooms etc. In such cases other safe systems of work, e.g. legislation or codes of practice are more applicable and should be implemented. Examples of areas having the potential for atmospheric hazards can include abrasive blasting in a blast chamber, or spray painting in a suitable booth.

Areas not usually considered confined spaces include offices, workshops, plant rooms, garage vehicle service pits, naturally ventilated roof spaces and sub floor areas (above ground level) where there is no source of atmospheric contamination.

1.2. Site Description

The survey is of a multi-storey office building located at 23 Furzer Street, Phillip ACT 2606. The building was occupied at the time of the survey.

Table 1: Site Information	
Site:	23 Furzer Street, Phillip ACT 2606
Assessor	Phoebe Quessy
Age (Circa):	2010
Approximate area:	46,167 m^2
Levels:	11 levels

1.3. Scope

The scope of work required Coffey to:

- Liaise with personnel and collect data on the history, use and function of the site.
- Inspect the condition and risk associated with suspected and previously identified confined spaces.
- Document the details of confined spaces identified including photographs.
- Record, collate and report the findings.

2. Identification and Grouping of Confined Spaces

The confined Space register lists those confined spaces identified under normal conditions and those spaces which could become confined spaces under certain or changing conditions.

The confined spaces identified in this assessment have been grouped into the following three categories:

- Water Storage Tanks;
- Hazardous Chemical Storage Facilities; and
- Underground Pits.

2.1. Appendices

Appendix A contains risk assessments carried out according to the protocol found in Section 1.1 of this report, on each confined space in each category.

3. Confined Spaces Potential Hazards

3.1. Water Storage Tanks

The hazards in the water storage tanks consist of engulfment by water, Legionella as an air or water contaminant, access and egress, airborne contaminants, manual handling. A written isolation procedure for water entering the water storage tanks was not identified in the assessment.

Sampling of the water for Legionella is recommended prior to entry or the development and implementation of an ongoing Legionella monitoring program should be considered.

A retrieval system is not practical for these confined spaces however it is recommended that a confined space harness be worn prior to entry to make rescue easier. In addition, it is recommended to secure the entry to each unit.

3.2. Hazardous Chemical Storage Facilities

The hazards associated with the hazardous chemical storage facilities may include engulfment, flammable gases, hydrogen sulphide, oxygen deficiency, skin contact with greases, biological contaminants, slips, odours, psychological hazards, tools and equipment and manual handling.

It is recommended that a monitor capable of measuring oxygen, hydrogen sulphide, and Lower Explosive Limit (LEL) be used to monitor the atmosphere within the space and isolation of services prior to entry and appropriate ventilation be installed for the hazardous chemical storage facilities.

3.3. Underground Pits

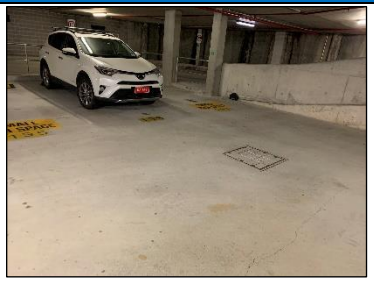
The hazards in the underground pits consist of engulfment, flammable gases, oxygen deficiency and elevated levels of hydrogen sulphide, biological contaminants, slips, odours, psychological hazards, exposure to noise, traffic and manual handling.

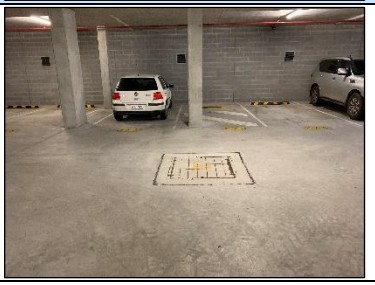
The depth of each pit will determine whether a retrieval system is necessary.

