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property › environment › safety ›

Working at Heights Assessment

Western Sydney University - Bankston City Campus

74 Rickard Road, Bankstown, New South Wales

Walker Corporation

September 2023

Client No: W0045

Job No: 117259S

Executive Summary

Prensa Pty Ltd (Prensa) was engaged by Walker Corporation to undertake a Working at Heights (WAH) Assessment for the property located at 74 Rickard Road, Bankstown, New South Wales (the Site). The assessment was undertaken to provide the building owner with an understanding of how fall risk issues are being managed at the building and where gaps may be present that require action to rectify.

The WAH Assessment was undertaken by Prensa on 2nd August 2023 with the assistance of Sharon Marlow, Senior Facilities Manager for Walker Corporation.

The WAH Assessment comprised a review of available documentation, interviews with site personnel and a visual inspection of reasonably accessible areas at the Site. Criteria used for completing the risk assessment is detailed in **Appendix B**.

A risk assessment was completed for the work at height activities conducted at the Site and presented in **Appendix A**. Photographs taken during the assessment have been included within the risk assessment presented in **Appendix A**. Results of the risk assessment are summarised in the Table below:

Risk Level	Number
High	0
Medium	2
Low	9

Recommendations to address the identified **Medium Risk** items, as detailed in **Section 9,** is summarised below:

- Provide additional controls to the external perimeter wall in the Level 18 Cooling Tower Area, such that the gaps between louvres are less than 450mm; and
- Increase the effective height of the Level 3 Terrance wall adjacent to the stairs to Level 2, such that it meets the minimum requirement of 1000 mm.

Statement of Limitations

This document has been prepared in response to specific instructions from Walker Corporation to whom the report has been addressed. The work has been undertaken with the usual care and thoroughness of the consulting profession. The work is based on accepted standards, practices of the time the work was undertaken. No other warranty, expressed or implied, is made as to the professional advice included in this report.

The report has been prepared for the use by Walker Corporation and the use of this report by other parties may lead to misinterpretation of the issues contained in this report. To avoid misuse of this report, Prensa advise that the report should only be relied upon by Walker Corporation and those third parties where the purposes for which the third parties intend to use the report are the same as those of Walker Corporation. The report should not be separated or reproduced in part and Prensa should be retained to assist other professionals who may be affected by the issues addressed in this report to ensure the report is not misused in any way.

Prensa is not a professional quantity surveyor (QS) organisation. Any areas, volumes, tonnages or any other quantities noted in this report are indicative estimates only. The services of a professional QS organisation should be engaged if quantities are to be relied upon.

Reliance on Information Provided by Others

Prensa notes that where information has been provided by other parties in order for the works to be undertaken, Prensa cannot guarantee the accuracy or completeness of this information. Prensa does not warrant the accuracy or completeness of this information and does not accept liability arising from inaccuracies or omissions in information provided to Prensa by third parties. No indications were found during our investigations that information contained in this report, as provided to Prensa, is false.

Recommendation for Further Study

The industry recognised methods used in undertaking the works may dictate a staged approach to specific investigations. The findings therefore of this report may represent preliminary findings in accordance with these industry recognised methodologies. In accordance with these methodologies, recommendations contained in this report may include a need for further investigation or analytical analysis. The decision to accept these recommendations and incur additional costs in doing so will be at the sole discretion of Walker Corporation and Prensa recognises that Walker Corporation will consider their specific needs and the business risks involved. Prensa does not accept any liability for losses incurred as a result of Walker Corporation not accepting the recommendations made within this report.

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1 Introduction

Prensa Pty Ltd (Prensa) was engaged by Walker Corporation to undertake a Working at Heights (WAH) Assessment for the property located at 74 Rickard Road, Bankstown, New South Wales (the Site). The assessment was undertaken to provide the building owner with an understanding of how fall risk issues are being managed at the building and where gaps may be present that require action to rectify.

The WAH assessment was undertaken by Prensa on the 2nd August 2023 with the assistance of Sharon Marlow, Senior Facilities Manager for Walker Corporation.

