

**Mirvac Real Estate Pty Ltd**

## **Confined Spaces Assessment**

**Nexus Industry Park, 43-47 Lyn Parade, Preston NSW**

31 October 2022

Project Ref: 754-SYDEN228268-Nexus Industry Park Confined Space Report 2022



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## CONFINED SPACES ASSESSMENT

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Prepared for  
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## EXECUTIVE SUMMARY

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Tetra Tech Coffey Pty Ltd (TTC) was commissioned by Mirvac Real Estate Pty Ltd (the client) to conduct a confined spaces assessment at Nexus Industry Park, 43-47 Lyn Parade, Preston NSW 2170 (the site). Phoebe Quessy of TTC carried out the assessment on 29<sup>th</sup> June 2022. For the purpose of this assessment, the principal definition of a confined space is that described in the *Work Health and Safety Regulation 2017 (NSW)*.

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

### Assessment Findings

The following findings are based on the site inspection, discussions with site personnel, and review of relevant documentation:

- A total of 154 confined spaces were identified at the site.
- A number of the spaces were correctly signposted as confined spaces, however the majority of the spaces were not signposted.
- All confined spaces appeared to be appropriately secured from unauthorised access at the time of the assessment.

Note: Refer to **Appendix A** for the confined space register and **Appendix C** for photographs.

### Recommended Actions

The following actions are recommended, based on the above findings:

- Ensure a task specific risk assessment is conducted within the space prior to commencing any works.
- Ensure all confined spaces are appropriately signposted. Ensure the signage complies with AS 2865:2009 *Confined Spaces*, Section 3.2.2. Refer to **Appendix D** for examples of confined space safety signage.
- Ensure a confined space entry permit system is available for the site and appropriately implemented. The permit should include space for details regarding plant and service isolations, space specific risk assessment, atmospheric testing results, risk control measures to be utilised, PPE required, and emergency rescue procedures.
- Ensure the confined space entry permit includes a procedure for the isolation and tag out of plant and services associated with work in confined spaces.
- Ensure all staff and contractors working within areas containing confined spaces at the site are provided with appropriate information, instruction, and training to ensure they are able to work safely in these areas. It is recommended that this be managed within the site induction.
- Although it was not possible to access the spaces at the time of the inspection, they have been deemed to be a confined space (in order to take a precautionary approach) and should continue to be treated as such until confirmed as otherwise.
- Avoid entering the confined spaces if possible e.g. conduct cleaning/maintenance activities from outside etc.
- Ensure that the person responsible for the confined space work issues an entry permit prior to any persons entering the confined space.
- Ensure task specific emergency rescue procedures and equipment are available and readily accessible during any confined space work.

## Confined Spaces Assessment

- All works and access in relation to confined spaces must be undertaken in accordance with the *Work Health and Safety Regulation 2017 (NSW)*, the *Code of Practice: Confined Spaces (SafeWork NSW, 2019)* and *AS 2865:2009 Confined Spaces*.
- TTC is able to assist the client to implement the above recommended actions.

## 1. INTRODUCTION

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Tetra Tech Coffey Pty Ltd (TTC) was commissioned by Mirvac Real Estate Pty Ltd (the client) to conduct a confined spaces assessment at Nexus Industry Park, 43-47 Lyn Parade, Preston NSW 2170 (the site). Phoebe Quessy of TTC carried out the assessment on 29<sup>th</sup> June 2022. For the purpose of this assessment, the principal definition of a confined space is that described in the *Work Health and Safety Regulation 2017 (NSW)*.

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

### 1.1 Site Description

The site consisted of 5 industrial buildings (approximate area of 130,000m<sup>2</sup>). The buildings were occupied at the time of the assessment.

## 2. SCOPE

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The objective of the Confined Spaces Assessment was to identify and assess confined spaces at the site, and manage the associated risks to the health and safety of site occupants (including workers, students, visitors and contractors). The assessment included a physical inspection of accessible areas of the site, as well as discussions with relevant site personnel, and a review of relevant systems/documentation.

### 2.1 Inaccessible Areas

The following areas were not accessible during the inspection:

- Within confined spaces, voids and ceiling spaces.
- Within plant and machinery.
- Lift shafts and pits.
- Below parked cars and trucks, and stored items concealing sections of the floor.
- Areas outside the fence boundary for the buildings.
- Areas that were unsafe to walk to due to vehicle/plant activity.
- Occupied rooms and tenanted areas.
- Roof areas.

## 3. WHAT IS A CONFINED SPACE?

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The *Work Health & Safety Regulation 2017 (NSW)* defines a confined space as an enclosed or partially enclosed space that:

