



TREVOR R HOWSE

# AUDIT REPORT

## NCC 2022 – VOLUME 1



### PREPARED FOR

*Sydney Harbour Federation Trust*

### REGARDING

*Headland Park - Middle Head Barracks*

BUILDING REGULATIONS • FIRE SAFETY ENGINEERING • LEGAL SERVICES

e [admin@trevorhowse.com.au](mailto:admin@trevorhowse.com.au) w [www.trevorhowse.com.au](http://www.trevorhowse.com.au) a 27/16 Orchards Avenue, Breakfast Point, NSW, 2137

TREVOR R HOWSE PTY LIMITED ABN 76 160 779 000

## Report Register

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The following report register documents the development and issue of this report and project as undertaken by this office, in accordance with the *Quality Assurance* policy of Trevor R Howse Pty Limited.

Our Ref.	Issue No.	Remarks	Issue Date
J23099	1	Accessibility Audit report issued to client	11.6.2023

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**PREPARED BY:** Trevor R Howse Pty Limited



Hayden L Howse

## Contents Page

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<b>Summary &amp; Recommendations .....</b>	<b>4</b>
1.1 General .....	4
1.2 Project Summary .....	5
1.3 Recommendations .....	5
Introduction.....	11
2.1 General .....	11
2.2 Report Purpose.....	11
2.3 Report Basis.....	12
2.4 Exclusions .....	12
Building Description .....	13
3.1 General .....	13
3.2 Rise in Storeys.....	13
3.3 Building Classification.....	14
3.4 Effective Height.....	14
3.5 Type of Construction.....	14
3.6 General Floor Area Limitations .....	14
Audit – Observations .....	15
4.1 General .....	15
4.2 Assessment – Class 3 residential accommodation.....	16
4.3 Assessment – Class 5 office .....	19
4.4 Assessment – Class 9b assembly .....	21

## Summary & Recommendations

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### 1.1 General

This “Audit Report” has been prepared at the request of Sydney Harbour Federation Trust.

It relates to several existing buildings located on site known as Headland Park, as is located along Middle Head Road, Mosman.

More specifically, it relates to the three (3) existing and vacant buildings known as the “Middle Head Barracks”, as are situated on the northern side of Middle Head Road and the east of Middle Head Oval.

**Figure 1.1.1 – Existing aerial photo**



## 1.2 Project Summary

The purpose of this report is to identify (as a high-level exercise), through *visual* inspection only, the extent to which the subject buildings would require upgrade to meet the current fire safety, accessibility and health & amenity provisions of the National Construction Code 2022 Volume 1 ("**NCC 2022**"), based on a variety of potential uses.

Whilst the subject buildings are currently vacant, these potential uses include –

- Class 3 residential accommodation
- Class 5 offices
- Class 9b assembly

The results of the visual audit are expressed within Section 4 of this report below.

## 1.3 Recommendations

### 1.3.1 General

With reference to the lists of identified deficiencies contained within Section 4 of this report below, the content of items 1.3.2 to 1.3.4 below identify the extent of works that would need to be performed to achieve prescriptive compliance for each deficiency.

It is noted that, in many instances, the remedial works are significant, and would result in the near demolition of the buildings to then rebuild as prescriptively compliant.

1.3.2 Class 3 residential accommodation potential use

Building	NCC Section	Remedial work
All	C	1. Remove the external walls of the buildings and reconstruct using wholly non-combustible materials.
	C	2. Remove the existing ceiling linings to the underside of the intervening floor in each building and replace with new 1-hour fire rated plasterboard (ensuring that all penetrations there-through are fire sealed).
	C	3. Reconstruct the internal load bearing walls, columns and beams in the ground floor to achieve a fire resistance level not less than 1-hour.
	C	4. Reconstruct all internal walls between or bounding proposed sole-occupancy units or other rooms opening to a common corridor to achieve a fire resistance level not less than 1-hour.
	C	5. Remove all internal doorway openings and replace with self-closing, 35-mm thick, tight fitting solid core door sets.
All	D	6. Reconstruct the exit stairways serving the first floor (including both internal and external stairways) to – <ul style="list-style-type: none"> <li>A. Eliminate open risers</li> <li>B. Have balustrading that does not contain openings greater than 125-mm</li> <li>C. Have balustrading that achieves a height not less than 865-mm above stair nosings and 1000-mm otherwise.</li> </ul>
	D	7. In terms of the provision of access for people with a disability – <ul style="list-style-type: none"> <li>A. Provide new concrete or similar accessways that connect the allotment boundary with the main entries of each building;</li> <li>B. Provide new concrete or similar accessways that connect the main entries of each building;</li> <li>C. Construct a minimum of one (1) AS 1428.1-2009 compliant sole-occupancy unit in the ground floor of each building.</li> </ul>

Building	NCC Section	Observation
All	E	8. Install a brand new AS 2419.1-2021 compliant fire hydrant system to service all buildings.
	E	9. Install AS 2444-2001 compliant portable fire extinguishers throughout each floor.
	E	10. Install AS 2293.1-2018 compliant emergency lighting and exit signage throughout each floor.
All	F	11. Upgrade the buildings to include baths / showers, closet pans and wash basins to accommodate the number of sole-occupancy units provided.
	F	12. Upgrade the buildings to include accessible sanitary facilities in each of the accessible sole-occupancy units.
	F	13. Reconstruct the intervening floor and internal walls between and bounding proposed sole-occupancy units to meet the minimum sound transmission levels.