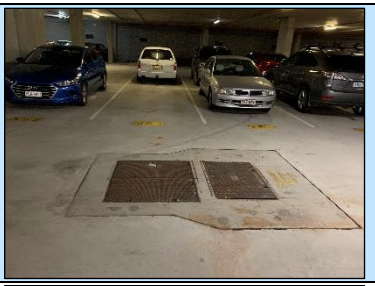
It is recommended that a retrieval system in combination with a confined space harness be worn while working inside these spaces and a monitor capable of measuring oxygen, hydrogen sulphide, and Lowest Explosive Limits (LEL) be used to monitor the spaces.

4. Confined Space Register

Project Number: 754-SYDEN228268	Site: 23 Furzer Street, Phillip ACT 2606	Date: 11th April 2022

Confined space criteria							Confined space?	
Description of Space	A	B	C	D			If the answer to A, B, C and at least one of D is yes, then the space is a confined space.	Photo
	Is the space enclosed or partially enclosed?	Is the space not designed or intended to be occupied by a person?	Is the space designed or intended to be at normal atmospheric pressure while any person is in the space?	Does the space present risk from:				
				Harmful airborne or flammable contaminants	An unsafe oxygen level	Engulfment		
South Tower								
Interior, level B2, carpark, adjacent parking bay 196, underground pit	✓	✓	✓	✓	✓	✓	Yes	

Interior, level B2, carpark, adjacent parking bay 201, underground pit	✓	✓	✓	✓	✓	✓	**Yes**	
Interior, level B2, carpark, adjacent parking bay 228, underground pit	✓	✓	✓	✓	✓	✓	**Yes**	
Interior, level B2, carpark, adjacent parking bays 265 and 266, underground pit	✓	✓	✓	✓	✓	✓	**Yes**	
Interior, level B2, carpark, adjacent parking bay 273, underground pit	✓	✓	✓	✓	✓	✓	**Yes**	

Interior, level B2, carpark, adjacent parking bay 351, underground pit	✓	✓	✓	✓	✓	✓	**Yes**	
Interior, level B2, carpark, adjacent parking bay 372, underground pit	✓	✓	✓	✓	✓	✓	**Yes**	
North Tower								
Interior, level B1, loading dock, underground grease trap	✓	✓	✓	✓	✓	✓	**Yes**	

Interior, level B1, loading dock, underground water storage tank	✓	✓	✓	-	-	✓	**Yes**	
Interior, level B1, loading dock, underground pit	✓	✓	✓	✓	✓	✓	**Yes**	
Interior, level B1, grey water treatment plant, water storage tank	✓	✓	✓	-	-	✓	**Yes**	
Interior, level B1, grey water treatment plant, water storage tank	✓	✓	✓	-	-	✓	**Yes**	

Interior, level B2, carpark, adjacent parking bay 333, underground pit	✓	✓	✓	✓	✓	✓	**Yes**	
Interior, level B2, carpark, adjacent parking bay 320, underground pit	✓	✓	✓	✓	✓	✓	**Yes**	
Interior, level B2, carpark, adjacent parking bays 305, underground pit	✓	✓	✓	✓	✓	✓	**Yes**	

Exterior								
Exterior, ground level, adjacent Atlantic Street, underground diesel storage tank	✓	✓	✓	✓	✓	✓	**Yes**	
Exterior, ground level, adjacent Atlantic Street, underground sewer pit	✓	✓	✓	✓	✓	✓	**Yes**	
Exterior, ground level, adjacent Atlantic Street, underground stormceptor	✓	✓	✓	✓	✓	✓	**Yes**	
Exterior, ground level, adjacent Atlantic Street, underground stormceptor	✓	✓	✓	✓	✓	✓	**Yes**	

Exterior, ground level, adjacent Atlantic Street, underground stormceptor	✓	✓	✓	✓	✓	✓	**Yes**	
Exterior, ground level, adjacent Atlantic Street, underground stormceptor	✓	✓	✓	✓	✓	✓	**Yes**	
Exterior, ground level, adjacent 'Booster Valve Room', underground sewer pit *	✓	✓	✓	-	**-**	✓	**Yes**	
Exterior, ground level, pedestrian walkway, adjacent Worgan Street, underground stormwater pit	✓	✓	✓	-	**-**	✓	**Yes**	

