

**conservation  
studio**

## **Condition Assessment**

Forum Theatre H0438

Flinders Street Melbourne

Prepared for



Date: 22/09/2023

Revision: 02

Revision	Date	Comments
01	22/09/2023	Draft Client Review
02	28/09/2023	FINAL

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# Executive Summary

From our assessment of the building condition, it is apparent that waterproofing of balconies throughout the facades, the tower and the minarets is critical and impacting the condition of the building through two main underlying causes, which include:

1. Water proofing – the water proofing membranes on the balconies, turrets and tower are at the end of their usable life and are allowing water into the structure impacting the condition of the building fabric.
1. Spalling of concrete – related to failure of reinforced concrete elements through carbonation of the concrete to or beyond the depth of the reinforcing such that the reinforcing expands through corrosion causing the concrete to crack. This is typically related to item 1 above.

The Tower poses serious risk and should be addressed as soon as possible. The bay balcony is severely spalled and appears to be shedding significant material. The tower is saturated and needs a period of drying out after the repair of the membrane roof before repair works can commence.

There are four main areas of works that critically need to be addressed within the coming year, they include:

- Stage 1a - Tower and Clock Tower
- Stage 1b - Balconies (south, east and east elevations)
- Stage 1c - Crenelation removal
- Stage 1d - Minarets (east and west elevations)

It is considered that a scaffold will be needed to complete the various works recommended above, and that the scaffold can be focused on areas of the building at a time, such that the works may be staged over time. We consider adopting the following staging to make the most of the scaffold. All scaffolding will need to penetrate the canopy to reach the works, as such, the remediation of the canopy, should be the final stage of works to avoid abortive works actions.

It is recognised that the canopy is impact damaged as a result of traffic. This is resulting in the loss of the decorative metal cladding. Short-term protection can be put in place to prevent further damage and minimise continuing loss of fabric.

There are presently two options available to address the canopy in the long-term, they include:

1. Further cut back the canopy by approximately 500mm to remove the canopy fascia out of the impact zone, or
2. Modify the traffic lanes by eliminating the current turning lane to provide the canopy sufficient clearance needed to prevent impact damage.

The further loss of the canopy depth is a poor outcome for the canopy. The issues of impact need to be addressed through the increased pavement and relocation of the kerb and turning arch away from the canopy.

The painted finish is largely a cosmetic issue that can be addressed over time; however, it is not critical to the condition of the building. However, will need to be addressed in the long-term and will form part of any individual stage of works as recommended in this report.

# 1. Project overview

## 1.1 Introduction

This report has been prepared on behalf of the Marriner Group in response to the Show Cause Notice Ref X10100 from Heritage Victoria raising concerns about the condition of the Forum Theatre (former State Theatre).

The Notice requires the exterior of the Forum Theatre and the associated canopy / awning to be assessed, as it has been identified by Heritage Victoria that the asset appears to be in poor condition. The Notice specifically requires:

3. Engage suitably qualified heritage architect to undertake a condition assessment of the exterior of the building and awning, including recommendations on preventing further damage by delivery vehicles to the awning, to the satisfaction of the Executive Director.
4. A qualified heritage architect to produce a condition report within 30 days of engagement that identifies works which are necessary to prevent deterioration of the registered place and a timeline for completion of the works.
5. The report be provided to the Executive Director within 15 days of the report being completed and before works commence, and that the report be to the satisfaction of the Executive Director.
6. The engaged qualified heritage architect oversees the undertaking of the repairs works to the satisfaction of the Executive Director.
7. A final report be provided to the Executive Director of the works completed, within 15 days of the works being completed and to the satisfaction of the Executive Director.

Conservation Studio have been appointed by the Marriner Group as a qualified heritage architect and our appointment to this project has been advised to the Executive Director, Heritage Victoria.

### 1.1.1 Methodology

The findings outlined in this report are based on a physical assessment of the exterior of the building undertaken from a travel tower on 8 and 29 July 2023. The Flinders Street – south elevation and tower were assessed on 8 July and the Russell Street – east elevation was assessed on 29 July.

The canopy and assessable elements of the tower were assessed on during the aforementioned dates and were also accessed on 7 July 2023.

The assessment is based on a tap test method to establish the location and extent of drummy render and visual assessments of other elements. It does not identify hazardous materials or include any invasive investigation of the substrate or structure.

This report does not consider any required compliance upgrades associated with the Disability Discrimination Act 1992.

## 1.2 Site and description

The Forum Theatre is located on the corner of Flinders and Russell Streets, Melbourne. The theatre comprises two morish inspired facades, with the primary entrance and façade facing Flinders Street. The Russell Street façade is detailed in much the same manner as the Flinders Street façade; however, it differs with the back of stage areas and plant room located at the northern edge of the site. The southeast corner is accentuated by a tall tower with an expressed balcony, and clocktower rising above, capped with a copper clad onion dome dotted with lights in white shades resembling a pearl studded turban.

The Flinders Street facade returns up Hosier Lane, however it is less ornate and becomes utilitarian as it extends northward. The north elevation is primarily a blank wall, that is painted.



**Figure 1**  
Aerial image of Melbourne CBD indicating the location of the Forum Theatre.

### 1.3 Heritage considerations

The Forum Theatre is included on the Victorian Heritage Register (VHR) as H0438 and the extent of the registration is described as follows:

*Historic Building No. 438. / The Former State Theatre, 154 Flinders Street, Melbourne, City of Melbourne. / (The extent of:*

- 1. All of the building known as the former State Theatre.*
- 2. All of the land marked L1 on Plan 602820 being the land described in Certificate of Title Volume 5456 Folio 1091132 signed by the Chairperson, Historic Buildings Council and held by the Director, Historic Buildings Council.)*

*[Victoria Government Gazette No. G37 15 September 1994 p.2504]*

The citation for the place does not include specific permit exemptions.

#### 1.3.1 Previous works

It appears the last major package of external works was undertaken in 1981 and it appears that little works have occurred on the exterior of the building since.

It's noted that in 1982, the Russell Street awning was cut back 300mm to lessen the constant damage caused by passing traffic.

We also confirm that major works were undertaken to the interior in 1995 including refurbishment of Forum I and Forum II. The works comprised the refurbishment of the theatre, including the installation of new seating, tiers and ramps to the main auditorium, extension of the existing sprinkler system, upgrading of the fire doors, upgrading of mechanical ventilation, improvement of access to the clock tower, upgrading of the fly gallery platforms, creation of the new ground floor ticket box office, and the total refitting of the main bar. Works also included a new timber stage constructed over the existing stage structure, the reconfiguring of the eastern offices on the auditorium level and the conversion of the open area to the west into a bar.

### 1.3.2 History

The following history is taken from the Victorian Heritage Register Citation:

*The State Theatre, now the Forum and Rapallo Cinemas, was erected in direct competition to the Regent Theatre in the late 1920s and epitomises the opulent era of picture palace architecture. American theatre design specialist John Ebersson designed the State Theatre in Melbourne following a visit from the manager of Union Theatres Ltd to the United States in 1928. Melbourne architects Bohringer, Taylor and Johnson prepared the documentation for this atmospheric picture theatre, constructed internally in the form of a Florentine garden with artificial sky and externally embellished in a Saracenic mode. Built at the climax of the boom years in Cinema construction, the former State Theatre was opened and operated by Union Theatres (the forerunner of the Greater Union Organisation) in direct competition to the Regent Theatre, the flagship of the "Regent" cinema chain. It had the largest capacity of any cinema in the*

*country with 3371 seats (the Regent had 3265) and was one of the four major picture palaces built in Melbourne in the 1920s (the other two being the Capitol and Palais). John Ebersson pioneered the "atmospheric" cinema in the United States and in Australia the only other surviving cinemas in this style are the Capitol in Sydney (which is in fact an almost exact reproduction, though mirrored, of the former State theatre) and a cinema in Paddington, Brisbane. The State Theatre was divided into two in 1963, to become the Forum and Rapallo cinemas. An entrance to the Rapallo was built in Russell Street at the same time.*

### 1.3.3 Conservation Management Plan

The Conservation Management Plan (CMP) was prepared by Trethowan Architecture and is in draft form, and dated March 2015. It identifies that the exterior of the building as Level A significance (high) and on this basis the fabric of the exterior is an outstanding major element / space that have a high degree of intactness and integrity that relates to its original use and can demonstrate original built form, fabric and/or decorative elements.