2 Objective

The objectives of the WAH assessment were to achieve the following:

- Establish the current level of risk and compliance relating to works at height conducted at the Property per the relevant Legislation, Regulations, Codes of Practice and Australian Standards;
- Assess the adequacy of implemented risk controls;
- Provide practical recommendations to rectify identified non-compliances (if any) and to reduce the risk of falls, where appropriate; and
- Present the findings and recommendations in a concise and usable form to assist Walker Corporation in effective and ongoing risk management at the Property.

3 Scope of Works

The scope of this Assessment included a review of WAH activities under the management of Walker Corporation and included identification of:

- The method of access to the nominated areas;
- The methods of access to plant and equipment present on the nominated areas;
- Hazards associated with working at height activities and tasks undertaken at the nominated areas; and
- Recommendations for elimination or control of these hazards.

The scope of the assessment was limited to an inspection of the following nominated areas under the management of Walker Corporation:

- Level 19 roof;
- Level 18 Cooling Tower Area;
- Terrace & Balconies;
- Atriums;
- Awnings;
- Level 1 Tank Room; and
- Internal areas.

The following was deemed to be outside the scope of this Assessment:

- Review of contractor management procedures implemented by Walker Corporation;
- Review of contractor systems of work or work procedures; and
- Assessment of contractor and tenant owned or managed WAH equipment.

This assessment also does not constitute an evaluation of the adequacy of load ratings and engineering assessment of fall protection measures installed.

4 Technical Framework

To achieve the objectives, the requirements of the following Legislation, Codes and Australian Standards were reviewed:

- State based *Occupational/Work Health and Safety Acts*
- State based *Occupational/Work Health and Safety Regulations* (Regulations);
- Building Code of Australia (BCA);
- Australian Standard (AS) 1657, *Fixed Platforms, Walkways, Stairways and Ladders – Design Construction and Installation; and*
- Code of Practice for *Managing the Risk of Falls at Workplaces, Safe Work Australia.*

5 Background

Walker Corporation engages contractors to service and maintain plant and equipment on the roof and other work at height areas of the Site. Prensa was engaged to identify discrepancies between what risk controls for fall hazards exist on site and the legislative requirements. Prensa was also requested to identify whether any deficiency is considered to pose an unacceptable risk to health & safety when considering the following:

- Effectiveness of existing risk controls provided;
- The magnitude of the risk; and
- The availability of risk mitigation solutions which are considered acceptable industry practice.

5.1 Definition of a Fall Hazard

In this report, the meaning of a fall hazard includes:

- Fall from one level to another that is reasonably likely to cause an injury; and
- Falling objects that can cause serious injuries.

The Regulations stipulates that the Person Conducting Business or Undertaking (PCBU) or an employer must, so far as is reasonably practicable, **identify** any task that is undertaken by an employee/worker in a workplace that involves a fall hazard including:

- On any plant or structure being constructed, demolished, inspected, tested, maintained, repaired or cleaned;
- On a fragile, slippery or potentially unstable surface;
- Using equipment to gain access to an elevated level or to undertake the task at an elevated level;
- On a sloping surface on which it is difficult to maintain balance;
- In close proximity to an unprotected edge; and
- In close proximity to a hole, shaft or pit that is of sufficient dimensions to allow a person to fall into the hole, shaft or pit.

5.2 Legislative Requirements

A PCBU or an employer must ensure that each identified task which involves a risk of a fall is appropriately controlled, so far as is reasonably practicable, by one of the following:

- Level 1 – Eliminate the fall hazard by performing the work on ground or solid construction.
- Level 2 – Use a passive fall protection device e.g. edge protection.
- Level 3 – Use a work positioning system e.g. which limits movements thereby minimising access to areas where a fall may occur.

- Level 4 – Use a fall arrest system e.g. a harness.
- Level 5 – Use a ladder or implement administrative controls e.g. waring signage.

The hierarchy begins with the Level 1 control i.e. elimination- the most effective hazard control strategy. A lower order control can only be used when it is not reasonably practicable to use a higher level of control.