1.3.3 Class 5 office potential use

Building	NCC Section	Observation
All	D	1. Reconstruct the exit stairways serving the first floor (including both internal and external stairways) to – <ul style="list-style-type: none"> <li>A. Eliminate open risers</li> <li>B. Have balustrading that does not contain openings greater than 125-mm</li> <li>C. Have balustrading that achieves a height not less than 865-mm above stair nosings and 1000-mm otherwise.</li> </ul>
	D	2. In terms of the provision of access for people with a disability – <ul style="list-style-type: none"> <li>A. Provide new concrete or similar accessways that connect the allotment boundary with the main entries of each building;</li> <li>B. Provide new concrete or similar accessways that connect the main entries of each building;</li> <li>C. Construct a minimum of one (1) AS 1428.1-2009 compliant sole-occupancy unit in the ground floor of each building.</li> <li>D. Install a new passenger lift to connect the ground and first floors.</li> </ul>
All	E	3. Install a brand new AS 2419.1-2021 compliant fire hydrant system to service all buildings.
	E	4. Install AS 2444-2001 compliant portable fire extinguishers throughout each floor.
	E	5. Install AS 2293.1-2018 compliant emergency lighting and exit signage throughout each floor.
All	F	6. Install an AS 1428.1-2009 compliant accessible sanitary facility on each floor of the buildings.



1.3.4 Class 9b assembly potential use

Building	NCC Section	Observation
All	C	1. Remove the external walls of the buildings and reconstruct using wholly non-combustible materials.
	C	2. Remove the existing ceiling linings to the underside of the intervening floor in each building and replace with new 1-hour fire rated plasterboard (ensuring that all penetrations there-through are fire sealed).
	C	3. Reconstruct the internal load bearing walls, columns and beams in the ground floor to achieve a fire resistance level not less than 1-hour.
All	D	4. Reconstruct the exit stairways serving the first floor (including both internal and external stairways) to –  A. Eliminate open risers  B. Have balustrading that does not contain openings greater than 125-mm  C. Have balustrading that achieves a height not less than 865-mm above stair nosings and 1000-mm otherwise.
	D	5. In terms of the provision of access for people with a disability –  A. Provide new concrete or similar accessways that connect the allotment boundary with the main entries of each building;  B. Provide new concrete or similar accessways that connect the main entries of each building;  C. Construct a minimum of one (1) AS 1428.1-2009 compliant sole-occupancy unit in the ground floor of each building.  D. Install a new passenger lift to connect the ground and first floors.

Building	NCC Section	Observation
All	E	6. Install a brand new AS 2419.1-2021 compliant fire hydrant system to service all buildings.
	E	7. Install AS 2444-2001 compliant portable fire extinguishers throughout each floor.
	E	8. Install AS 2293.1-2018 compliant emergency lighting and exit signage throughout each floor.
All	F	9. Install an AS 1428.1-2009 compliant accessible sanitary facility on each floor of the buildings.

## Introduction

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### 2.1 General

This “Audit Report” has been prepared at the request of Sydney Harbour Federation Trust.

It relates to several existing buildings located on site known as Headland Park, as is located along Middle Head Road, Mosman.

**Figure 2.1.1 – Google streetview**



### 2.2 Report Purpose

The purpose of this report is to identify, through *visual* inspection only, the extent to which the subject buildings would require upgrade to meet the current fire safety, accessibility and health & amenity provisions of the NCC 2022, based on a variety of potential uses.

Since such is based on a visual inspection and is a high-level exercise only, this assessment should not be viewed as an exhaustive list of deficiencies but instead a listing of the *primary* elements that would require upgrade.

### **2.3 Report Basis**

The content of this report reflects and relies upon –

- NCC 2022;
- Site attendance on 26 May, 2023.

### **2.4 Exclusions**

It is conveyed that this report should not construed to infer that any testing, or assessment for compliance with, for example, the following, has been undertaken –

- Structural adequacy and fire rating of building elements;
- Mechanical, Hydraulic and Electrical services;
- The operational capacity / compliance of building services;
- The requirements of service providers (i.e. Telstra, Sydney Water, AGL);
- The requirements of the Work Cover Authority;
- Any other provisions contained within NCC 2022 not expressly mentioned.