The CMP contains the following conservation policies relevant to the works recommended in this report:

#### 9.1.3 Care & Conservation of Fabric

*The Forum Theatre possess a broad array of heritage values making the building of State Heritage Value. The building could also be considered for National significance under National Heritage Criteria A, D, E & F and under Commonwealth Heritage List Criteria A, B, D and F. Full assessment under the National Heritage Criteria and Commonwealth Heritage List Criteria has not been undertaken and it is considered outside the scope of this CMP.*

*Conservation of heritage values requires an integrated approach to the management of the place. The key elements of significance from the primary period of significance (1928-1938) for the Forum Theatre include:*

- *All original and/or early fabric from phase 1, 1928-1938;*
- *All elements/spaces that display the atmospheric concept; including all plaster decoration, statuary, ironmongery, curved blue ceiling & pergola, trees/vines/flowers, remnant ventilation equipment, original lighting etc;*
- *All exterior fabric and;*
- *All areas marked as A or B Level on the Significance Plans.*



**Figure 2**  
View of the Forum Theatre.



## 2. Condition assessment

### 2.1 Overview

The following section discusses the condition of the building based on the following elements:

- South elevation
- East elevation
- Tower
- Turrets and minarets
- Balconies
- Paint finish
- Drainage and roof
- Canopy

The overall condition of the Forum Theatre appears to be impacted by three main factors. Two of which are associated with physical failure of materials and the other is purely cosmetic. The three factors considered to impact on the building are as follows:

8. Water proofing – the water proofing membranes on the balconies, turrets and tower are at the end of their usable life and are allowing water into the structure impacting the condition of the building fabric.
9. Spalling of concrete – related to failure of reinforced concrete elements through carbonation of the concrete to or beyond the depth of the reinforcing such that the reinforcing expands through corrosion causing the concrete to crack. This is typically related to item 1 above.
10. Flaking paint – the paint along with any preceding paint layers is at the end of its life and is no longer stable. This issue is purely cosmetic.

The issues associated with the condition of the canopy are different to that of the rest of the building and are related to impact damage. These are discussed in more detail in Section 2.8.

Specific elements of the building are in better condition than others as a result of the way in which they are constructed and their materiality, for example: the reinforced concrete walls are in better condition compared with reinforced concrete decorative elements or applied precast / pressed cement decorative elements.

### 2.2 South and east elevations

The south and east elevations are predominantly constructed of reinforced concrete and are incised with a diamond pattern that was originally studded with lights. The original globe sockets remain and have been plugged with timber domes, painted to match the façade.

The east and south elevations are capped with a decorative cornice supported by groin vaulted brackets with decorative cartouche panels. On top of the cornice is a decorative parapet containing cast cement tulip inspired castellations of two different sizes.

The walls contain applied barley twist columns and canted minarets that are finished with applied cast decorative panels. The applied decorative panels are generally drummy and detached from the substrate below and are cracked along the joint of each individual panel.

The walls are generally in good condition with no evidence of drummy or spalling concrete.

The crenelated parapets containing cast cement castellations are generally cracked or degraded due to the reinforcing and pose a risk of detaching from the building. Many have been replaced, possibly during the 1980s works and were reinstated with steel back props. Several were removed during our assessment. Those replaced in the 1980s are also in cracked and their imbedded reinforcing is also corroded.

The parapet cornice is constructed of decorative arch and colonette motif cast in sections that interlock. It is generally in good condition but is becoming saturated due to long-term weather ingress. The moulding directly above is heavily weathered and pitted and contains an applied pressed cement mask forming an antefix detail repeated along the length of the parapet. The masks are typically in good condition, one was removed during our assessment as it was detached. Some colonnettes have been previously repaired, likely in the 1980s works and it has not been undertaken sympathetically, such that in the long-term the repair may exacerbate further problems in the reinforced concrete.

The groin vaulted corbels that support the cornice are also constructed from cast elements compiled in a series of repetitious components. The corbels are becoming saturated as a result of water ingress from above through the parapet.



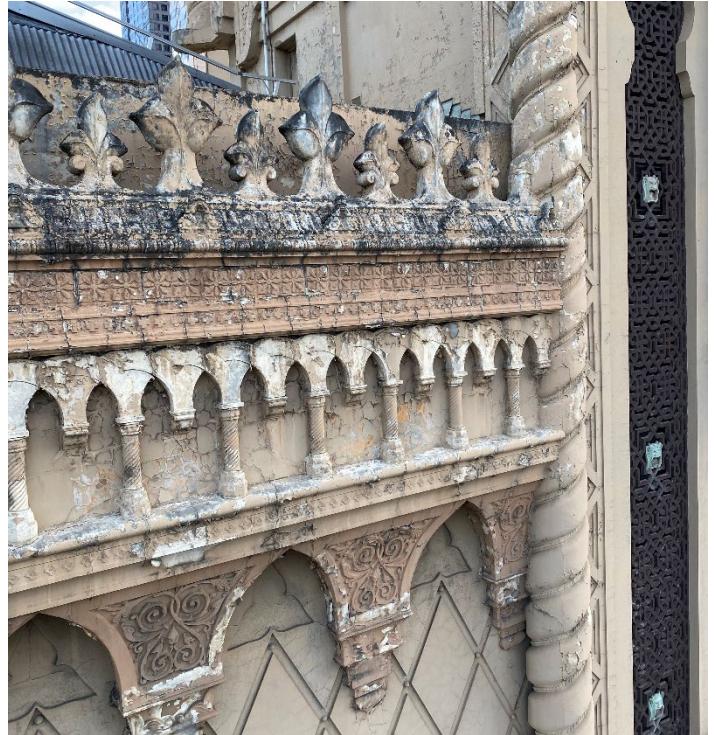
**Figure 3**  
Crack in the concrete parapet on the east elevation – northern wing.



**Figure 4**  
View of the northern wing on the east elevations.



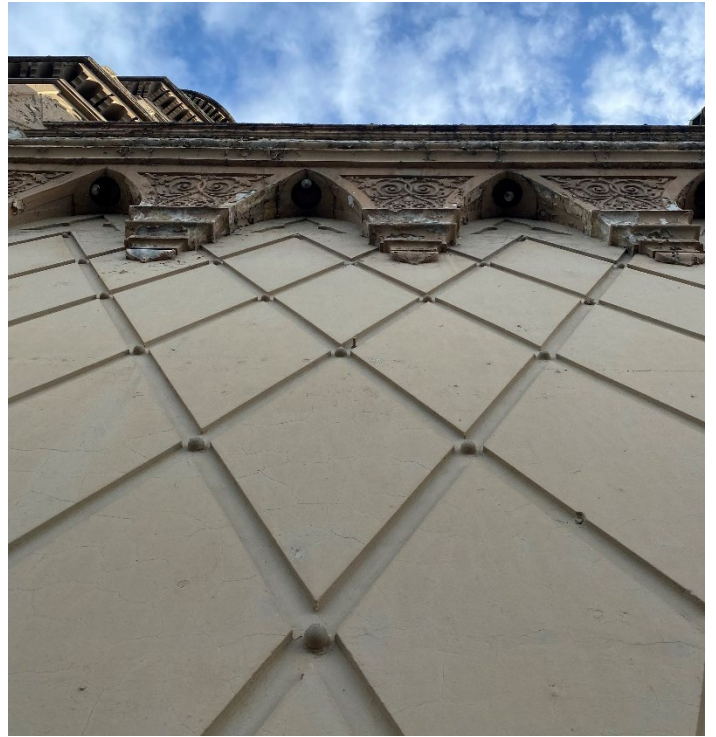
**Figure 5**  
View of the south elevation balconies and general walls.



**Figure 6**  
Parapet on the south elevation adjacent to the tower.



**Figure 7**  
View of the south elevation parapet and niches.



**Figure 8**  
View of the south elevation showing the concrete walls to be in good condition.



**Figure 9**  
Typical details of the crenulated parapet.



**Figure 10**  
View of the cornice on the south elevation.

## 2.3 Tower

Consisting of a vertical square shaft with three inset balconies rising up the south and east elevation. The inset balconies are purely decorative and contain double hung sash windows and vents concealed by mashrabiyyah screens with lancet forms. Above this an expressed balcony in the form of a canted bay with mashrabiyyah screens terminated by an onion dome turret.

The edges of the tower are trimmed with a barley twist / rope mouldings constructed from cast or pressed cement in two parts. The top of the tower is truncated cantilevering balcony with corbel brackets below featuring decorative lights in the coffer of the balcony soffit. The tower has a high parapet constructed of reinforced concrete and brickwork that wraps around all four sides and from the centre rising out of the balcony is the clock tower with its copper onion domed roof studded with white light shades.

From a safety perspective, the tower is the most critical element of the building. Whilst the general walls and mashrabiyyah screens of the tower appear stable and aesthetically impacted by peeling paint.

The rope moulding that runs up the corners of the towers are constructed in sections and the joints between the sections is expressed by a minor crack. There are areas of the rope moulding that are spalling. It appears to be random and related to low coverage of reinforcing, which has over time corroded and cause the concrete to crack and begin to spall.

The decorative cartouche panels below the balcony on the upper face of the tower appear to be reinforced concrete panels, that have been applied over the brickwork structure. Areas of the decorative panels appear to have low coverage of the reinforcing which has begun to spall in particular locations. This appears to be limited to the large star moulding and the inset panels surrounding the star.

### 2.3.1 Membrane roof

Most critically the membranes that protect the floors of these balconies is at the end of its life and no longer provides protection of the concrete structure and is exacerbating the spalling of the concrete structure, both internally and externally.

The membrane roof on the tower balcony appears to be in excess of 50 years old and it is no longer watertight. It is cracked in several locations, contains organic growth in the cracks and appears to be lifting in several locations.

### 2.3.2 Copper roof

The copper onion dome roof is patinated Verdigris. It appears to be constructed of pressed copper panels with ribs covered over with formed copper strapping all laid over a timber substrate. The copper appears to be rivetted with copper and the panels are centrally fixed with a single screw, which is rusted. The copper appears to be in good condition, there is minor pitting in the surface related to pollution. There are no signs of fatigue (cracking) in the copper and joints appear to be holding together.

