TETRA TECH COFFEY

Mirvac Real Estate Pty Ltd

Confined Spaces Assessment

255 Elizabeth Street, Sydney, NSW 2000

12 January 2024

Project Ref: 754-SYDEN228268-255 Elizabeth Street Confined Space Report Dec 2023

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CONFINED SPACES ASSESSMENT

Prepared for
Mirvac Real Estate Pty Ltd

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EXECUTIVE SUMMARY

Tetra Tech Coffey Pty Ltd (Tetra Tech) was commissioned by Mirvac Real Estate Pty Ltd (the client) to conduct a confined spaces assessment at 255 Elizabeth Street, Sydney, NSW 2000. Ben McCann of Tetra Tech carried out the assessment on 11th December 2023. 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 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 13 confined spaces were identified at the site.
- The majority of the identified confined spaces were appropriately signposted, however a cooling tower (CT3) on Level 16 was not signposted. The signage to the underground diesel tank on Level B6 was faded and the signage to the water tank on Level 16 was obstructed and not clearly visible.
- 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 each space prior to commencing any works.
- Ensure the cooling tower (CT3) on Level 16 is appropriately signposted. Replace the signage to the underground diesel tank on Level B6 and the water tank on Level 16 to ensure they are completely visible to workers. 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.

- 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 A*S 2865:2009 Confined Spaces*.
- Tetra Tech is able to assist the client to implement the above recommended actions.

1. INTRODUCTION

Tetra Tech Coffey Pty Ltd (Tetra Tech) was commissioned by Mirvac Real Estate Pty Ltd (the client) to conduct a confined spaces assessment at 255 Elizabeth Street, Sydney, NSW 2000. Ben McCann of Tetra Tech carried out the assessment on 11th December 2023. 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 specific risk assessment is required prior to entering any confined spaces identified in this report.

1.1 Site Description

The site consisted of a 16-level office building with 6 basement levels and plant rooms on the upper levels. The building was occupied at the time of the assessment.

2. SCOPE

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 cars and stored items.
- Occupied rooms and tenanted areas.
- Roof areas.

3. WHAT IS A CONFINED SPACE?

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.

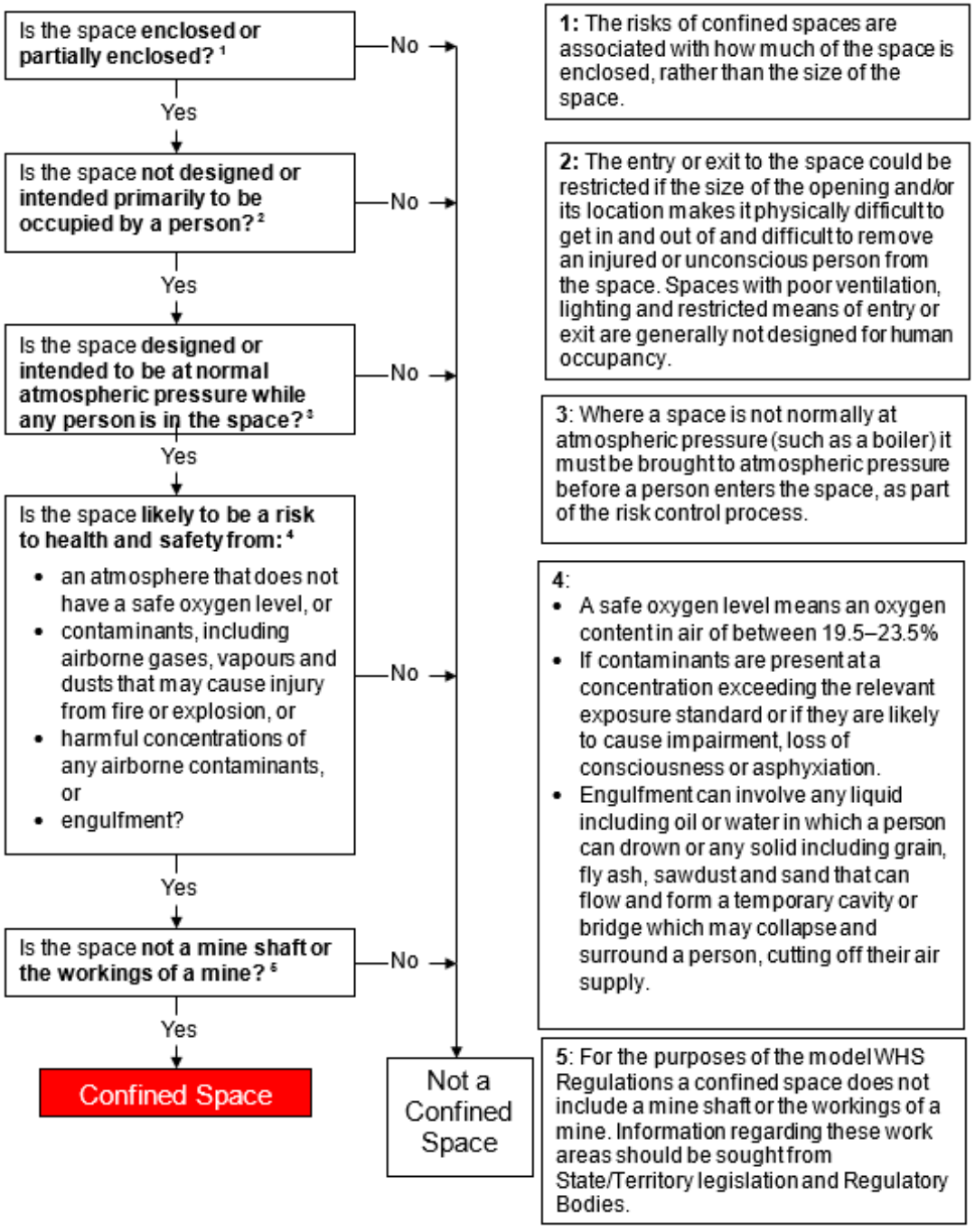
Note: The above definition does not include a mine shaft or the workings of a mine.