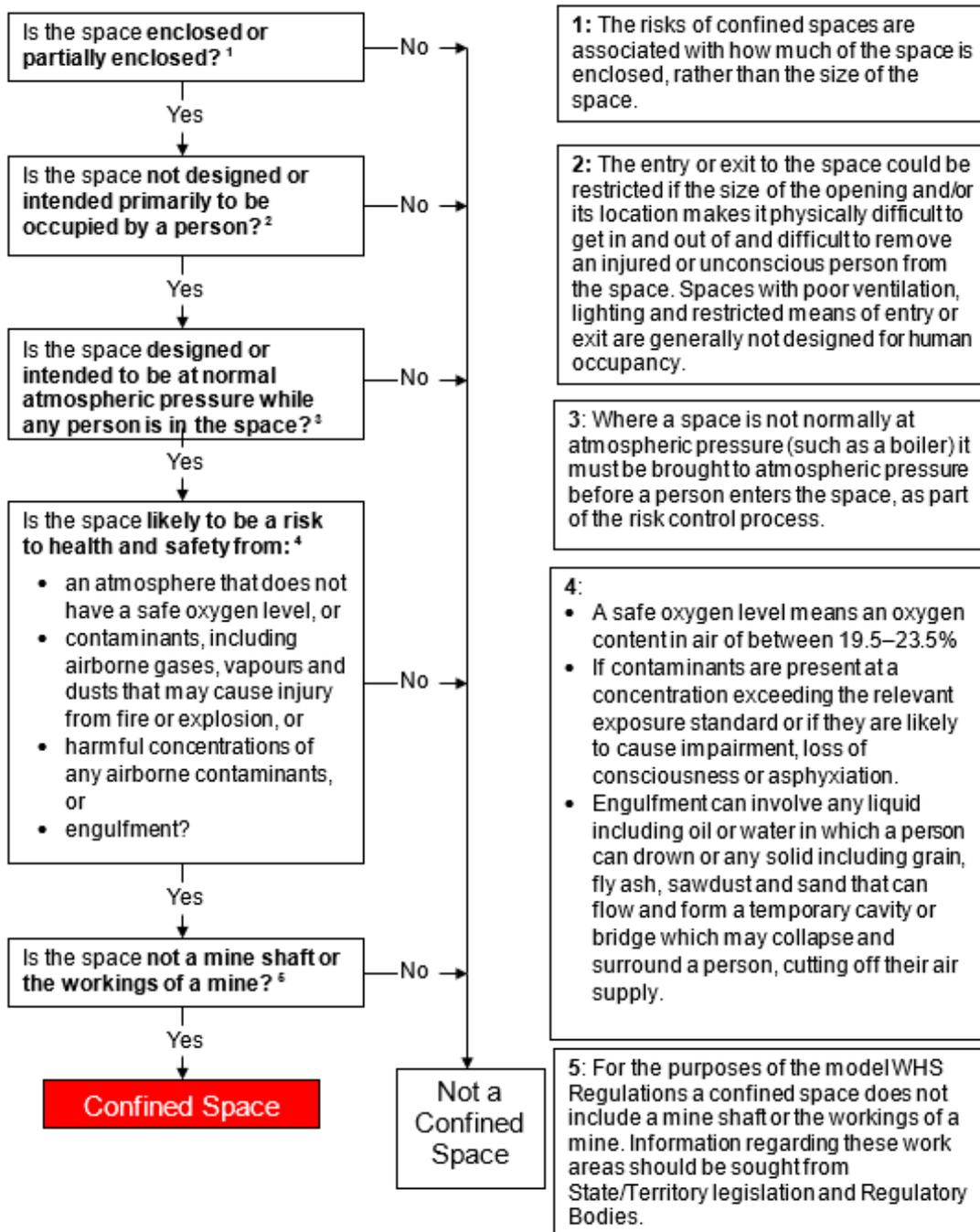
- a) is not designed or intended primarily to be occupied by a person; and
- b) is, or is designed or intended to be, at normal atmospheric pressure while any person is in the space, and
- c) is or is likely to be a risk to health and safety from:
  - i. an atmosphere that does not have a safe oxygen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

Note: The above definition does not include a mine shaft or the workings of a mine.

Section 66 (1) of the *Work Health and Safety Regulations 2017 (NSW)* states that 'a PCBU must manage risks to health and safety associated with a confined space at a workplace including risks associated with entering, working in, on or in the vicinity of the confined space (including a risk of a person inadvertently entering the confined space'.

Section 62 (2) of the Regulations also state that the requirements relating to confined spaces within the Regulations refer to confined spaces that are under the PCBUs management or control. For this reason, confined spaces that are identified on site but that fall under the management or control of another PCBU have not been included in this report. Examples of such confined spaces include storm water drains and sewer pits (managed by the local water authority), and underground electrical substations (managed by the local power authority).

Further explanation of a confined space definition is explained in the figure on the next page.



Source: Compliance Code: Confined Spaces 2019

## 4. RISK ASSESSMENT

Risk assessments have been conducted for each confined space identified on site. The risk assessments considered the nature of the confined space, including its location, frequency of entry, work performed, the nature of the potential hazards present and the controls currently in place. Each identified potential hazard was risk assessed, based on the likelihood of an event occurring, and the consequence or outcome of that event in general terms. An overall risk rating of Low, Medium, High, Very High or Extreme was then assigned to each hazard using the provided risk assessment matrix (refer to Risk Matrix below).

The assessment of the risk is a subjective assessment and is to be used for guidance purposes in relation to selecting and implementing corrective actions.