A PCBU or an employer must ensure that emergency procedures are established, in accordance with the Regulations, prior to a task being undertaken, following the implementation of control measures associated with reducing fall risks. Emergency procedures must enable the rescue of an employee in the event of a fall and the provision of first aid to an employee who has fallen. A PCBU or an employer must also ensure that emergency procedures can be undertaken immediately after a fall has taken place and that any risks associated with carrying out the emergency procedure are eliminated or reduced.

5.3 Key Definitions

As stated in **Section 5.1**, the Regulations define a **fall** as an involuntary movement from one level to another that is reasonably likely to cause an injury. Additional terms and definitions, as outlined in the Regulations, are included below.

Solid construction means an area that has–

- A surface that is structurally capable of supporting people, material and any other loads intended to be applied to it;
- Barriers around its perimeter and any open penetrations to prevent a fall from the area;
- An even and readily negotiable surface and gradient; and
- A safe means of access and egress.

Passive fall prevention device: Material, equipment or a combination of material and equipment that is designed for the purpose of preventing a fall and that following initial installation, does not require any ongoing adjustment, alteration or operation by any person to ensure the integrity of the device in performing its intended function. Passive fall prevention devices include temporary work platforms, roof safety mesh and guard railing.

Work positioning system: An industrial rope access system, travel restraint system or any other equipment other than a temporary work platform that enables a person to be positioned and safely supported at a work location for the duration of the task being undertaken at height. An example includes a harness or belt system in which the person is attached to a static line or anchorage point to physically restrain them from reaching an edge or elevated surface fall hazard.

Fall arrest system: Equipment, material or a combination of equipment or material that is designed to arrest the fall of a person. Fall arrest systems include industrial safety nets, catch platforms and safety harness systems (other than a travel restraint system).

6 Methodology

The WAH Assessment comprised a review of available documentation, interviews with site personnel and a visual inspection of reasonably accessible areas at the Site and included the following steps:

6.1 Discussions on Site

Discussions were held on Site to establish roof access procedures implemented by Walker Corporation. Frequency of access for various working at height activities was also established.

6.2 Site Inspection

A walk through of the nominated areas of the Site was undertaken to identify fall protection systems installed at the Site. During the site inspection and through discussions with the site contract, Prensa reviewed routine maintenance tasks undertaken at this site which have potential risk of falls such as cleaning of gutters, maintenance of plant on roof etc.

For each of the specific hazards identified on site, adequacy of existing control measures implemented was documented e.g. ladders, guard rails, anchor points, walking platforms etc.

6.3 Work at Height Risk Assessment

Following the identification of potential areas where fall hazards were present, a risk assessment was conducted which consisted of the following:

- Tasks that may be undertaken;
- The location and height of the area;
- Frequency at which the area is accessed;
- Qualification and skill level (competency) of the worker accessing the area; and
- The nature of hazard and risk control measures currently in place.

An overall risk rating of **Low**, **Medium** or **High** was assigned to each area where a potential risk of falls was noted, using the matrix provided in **Appendix B**. The completed risk assessments are provided in **Appendix A** of this report.

7 Limitations

The scope of the WAH Assessment was limited to buildings or areas that have been provided with adequate means to safely access areas at height.

Areas that were not accessible on the day of the assessment included:

- Areas under the management and control of the tenants.

Should any further fall protections systems or potential fall risks be identified onsite, a risk assessment should be conducted in accordance with the methodology outlined in this report and appropriate control measures implemented.

8 Findings

Detailed risk assessments of the inspected nominated areas and photographs taken during the assessment are presented in **Appendix A**.

The Senior Facilities Manager explained the maintenance and inspection of fall protection equipment was the responsibility of Walker Corporation. Based on the observations made during the site inspection, it was assumed that the following work at height activities were undertaken at the Site:

- Cleaning of windows and exterior facades;
- Roof & facade repairs & maintenance;
- Roof access;
- Maintenance of cooling towers;
- Maintenance of above ground water tanks;
- Maintenance of plant and equipment; and
- Maintenance of gardens and plants.