Exterior, ground level, pedestrian walkway, adjacent Worgan Street, underground pit x 2	✓	✓	✓	✓	✓	✓	**Yes**	
Exterior, ground level, pedestrian walkway, adjacent Worgan Street, underground sewer pit	✓	✓	✓	✓	✓	✓	**Yes**	
Exterior, ground level, pedestrian walkway, corner of Worgan Street and Furzer Street, underground sewer pit	✓	✓	✓	✓	✓	✓	**Yes**	
Exterior, ground level, pedestrian walkway, corner of Worgan Street and Furzer Street, underground sewer pit	✓	✓	✓	✓	✓	✓	**Yes**	

Exterior, ground level, pedestrian walkway, adjacent Furzer Street, underground sewer pit	✓	✓	✓	✓	✓	✓	**Yes**	
Exterior, ground level, pedestrian walkway, adjacent Furzer Street, underground pit x 2	✓	✓	✓	-	**-**	✓	**Yes**	
Exterior, ground level, pedestrian walkway, adjacent Furzer Street, underground sewer pit *	✓	✓	✓	**-**	**-**	✓	**Yes**	
Exterior, ground level, pedestrian walkway, eastern perimeter of South Tower, underground stormwater pit	✓	✓	✓	-	**-**	✓	**Yes**	

Exterior, ground level, courtyard adjacent eastern entrance, underground stormwater pit	✓	✓	✓	-	-	✓	**Yes**	
Exterior, ground level, courtyard adjacent eastern entrance, underground stormwater pit	✓	✓	✓	-	-	✓	**Yes**	
Exterior, ground level, courtyard adjacent eastern entrance, underground sewer pit	✓	✓	✓	✓	✓	✓	**Yes**	
Exterior, ground level, courtyard adjacent eastern entrance, underground stormwater pit	✓	✓	✓	-	-	✓	**Yes**	

*** This confined space could not be located at the time of the inspection. Photos from previous inspection were used in this report.**

Notes:

1. Underground pits observed are not specified as they were not confirmed on site.

2. When any of A, B, or C (confined space qualifiers) do not exist under normal conditions the area is not classed a confined space. When normal conditions change and all of A, B, or C may be ticked the space is then classified as a confined space.

3. When C becomes likely with changing conditions (e.g. Task, introduced hazards, etc.), then a full risk assessment is required.

4. Reference to Risk Assessment (Appendices) is based on limited number of tasks likely to be performed within the confined space.

4.1. Confined Space Signage and Procedure

It is recommended that signage which meets the requirements set out in **AS 1319:1994** *Safety signs for the occupational environment*, be obtained for each and every confined space on site.

According to Section 5.9 of the Safe Work Australia Code of Practice *Confined Spaces* in relation to Safety Signage:

'Before any work in relation to a confined space starts, you must ensure signs are erected to prevent entry of persons not involved in the work.

Signs must warn against entry by people other than those who are listed on the confined space entry permit, and must be placed at each entrance to the confined space. Signs must be in place while the confined space is accessible, including when preparing to work in the space, during work in the space and when packing up on completion of the work.

Signposting alone should not be relied on to prevent unauthorised entry to a potential confined space. Security devices such as locks and fixed barriers should be installed.'

Please Refer to Appendix D for examples of Confined Space Safety Signage.

Further to this it is recommended that the procedure for managing confined spaces be audited and reviewed and further developed to ensure that confined spaces are identified, managed and appropriately signed.

4.2. Areas of No Access

Where Areas of No Access have been identified the presence/absence of a confined space cannot be confirmed until further investigation can confirm or refute the presence.

AREAS OF NO ACCESS

The following areas were not accessible or had limited access at the time of survey:

- Occupied areas/tenancies;
- Occupied parking bays; and
- Roof areas.

5. Methodology

The risk assessment methodology used in this audit was based on the Standards Australia (2009) AS/NZS ISO 31000:2009, Risk Management - Principles and Guidelines. SAI Global, Sydney NSW. This methodology was selected due to its wide acceptance in industry, legal circles and by regulatory authorities (e.g. WorkCover NSW). The methodologies presented in AS/NZS ISO 31000:2009, Risk Management range from full quantitative to full qualitative.