The dome is studded with plastic white domes that once contained lights. The plastic is hail and UV damaged and letting water into the space below.

### 2.3.3 Clocktower

The clocktower is cracked through in several locations. Steel arched bracing beams were added to the clock apertures and they appear to be corroding and causing some of the issues with the clock tower.

The steel clock face is painted black with white glazing, which is generally stable and requires little more than routine maintenance painting and some localised repair or replacement of glazing where cracked and glazing putty where missing or eroded.

Currently the clock is not functioning and has not done for many years. We have not assessed the overall mechanism or internal workings of the clock.

### 2.3.4 Balconies

The canted bay balconies and the upper balcony are not stable as a result of corrosion of the reinforcing causing the concrete columns to spall and crack. The columns have been repaired once before and have been strapped with galvanised steel ties that are rusted.

#### *Canted bay balcony*

The two canted bay balconies on the south and east elevations of the tower are unstable. The bay balcony on the south elevation is particularly poor. Both are significant spalling, losing material along the columns and the supporting base structure. Both have been previously repaired with a cementitious repair mortar and strapped with galvanised ties that are rusted. The base of the canted bay comprises a series of arrayed corbel brackets that are cracked and beginning to spall. This supports a base platform and balustrade, also spalling, which in turn supports a series of slender reinforced columns that are spalling. The columns also support the mashrabiyyah screens that are impacted by a build-up of bird guano.

Critically the canted bays are not waterproofed, such that water can travel through the structure, exacerbating the corrosion of the reinforcing and increasing the salt attack by introducing salts from guano into the concrete.

The bay has been internally propped with acro props. It appears they have been there for a considerable number of years and indicates that the deteriorated concrete posts on the corners of the bay are not likely to provide structural support to the whole of the canted bay structures.

The canted bay balconies are of concern as to their structural adequacy and their overall condition. At this stage, we would strongly recommend that they are accurately recorded and largely dismantled as a matter of urgency. Restoration should occur within a timely manner, but not until issues associated with water ingress into the overall structure is addressed as the highest of priorities. We are of the view that this structure is beyond repair and will need structural interventions into the new replacement structure that will need to be designed and sensitively integrated into the canted bay to enable reconstruction.

Some elements of the canted bay structure may remain in situ, such as the onion dome, which appears to be a cantilevering structure supported out of the mass of the wall of the tower rather than by the acro props or the columns and mashrabiyyah screens. The onion dome is missing some minor details such as finials around the parapet. These can be reinstated upon reconstruction.

#### *Upper balcony*

The upper tower balustrade is beginning to heavily spall. The balcony is a reinforced concrete structure sitting over the brickwork walls of the tower. The reinforced concrete partially cantilevers out to form the truncated pronounced balcony, which is supported by a series of decorative corbels with finials. The facing of the tower balustrade is reinforced concrete panels over a brickwork structure.

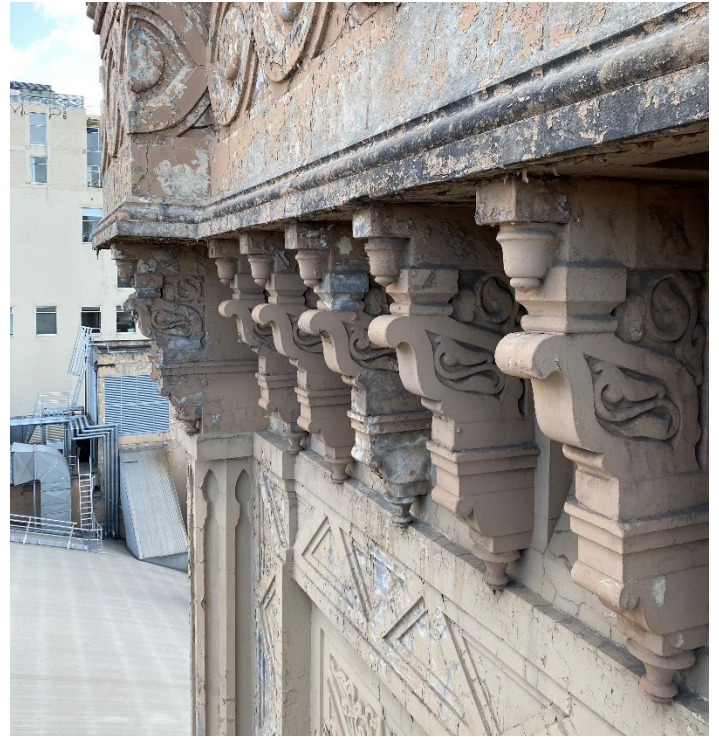
The crenelated parapet of the balcony contains a series of cast cement tulip inspired castellations. Many have been replaced, possibly during the 1980s works and were reinstated with steel back props. Several were removed during our assessment. They are typically cracked due to the reinforcing and pose a risk to detaching from the building. Many castellations are wrapped in mesh or wire to prevent the cracked and loose materials from dislodging, however the mesh is now rusted to a state that is cannot be relied upon as a temporary make safe action. Those replaced in the 1980s are also cracked and their imbedded reinforcing is also corroded.

The balcony balustrade facing panels are cracked and beginning to spall. The joints between the various sections of the balustrade panels are beginning to open up and the corbel brackets, which appear to be decorative, are large and are cracked through. The decorative finials on the brackets are attached by a single reinforcing rod, which is likely to be highly corroded. Several of these finials were removed during our survey. Generally, the brackets have lost many finials over the years.

All in all, the balcony poses some serious risks of shedding significant material. It is in need of a period of drying out that can only occur once the membrane has been replaced and the drainage of the tower addressed. It is likely that the risk of shedding materials may increase a through the drying period, and some bracing or netting will be needed to the balcony balustrade while the membrane is repaired, and the structure is given time to dry out. It would also be prudent to undertake a period of poulticing to desalinate the structure. Only once this has occurred, can repairs of the reinforced concrete be undertaken.



**Figure 11**  
View of the tower from roof.



**Figure 12**  
View of the corbel brackets below the tower balcony.



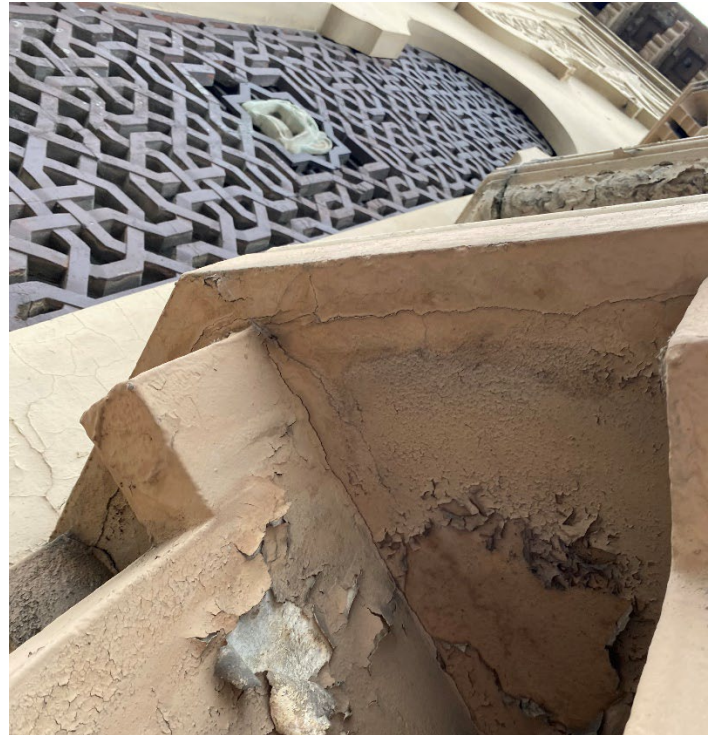
**Figure 13**  
View of the tower balcony and upper walls.



**Figure 14**  
Corbels below tower balcony with suspended light fittings.



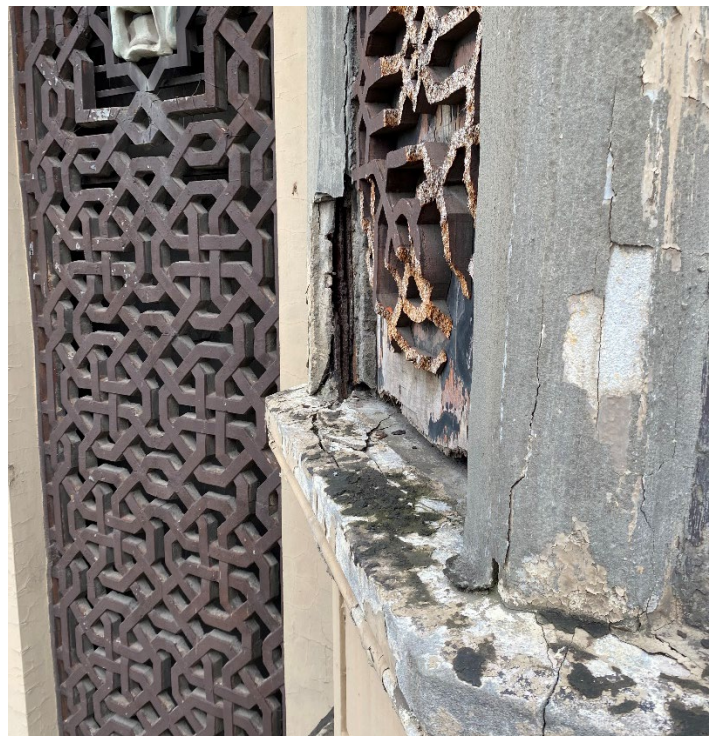
**Figure 15**  
Canted bay balcony concrete dome roof.