## Building Description

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### 3.1 General

The overall site is located along Middle Head Road, Mosman, and is bounded by –

- Headland Park to the west
- Middle Head Road to the south
- Cobblers Beach Road to the east and north
- Cobblers Beach to the north

**Figure 3.1.1 – Locality plan**



For the purposes of NCC 2022, the subject buildings are described within items 3.2 – 3.6 below.

### 3.2 Rise in Storeys

The three (3) existing buildings each have a rise in storeys of two (2).

### 3.3 Building Classification

The three (3) existing buildings are all currently vacant.

However, the assessment contained within Section 4 of this report below considers the following building classifications / uses –

- Class 3 residential accommodation
- Class 5 offices
- Class 9b assembly

### 3.4 Effective Height

The three (3) existing buildings each have an effective height of less than 12-metres.

### 3.5 Type of Construction

Based upon the rise in storeys and building classification, the three (3) existing buildings are subject to the fire rating requirements of –

- Type C Construction, where used only for Class 5 office purposes;
- Type B Construction, where used for either Class 3 residential accommodation or Class 9b assembly purposes.

### 3.6 General Floor Area Limitations

Based upon the potential uses and associated Types of Construction described above, the buildings would be subject to the following floor area and volume limitations for individual fire compartments –

- Type C Construction

Class 5	–	Floor area	–	3,000 m <sup>2</sup>
	–	Volume	–	18,000 m <sup>3</sup>

- Type B Construction

Class 3	–	Floor area	–	Not applicable
	–	Volume	–	Not applicable
Class 9b	–	Floor area	–	5,500 m <sup>2</sup>
	–	Volume	–	33,000 m <sup>3</sup>

## Audit – Observations

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### 4.1 General

As contained within item 2.2 above, the purpose of this report is to identify, through *visual* inspection only, the extent to which the subject buildings would require upgrade to meet the current fire safety, accessibility and health & amenity provisions of the NCC 2022, based on the following potential uses –

- Class 3 residential accommodation
- Class 5 offices
- Class 9b assembly

The results of the visual audit for each of these three (3) potential uses are addressed in items 4.2 to 4.4 below.

Recommendations resulting from the visual audit are included in the “**Summary & Recommendations**” section at the front of this report.

#### 4.2 Assessment – Class 3 residential accommodation

Building	NCC Section	Observation
All	C	1. It is not permissible that the external walls incorporate combustible material. Currently the external walls comprised timber weatherboard cladding affixed to timber framing.
	C	2. The intervening floor between the ground and first floor levels is required to achieve a fire resistance level not less than 30/30/30 or a resistance to the incipient spread of fire not less than 60-minutes. Currently no fire rating is achieved.
	C	3. The internal load bearing walls, columns and beams in the ground floor must achieve a fire resistance level not less than 1-hour. Currently no fire rating is achieved.
	C	4. Any internal walls between or bounding sole-occupancy units or other rooms opening to a common corridor must achieve a fire resistance level not less than 1-hour. Currently no fire rating is achieved.
	C	5. The doorway openings to any sole-occupancy units or other rooms opening to a common corridor must be fitted with self-closing, 35-mm thick, tight fitting solid core door sets. Currently none of the door sets meet this requirement.



Building	NCC Section	Observation
All	D	<p>6. The exit stairways serving the first floor (including both internal and external stairways) must –</p> <p>A. No contain open risers</p> <p>B. Be provided with balustrading that does not contain openings greater than 125-mm</p> <p>C. Be provided with balustrading that achieves a height not less than 865-mm above stair nosings and 1000-mm otherwise.</p> <p>Currently the existing stairways do not have these features.</p>
	D	<p>7. Access for people with a disability must be provided –</p> <p>E. From the allotment boundary via AS 1428.1-2009 compliant accessways to and within the main entries;</p> <p>F. Between each building and to and within the main entries;</p> <p>G. To AS 1428.1-2009 compliant sole-occupancy units in each ground floor.</p> <p>Currently none of these AS 1428.1-2009 compliant features are provided.</p>
All	E	<p>8. All parts of each floor must be provided with coverage from an AS 2419.1-2021 compliant fire hydrant service.</p> <p>Currently the fire hydrant service is not AS 2419.1 compliant but instead reflects a pre-1992 standard (Ordinance 70).</p>
	E	<p>9. AS 2444-2001 compliant portable fire extinguishers must be provided throughout each floor.</p> <p>Currently no AS 2444 compliant portable fire extinguishers are installed.</p>