Risk Matrix					
LIKELIHOOD	CONSEQUENCE				
	Insignificant (No injuries)	Minor (First aid only)	Moderate (Medical treatment)	Major (Extensive injuries, loss of production)	Catastrophic (Fatality / permanent disability)
<b>Almost Certain</b> (Expected in most circumstances)	Medium	High	Very High	Extreme	Extreme
<b>Likely</b> (Will probably occur in most circumstances)	Medium	High	Very High	Extreme	Extreme
<b>Possible</b> (Might occur at some time)	Low	Medium	High	Very High	Extreme
<b>Unlikely</b> (Not likely to occur)	Low	Low	Medium	High	Very High
<b>Rare</b> (May occur only in exceptional circumstances)	Low	Low	Medium	High	High

Where the hazards associated with work in particular confined spaces are similar in nature, a group risk assessment has been prepared. Separate space specific risk assessments will be prepared for any confined spaces identified as having unique hazards or risks that are different to the group risk assessment.

Refer to **Appendix B** for confined space risk assessments.

## 5. FINDINGS

The following findings are based on the site inspection, discussions with site personnel, and review of relevant documentation:

- A total of 154 confined spaces were identified at the site.
- A number of the spaces were correctly signposted as confined spaces, however the majority of the spaces were not signposted.
- All confined spaces appeared to be appropriately secured from unauthorised access at the time of the assessment.

Note: Refer to **Appendix A** for the confined space register and **Appendix C** for photographs.

## 6. RECOMMENDED ACTIONS

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The following actions are recommended, based on the above findings:

- Ensure a task specific risk assessment is conducted within the space prior to commencing any works.
- Ensure all confined spaces are appropriately signposted. Ensure the signage complies with AS 2865:2009 *Confined Spaces*, Section 3.2.2. Refer to **Appendix D** for examples of confined space safety signage.
- Ensure and implement a confined space entry permit system for the site. The permit should include space for details regarding plant and service isolations, space specific risk assessment, atmospheric testing results, risk control measures to be utilised, PPE required, and emergency rescue procedures.
- Ensure the confined space entry permit includes a procedure for the isolation and tag out of plant and services associated with work in confined spaces.
- Ensure all staff and contractors working within areas containing confined spaces at the site are provided with appropriate information, instruction and training to ensure they are able to work safely in these areas. It is recommended that this be managed within the site induction.
- Although it was not possible to access the spaces at the time of the inspection, they have been deemed to be a confined space (in order to take a precautionary approach) and should continue to be treated as such until confirmed as otherwise.
- Avoid entering the confined spaces if possible e.g. conduct cleaning/maintenance activities from outside etc.
- Ensure that the person responsible for the confined space work issues an entry permit prior to any persons entering the confined space.
- Ensure task specific emergency rescue procedures and equipment are available and readily accessible during any confined space work.
- All works and access in relation to confined spaces must be undertaken in accordance with the *Work Health and Safety Regulation 2017 (NSW)*, the *Code of Practice: Confined Spaces (SafeWork NSW, 2019)* and AS 2865:2009 *Confined Spaces*.
- TTC is able to assist the client to implement the above recommended actions.

## 7. REFERENCES

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- *Work Health and Safety Act 2011 (NSW)*.
- *Work Health and Safety Regulation 2017 (NSW)*.
- *Code of Practice: Confined Spaces (SafeWork NSW, 2019)*.
- *Australian Standard 2865:2009 Confined Spaces*.

## 8. LIMITATIONS

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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, and interviews with individuals with relevant information about the site. 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.

No warranty, undertaking, or guarantee, whether expressed or implied, is made with respect to the data reported or to the findings, observations, and recommendations expressed in this report. Furthermore, such data, findings, observations, and recommendations are based solely upon existence at the time of the assessment. 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, 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.

## APPENDIX A: CONFINED SPACES REGISTER

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Confined Spaces Assessment

Confined Spaces Register								
Space ID	Type	Level	Location / Comments	Secure	Signage	Dimensions	Risk Assessment	Photo
<b>BUILDING 1</b>								
001-002	Unknown Pit x 2	G	External, north west corner of building	Yes	Yes	Unknown	A	1
003	Sewer Pit	G	External, north west corner of building	Yes	Yes	Unknown	D	2
004-009	Stormwater Pit x 6	G	External, north side of building	Yes	No	Unknown	B	-
010-012	Stormwater Pit x 3	G	External, west side of building	Yes	No	Unknown	B	-
013-018	Stormwater Pit x 6	G	External, south side of building	Yes	No	Unknown	B	-
019-021	Stormwater Pit x 3	G	External, east side of building	Yes	No	Unknown	B	-
022-024	Stormwater Pit x 3	G	External, north east side of site, driveway area	Yes	No	Unknown	B	3
025-031	Stormwater Pit x 7	G	External, carpark area on south west side of site	Yes	No	Unknown	B	-
<b>BUILDING 2</b>								
032	Sewer Pit	G	External, south side, on driveway	Yes	Yes	Unknown	D	4
033	Sewer Pit	G	External, south side, on driveway	Yes	Yes	Unknown	D	5