**Figure 16**  
Corbel brackets supporting the canted bay balcony.



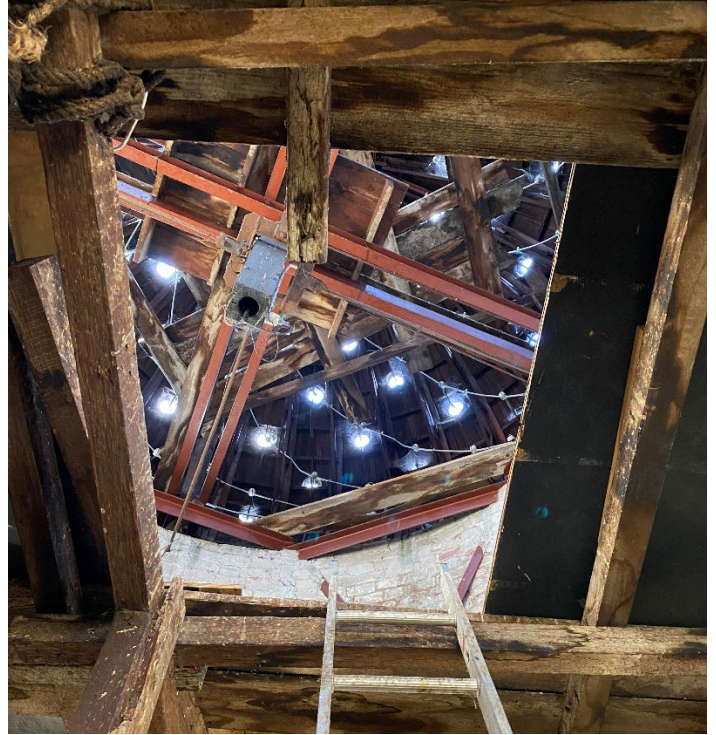
**Figure 17**  
Spalling concrete structure on the canted by balcony.



**Figure 18**  
Spalling concrete structure and previous poor repairs on canted bay balcony.



**Figure 19**  
View of the clock tower. Note missing copper turret.



**Figure 20**  
View of the timber onion dome structure.



**Figure 21**  
Detail of the onion dome showing broken light fitting covers.



**Figure 22**  
View of clock tower with crack through top of parapet.





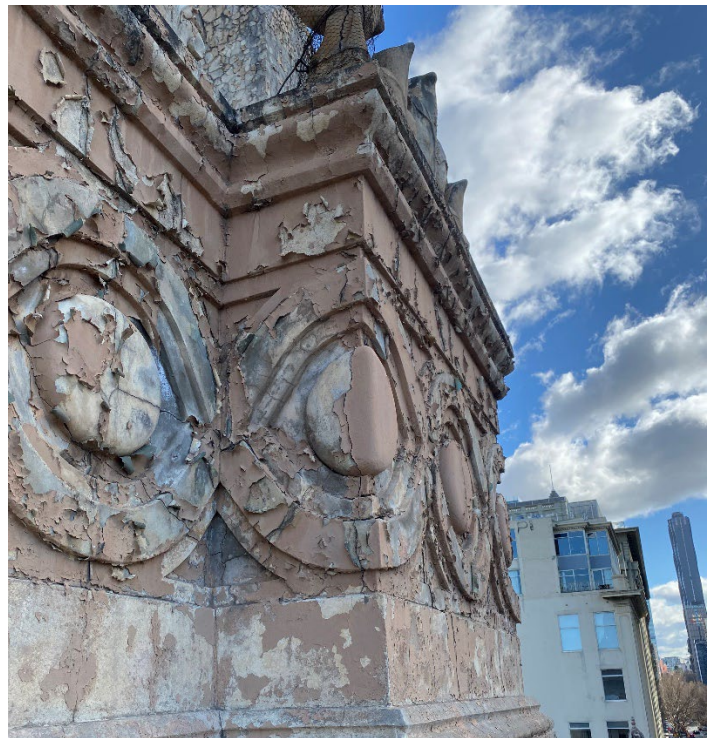
**Figure 23**  
Cracking in the decorative reinforced concrete facing panels of the tower balcony.



**Figure 24**  
Detail of corbel brackets below tower balcony.



**Figure 23**  
Cracking in the decorative reinforced concrete facing panels of the tower balcony.



**Figure 24**  
Cracking in the decorative reinforced concrete facing panels of the tower balcony.



**Figure 25**  
Defective membrane on tower balcony.



**Figure 26**  
Defective membrane on tower balcony.



**Figure 27**  
Defective membrane on tower balcony



**Figure 28**  
Salt affected concrete slab of the tower balcony

## 2.4 Turrets and minarets

The facades incorporate a number of minarets and turrets, which are purely decorative elements constructed of reinforced concrete with applied decorative cast or pressed cement elements and copper roofs or finials.

Many of the minarets have been reinforced with steel columns to support the various balcony levels within the minaret due to the failure of the slender reinforced concrete columns which have cracked in half and spalled due to the corrosion of the reinforcing.

Similar to all other balconies, the minarets do not have water proofing membranes within and have ponded with such a build-up of debris that they are full of grass and vegetation, soil and guano. They are largely inaccessible for maintenance, which poses a significant issue for future and ongoing upkeep and will need to be addressed as part of any future works.

The western minaret is the largest of the minarets and contains a copper onion dome roof studded with white plastic domes to house lights. Like the clock tower, the plastic domes are broken and allowing water through the structure. This minaret is also missing balustrades and other decorative elements which over time have been removed.

The smaller minarets appear more intact, but their columns are more heavily spalled and the upper tower is beginning to collapse.

The copper roofing over most minarets is in good condition with minor surface pitting present. The minarets on the northern wing are missing. It is unclear when they were removed, but they appear to be formed copper plates over the concrete base structure. These can be replicated based on historic images.

The south eastern minaret on the clock tower is home to an eagle's nest. Originally the minaret tops contained light fittings resembling lanterns across the top of the building. Reinstatement of the decorative lighting would be considered beneficial to the presentation of the building and the lanterns could be sealed off with mesh to prevent bird roosting, which contributes to the development of organic growth and in-turn saturation of the structure. The acids produced by vegetation also impacts on the accelerated carbonation of concrete.

## 2.5 Windows

The building contains two types of windows, steel pivot windows located in the northern rear wing on the Russell Street elevation, and timber double hung sash windows located behind the mashrabiyyah screens. The windows are all in reasonably good condition with exception of minor spot rust on the steel windows.

All windows would benefit from routine maintenance painting; however, this is of a lower order of priority at present.



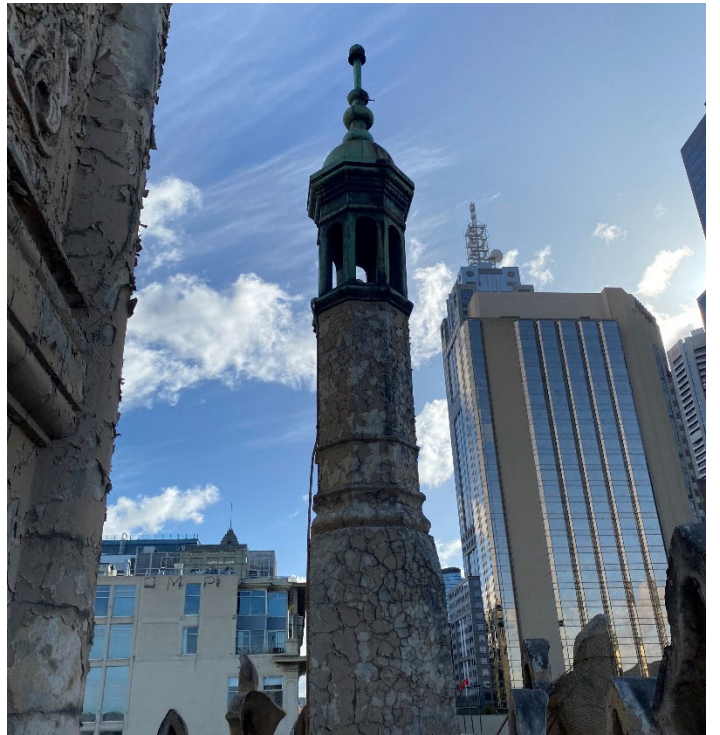
**Figure 29**  
View of south west corner minaret.