Building	NCC Section	Observation
	E	<p>10. AS 2293.1-2018 compliant emergency lighting and exit signage must be provided throughout each floor.</p> <p>Currently the existing systems are somewhat inoperative and based upon a historical (and superseded) version of the Australian Standard.</p>
All	F	<p>11. The buildings must be provided with baths / showers, closet pans and wash basins to accommodate the number of sole-occupancy units provided.</p> <p>Currently there are limited facilities in each building.</p>
	F	<p>12. The accessible sole-occupancy units must be provided with AS 1428.1-2009 compliant accessible sanitary facilities.</p> <p>Currently there are no accessible sanitary facilities in any building.</p>
	F	<p>13. The intervening floor and sole-occupancy unit bounding construction must achieve certain sound transmission levels.</p> <p>Currently the existing construction would not meet the minimum levels for residential accommodation.</p>

### 4.3 Assessment – Class 5 office

Building	NCC Section	Observation
All	D	<p>1. The exit stairways serving the first floor (including both internal and external stairways) must –</p> <p>A. No contain open risers</p> <p>B. Be provided with balustrading that does not contain openings greater than 125-mm</p> <p>C. Be provided with balustrading that achieves a height not less than 865-mm above stair nosings and 1000-mm otherwise.</p> <p>Currently the existing stairways do not have these features.</p>
	D	<p>2. Access for people with a disability must be provided –</p> <p>A. From the allotment boundary via AS 1428.1-2009 compliant accessways to and within the main entries;</p> <p>B. Between each building and to and within the main entries;</p> <p>C. To AS 1428.1-2009 compliant sole-occupancy units in each ground floor.</p> <p>D. Between floors</p> <p>Currently none of these AS 1428.1-2009 compliant features are provided.</p>
All	E	<p>3. All parts of each floor must be provided with coverage from an AS 2419.1-2021 compliant fire hydrant service.</p> <p>Currently the fire hydrant service is not AS 2419.1 compliant but instead reflects a pre-1992 standard (Ordinance 70).</p>

Building	NCC Section	Observation
	E	4. AS 2444-2001 compliant portable fire extinguishers must be provided throughout each floor. Currently no AS 2444 compliant portable fire extinguishers are installed.
	E	5. AS 2293.1-2018 compliant emergency lighting and exit signage must be provided throughout each floor. Currently the existing systems are somewhat inoperative and based upon a historical (and superseded) version of the Australian Standard.
All	F	6. No 1428.1-2009 compliant accessible sanitary facilities are present on either floor. Currently there are no accessible sanitary facilities in any building.

#### 4.4 Assessment – Class 9b assembly

Building	NCC Section	Observation
All	C	<p>1. It is not permissible that the external walls incorporate combustible material. Currently the external walls comprised timber weatherboard cladding affixed to timber framing.</p>
	C	<p>2. The intervening floor between the ground and first floor levels is required to achieve a fire resistance level not less than 30/30/30 or a resistance to the incipient spread of fire not less than 60-minutes. Currently no fire rating is achieved.</p>
	C	<p>3. The internal load bearing walls, columns and beams in the ground floor must achieve a fire resistance level not less than 1-hour. Currently no fire rating is achieved.</p>
All	D	<p>4. The exit stairways serving the first floor (including both internal and external stairways) must –</p> <ul style="list-style-type: none"> <li>A. No contain open risers</li> <li>B. Be provided with balustrading that does not contain openings greater than 125-mm</li> <li>C. Be provided with balustrading that achieves a height not less than 865-mm above stair nosings and 1000-mm otherwise.</li> </ul> <p>Currently the existing stairways do not have these features.</p>

Building	NCC Section	Observation
	D	<p>5. Access for people with a disability must be provided –</p> <p>A. From the allotment boundary via AS 1428.1-2009 compliant accessways to and within the main entries;</p> <p>B. Between each building and to and within the main entries;</p> <p>C. To AS 1428.1-2009 compliant sole-occupancy units in each ground floor.</p> <p>D. Between floors</p> <p>Currently none of these AS 1428.1-2009 compliant features are provided.</p>
All	E	<p>6. All parts of each floor must be provided with coverage from an AS 2419.1-2021 compliant fire hydrant service.</p> <p>Currently the fire hydrant service is not AS 2419.1 compliant but instead reflects a pre-1992 standard (Ordinance 70).</p>
	E	<p>7. AS 2444-2001 compliant portable fire extinguishers must be provided throughout each floor.</p> <p>Currently no AS 2444 compliant portable fire extinguishers are installed.</p>
	E	<p>8. AS 2293.1-2018 compliant emergency lighting and exit signage must be provided throughout each floor.</p> <p>Currently the existing systems are somewhat inoperative and based upon a historical (and superseded) version of the Australian Standard.</p>
All	F	<p>9. No AS 1428.1-2009 compliant accessible sanitary facilities are present on either floor.</p> <p>Currently there are no accessible sanitary facilities in any building.</p>