8.1 General Findings

8.1.1 Work at Height Areas

The above-mentioned tasks were undertaken within the followings tasks were undertaken within roof areas at the Site, as indicated in **Figure 1**:

- Area 1 – Level 19 upper roof;
- Area 2 – Level 19 rooftop;
- Area 3 – Level 18, cooling tower area; and
- Area 6 – Level 14 Terrace.

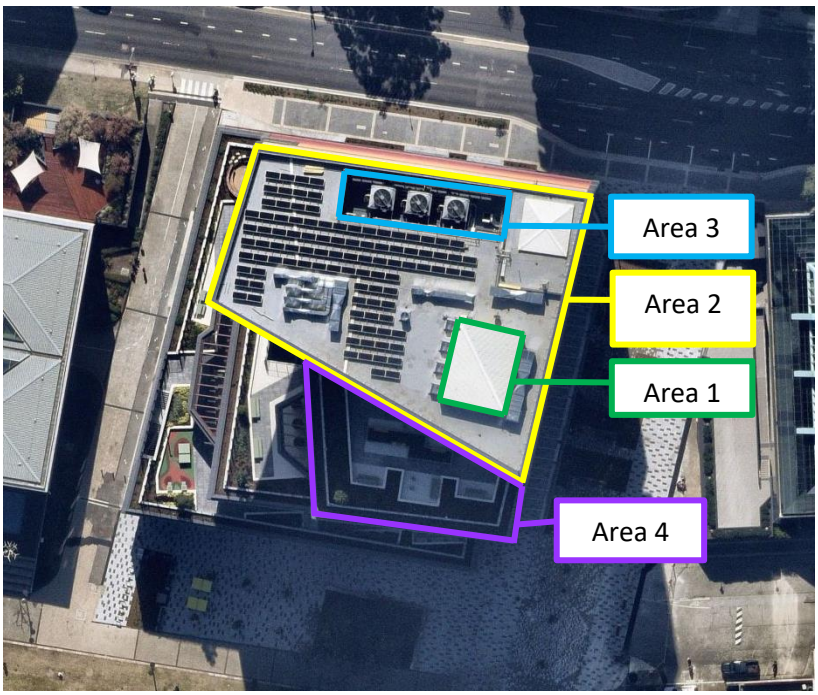


Figure 1: Indication of roof areas

In general, the infrastructure and controls within these areas were considered to be effective in reducing the risk of falls in relation to the aforementioned tasks and included:

- Fall protection measures, such as:
  - Fall prevention devices such as balustrades; and
  - Fall arrest systems including davit systems, static lines, rigid rail systems and anchor points.
- Grab rails provided to vertical ladders to access rooftop areas;
- Completion of working at height permits before contractors commencing work;
- Competent contractors engaged to undertake work at heights;
- Completion of task specific SWMS prior to undertaking work; and
- Restricted access to authorised personnel via swipe card and key access.

Records of the above are retained where applicable. Detailed findings of the areas inspected are presented in **Appendix A**.

8.2 Summary of Key Findings

8.2.1 High Risk Items

As a result of the implementation of fall protection systems and risk controls outlined in **Section 8.1**, "High Risk" findings were not identified as an outcome of the Assessment.

8.2.2 Medium Risk Item

The following items was identified:

- Level 18, Cooling Tower Area – The gaps between louvres on the perimeter wall varied, with a maximum gap of 585 mm. This was noted to be greater than the maximum gap of 450 mm which is recommended within Australian Standard (AS) 1657, *Fixed Platforms, Walkways, Stairways and Ladders – Design Construction and Installation*; and
- Exterior, Level 3 Terrace - The raised garden bed adjacent to the stairs to Level 2 reduced the effective height of the barrier, reducing it to a height less than the minimum requirement of 1000 mm as per the BCA.

9 Recommendations

A total of two (2) **Medium** and nine (9) **Low** risks have been identified at this Site.

Recommendations to address the Medium risks are presented below.