A semi-quantitative methodology was selected for this study using the risk matrix approach. This approach uses a series of tables to assess the consequence, severity and likelihood of an identified hazard (to cause harm to people), see Tables 1 and 2, and then uses a matrix to assess the risk level of the identified hazard. The results indicate the level of risk associated with the hazard. These risks are then ranked and re-assessed with consideration of any controls already in place. This process continues until the risk is as low as reasonably practicable (ALARP).

To clearly define each step the Risk Assessment process utilised is outlined below.

5.1. Identify Hazards

Identify the hazards associated with entering the confined space.

Note that during this audit not all the hazards associated with each confined space were identified due to the fact that confined spaces were not entered for inspection and were only inspected externally. Hazard identification and the risk assessment process need to be undertaken each time a confined space is entered. Hazards related to specific tasks not identified in this audit for each confined space need to be considered in addition to identified hazards in the risk assessment before entry to the confined space.

5.2. Estimate Consequence

Determine the consequences of the identified hazards, should they occur. Team consensus, (or statistical evidence where available), decides the rating of the consequence. The basis of the consequence rating is shown in the table below:

Table 1: Consequence Ranking

Rank	People Losses	Equipment Damage	Production Loss	Environmental Loss
1	**Catastrophic Fatality**/permanent disability	More than $500K damage to equipment	More than $500K production delay	Prosecution
2	**Major** Serious bodily injury or illness, loss of production	$100K to $500K damage	$100K to $500K delay	Penalty Infringement Notice
3	**Moderate** Lost Time Injury or illness	$50K to $100K damage	$50K to $100K delay	Written report to EPA/WorkCover as a result of incident
4	**Minor** First Aid treatment	$5K to $50K damage	$5K to $50K delay	Reportable incident
5	**Insignificant** No injury	Under $5K damage	Under $5K delay	Controlled incident

5.3. Estimate Probability

Determine the probability of a hazard causing the consequence as determined above. The basis of the rating is shown in the table below:

Table 2: Probability Ranking

(A) Almost Certain	Common or frequent occurrence
(B) Likely	Is known to occur or will probably occur in most circumstances
(C) Possible	Might occur at some time
(D) Unlikely	Not likely to occur
(E) Rare	May occur only in exceptional circumstances

5.4. Establish Risk from Risk Matrix

Give a risk ranking to each identified hazard or loss scenario. The risk ranking can be determined by checking the Probability and Consequence rating for each hazard against the Risk Matrix below:

Table 3: Risk Matrix

PROBABILITY How likely is it to happen?	**CONSEQUENCES How** severely could it hurt someone if it happens?				
	5. **INSIGNIFICANT** (No injuries)	4. **MINOR** (First aid only)	3. **MODERATE** (Medical treatment)	2. **MAJOR** (Extensive injuries, loss of production)	1. **CATASTROPHIC (Fatality/ permanent disability)**
(A) **ALMOST CERTAIN** Expected in most circumstances	15 **H**	10 **H**	6 **A**	3 **A**	1 **A**
(B) **LIKELY** Will probably occur in most circumstances	19 **M**	14 **H**	9 **H**	5 **A**	2 **A**
(C) **POSSIBLE** Might occur at some time	22 **L**	18 **M**	13 **H**	8 **A**	4 **A**
(D) **UNLIKELY** Not likely to occur at some time	24 **L**	21 **M**	17 **M**	12 **H**	7 **A**
(E) **RARE** May occur only in exceptional circumstances	25 **L**	23 **L**	20 **M**	16 **H**	11 **H**

Risk Ranking	ACTION
1 – 8 **A – Acute**	ACT NOW – Urgent do something about the risks immediately. Requires immediate attention. Unacceptable Risk - New controls required
9 – 16 **H - High**	Isolate the hazard and seek the highest management decision urgently
17 – 21 **M - Moderate**	Isolate the hazard and follow management instructions Acceptable Risk. Existing controls adequate
22 – 25 **L - Low**	OK for now. Record and do something about the risks as soon as possible

LEGEND

C = Consequence

P = Probability

R = Risk

5.5. Identify Risk Controls

Nominate, where possible, any existing barriers presently in the design of the System, which may prevent identified hazards from occurring.