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 below:



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)
Almost Certain (Expected in most circumstances)	Medium	High	Very High	Extreme	Extreme
Likely (Will probably occur in most circumstances)	Medium	High	Very High	Extreme	Extreme
Possible (Might occur at some time)	Low	Medium	High	Very High	Extreme
Unlikely (Not likely to occur)	Low	Low	Medium	High	Very High
Rare (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 13 confined spaces were identified at the site.
- The majority of the identified confined spaces were appropriately signposted, however a cooling tower (CT3) on Level 16 was not signposted. The signage to the underground diesel tank on Level B6 was faded and the signage to the water tank on Level 16 was obstructed and not clearly visible.
- 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

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

- Ensure a task specific risk assessment is conducted within each space prior to commencing any works.
- Ensure the cooling tower (CT3) on Level 16 is appropriately signposted. Replace the signage to the underground diesel tank on Level B6 and the water tank on Level 16 to ensure they are completely visible to workers. 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.
- 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 A*S 2865:2009 Confined Spaces*.
- Tetra Tech is able to assist the client to implement the above recommended actions.

7. REFERENCES

- *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

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

Confined Spaces Register								
Space ID	Type	Level	Location / Comments	Secure	Signage	Dimensions	Risk Assessment	Photo
001	Grease Trap	B1	Grease Trap Room	Yes	Yes	4 m^3	E	01
002	Void	B1	Adjacent ramp	Yes	Yes	Unknown	G	02
003 & 004	Void x 2	B2	Behind parking bays 19 and 24	Yes	Yes	Unknown	G	03 & 04
005	Unknown Underground Pit	B2	Fan Room	Yes	Yes	Unknown	D	05
006	Void	B4	Parking bay 67	Yes	Yes	Unknown	G	06
007	Sewerage Storage Tank	B6	Parking bay 123	Yes	Yes	Unknown	C	07
008	Underground Diesel Tank	B6	Parking bays 137 and 138	Yes	**Yes (faded)**	Unknown	B	08
009	Sprinkler Water Tank	B6	Parking bays 141-145	Yes	Yes	100 m^3	A	09
010	Void	B6	Sprinkler Pump Room	Yes	Yes	Unknown	G	10
011	Water Tank	16	Cooling Tower Room	Yes	**Yes (obstructed)**	28 m^3	A	11
012	Cooling Tower (CT3)	16	Cooling Tower Room	Yes	**No**	15 m^3	F	12
013	Hydrant Water Tank	16	Cooling Tower Room	Yes	Yes	14 m^3	A	13

APPENDIX B: CONFINED SPACE RISK ASSESSMENTS

Risk Assessment A: Water Tank		
Does the space meet the requirements of a Confined Space? (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: • an atmosphere that does not have a safe oxygen level? • contaminants, including airborne gases, vapours and dusts, that may cause injury from fire or explosion? • harmful concentrations of any airborne contaminants? • engulfment?		 YES NO NO YES
Works to be completed:	Cleaning and maintenance activities.	
Comments:	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_2S) 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)	M	Wear appropriate hearing protection PPE when accessing plant rooms (required for access to the space).
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.