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034-035	Stormwater Pit x 2	G	External, south side, on driveway	Yes	No	Unknown	B	-
036-038	Stormwater Pit x 3	G	External, southern carpark, west side	Yes	No	Unknown	B	6
039	Stormwater Pit	G	External, southern carpark, south side	Yes	No	Unknown	B	-
040-042	Stormwater Pit x 3	G	External, southern carpark, east side	Yes	No	Unknown	B	-
043-045	Stormwater Pit x 3	G	External, east side of building	Yes	No	Unknown	B	-
<b>BUILDING 3</b>								
046	Sewer Pit	G	External, south side, adjacent driveway	Yes	Yes	Unknown	D	7
047-051	Stormwater Pit x 5	G	External, east side, carpark area	Yes	Yes	Unknown	B	-
052	Water tank	G	External, east side, adjacent to fire pump room	Yes	No	~458m <sup>3</sup>	C	8
053-058	Stormwater Pit x 6	G	External, north side of building	Yes	Yes	Unknown	B	9
059	Stormwater Pit	G	External, north west corner of building	Yes	No	Unknown	B	10
060-061	Water Tank x 2	G	External, north west side of building	Yes	No	~20m <sup>3</sup>	C	11
062-063	Stormwater Pit x 2	G	External, north west walkway of building adjacent water tanks	Yes	No	Unknown	B	-
064	Unknown Pit	G	External, west side, adjacent water tanks	Yes	Yes	Unknown	A	12

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065-069	Stormwater Pit x 5	G	External, west side of building, carpark area	Yes	Yes	Unknown	B	-
070	Sewer Pit	G	External, west side of building, carpark area	Yes	Yes	Unknown	D	13
071	Sewer Pit	G	External, south west corner	Yes	Yes	Unknown	A	14
072-073	Stormwater Pit x 2	G	External, south west corner	Yes	No	Unknown	B	-
074	Sewer Pit	G	External, south side of building	Yes	Yes	Unknown	D	15
075-081	Stormwater Pit x 7	G	External, south side of building	Yes	No	Unknown	B	-
082-085	Stormwater Pit x 4		External south side of building	Yes	No	Unknown	B	-
<b>BUILDING 4</b>								
086	Unknown Pit	G	External, adjacent entrance, below sign	Yes	No	Unknown	A	16
087-088	Stormwater Pit x 2	G	External, south eastern area of northern carpark	Yes	No	Unknown	B	17
089	Unknown Pit	G	External, south eastern area of northern carpark	Yes	No	Unknown	A	18
090	Unknown Pit	G	External, southern east area of northern carpark	Yes	Yes	Unknown	A	19
091	Unknown Pit	G	External, southern east area of northern carpark	Yes	No	Unknown	A	20
092-098	Stormwater Pit x 7	G	External, throughout northern carpark	Yes	No	Unknown	B	-
099	Unknown Pit	G	External, northern carpark, south side	Yes	Yes	Unknown	A	21

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100	Unknown Pit	G	External, northern carpark, south side	Yes	No	Unknown	A	22
101	Unknown Pit	G	External, northern carpark, north side	Yes	Yes	Unknown	A	23
102	Unknown Pit	G	External, northern carpark, north side	Yes	Yes	Unknown	A	24
103	Unknown Pit	G	External, northern carpark, north corner	Yes	No	Unknown	A	25
104	Unknown Pit	G	External, northern carpark, north corner	Yes	Yes	Unknown	A	-
105-110	Unknown Pit x 6	G	External, east side of building	Yes	Yes x 1 No x 5	Unknown	A	26
111	Stormwater Pit	G	External, east side of building	Yes	No	Unknown	B	-
112-114	Unknown Pit x 3	G	External, east side of building	Yes	Yes x 1 No x 2	Unknown	A	27
115-120	Stormwater Pit x 6	G	External, east side of building, on driveway	Yes	No	Unknown	B	28
121	Water Tank	G	External, east side of building	Yes	Yes	~770m <sup>3</sup>	C	29
122	Water Tank	G	External, east side of building	Yes	No	~5m <sup>3</sup>	C	29
123-124	Unknown Pit x 2	G	External, east side, adjacent water tank, under stored items	Yes	No	Unknown	A	30
125	Unknown Pit	G	External, east side, adjacent water tank, in front of fire door	Yes	Yes	Unknown	A	31
<b>BUILDING 5</b>								
126	Water Tank	G	External, east side of building	Yes	No	~300m <sup>3</sup>	C	32
127	Unknown Pit	G	External, east side of building, in front of water tank	Yes	Yes	Unknown	A	33

Confined Spaces Assessment

128	Unknown Pit	G	External, east side of building, in front of water tank ladder	Yes	No	Unknown	A	34
129	Water Tank	G	External, north west side of carpark	Yes	No	~50m <sup>3</sup>	C	35
130-132	Unknown Pit x 3	G	External, north side carpark	Yes		Unknown	A	-
133-139	Stormwater Pit x 7	G	External, north side carpark	Yes		Unknown	B	36
140-146	Stormwater Pit x 7	G	External, east side of building	Yes		Unknown	B	-
147-154	Stormwater Pit x 8	G	External, west side of the building – limited access due to vegetation	Yes		Unknown	B	-