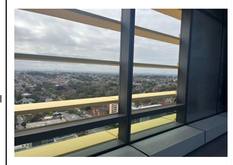
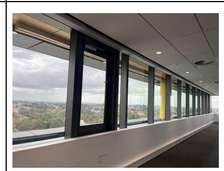
9.1 Recommendations to Address Medium Risk

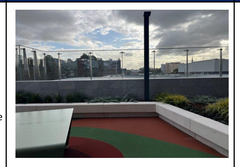
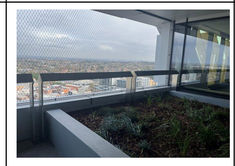
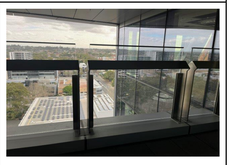
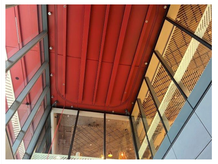
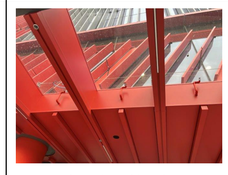
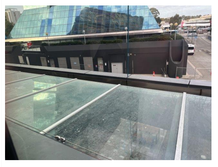
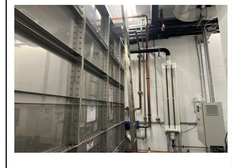
The following recommendation has been raised to address the **Medium** risk item identified:

- Provide additional controls to the external perimeter wall in the Level 18 Cooling Tower Area such that the gaps between louvres are less than 450mm; and
- Increase the effective height of the Level 3 Terrance wall adjacent to the stairs to Level 2, such that it meets the minimum requirement of 1000 mm.