5.6. Reassess

Estimate probability and consequence and determine residual risk after risk control measures have been implemented.

If work is conducted within the confined space that has not previously been included in existing confined space generic risk assessment and where additional factors which were not considered in the generic risk assessment, then further risk assessment is required. Works included in existing risk assessment are those listed under “Task” in individual Appendix.

6. Conclusion

Confined spaces were identified 23 Furzer St Phillip ACT 2606 at various locations within the building (including external areas). A preliminary risk assessment was undertaken for each category of confined spaces identified. The risk assessment must be reviewed for each confined space entry by taking into considerations the tasks required to be performed.

Due to the size and complexity of the building design, it is possible that not all confined spaces located within the building have been identified. Should future inspections reveal the presence of more confined spaces the recommendations made for the same category of confined space may be applied.

7. Recommendations

It is recommended that:

- For those identified confined spaces all controls required for working on or in a confined space must be implemented. For those spaces which can become confined spaces under certain or changing conditions a full risk assessment is required prior to the work commencing to determine to the extent possible the potential for the space becoming a confined space.
- To confirm if the space is not a confined space testing and monitoring is required and to cover various normal conditions and activities where non-confined space is determined as not liable at any time to have an atmosphere with harmful concentrations of atmospheric contaminants (e.g. Exceeding the National Exposure Standards (NES)), unsafe level of oxygen or cause engulfment.
- Major hazards anticipated in confined spaces at the subject site include but are not limited to; engulfment, noxious gases, biological contaminants from raw sewage, flammable gases, oxygen deficiency and elevated levels of hydrogen sulphide; other hazards to be considered include manual handling from lifting heavy covers, falls, slips and psychological hazards;
- A standard emergency retrieval system is not practicable for all these confined spaces however it is recommended that confined space harnesses or approved retrieval system be worn prior to entry to make rescue easier. In addition, it is recommended to secure the entry to each confined space; and
- The confined spaces management system/strategy needs to be reviewed and further developed to ensure all confined spaces on site are appropriately sign posted and managed.

Tetra Tech Coffey is able to assist the client with the development and implementation of these recommendations.

8. Bibliography

Standards Australia (2009) *AS/NZS ISO 31000:2009, Risk management - Principles and Guidelines. SAI Global, Sydney NSW*

Standards Australian *(2009) AS2865: 2009 Confined Spaces*

ACT Code of Practice: Confined Spaces 2011

ACT Work Health and Safety Regulations 2011

9. Limitations

This report and the associated services performed by Tetra Tech Coffey are in accordance with the scope of services set out in the contract between Tetra Tech Coffey and the Client. The scope of services was defined by the requests of the Client, by the time and budgetary constraints imposed by the Client, and by the availability of access to the site.

Tetra Tech Coffey derived the data in this report primarily from visual inspections, examination of available records, interviews with individuals with information about the site, and if requested, limited samples collection and analysis made on the dates indicated. In preparing this report, Tetra Tech Coffey has relied upon, and presumed accurate, certain information (or absence thereof) provided by government authorities, the Client and others identified herein. Except as otherwise stated in the report, Tetra Tech Coffey has not attempted to verify the accuracy or completeness of any such information.

Limitations also apply to analytical methods used in the identification of substances (or parameters). These limitations may be due to non-homogenous material being sampled (i.e. the sample to be analysed may not be representative), low concentrations, the presence of 'masking' agents and the restrictions of the approved analytical technique. As such, non-statistically significant sampling results can only be interpreted as 'indicative' and not used for quantitative assessments.