## APPENDIX B: CONFINED SPACE RISK ASSESSMENTS

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Risk Assessment A: Unknown Pit		
<b>Does the space meet the requirements of a Confined Space?</b> (If the answer to A, B and at least one part of C is yes, then the space is a confined space and requires a risk assessment).		YES
A.	Is the space designed or intended primarily not to be occupied by a person?	YES
B.	Is the space designed or intended to be, at normal atmospheric pressure while any person is in the space?	YES
C.	Is the space likely to be a risk to health and safety from: <ul style="list-style-type: none"> <li>• an atmosphere that does not have a safe oxygen level?</li> <li>• contaminants, including airborne gases, vapours and dusts, that may cause injury from fire or explosion?</li> <li>• harmful concentrations of any airborne contaminants?</li> <li>• engulfment?</li> </ul>	YES NO NO YES
<b>Works to be completed:</b>	Unknown. Presumed maintenance and/or inspection activities.	
<b>Comments:</b>	The purpose of the pit is unknown. Access within the space was not available at the time of assessment.	
Hazard Types	Risk Rating	Recommended Actions
Restricted entry and egress in an emergency	VH	Wear a safety harness and remain connected to a lifeline at all times. Ensure the standby person remains in constant contact with person(s) entering the space.
Oxygen deficiency whilst work in progress	E	Monitor the atmosphere within the space prior to entering. Only enter the space if oxygen levels are within the safe range (19.5% to 23.5%). Ventilate the space if required. Continually monitor the atmosphere within the space during entry.
Build-up or excess of vapours such as hydrogen sulphide (H <sub>2</sub> S) or carbon monoxide (CO) to concentrations above the workplace exposure standards (WES)	VH	Monitor the atmosphere within the space prior to entering. Purge and ventilate the space if required. Continually monitor the atmosphere within the space during entry.
Build-up of organic vapours to within explosive limits	VH	Monitor the atmosphere within the space prior to entering. Purge and ventilate the space if required. Only enter the space if the concentration of any flammable vapours is less than 5% of its lower explosive limit. Continually monitor the atmosphere within the space during entry. Ensure no ignition sources are located within or introduced into the space.
Airborne dust concentrations above the WES	L	No action required.
Radiation (non-ionising and ionising)	L	No action required.
Noise generated at levels above 85 dB(A)	L	No action required.

Hazard Types	Risk Rating	Recommended Actions
Uncontrolled introduction of substances (e.g. steam, water, gases etc.)	VH	Isolate all services within the space. Ensure no vehicles operate in the vicinity of the entry. Ensure the standby person is monitoring external weather conditions and any other factors that could impact the confined space.
Engulfment	E	Isolate all inflow pipes into the space. Wear a safety harness and remain connected to a lifeline at all times.
Manual handling of covers, lowering equipment into pits	M	Ensure a two-person lift or lifting device is used when lifting or removing covers. Use a winch to lower equipment into the space.
Mechanical hazards (e.g. entanglement, crushing, cutting, etc.)	L	No action required.
Skin contact with hazardous substances and surface contaminants	M	Wear appropriate PPE (e.g. gloves, long sleeve shirt and pants, boots and eye wear).
Slips and trips	H	Wear slip resistant boots.
Falls from height	H	Wear a safety harness and remain connected to a lifeline at all times.
Electrical hazards	VH	Isolate all power sources within the space. Portable electrical equipment should be protected through an RCD, located outside of the space.
Biological hazards (e.g. E-coli)	M	Wear appropriate PPE (e.g. gloves, long sleeve shirt and pants, boots and eye wear). Wash hands and face after exiting the space.
Lack of lighting	M	Use appropriate and safe temporary lighting and/or torch within the space.
Heat and cold stress	L	No action required.
<b>General Recommendations</b>		
<ul style="list-style-type: none"> <li>• Avoid entering the confined space if possible e.g. conduct cleaning activities from outside etc.</li> <li>• Ensure access to the confined space remains secure at all times.</li> <li>• Only authorised personnel are to access the confined space.</li> <li>• All works and access in relation to confined spaces must be undertaken in accordance with AS 2865-2009.</li> <li>• Ensure that the person responsible for the confined space work issues an entry permit prior to any persons entering the confined space.</li> <li>• Ensure contractors are appropriately trained to undertake confined space entry and standby duties.</li> <li>• Ensure site specific emergency rescue procedures and equipment are available and readily accessible during any confined space work.</li> <li>• Ensure contractor safe work method statement (SWMS) addresses working at heights and traffic management issues.</li> <li>• Ensure suitable PPE is available and appropriately maintained.</li> <li>• Ensure a task specific risk assessment is conducted within the space prior to commencing any works.</li> <li>• Although it was not possible to access the space at the time of the assessment, it has been deemed to be a confined space (in order to take a precautionary approach) and should continue to be treated as such until confirmed as otherwise.</li> </ul>		

Risk Assessment B: Storm Water Drain		
<b>Does the space meet the requirements of a Confined Space?</b> (If the answer to A, B and at least one part of C is yes, then the space is a confined space and requires a risk assessment).		YES
A. Is the space designed or intended primarily not to be occupied by a person?		YES
B. Is the space designed or intended to be, at normal atmospheric pressure while any person is in the space?		YES
C. Is the space likely to be a risk to health and safety from:		YES NO NO YES
<b>Works to be completed:</b>	Maintenance and inspection activities.	
<b>Comments:</b>	Access to space is restricted. No access gained during assessment.	
Hazard Types	Risk Rating	Recommended Actions
Restricted entry and egress in an emergency	VH	Wear a safety harness and remain connected to a lifeline at all times. Ensure the standby person remains in constant contact with person(s) entering the space.
Oxygen deficiency whilst work in progress	E	Monitor the atmosphere within the space prior to entering. Only enter the space if oxygen levels are within the safe range (19.5% to 23.5%). Ventilate the space if required. Continually monitor the atmosphere within the space during entry.
Build-up or excess of vapours such as hydrogen sulphide (H <sub>2</sub> S) or carbon monoxide (CO) to concentrations above the workplace exposure standards (WES)	H	Monitor the atmosphere within the space prior to entering. Purge and ventilate the space if required. Continually monitor the atmosphere within the space during entry.
Build-up of organic vapours to within explosive limits	H	Monitor the atmosphere within the space prior to entering. Purge and ventilate the space if required. Only enter the space if the concentration of any flammable vapours is less than 5% of its lower explosive limit. Continually monitor the atmosphere within the space during entry. Ensure no ignition sources are located within or introduced into the space.
Airborne dust concentrations above the WES	L	No action required.
Radiation (non-ionising and ionising)	L	No action required.
Noise generated at levels above 85 dB(A)	L	No action required.
Uncontrolled introduction of substances (e.g. steam, water, gases etc.)	E	Isolate all services within the space. Ensure no vehicles operate in the vicinity of the entry. Ensure the standby person is monitoring external weather conditions and any other factors that could impact the confined space.