Appendix A: WAH Risk Assessment

WAH Risk Assessment

Area	Location	Activity	Observations / Findings	Factors - Likelihood of Fall	Factors - Consequence	Current Risk Controls	Deficiencies Identified	Likelihood	Consequence	Residual Risk	Additional Risk Controls	Photographs	Photographs
1	Exterior, Level 19, Upper Rooftop	• Accessing upper roof level (housing beacon)	• Access to this area is provided via a locked door from Level 18; and • A ladder bracket was provided to access to the upper roof from the Level 19 rooftop (**Photo 1**).	Three points of contact - N Work within 2 m of unprotected Edge - Y Occupancy below - Transient Carry Equipment - Y Trip Hazards - N Pitch - Flat Operator facing edge - Y Frequency of access - Low	Height of Fall - 1m to 6m Landing - Flat hard stand	• Access restricted to competent contractors only; • Contractors to submit SWMS, risk assessments and complete permits prior to undertaking works; and • Ladder bracket to reduce unauthorised access.	The ladder bracket was not listed in the Rigcom Site Certificate, dated 25/10/2022.	Unlikely	Moderate	Low	Include the ladder bracket in future annual height safety certification inspections.	 **Photo 1: Ladder bracket provided to access Level 18 upper roof, not listed in the Rigcom Site Certificate, dated 25/10/2022.**	-
2	Exterior, Level 19, Rooftop	• Window cleaning • Façade maintenance • Maintenance of plant	• Access to this area is provided via a locked door from Level 18; • The Level 19 rooftop is accessed via a fixed external staircase leading from the Level 18 Cooling Tower Area; and • Anchor points, static lines and davit arms are provided (**Photos 2 and 3**).	Three points of contact - N Work within 2 m of unprotected Edge - Y Occupancy below - Transient Carry Equipment - Y Trip Hazards - N Pitch - Flat Operator facing edge - Y Frequency of access - Low	Height of Fall > 6m Landing - Flat hard stand	• Access restricted to competent contractors only; • Contractors to submit SWMS, risk assessments and complete permits prior to undertaking works; • Anchor points, static lines and davit arms were provided to the perimeter of the rooftop to enable safe work within 2 metres of an unprotected edge or down the sides of the building; • Barriers installed at unprotected edge, which are greater than the minimum requirement of 1000 mm; and • Inspection/maintenance and tagging of fall arrest systems.	None	Rare	Major	Low	None	 **Photo 2: Level 19 rooftop davit arms**	 **Photo 3: Level 19 rooftop anchor points**
3	Exterior, Level 18, Cooling Tower Area	• ,Access to Level 19, Rooftop	• Access to this area is provided via a locked door from Level 18; • The cooling tower area is provided with perimeter walls greater than the minimum requirement of 2000 mm; and • A fixed staircase is provided to access Level 19.	Three points of contact - Y Work within 2 m of unprotected Edge - Y Occupancy below - Rare Carry Equipment - Y Trip Hazards - N Pitch - Flat Operator facing edge - N Frequency of access - Low Work within 2 m of unprotected Edge - N	Height of Fall - 1m to 6m Landing - Flat hard stand	• Access restricted to competent contractors only; • Contractors to submit SWMS, risk assessments and complete permits prior to undertaking works; • Perimeter walls greater than the minimum requirement of 2000 mm provided; • Fixed staircase providing access to Level 19; and • Grab rails extend greater than the minimum requirement of 1000 mm above the platform.	The step provided at both the base (600mm) and top (650mm) of the staircase were greater than the maximum recommended height of 300mm and not provided with an intermediary step (**Photos 4 and 5**).	Unlikely	Minor	Low	Provide an intermediary step at both the base and top of the fixed ladder.	 **Photo 4: Step provided at the base of the staircase was 600mm**	 **Photo 5: Step provided at the top of the staircase was 650mm**
4	Exterior, Level 18, Cooling Tower Area	• Maintenance of cooling towers • ,Access to Level 19, Rooftop	• Access to this area is provided via a locked door from Level 18; • The cooling tower area is provided with perimeter walls greater than the minimum requirement of 2000 mm; • Three (3) cooling towers are provided within this area; and • Fixed rung ladders are provided to access the upper section of the cooling towers.	Three points of contact - Y Work within 2 m of unprotected Edge - Y Occupancy below - Transient Carry Equipment - Y Trip Hazards - Y Pitch - Flat Operator facing edge - Y Frequency of access - Low	Height of Fall > 6m Landing - Uneven hard stand	• Access restricted to competent contractors only; • Contractors to submit SWMS, risk assessments and complete permits prior to undertaking works; • Perimeter walls greater than the minimum requirement of 2000 mm provided; and • 'Toe-board' (460 mm high) provided to base of external perimeter wall.	The gaps between louvres varied, with a maximum gap of 585 mm, and were noted to be greater than the maximum recommended 450 mm (**Photo 6**); and • No metal mesh provided to external perimeter wall.	Unlikely	Major	Medium	Provide additional controls to the external perimeter wall such that the gaps between louvres are less than 450mm.	 **Photo 6: Gaps between louvres were greater than 450mm**	-
5	Exterior, Level 18, Cooling Tower Area	• Maintenance of cooling towers	• Access to this area is provided via a locked door from Level 18; • Three (3) cooling towers are provided within this area; and • Fixed rung ladders are provided to access the upper section of the cooling towers.	Three points of contact - Y Work within 2 m of unprotected Edge - Y Occupancy below - N/A Carry Equipment - Y Trip Hazards - N Pitch - Flat Operator facing edge - N Frequency of access - Low	Height of Fall - 1m to 6m Landing - Flat hard stand	• Access restricted to competent contractors only; • Contractors to submit SWMS, risk assessments and complete permits prior to undertaking works; and • Upper sections of cooling towers provided with guard rail, fixed rung ladder and ladder gate.	The landing provided at top of the cooling tower ladders was noted to be 800 mm, less than the minimum requirement of 900 mm (**Photo 7**). Given a ladder gate was provided, no recommendation has been raised.	Unlikely	Moderate	Low	None	 **Photo 7: Ladder gate provided to top of cooling tower**	-
6	Exterior, Levels 14, 8 & 3 Terrace & Garden Beds	• Garden maintenance • Window cleaning • Facade maintenance	• Access to anchor points and rigid rail systems is restricted, either through a window or a gate within the glass balustrade (**Photo 9**); • Anchor points and rigid rail systems are provided to the garden beds (**Photo 8**); and • Balustrades were noted to be greater than the minimum requirement of 1000 mm.	Three points of contact - Y Work within 2 m of unprotected Edge - Y Occupancy below - Transient Carry Equipment - Y Trip Hazards - Y Pitch - Flat Operator facing edge - Y Frequency of access - Low	Height of Fall > 6m Landing - Flat hard stand	• Access restricted to competent contractors only; • Contractors to submit SWMS, risk assessments and complete permits prior to undertaking works; • Anchor points and rigid rail systems provided to the garden beds; • Inspection/maintenance and tagging of fall arrest systems; and • Balustrades were provided and were greater than the minimum requirement of 1000 mm.	None	Rare	Major	Low	None	 **Photo 8: Hatch to access rigid rail systems**	 **Photo 9: Rigid rail systems provided in garden bed**