No warranty, undertaking, or guarantee, whether expressed or implied, is made with respect to the data reported or to the findings, observations, conclusions and recommendations expressed in this report. Furthermore, such data, findings, observations, conclusions and recommendations are based solely upon existence at the time of the investigation. The passage of time, manifestation of latent conditions or impacts of future events (e.g. changes in legislation, scientific knowledge, land uses, etc.) may require further investigation at the site with subsequent data analysis and re-evaluation of the findings, observations, conclusions and recommendations expressed in this report.

This report has been prepared on behalf of and for the exclusive use of the Client, and is subject to and issued in connection with the provisions of the agreement between Tetra Tech Coffey and the Client. Tetra Tech Coffey accepts no liability or responsibility whatsoever and expressly disclaims any responsibility for or in respect of any use of or reliance upon this report by any third party or parties. It is the responsibility of the Client to accept if the Client so chooses any recommendations contained within and implement them in an appropriate, suitable and timely manner.

TETRA TECH COFFEY PTY LTD

Appendix A - Confined Spaces Risk Assessment

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Item 1: Water Storage Tanks

CONFINED SPACE PRELIMINARY RISK ASSESSMENT

DATE: 11th April 2022

LOCATION: 23 Furzer Street, Phillip ACT 2606

DESCRIPTION: Water storage tanks

TASK: Tank Inspection and Cleaning

ASSESSOR: Phoebe Quessy

If the task to be undertaken in the confined space is not listed above, then the risk assessment will need to be reviewed prior to filling out the permit (Refer to Section 6.1.6).

Establish Warning Signage	☐
Check Water level before entry	☐
Test Water for legionella	☐
Isolate Water entering cooling towers	☐
Isolate machinery prior to entry	☐
Monitor Air for O^2,CO, H_2S and LEL	☐
Ventilation may be required prior to and during entry	☐
Standby person required with communication safety system	☐
Establish Communication and safety monitoring	☐
Setup retrieval system	☐
Wear appropriate personal protection (hearing protection dependent on task)	☐
Install and use appropriate access equipment	☐

HAZARDS	EXIST Y/N	BEFORE			CONTROL MEASURES REQUIRED	AFTER		
		C	P	R		C	P	R
Atmospheric contamination	Y	1	D	7	Conduct atmospheric testing for O_2, H_2S, CO & LEL using confined space monitor prior to entry and during entry - Retrieval System	3	E	20
Fumes/Vapours	Y	1	D	7	Natural Ventilation-Monitor- Retrieval System	3	E	20
Engulfment-drowning	Y	1	D	7	Isolate supply valve	4	D	21
Operation of plant parts	Y	3	C	13	Isolate plant	3	E	20
Flooding	Y	1	D	7	As per engulfment	4	D	21
Legionella	Y	2	D	12	Test water prior to entering and disinfect	2	E	16
Access & working within- fall from height	Y	1	C	8	Harness and approved access method	4	D	21

LEGEND: C = Consequence P = Probability R = Risk

Item 2: Hazardous Chemical Storage Facilities

CONFINED SPACE RISK ASSESSMENT

DATE: 11th April 2022

LOCATION: 23 Furzer Street, Phillip ACT 2606

DESCRIPTION: Diesel fuel storage tanks and grease trap

TASK: Tank Inspection and Cleaning

ASSESSOR: Phoebe Quessy

If the task to be undertaken in the confined space is not listed above, then the risk assessment will need to be reviewed prior to filling out the permit (Refer to Section 6.1.6).

THIS CONFINED SPACE NOT TO BE ENTERED DURING OR IMMEDIATELY AFTER RAIN EVENTS	☐
Establish Warning Signage	☐
Isolate machinery prior to entry	☐
Monitor Area for Oxygen, CO, H_2S and LEL	☐
Ensure sucker truck is positioned downwind of confined space	☐
Ventilation may be required prior to and during entry	☐
Standby person required with communication safety system	☐
Establish Communication and safety monitoring	☐
Install and use appropriate access equipment	☐
Assess the ladder	☐
Setup retrieval system	☐
Identify slippery surfaces	☐
Wear appropriate personal protection (hearing protection dependant on task)	☐