**Figure 30**  
Eastern minaret.



**Figure 31**  
View of the western minarets.



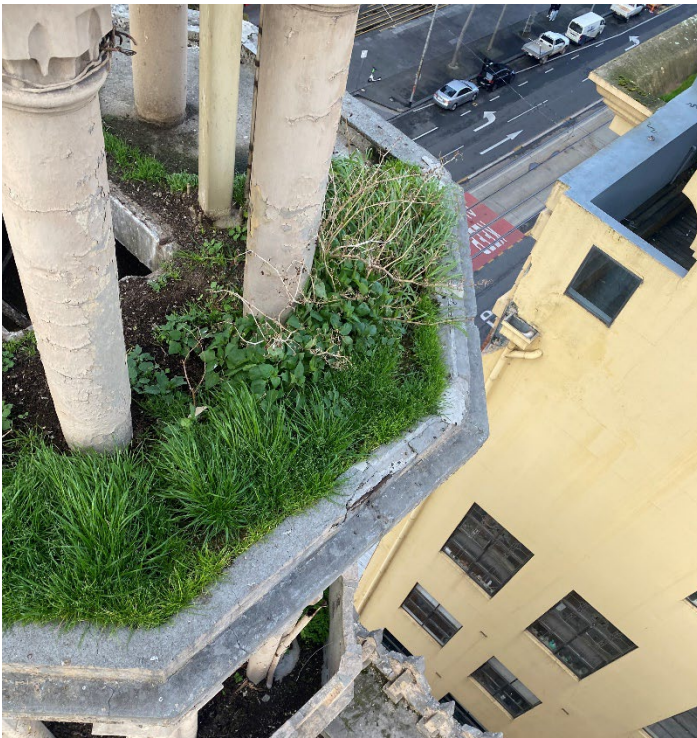
**Figure 32**  
View of clock tower minaret.



**Figure 33**  
Onion dome over western minaret.



**Figure 34**  
Typical 1980s repair of minaret columns with past and strapping.



**Figure 35**  
Organic growth and vegetation on western minaret. Note balustrade is missing.



**Figure 36**  
View of minaret on west elevation.



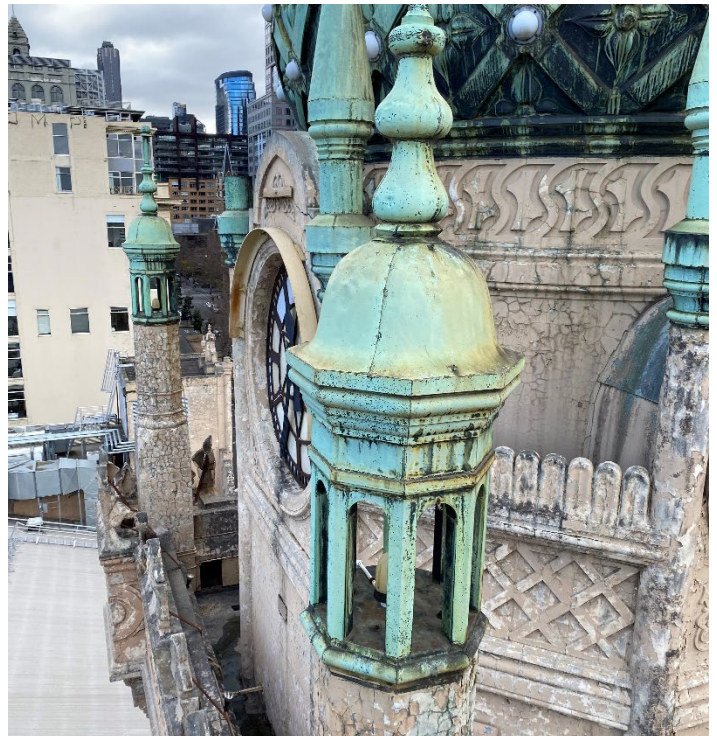
**Figure 37**  
Spalling concrete post in minaret.



**Figure 38**  
View of minaret on south elevation



**Figure 39**  
Corded and spalling ceiling to minaret on south elevations. Joints in concrete beginning to open.



**Figure 40**  
Clock minarets with copper lanterns. Note existing light present.

## 2.6 Balconies

Several balconies exist on the south and east elevation. The supporting structure appears to be constructed of reinforced concrete groin vaults that bracket out of the wall to form a cantilevering structure. The balconies contain balustrades with mashrabiyyah panels that appear to be of a pressed cement composition with pedestal baluster in the outer corners.

The balconies are largely decorative and frame the base of the inset colonnades with their mashrabiyyah screens that conceal double hung sash timber windows. The balcony balustrades are not compliant from crowd loading or fall risk. Given they are inaccessible other than for maintenance, the need to upgrade the balustrades is a low priority. Access for maintenance can be addressed by rope access in lieu of fall protection.

Critically the balconies do not appear to be waterproofed, or if they are, the waterproofing is at the end of its material life. In some cases, the buildup of pigeon guano, organic growth and vegetation is excessive, such that it may be impacting the structure of the balcony. The balconies do not appear to have drainage outlets, which means that the water runoff is leaching through the base of the structure or running down the façade.

Some balconies are missing parts of the balustrade panels and the following image appear to indicate that the panels have cracked. However, this is not the case; it is simply the failure of the paint finish. The mouldings at the base of the balconies and the outer edge of the pedestal balusters have begun to spall due to corrosion of the reinforcing.

Consideration many need to be given to compliance-based upgrades to introduce a handrail or maintenance fall protection. The balconies are not readily accessible for anything other than maintenance, as such, they should remain inaccessible, and upgrades should be limited to facilitation of maintenance.



**Figure 41**  
View of south elevation balcony with missing balustrade in end panel.



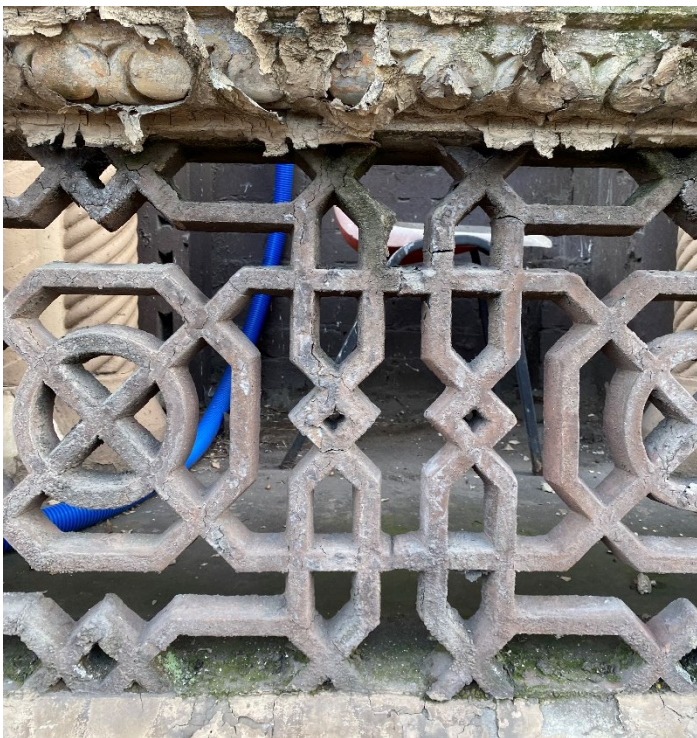
**Figure 42**  
Spalling corner of the balcony balustrade piers.



**Figure 43**  
Cast cement groin vaulted brackets that support the balconies.



**Figure 44**  
View of the balcony on the south elevation.



**Figure 45**  
Balcony balustrade panels.



**Figure 46**  
Inset balconies with mashrabiyyah screens.



## 2.7 Paint finish

It appears the building was last painted in 1981 when major works were undertaken to the building. There appears to be several layers of paint present on the façades including various whites and a polychromatic scheme of prime colours. This was recorded in the Argus at the end of January 1939, stating the walls to be painted pink and:

*The front view of the new State Theatre...was obtained yesterday when following the removal of a large amount of scaffolding, the rich beauty of the colouring of the exterior walls was revealed. The colourings include ochre, sepia, jade green, red and Prussian blue.*

The paint, being 40 years old is at the end of its material life. It is flaking and failing, cracked and highly friable as a result of UV degradation and long-term weathering. At present the condition of the paint as a surface is cosmetic and whilst it gives the building the appearance that it is heavily cracked, as though its condition is worse than it appears. The paint finish is not the presently the area of concern and there are more pressing areas that need attention to allow the building to dry out before considering painting works.

Future re-painting would need to remove the paint from the building in its entirety, the paint, in its current state does not provide a suitable substrate to re-paint.

Importantly, it must be considered that the current distressed paint finish contributes to the overall aesthetic of the Forum and contributes to the use of the venue as a live performance space that attracts alternative and indie styles of music, performers and patrons. The site would not necessarily benefit from an over restored or heavily conserved appearance.

Given there are more critical issues at present, such as dealing with water proofing to dry the structure out, such that the painted finish is, at present, a cosmetic concern.

The existing schemes need to be investigated to understand the original polychromatic scheme and consider reinstatement of the original paint finishes with original lighting layouts. This work should not be undertaken until the water ingress issues have been addressed.