Area	Location	Activity	Observations / Findings	Factors - Likelihood of Fall	Factors - Consequence	Current Risk Controls	Deficiencies Identified	Likelihood	Consequence	Residual Risk	Additional Risk Controls	Photographs	Photographs
7	Exterior, Level 3 Terrace	• Garden maintenance	• Balustrades were provided and were generally greater than the minimum requirement of 1000 mm.	Three points of contact - Y Work within 2 m of unprotected Edge - Y Occupancy below - Transient Carry Equipment - Y Trip Hazards - Y Pitch - Flat Operator facing edge - Y Frequency of access - High	Height of Fall - 1m to 6m Landing - Uneven hard stand	• Contractors to submit SWMS, risk assessments and complete permits prior to undertaking works; and • Balustrades were provided and were generally greater than the minimum requirement of 1000 mm.	The raised garden bed adjacent to the stairs to Level 2 reduced the effective height of the wall, reducing it to a height less than the minimum requirement of 1000 mm (**Photos 10 & 11**).	Unlikely	Major	Medium	Increase the effective height of the barrier provided adjacent the raised garden bed, located adjacent to the stairs to Level 2, such that it meets the minimum requirement of 1000 mm.	 **Photo 10: Raised garden bed reducing the effective height of the wall adjacent the stairs to Level 2**	 **Photo 11: Raised garden bed reducing the effective height of the wall adjacent the stairs to Level 2**
8	Exterior, Levels 18, 16, 3, 12, 11, 10, 9, 5, 2 & 1, Balcony	• Garden maintenance • Window cleaning	• Metal mesh provided to external perimeter walls; and • Generally, balustrades were noted to be greater than the maximum requirement of 1000 mm.	Three points of contact - Y Work within 2 m of unprotected Edge - Y Occupancy below - Transient Carry Equipment - Y Trip Hazards - Y Pitch - Flat Operator facing edge - Y Frequency of access - Low Trip Hazards - N Operator facing edge - N	Height of Fall > 6m Landing - Flat hard stand	• Contractors to submit SWMS, risk assessments and complete permits prior to undertaking works; • Metal mesh provided to external perimeter walls (**Photo 12**); and • Balustrades were provided and were greater than the maximum requirement of 1000 mm (**Photo 13**).	None	Rare	Insignificant	Low	None	 **Photo 12: Metal mesh to perimeter of balcony**	 **Photo 13: Balustrade provided**
9	External/Internal, Levels 8, 3, 2 & Ground, Atriums	• Window cleaning • Garden maintenance	• Davit arms and anchor points provided to access the Level 8 Atrium (**Photo 14**); and • Rigid rail systems are provided to the Level 3, 2 and Ground Level Atriums (**Photo 15**).	Three points of contact - N Work within 2 m of unprotected Edge - Y Occupancy below - Transient Carry Equipment - Y Trip Hazards - N Operator facing edge - Y Frequency of access - Low	Height of Fall > 6m Landing - Flat hard stand	• Contractors to submit SWMS, risk assessments and complete permits prior to undertaking works; • Davit arms, rigid rail systems and anchor points provided; • Area below the atriums blocked off during works; and • Inspection/maintenance and tagging of fall arrest systems.	None	Rare	Major	Low	None	 **Photo 14: Level 8 atrium**	 **Photo 15: Rigid rail systems to Ground Level atrium**
10	External, Levels 3, 1 & Ground, Awnings	• Maintenance of awning • Cleaning of awning	• Access to the Level 3 awning is provided via rope access from the rooftop (**Photo 16**); • Access to the Level 1 awning is provided via a locked door; • Access to the Ground Level awning is provided via the Level 3 rigid rail systems (**Photo 17**); and • A static line is provided along the awnings.	Three points of contact - N Work within 2 m of unprotected Edge - Y Occupancy below - Transient Carry Equipment - Y Trip Hazards - N Pitch - Flat Operator facing edge - N Frequency of access - Low	Height of Fall > 6m Landing - Flat hard stand	• Access restricted to competent contractors only; • Contractors to submit SWMS, risk assessments and complete permits prior to undertaking works; • Static lines, rigid rail systems and anchor points provided; and • Inspection/maintenance and tagging of fall arrest systems	None	Rare	Major	Low	None	 **Photo 16: Level 3 awning**	 **Photo 17: Ground Level awning**
11	Internal, Level 1, Pump Room	• Maintenance of tanks	• Access to this area is provided via a locked door; • Two (2) water tanks provided (RWT & OSD); and • Fixed rung ladders are provided to access the upper section of the tanks (**Photo 18**).	Three points of contact - Y Work within 2 m of unprotected Edge - N Occupancy below - Rare Carry Equipment - Y Trip Hazards - N Operator facing edge - N Frequency of access - Low	Height of Fall - 1m to 6m Landing - Flat hard stand	• Access restricted to competent contractors only; • Contractors to submit SWMS, risk assessments and complete permits prior to undertaking works; • Upper sections of tanks provided with guard rail, fixed rung ladder and ladder gate.	The following was identified : • Headroom clearance at the top of the rung ladders/tanks was noted to be less than the minimum requirement of 2000 mm (**Photo 19**); • The landing provided at top of the water tank ladders were noted to be 450 mm, less than the minimum requirement of 900 mm; and • The extension of the ladder hand rail above for the RWT was noted to be 700 mm, less than the minimum requirement of 900 mm.	Unlikely	Moderate	Low	Request contractors to define controls/access arrangements prior to accessing the tanks.	 **Photo 18: Fixed rung ladder provided to water tanks**	 **Photo 19: Reduced headroom clearance at the top of the rung ladders/tanks**