General Recommendations

- Avoid entering the confined space if possible e.g. conduct cleaning activities from outside etc.
- Ensure access to the confined space remains secure at all times.
- Only authorised personnel are to access the confined space.
- All works and access in relation to confined spaces must be undertaken in accordance with AS 2865-2009.
- Ensure that the person responsible for the confined space work issues an entry permit prior to any persons entering the confined space.
- Ensure contractors are appropriately trained to undertake confined space entry and standby duties.
- Ensure site specific emergency rescue procedures and equipment are available and readily accessible during any confined space work.
- Ensure contractor safe work method statement (SWMS) addresses working at heights issues.
- Ensure suitable PPE is available and appropriately maintained.
- Ensure a task specific risk assessment is conducted within the space prior to commencing any works.
- 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.

Risk Assessment B: Underground Diesel Tank		
Does the space meet the requirements of a Confined Space? (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: • an atmosphere that does not have a safe oxygen level? • contaminants, including airborne gases, vapours and dusts, that may cause injury from fire or explosion? • harmful concentrations of any airborne contaminants? • engulfment?		 YES YES YES YES
Works to be completed:	Cleaning and maintenance activities.	
Comments:	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_2S) 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	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.)	VH	Isolate all inflow pipes into the 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 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	M	Wear appropriate PPE (e.g. gloves, long sleeve shirt and pants, boots and eye wear).
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)	L	No action required.
Lack of lighting	H	Use appropriate and safe temporary lighting and/or torch within the space.
Heat and cold stress	L	No action required.

General Recommendations

- Avoid entering the confined space if possible e.g. conduct cleaning activities from outside etc.
- Ensure access to the confined space remains secure at all times.
- Only authorised personnel are to access the confined space.
- All works and access in relation to confined spaces must be undertaken in accordance with AS 2865-2009.
- Ensure that the person responsible for the confined space work issues an entry permit prior to any persons entering the confined space.
- Ensure contractors are appropriately trained to undertake confined space entry and standby duties.
- Ensure site specific emergency rescue procedures and equipment are available and readily accessible during any confined space work.
- Ensure contractor safe work method statement (SWMS) addresses working at heights issues.
- Ensure suitable PPE is available and appropriately maintained.
- Ensure a task specific risk assessment is conducted within the space prior to commencing any works.
- 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.

Risk Assessment C: Sewerage Storage Pit	
Does the space meet the requirements of a Confined Space? (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:	
• an atmosphere that does not have a safe oxygen level?	YES
• contaminants, including airborne gases, vapours and dusts, that may cause injury from fire or explosion?	YES
• harmful concentrations of any airborne contaminants?	YES
• engulfment?	YES

Works to be completed:	Maintenance and inspection activities.
Comments:	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_2S) 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	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.

General Recommendations

- Avoid entering the confined space if possible e.g. conduct cleaning activities from outside etc.
- Ensure access to the confined space remains secure at all times.
- Only authorised personnel are to access the confined space.
- All works and access in relation to confined spaces must be undertaken in accordance with AS 2865-2009.
- Ensure that the person responsible for the confined space work issues an entry permit prior to any persons entering the confined space.
- Ensure contractors are appropriately trained to undertake confined space entry and standby duties.
- Ensure site specific emergency rescue procedures and equipment are available and readily accessible during any confined space work.
- Ensure contractor safe work method statement (SWMS) addresses working at heights and traffic management issues.
- Ensure suitable PPE is available and appropriately maintained.
- Ensure a task specific risk assessment is conducted within the space prior to commencing any works.
- 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.

Risk Assessment D: Unknown Underground Pit	
Does the space meet the requirements of a Confined Space? (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: • an atmosphere that does not have a safe oxygen level? • contaminants, including airborne gases, vapours and dusts, that may cause injury from fire or explosion? • harmful concentrations of any airborne contaminants? • engulfment?	 YES YES YES YES

Works to be completed:	Unknown. Presumed maintenance and/or inspection activities.
Comments:	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_2S) 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)	M	Isolate machinery. Wear appropriate PPE (e.g. hearing protection).

Hazard Types	Risk Rating	Recommended Actions
Uncontrolled introduction of substances (e.g. steam, water, gases etc.)	VH	Isolate all services within the space. 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.