**Figure 47**  
Typical flaking paint showing earlier colour schemes below the current paint system.



**Figure 48**  
Peeling paint on the western minaret.

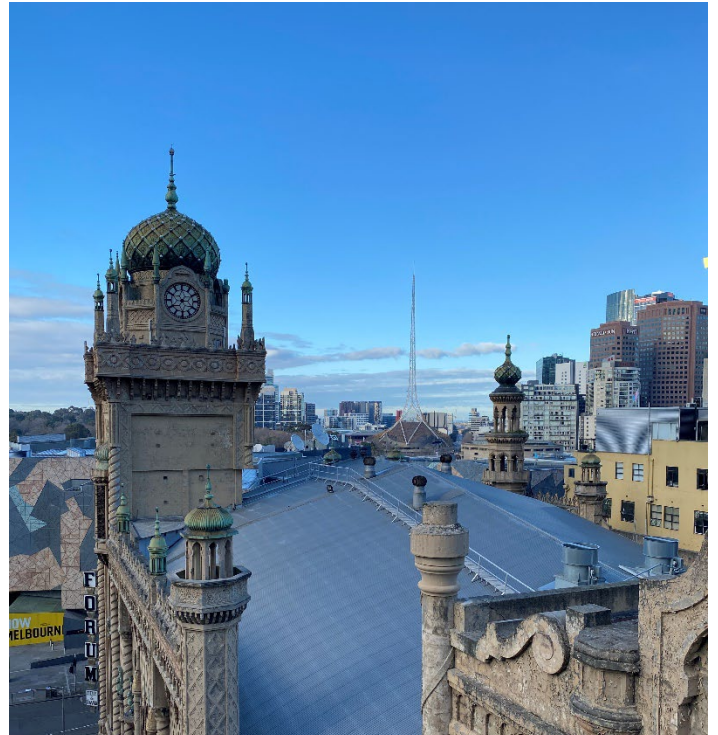
## 2.8 Drainage and main roof

The roof over the auditorium and foyer consists of a large expanse of corrugated galvanised roof sheeting with a single ridge line running north south. The roof is generally in good condition and has been patched in the past where services penetrations existed. The roof appears to have twenty years plus left in its material life. The roof over the rear plant platform also appears to be more recent and appears to have twenty years plus left in its material.

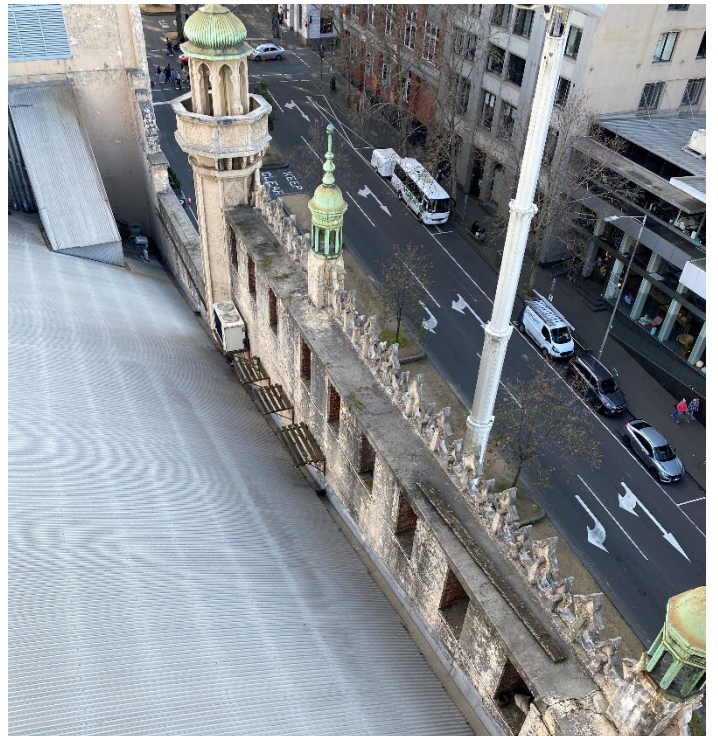
The roof expanse is very large with few gutters at its perimeter and few downpipes. It's unclear if the existing rainwater goods are likely to be sufficient for rainwater collection and drainage in a 1:100 event.

The roofs have access walkways and other access systems for maintenance.

It appears that the gutter at the base of the tower can get blocked as a result of a build-up of debris, which would be managed through repair of the tower.



**Figure 49**  
View of the expanse of the main roof.



**Figure 50**  
View of the eastern box gutter at the rear of the parapet.

## 2.9 Canopy

The canopy is a composite structure containing a cantilever steel frame with suspension rods tying it back to the façade, with corrugated roof sheeting above and a soffit comprising sheet metal and 1960s polycarbonate panelled system which would once have been back lit. The fascia comprises a series of formed galvanised sheet profiles fixed back to the superstructure and decorative pilaster panels at each step along the length of the canopy, which is stepped to follow the slope of Russell Street.

The canopy was reduced in the 1960s due to continued impact damage. It continues to be impacted by trucks and other day-to-day traffic which has now resulted in the damage and loss of parts of the external decorative cladding.

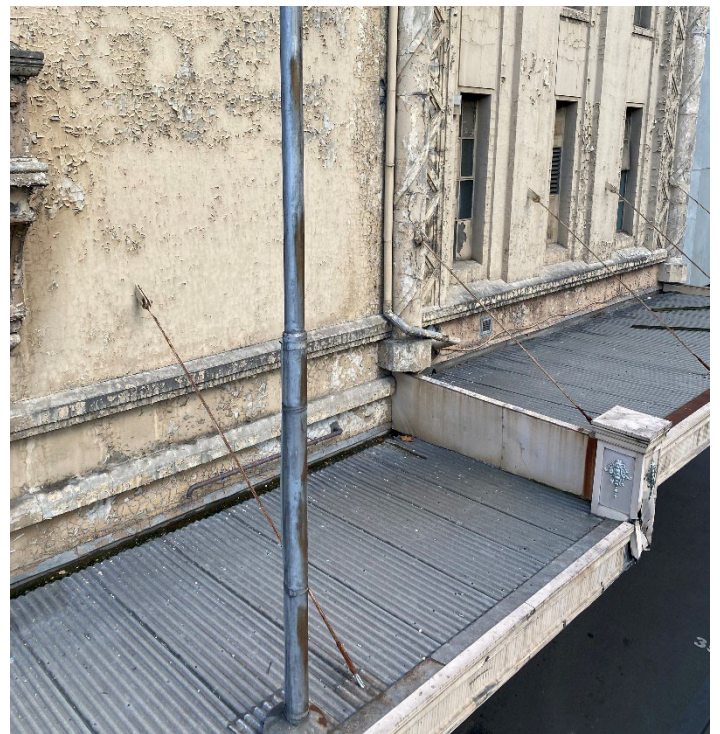
The sheet cladding is painted to match the façade. Where paint has weathered and been lost, it is evident that the original galvanised sheeting was painted to appear as copper or Florentine bronze. The original paint system needs to be investigated and the scheme confirmed.

The continued impact on the canopy poses two options to deal with the ongoing issue:

1. Further cut back the canopy by approximately 500mm to remove the canopy fascia out of the impact zone and reconstruct the canopy fascia and soffit. This option will need to consider the suspension rods, which are currently too close to the leading edge of the canopy and their angle will need to be adjusted and reset should the reduction be considered. This poses serious changes to the layout of the canopy and would diminish the heritage values of the canopy, particularly given it has already been cut back on one occasion, or
2. Modify the traffic lanes by eliminating the current turning lane to provide the canopy sufficient clearance needed to prevent impact damage. This option would require significant stakeholder engagement to gain approval for the alteration of traffic conditions and would be likely to include other authorities such as Vic Roads and the City of Melbourne. This option still requires the fabrication and replacement of much of the damaged galvanised fascia.



**Figure 51**  
Impact damage to the canopy on Russell Street.



**Figure 52**  
View of the general canopy arrangement showing the suspension rods.



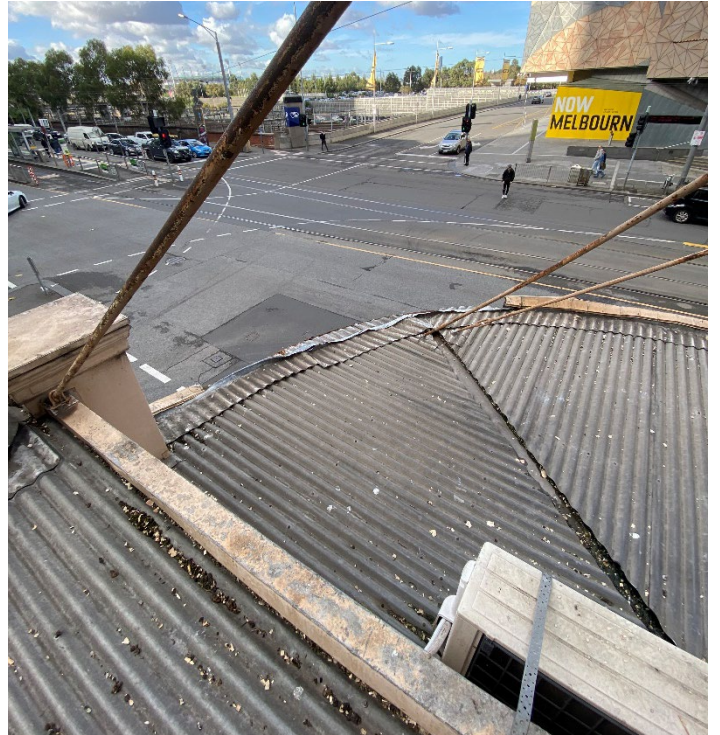
**Figure 53**  
View of the canopy soffit showing the 1960s ceiling.