Hazard Types	Risk Rating	Recommended Actions
Engulfment	E	Isolate all inflow pipes into the space. Wear a safety harness and remain connected to a lifeline at all times.
Manual handling of covers, lowering equipment into pits	M	Ensure a two-person lift or lifting device is used when lifting or removing covers. Use a winch to lower equipment into the space.
Mechanical hazards (e.g. entanglement, crushing, cutting, etc.)	L	No action required.
Skin contact with hazardous substances and surface contaminants	M	Wear appropriate PPE (e.g. gloves, long sleeve shirt and pants, boots and eye wear).
Slips and trips	H	Wear slip resistant boots.
Falls from height	VH	Wear a safety harness and remain connected to a lifeline at all times.
Electrical hazards	M	Portable electrical equipment should be protected through an RCD, located outside of the space.
Biological hazards (e.g. E-coli)	H	Wear appropriate PPE (e.g. gloves, long sleeve shirt and pants, boots and eye wear). Wash hands and face after exiting the space.
Lack of lighting	H	Use appropriate and safe temporary lighting and/or torch within the space.
Heat and cold stress	L	No action required.
<b>General Recommendations</b>		
<ul style="list-style-type: none"> <li>• Avoid entering the confined space if possible e.g. conduct cleaning activities from outside etc.</li> <li>• Ensure access to the confined space remains secure at all times.</li> <li>• Only authorised personnel are to access the confined space.</li> <li>• All works and access in relation to confined spaces must be undertaken in accordance with AS 2865-2009.</li> <li>• Ensure that the person responsible for the confined space work issues an entry permit prior to any persons entering the confined space.</li> <li>• Ensure contractors are appropriately trained to undertake confined space entry and standby duties.</li> <li>• Ensure site specific emergency rescue procedures and equipment are available and readily accessible during any confined space work.</li> <li>• Ensure contractor safe work method statement (SWMS) addresses working at heights and traffic management issues.</li> <li>• Ensure suitable PPE is available and appropriately maintained.</li> <li>• Ensure a task specific risk assessment is conducted within the space prior to commencing any works.</li> <li>• Although it was not possible to access the space at the time of the assessment, it has been deemed to be a confined space (in order to take a precautionary approach) and should continue to be treated as such until confirmed as otherwise.</li> </ul>		

Risk Assessment C: Water Tank		
<b>Does the space meet the requirements of a Confined Space?</b> (If the answer to A, B and at least one part of C is yes, then the space is a confined space and requires a risk assessment).		<b>YES</b>
A. Is the space designed or intended primarily not to be occupied by a person?		YES
B. Is the space designed or intended to be, at normal atmospheric pressure while any person is in the space?		YES
C. Is the space likely to be a risk to health and safety from:		
<ul style="list-style-type: none"> <li>• an atmosphere that does not have a safe oxygen level?</li> <li>• contaminants, including airborne gases, vapours and dusts, that may cause injury from fire or explosion?</li> <li>• harmful concentrations of any airborne contaminants?</li> <li>• engulfment?</li> </ul>		YES NO NO YES
<b>Works to be completed:</b>	Cleaning and maintenance activities.	
<b>Comments:</b>	Access to space is restricted. No access gained during assessment.	
Hazard Types	Risk Rating	Recommended Actions
Restricted entry and egress in an emergency	VH	Wear a safety harness and remain connected to a lifeline at all times. Ensure the standby person remains in constant contact with person(s) entering the space.
Oxygen deficiency whilst work in progress	E	Monitor the atmosphere within the space prior to entering. Only enter the space if oxygen levels are within the safe range (19.5% to 23.5%). Ventilate the space if required. Continually monitor the atmosphere within the space during entry.
Build-up or excess of vapours such as hydrogen sulphide (H <sub>2</sub> S) or carbon monoxide (CO) to concentrations above the workplace exposure standards (WES)	L	No action required.
Build-up of organic vapours to within explosive limits	L	No action required.
Airborne dust concentrations above the WES	L	No action required.
Radiation (non-ionising and ionising)	L	No action required.
Noise generated at levels above 85 dB(A)	L	No action required.
Uncontrolled introduction of substances (e.g. steam, water, gases etc.)	VH	Isolate all inflow pipes into the space.
Engulfment	E	Isolate all inflow pipes into the space. Wear a safety harness and remain connected to a lifeline at all times.