General Recommendations

- Avoid entering the confined space if possible e.g. conduct cleaning activities from outside etc.
- Ensure access to the confined space remains secure at all times.
- Only authorised personnel are to access the confined space.
- All works and access in relation to confined spaces must be undertaken in accordance with AS 2865-2009.
- Ensure that the person responsible for the confined space work issues an entry permit prior to any persons entering the confined space.
- Ensure contractors are appropriately trained to undertake confined space entry and standby duties.
- Ensure site specific emergency rescue procedures and equipment are available and readily accessible during any confined space work.
- Ensure contractor safe work method statement (SWMS) addresses working at heights issues.
- Ensure suitable PPE is available and appropriately maintained.
- Ensure a task specific risk assessment is conducted within the space prior to commencing any works.
- 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.

Risk Assessment E: Grease Trap		
Does the space meet the requirements of a Confined Space? (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: • an atmosphere that does not have a safe oxygen level? • contaminants, including airborne gases, vapours and dusts, that may cause injury from fire or explosion? • harmful concentrations of any airborne contaminants? • engulfment?		 YES YES YES YES
Works to be completed:	Unknown. Presumed maintenance and/or inspection activities.	
Comments:	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	H	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	VH	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_2S) 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.
Engulfment	VH	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	L	No action required.
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	L	No action required.
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	M	Use appropriate and safe temporary lighting and/or torch within the space.
Heat and cold stress	L	No action required.

General Recommendations

- Avoid entering the confined space if possible e.g. conduct cleaning activities from outside etc.
- Ensure access to the confined space remains secure at all times.
- Only authorised personnel are to access the confined space.
- All works and access in relation to confined spaces must be undertaken in accordance with AS 2865-2009.
- Ensure that the person responsible for the confined space work issues an entry permit prior to any persons entering the confined space.
- Ensure contractors are appropriately trained to undertake confined space entry and standby duties.
- Ensure site specific emergency rescue procedures and equipment are available and readily accessible during any confined space work.
- Ensure suitable PPE is available and appropriately maintained.
- Ensure a task specific risk assessment is conducted within the space prior to commencing any works.
- 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.

Risk Assessment F: Cooling Tower	
Does the space meet the requirements of a Confined Space? (If the answer to A, B, C and at least one part of D is yes, then the space is a confined space and requires a risk assessment). (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: • an atmosphere that does not have a safe oxygen level? • contaminants, including airborne gases, vapours and dusts, that may cause injury from fire or explosion? • harmful concentrations of any airborne contaminants? • engulfment?	 YES NO YES YES

Works to be completed:	Maintenance and inspection activities.
Comments:	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_2S) 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)	M	Wear appropriate hearing protection PPE when accessing plant rooms (required for access to the space).
Uncontrolled introduction of substances (e.g. steam, water, gases etc.)	VH	Isolate all inflow pipes into the 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	L	No action required.
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	L	No action required.
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.

General Recommendations

- Avoid entering the confined space if possible, e.g. conduct cleaning activities from outside etc.
- Ensure access to the confined space remains secure at all times.
- Only authorised personnel are to access the confined space.
- All works and access in relation to confined spaces must be undertaken in accordance with AS 2865-2009.
- Ensure that the person responsible for the confined space work issues an entry permit prior to any persons entering the confined space.
- Ensure contractors are appropriately trained to undertake confined space entry and standby duties.
- Ensure site specific emergency rescue procedures and equipment are available and readily accessible during any confined space work.
- Ensure suitable PPE is available and appropriately maintained.
- Ensure a task specific risk assessment is conducted within the space prior to commencing any works.
- 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.

Risk Assessment G: Void	
Does the space meet the requirements of a Confined Space? (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: • an atmosphere that does not have a safe oxygen level? • contaminants, including airborne gases, vapours, and dusts, that may cause injury from fire or explosion? • harmful concentrations of any airborne contaminants? • engulfment	 YES YES YES YES

Works to be completed:	Unknown. Presumed maintenance and/or inspection activities.
Comments:	The purpose of the space is unknown. Access within the space was not available at the time of assessment.