Appendix B: Risk Assessment Criteria

Risk Matrix

Risk is the combination of the probability (likelihood) of a specific unwanted event and the potential consequences if it should occur.

Likelihood: The likelihood of a hazardous event occurring is detailed in **Table 1** below.

Table 1: Risk Likelihood Rating	
Likelihood	**Description**
Rare	The event may occur but only in exceptional circumstances
Unlikely	The event could occur at some circumstances
Possible	The event should occur sometime
Likely	The event will probably occur
Almost Certain	The event is expected to occur in normal circumstances

Consequence: Consequence refers to the severity of an outcome of an event or situation

Table 2: Risk Consequence Rating	
Consequence	**Potential Consequence**
Insignificant	No injuries, low financial loss
Minor	First aid treatment, medium financial loss
Moderate	Individual injury and/or significant damage to asset, high financial loss
Major	Single death and/or extensive injuries, major financial loss
Catastrophic	Multiple deaths, huge financial loss

Determination of Risk

The risk level is determined by combining the likelihood and consequences presented in the above two tables. The risk level is categorised in the following manner:

Table 3: Risk Level Matrix					
Consequence	**Likelihood**				
	1 - Rare	**2 - Unlikely**	**3 - Possible**	**4 - Likely**	**5 - Almost Certain**
5 - Catastrophic	Medium	Medium	High	High	High
4 - Major	Low	Medium	Medium	High	High
3 - Moderate	Low	Low	Medium	Medium	High
2 - Minor	Low	Low	Low	Medium	Medium
1 - Insignificant	Low	Low	Low	Low	Medium