Hazard Types	Risk Rating	Recommended Actions
Manual handling of covers, lowering equipment into pits	M	Use a winch or rope pulley system to lower equipment into the tank.
Mechanical hazards (e.g. entanglement, crushing, cutting, etc.)	L	No action required.
Skin contact with hazardous substances and surface contaminants	L	No action required.
Slips and trips	M	Wear slip resistant boots.
Falls from height	VH	Wear a safety harness and remain connected to a lifeline at all times.
Electrical hazards	M	Portable electrical equipment should be protected through an RCD, located outside of the space.
Biological hazards (e.g. E-coli)	M	Wear appropriate PPE (e.g. gloves, long sleeve shirt and pants, boots and eye wear). Wash hands and face after exiting the space.
Lack of lighting	H	Use appropriate and safe temporary lighting and/or torch within the space.
Heat and cold stress	L	No action required.
<b>General Recommendations</b>		
<ul style="list-style-type: none"> <li>• Avoid entering the confined space if possible e.g. conduct cleaning activities from outside etc.</li> <li>• Ensure access to the confined space remains secure at all times.</li> <li>• Only authorised personnel are to access the confined space.</li> <li>• All works and access in relation to confined spaces must be undertaken in accordance with AS 2865-2009.</li> <li>• Ensure that the person responsible for the confined space work issues an entry permit prior to any persons entering the confined space.</li> <li>• Ensure contractors are appropriately trained to undertake confined space entry and standby duties.</li> <li>• Ensure site specific emergency rescue procedures and equipment are available and readily accessible during any confined space work.</li> <li>• Ensure contractor safe work method statement (SWMS) addresses working at heights issues.</li> <li>• Ensure suitable PPE is available and appropriately maintained.</li> <li>• Ensure a task specific risk assessment is conducted within the space prior to commencing any works.</li> <li>• Although it was not possible to access the space at the time of the assessment, it has been deemed to be a confined space (in order to take a precautionary approach) and should continue to be treated as such until confirmed as otherwise.</li> </ul>		

Risk Assessment D: Sewer Pit		
<b>Does the space meet the requirements of a Confined Space?</b> (If the answer to A, B, and at least one part of C is yes, then the space is a confined space and requires a risk assessment).		YES
A. Is the space intended to be, or is likely to be, entered by any person?		YES
B. Does the space have a limited or restricted means for entry or exit that makes it physically difficult for a person to enter or exit the space?		YES
C. Is the space likely to be a risk to health and safety from:		
<ul style="list-style-type: none"> <li>• an atmosphere that does not have a safe oxygen level?</li> <li>• contaminants, including airborne gases, vapours and dusts, that may cause injury from fire or explosion?</li> <li>• harmful concentrations of any airborne contaminants?</li> <li>• engulfment?</li> </ul>		YES YES YES NO
<b>Works to be completed:</b>	Maintenance and inspection activities.	
<b>Comments:</b>	Access to space is restricted. No access gained during assessment.	
Hazard Types	Risk Rating	Recommended Actions
Restricted entry and egress in an emergency	VH	Wear a safety harness and remain connected to a lifeline at all times. Ensure the standby person remains in constant contact with person(s) entering the space.
Oxygen deficiency whilst work in progress	E	Monitor the atmosphere within the space prior to entering. Only enter the space if oxygen levels are within the safe range (19.5% to 23.5%). Ventilate the space if required. Continually monitor the atmosphere within the space during entry.
Build-up or excess of vapours such as hydrogen sulphide (H <sub>2</sub> S) or carbon monoxide (CO) to concentrations above the workplace exposure standards (WES)	E	Monitor the atmosphere within the space prior to entering. Purge and ventilate the space if required. Continually monitor the atmosphere within the space during entry.
Build-up of organic vapours to within explosive limits	E	Monitor the atmosphere within the space prior to entering. Purge and ventilate the space if required. Only enter the space if the concentration of any flammable vapours is less than 5% of its lower explosive limit. Continually monitor the atmosphere within the space during entry. Ensure no ignition sources are located within or introduced into the space.
Airborne dust concentrations above the WES	L	No action required.
Radiation (non-ionising and ionising)	L	No action required.
Noise generated at levels above 85 dB(A)	L	No action required.
Uncontrolled introduction of substances (e.g. steam, water, gases etc.)	E	Isolate all services within the space. Ensure no vehicles operate in the vicinity of the entry. Ensure the standby person is monitoring external weather conditions and any other factors that could impact the confined space.