**Figure 54**  
Section of missing and damaged canopy cladding showing the steel structure within.



**Figure 55**  
Impact damage to the canopy on Russell Street.



**Figure 56**  
Canopy at the street corner missing the capping and outer mouldings.

## 3. Recommendations

### 3.1 Discussion

As identified and discussed above, there are two key issues with the building that impact its overall condition, and they are very localised to the minarets, balconies and tower.

They include:

1. Water proofing – the water proofing membranes on the balconies, turrets and tower are at the end of their usable life and are allowing water into the structure impacting the condition of the building fabric.
2. Spalling of concrete – related to failure of reinforced concrete elements through carbonation of the concrete to or beyond the depth of the reinforcing such that the reinforcing expands through corrosion causing the concrete to crack. This is typically related to item 1 above.

The Tower poses serious risk and should be addressed as soon as possible. The bay balcony is severely spalled and appears to be shedding significant material. The tower is saturated and needs a period of drying out after the repair of the membrane roof before repair works can commence.

### 3.2 Recommendations

Based on the above discussion and condition assessment, we propose the following actions be undertaken, which are categorised by the following three priorities and divided up in order of priority to address the most urgent needs to stabilise the condition of the building before undertaking less critical works.

<b>Urgent</b>	Works that are recommended to be commenced within 12 months from the date of this report. These works address areas of the building in poor condition that directly contribute to the deterioration of the building or are related to safety of persons and property.	Within 12 months
<b>Priority A</b>	Works that are recommended to be commenced within 5 years of the date of this report. These works address areas of the building in poor condition which directly contribute to the ongoing deterioration of the building.	Within 5 years
<b>Priority B</b>	Works that are recommended to be commenced within 10 years of the date of this report. These works address areas of the building in moderate condition which do not directly contribute to the degradation of the building, however it is recognised that they will progressively decay over the coming years.	Within 10 years
<b>Cosmetic</b>	Works that relate to the aesthetic appearance and minor repair of the building. These works do not contribute to the stabilisation or condition of the building. These works require the building condition to be stabilised and a period of drying out to occur before proceeding.	Future works to be planned

Whilst other works are recommended, they are more cosmetic and less critical to the condition of the building and are dependent on the order of priorities outlined herein.

The issues related to the paint finish are purely cosmetic at this stage. The painted finish obscures the true condition of the building and can be misread as appearing to be in poorer condition that it truly is.

#### 3.1.1 Canopy

The canopy continues to be an issue and is heavily impacted by traffic conditions. The CMP identifies that the canopy has been cut back in the past as a result of the ongoing issues with traffic. For the ongoing management of the canopy there are two options available:

1. Further cut back the canopy by approximately 500mm to remove the canopy fascia out of the impact zone, or
2. Modify the traffic lanes by eliminating the current turning lane to provide the canopy sufficient clearance needed to prevent impact damage.

The latter of the two would require significant stakeholder engagement to approve the alteration of traffic conditions and would be likely to include other authorities such as Vic Roads and the City of Melbourne.

## 3.2.1 Tower

Element	Works action	Priority
Membrane	Remove existing membrane, re-screed falls to outlet and install new membrane with cover flashings.	Urgent
Downpipe	Reline or replace downpipe. Provide overflow adjacent to downpipe to discharge to atmosphere.	Urgent
Crenelations	Remove and store all cracked and decaying crenelations.	Urgent
	Cast new GRC crenelations to match existing and fix in place with new grade 316 stainless steel dowel.	Priority A
Balcony balustrade	Net whole of balustrade including corbel brackets below to prevent loss of spalling material until a time where the structure has dried out (min 12 months after the membrane installation). Remove the suspended light fittings from the soffit.	Urgent
	Investigate original paint finishes to tower balustrade. Remove all paint from tower balustrade and corbels using chemical paint removal system and pressure water. Investigate the reinforcing coverage on the balustrade structure and undertake repairs to the balustrade panels to remove areas of spalling and treat underlying corrosion. Investigate the depth of carbonation of the reinforcing. Investigate with Schmidt hammer test the attachment of the reinforced concrete facing panels to back to the brickwork structure behind and consider a mechanical fixing detail to pin the panels back to the brickwork. Remove all corbel corroded and spalling brackets below the balcony cantilever and reproduce those or missing elements to repair those. Fix back with new stainless-steel dowels. Re-render the capping to the full perimeter of the balustrade. Re-render the back of the parapet. Prepare surfaces and repaint in a high build acrylic paint system to protect the reinforced concrete from further carbonation of the concrete.	Priority A
	Consider reinstatement of original colour schemes.	Cosmetic
	Reinstate the suspended lighting to the soffit with revised fixing details and access for lighting.	Cosmetic
Canted bay balconies	Accurately record the canted bay balconies and dismantle retaining all the elements able to be reused and reinstated such as the corbel brackets and the mashrabiyyah screens. Clean out all bird guano and organic growth and dispose off site in accordance with EPA requirements.	Urgent
	Remove paint from retained elements using chemical paint removal and pressure water. Reconstruct the canted bay balconies with new structure integrated to provide structural support. Reinstate original elements where possible such as the corbel brackets and the mashrabiyyah screens. Install a new water proofing membrane at the base of the balcony.	Priority A

Element	Works action	Priority
	<p>Reinstate missing details to parapet.</p> <p>Prepare surfaces and repaint in a high build acrylic paint system to protect the reinforced concrete from further carbonation of the concrete.</p>	
	Consider reinstatement of original colour schemes.	Cosmetic
Tower walls	<p>Investigate original paint finishes to tower walls.</p> <p>Remove all paint from tower walls using chemical paint removal system and pressure water.</p> <p>Investigate the reinforcing coverage on the tower structure and undertake repairs to the decorative panels to remove areas of spalling and treat underlying corrosion.</p> <p>Investigate the depth of carbonation of the reinforcing.</p> <p>Investigate with Schmidt hammer test the attachment of the reinforced concrete decorative panels to back to the brickwork structure behind and consider a mechanical fixing detail to pin the panels back to the brickwork.</p> <p>Remove all corroded and spalling elements and repair concrete.</p> <p>Repair cracked and spalling barley twist moulding to corner of tower.</p> <p>Prepare surfaces and repaint in a high build acrylic paint system to protect the reinforced concrete from further carbonation of the concrete.</p>	Priority A
	Reinstate the suspended lighting to the soffit with revised fixing details and access for lighting.	Cosmetic
Tower interior	Remove salts from underside of tower slab using several applications of poultice. Complete these works 6 months after the installation of the new membrane allowing all salt to transfer to the surface through drying out.	Priority A
Forum Signage	<p>Repair the forum signage, remove the sign to an offsite location for repairs to the corroding metal frame.</p> <p>Weld new steel into existing frame.</p> <p>Re-lamp and re-wire the signage.</p> <p>Prepare and paint all steel works.</p> <p>Replace in situ fixings and reinstate signage to original location on corner of tower.</p>	Priority A
Tower windows	Prepare and paint all windows located behind the mashrabiyyah screens.	Priority B
Tower minarets	<p>Investigate original paint finishes to minarets.</p> <p>Remove all paint from minarets using chemical paint removal system and pressure water.</p> <p>Investigate the reinforcing coverage on the minaret shafts and undertake repairs to remove areas of spalling and treat underlying corrosion.</p> <p>Repair and open joints in the copper roofs.</p> <p>Provide bird proofing mesh to seal off the lantern openings.</p>	Priority A
	Re-lamp and re-wire the minarets and install new lighting.	Cosmetic
Clock tower dome	<p>Replace all white plastic domes with new to match.</p> <p>Replace all corroded fixings to copper dome roof with new brass fixings.</p> <p>Undertake a detailed inspection of the condition of the timber substrate of the dome and where timber is rotten or heavily saturated, cut out and splice in new timber members.</p>	Urgent

Element	Works action	Priority
	Re-lamp and re-wire the dome interior and install new lighting.	Cosmetic
Clock tower	Investigate original paint finishes to clock tower walls. Remove all paint from clock tower walls using chemical paint removal system and pressure water. Investigate the reinforcing coverage on the clock tower structure and undertake repairs to the decorative panels to remove areas of spalling and treat underlying corrosion. Investigate the curved steel bracing to ascertain is this is needed or can be removed form a structural perspective. Repair cracks to the top of the clock tower facings. Dowel the crack and fill. Investigate the depth of carbonation of the reinforcing. Investigate with Schmidt hammer test the attachment of the reinforced concrete decorative panels to back to the brickwork structure behind and consider a mechanical fixing detail to pin the panels back to the brickwork. Remove all corroded and spalling elements and repair concrete. Repair cracked and spalling barley twist moulding to corner of tower. Prepare surfaces and repaint in a high build acrylic paint system to protect the reinforced concrete from further carbonation of the concrete. Replace over flashings over clock. Membrane and provide drainage to cavity behind the parapet walls adjacent to each clock face.	Priority A
	Prepare and paint metal clock faces	Priority A
	Replace broken glass in clock face.	Priority A
	Consider reinstatement of original colour schemes.	Cosmetic
	Refurbish clock mechanism to working.	Cosmetic