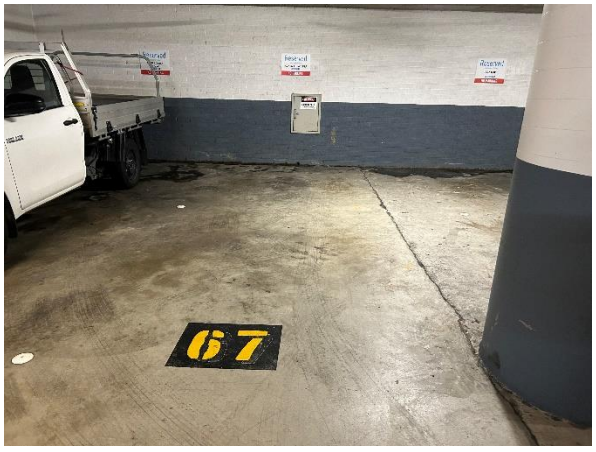
Hazard Types	Risk Rating	Recommended Actions
Restricted entry and egress in an emergency	VH	Wear a safety harness and remain connected to a lifeline at all times. Ensure the standby person remains in constant contact with person(s) entering the space.
Oxygen deficiency whilst work in progress	VH	Monitor 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_2S) 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	VH	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	L	No action required.
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	L	No action required.
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.

General Recommendations

- Avoid entering the confined space if possible, e.g. conduct cleaning activities from outside etc.
- Ensure access to the confined space remains secure at all times.
- Only authorised personnel are to access the confined space.
- All works and access in relation to confined spaces must be undertaken in accordance with AS 2865-2009.
- Ensure that the person responsible for the confined space work issues an entry permit prior to any persons entering the confined space.
- Ensure contractors are appropriately trained to undertake confined space entry and standby duties.
- Ensure site specific emergency rescue procedures and equipment are available and readily accessible during any confined space work.
- Ensure contractor safe work method statement (SWMS) addresses traffic management issues.
- Ensure suitable PPE is available and appropriately maintained.
- Ensure a task specific risk assessment is conducted within the space prior to commencing any works.
- 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.

APPENDIX C: PHOTOGRAPHS

	
Photo 01. Level B1, Grease Trap Room, grease trap.	**Photo 02.** Level B1, adjacent ramp, void.
	
Photo 03. Level B2, behind parking bay 19.	**Photo 04.** Level B2, behind parking bay 24.
	
Photo 05. Level B2, Fan Room, unknown underground pit.	**Photo 06.** Level B4, parking bay 67, void.

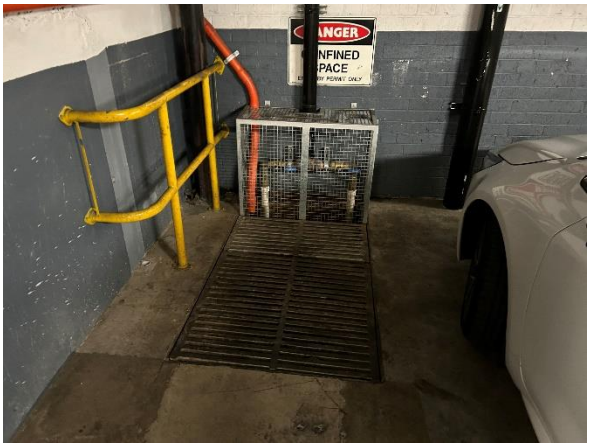
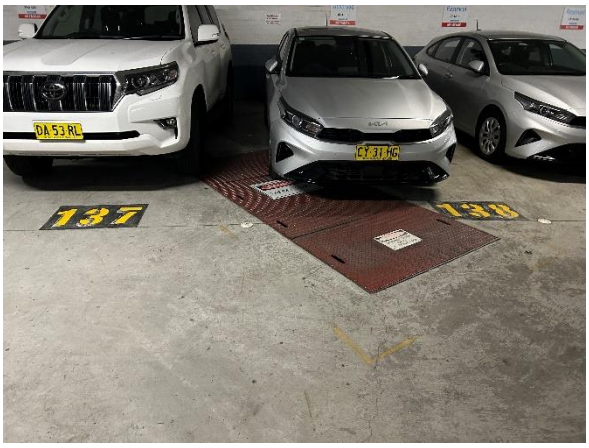
	

Photo 07. Level B6, parking bay 123, sewerage storage tank.	**Photo 08.** Level B6, parking bays 137 and 138, underground diesel tank.
	
Photo 09. Level B6, parking bays 141-145, sprinkler water tank.	**Photo 10.** Level B6, Sprinkler Pump Room, void.
	
Photo 11. Level 16, Cooling Tower Room, water tank.	**Photo 12.** Level 16, Cooling Tower Room, cooling tower (CT3).

Photo 13. Level 16, Cooling Tower Room, hydrant water tank.

APPENDIX D: CONFINED SPACE SIGNAGE

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.