Hazard Types	Risk Rating	Recommended Actions
Engulfment	E	Isolate all inflow pipes into the space. Wear a safety harness and remain connected to a lifeline at all times.
Manual handling of covers, lowering equipment into pits	M	Ensure a two-person lift or lifting device is used when lifting or removing covers. Use a winch to lower equipment into the space.
Mechanical hazards (e.g. entanglement, crushing, cutting, etc.)	L	No action required.
Skin contact with hazardous substances and surface contaminants	H	Wear appropriate PPE (e.g. gloves, long sleeve shirt and pants, boots and eye wear).
Slips and trips	H	Wear slip resistant boots.
Falls from height	VH	Wear a safety harness and remain connected to a lifeline at all times.
Electrical hazards	M	Portable electrical equipment should be protected through an RCD, located outside of the space.
Biological hazards (e.g. E-coli)	H	Wear appropriate PPE (e.g. gloves, long sleeve shirt and pants, boots and eye wear). Wash hands and face after exiting the space.
Lack of lighting	H	Use appropriate and safe temporary lighting and/or torch within the space.
Heat and cold stress	L	No action required.
<b>General Recommendations</b>		
<ul style="list-style-type: none"> <li>• Avoid entering the confined space if possible e.g. conduct cleaning activities from outside etc.</li> <li>• Ensure access to the confined space remains secure at all times.</li> <li>• Only authorised personnel are to access the confined space.</li> <li>• All works and access in relation to confined spaces must be undertaken in accordance with AS 2865-2009.</li> <li>• Ensure that the person responsible for the confined space work issues an entry permit prior to any persons entering the confined space.</li> <li>• Ensure contractors are appropriately trained to undertake confined space entry and standby duties.</li> <li>• Ensure site specific emergency rescue procedures and equipment are available and readily accessible during any confined space work.</li> <li>• Ensure contractor safe work method statement (SWMS) addresses working at heights and traffic management issues.</li> <li>• Ensure suitable PPE is available and appropriately maintained.</li> <li>• Ensure a task specific risk assessment is conducted within the space prior to commencing any works.</li> <li>• Although it was not possible to access the space at the time of the assessment, it has been deemed to be a confined space (in order to take a precautionary approach) and should continue to be treated as such until confirmed as otherwise.</li> </ul>		

## APPENDIX C: PHOTOGRAPHS

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BUILDING 1



**Photo 01.** External, south west corner of building, Unknown Pit



**Photo 02.** External, north west corner of building, Sewer Pit



**Photo 03.** External, south west side of site, driveway area, Stormwater Pit

BUILDING 2



**Photo 04.** External, south side, on driveway, Sewer Pit



**Photo 05.** External, south side, on driveway, Sewer Pit



**Photo 06.** External, southern carpark, western side, Stormwater Pit

Building 3



**Photo 07.** External, south side, adjacent driveway, Sewer Pit



**Photo 08.** External, eastside, adjacent fire pump room, Water Tank



**Photo 09.** External, north side of building, Stormwater Pit



**Photo 10.** External, north west corner of building, Stormwater Pit



**Photo 11.** External, north west side of building, Water Tank x 2



**Photo 12.** External west side, adjacent water tanks, Unknown Pit



**Photo 13.** External, west side of building, carpark area, Sewer Pit



**Photo 14.** External, south west corner, Sewer Pit and Stormwater Pit



**Photo 15.** External, south side of building, Sewer Pit

BUILDING 4



**Photo 16.** External, adjacent entrance, below sign, Unknown Pit



**Photo 17.** External, south eastern area of northern carpark, Stormwater Pit



**Photo 18.** External, south eastern area of northern carpark, Unknown Pit



**Photo 19.** External, south eastern area of northern carpark, Unknown Pit



**Photo 20.** External, south eastern area of northern carpark in front of fire door, Unknown Pit



**Photo 21.** External, northern carpark, south side, Unknown Pit



**Photo 22.** External, northern carpark, south side, Unknown Pit



**Photo 23.** External, northern carpark, north side, Unknown Pit



**Photo 24.** External, northern carpark, north side Unknown Pit



**Photo 25.** External, northern carpark, north corner, Unknown Pit



**Photo 26.** External, east side of building, Unknown Pit x 6



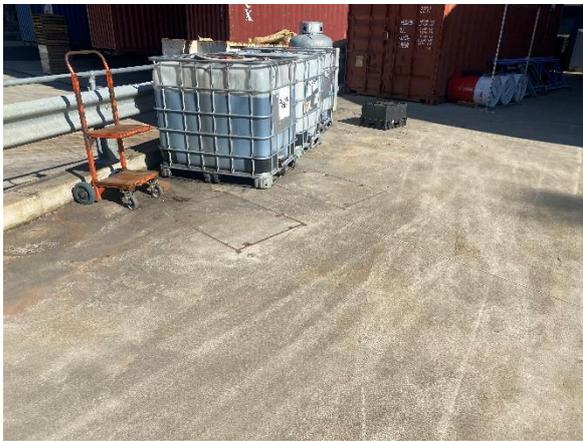
**Photo 27.** External, east side of building, Unknown Pit



**Photo 28.** External, east side of building, on driveway, Stormwater Pit



**Photo 29.** External, east side of building, Water Tank x 2



**Photo 30.** External, east side, adjacent water tank, under stored items, Unknown Pit



**Photo 31.** External, east side, adjacent water tank, in front of fire door, Unknown Pit

BUILDING 5



**Photo 32.** External, east side of building, Water Tank



**Photo 33.** External, east side of building, in front of water tank, Unknown Pit



**Photo 34.** External, east side of building, in front of water tank ladder, Unknown Pit



**Photo 35.** External, north west side of carpark Unknown Pit



**Photo 36.** External, north side carpark, Stormwater Pit

## APPENDIX D: 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 on the access hatch.



**Example B:** Another fixed confined space warning sign that can be established in a prominent position adjacent the confined space or on the access hatch. The warning signage carries brief information that would need to be listed in the confined space entry permit.



**Example C:** Mobile confined space warning sign that can be established in a prominent position adjacent the confined space while works are in progress.