HAZARDS	EXIST Y/N	BEFORE			CONTROL MEASURES TO BE PUT IN PLACE	AFTER		
		C	P	R		C	P	R
Atmospheric contamination	Y	1	D	7	Conduct atmospheric testing for O_2, H_2S, CO & LEL and dust using confined space monitor prior to entry and during entry - Retrieval System	3	E	20
Unauthorised Persons entering area	Y	2	C	4	Barricades and signposting required	3	D	17
Fumes/Vapours	Y	1	D	7	Natural Ventilation – Monitor - Retrieval System	3	E	20
Harmful chemicals on internal surface	Y	3	D	17	PPE Long PVC Gloves, protective clothing, Gum Boots	3	E	20
Engulfment- Slip and drown	Y	1	D	7	Retrieval System- Don't enter during wet conditions	4	D	21
Entrapment	Y	1	D	7	Standby person required, appropriate rescue equipment.	5	E	25
Manual handling injuries from lifting heavy metal covers	Y	2	C	8	Two persons to lift cover using lifting equipment where possible and correct manual handling techniques (e.g. bending from the knee and keeping back straight)	4	D	21

LEGEND: **C = Consequence** **P = Probability** **R = Risk**

Item 3: Stormwater Pits/Drains and Sump Pits

CONFINED SPACE RISK ASSESSMENT

DATE: 11th April 2022

LOCATION: 23 Furzer Street, Phillip ACT 2606

DESCRIPTION: Underground pits (not accessed for inspection)

TASK: During inspection or cleaning sump waste from pit with sucker truck

ASSESSOR: Phoebe Quessy

If the task to be undertaken in the confined space is not listed above, then the risk assessment will need to be reviewed prior to filling out the permit (Refer to Section 6.1.6).

THIS CONFINED SPACE NOT TO BE ENTERED DURING OR IMMEDIATELY AFTER RAIN EVENTS	☐
Establish Warning Signage	☐
Check Water level before entry	☐
Isolate water from entering pit	☐
Ensure sucker truck is positioned downwind of confined space	☐
Ventilation may be required prior to and during entry	☐
Assess the ladder	☐
Monitor Area for Oxygen, CO, H_2S and LEL	☐
Standby person required with communication safety system	☐
Establish Communication and safety monitoring	☐
Install and use appropriate access equipment	☐
Setup retrieval system	☐
Identify slippery surfaces	☐
Wear appropriate personal protection (hearing protection is dependent upon task)	☐

HAZARDS	EXIST Y/N	BEFORE			CONTROL MEASURES TO BE PUT IN PLACE	AFTER		
		C	P	R		C	P	R
Atmospheric contamination	Y	1	D	7	Conduct atmospheric testing for O_2, H_2S, CO & LEL using confined space monitor prior to entry and during entry - Retrieval System	3	E	20
Engulfment- Slip and drown	Y	1	D	7	Retrieval System- Don't enter during wet conditions	4	D	21
Uncontrolled flow of process streams	N	1	D	7	Not entering during wet weather and ensure all pipes feeding into pit are isolated	4	D	21
Poor lighting	Y	2	C	8	Introduce adequate artificial lighting	3	D	17
Slippery surfaces	Y	2	C	8	Retrieval System	4	D	21
Manual handling injuries from lifting heavy metal covers	Y	2	C	8	Two persons to lift cover using lifting equipment where possible and correct manual handling techniques (e.g. bending from the knee and keeping back straight)	4	D	21
Presence of vermin (spiders, etc.)	Y	3	C	13	Apply pest control measures	3	D	17

LEGEND: **C = Consequence** **P = Probability** **R = Risk**

Appendix B - Confined Space Signage

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Example A: Fixed Confined Space Warning Sign that can be established in a prominent position adjacent the Confined Space or placed on the Access door to a room or area with a Confined Space.

Example B: Another fixed Confined Space Warning Sign that can be established in a prominent position adjacent the Confined Space. The Warning signage carries brief information that would need to be listed in the Confined Space Entrance Permit.

Example C: Mobile Confined Space Warning Sign that can be established in a prominent position adjacent the Confined Space.