### 3.2.2 Balconies

Element	Works action	Priority
Balconies	Remove all paint from balconies using chemical paint removal system and pressure water. Remove all guano and vegetation from balconies. Re-screed falls to outlet and install new membrane with cover flashings. Investigate the reinforcing coverage on the balustrades and structure and undertake repairs to the decorative panels to remove areas of spalling and treat underlying corrosion. Investigate the depth of carbonation of the reinforcing. Investigate with Schmidt hammer test the attachment of the reinforced concrete decorative panels to back to the structure behind and consider a mechanical fixing detail to pin the panels back to the walls. Remove all corroded and spalling elements and repair concrete.	Urgent



Element	Works action	Priority
	<p>Prepare surfaces and repaint in a high build acrylic paint system to protect the reinforced concrete from further carbonation of the concrete.</p> <p>Provide new handrails to balconies to 1m high designed to maintenance loading requirements.</p>	
	Prepare and paint all windows located behind the mashrabiyyah screens.	Priority B
	<p>Investigate original paint finishes to balconies.</p> <p>Consider reinstatement of original colour schemes.</p>	Cosmetic

### 3.2.3 Turrets and Minarets

Element	Works action	Priority
Minarets	<p>Remove all paint from minarets using chemical paint removal system and pressure water.</p> <p>Remove all guano and vegetation from balconies.</p> <p>Re-screed falls to outlet and install new membrane with cover flashings.</p> <p>Provide overflows and outlets for drainage of balconies.</p> <p>Replace all white plastic domes with new to match.</p> <p>Replace all corroded fixings to copper dome roof with new brass fixings.</p> <p>Undertake a detailed inspection of the condition of the timber substrate of the dome and where timber is rotten or heavily saturated, cut out and splice in new timber members.</p> <p>Remove steel structure added to the minarets and investigate structural reinforcement of columns.</p> <p>Remove spalled columns and associated corroded reinforcing. Reinstatement columns as new reinforced concrete. Where patch repair is possible undertake patch repairs to the reinforced concrete columns and underside of balcony.</p> <p>Remove all corbel corroded and spalling brackets below the balcony cantilever and reproduce those or missing elements to repair those. Fix back with new stainless-steel dowels.</p> <p>Make repairs to copper roofs and finials where brazing has cracked.</p> <p>Prepare surfaces and repaint in a high build acrylic paint system to protect the reinforced concrete from further carbonation of the concrete.</p> <p>Provide access for future maintenance and upkeep.</p>	Urgent
	Re-lamp and re-wire the minarets and install new lighting.	Cosmetic
	<p>Investigate original paint finishes to minarets.</p> <p>Consider reinstatement of original colour schemes.</p>	Cosmetic
	<p>Fabricate and replace missing turrets to east elevations based on original images.</p> <p>Reinstatement missing parapets and other cast concrete details based on historic images.</p>	Cosmetic

## 3.2.4 South and east elevations

Element	Works action	Priority
Walls	<p>Investigate original paint finishes to walls.</p> <p>Remove all paint from walls using chemical paint removal system and pressure water.</p> <p>Investigate the reinforcing coverage on the wall structure and undertake repairs to the decorative panels to remove areas of spalling and treat underlying corrosion.</p> <p>Investigate the depth of carbonation of the reinforcing.</p> <p>Investigate with Schmidt hammer test the attachment of the reinforced concrete decorative panels to back to the brickwork structure behind and consider a mechanical fixing detail to pin the panels back to the brickwork.</p> <p>Remove all corroded and spalling elements and repair concrete.</p> <p>Prepare surfaces and repaint in a high build acrylic paint system to protect the reinforced concrete from further carbonation of the concrete.</p>	Priority B
	Consider reinstatement of original colour schemes.	Cosmetic
	Re-lamp and re-wire the façade lighting and install new lighting.	Cosmetic
Cornice	<p>Investigate original paint finishes to walls.</p> <p>Remove all paint from walls using chemical paint removal system and pressure water.</p> <p>Investigate the reinforcing coverage on the wall structure and undertake repairs to the decorative panels to remove areas of spalling and treat underlying corrosion.</p> <p>Investigate the depth of carbonation of the reinforcing.</p> <p>Investigate with Schmidt hammer test the attachment of the reinforced concrete decorative panels to back to the brickwork structure behind and consider a mechanical fixing detail to pin the panels back to the brickwork.</p> <p>Remove all corroded and spalling elements and repair concrete.</p> <p>Prepare surfaces and repaint in a high build acrylic paint system to protect the reinforced concrete from further carbonation of the concrete.</p> <p>Rebuild missing colonettes and antefix masks.</p>	Priority B
	Consider reinstatement of original colour schemes.	Cosmetic
Capping	<p>Re-render the capping to the full perimeter of the elevations.</p> <p>Re-render the back of the parapet.</p> <p>Prepare surfaces and repaint in a high build acrylic paint system to protect the reinforced concrete from further carbonation of the concrete.</p>	Priority B
	Consider reinstatement of original colour schemes.	Cosmetic
Tower windows	Prepare and paint all windows located behind the mashrabiyyah screens.	Priority B
Mashrabiyyah screens.	Replace parts of the missing mashrabiyyah screens with new cast to match original with new structural fixing details.	Cosmetic
	<p>Investigate original paint finishes to mashrabiyyah screens.</p> <p>Remove all paint from mashrabiyyah screens using chemical paint removal system and pressure water.</p> <p>Prepare and paint mashrabiyyah screens in a high build acrylic paint system to protect the reinforced concrete from further carbonation of the concrete.</p>	Priority B

Element	Works action	Priority
	Consider reinstatement of original colour schemes.	Cosmetic
Crenelations	Remove and store all cracked and decaying crenelations.	Urgent
	Cast new GRC crenelations to match existing and fix in place with new grade 316 stainless steel dowel.	Priority A

### 3.2.5 West elevation

Element	Works action	Priority
Walls	Investigate original paint finishes to walls. Remove all paint from walls using chemical paint removal system and pressure water. Investigate the reinforcing coverage on the wall structure and undertake repairs to the decorative panels to remove areas of spalling and treat underlying corrosion. Investigate the depth of carbonation of the reinforcing. Investigate with Schmidt hammer test the attachment of the reinforced concrete decorative panels to back to the brickwork structure behind and consider a mechanical fixing detail to pin the panels back to the brickwork. Remove all corroded and spalling elements and repair concrete. Prepare surfaces and repaint in a high build acrylic paint system to protect the reinforced concrete from further carbonation of the concrete.	Priority A
	Consider reinstatement of original colour schemes.	Cosmetic
	Re-lamp and re-wire the façade lighting and install new lighting.	Cosmetic
Cornice	Investigate original paint finishes to walls. Remove all paint from walls using chemical paint removal system and pressure water. Investigate the reinforcing coverage on the wall structure and undertake repairs to the decorative panels to remove areas of spalling and treat underlying corrosion. Investigate the depth of carbonation of the reinforcing. Investigate with Schmidt hammer test the attachment of the reinforced concrete decorative panels to back to the brickwork structure behind and consider a mechanical fixing detail to pin the panels back to the brickwork. Remove all corroded and spalling elements and repair concrete. Prepare surfaces and repaint in a high build acrylic paint system to protect the reinforced concrete from further carbonation of the concrete. Rebuild missing colonettes and antefix masks.	Priority A
	Consider reinstatement of original colour schemes.	Cosmetic
Capping	Re-render the capping to the full perimeter of the elevations. Re-render the back of the parapet. Prepare surfaces and repaint in a high build acrylic paint system to protect the reinforced concrete from further carbonation of the concrete.	Priority A
	Consider reinstatement of original colour schemes.	Cosmetic

Element	Works action	Priority
Crenelations	Remove and store all cracked and decaying crenelations.	Urgent
	Cast new GRC crenelations to match existing and fix in place with new grade 316 stainless steel dowel.	Priority A

**3.2.6 Roof and drainage**

Element	Works action	Priority
Roof sheeting	Replace all roof sheeting with new Z600 galvanise corrugated sheeting. Reinstate all roof access systems for maintenance or upgrade as required.	Priority B
Rainwater goods	Investigate capacity of all gutters and upgrade where needed. Replace all flashings. Replace all gutters with new. Replace all downpipes with new. Provided overflows to gutters. Replace roof vents with new to match existing.	Priority B

**3.2.7 Canopy**

Element	Works action	Priority
Roof sheeting	Replace all roof sheeting with new Z600 galvanise corrugated sheeting. Reinstate all roof access systems for maintenance or upgrade as required.	Priority A
Rainwater goods	Investigate capacity of all gutters and upgrade where needed. Replace all flashings. Replace all gutters with new. Replace all downpipes with new. Provided overflows to gutters.	Priority A
Canopy structure	Confirm condition and undertake repairs where needed.	Priority A
Landscaping	Reconfigure the landscaping below the canopy to move the line of the street kerb out by 1,000mm min to clear the canopy. Seet approvals for the various stakeholders including City of Melbourne and Vic Roads	Priority A
Canopy cladding	Record and remove all cladding from canopy. Retain all elements for reinstatement and reproduce those missing of damaged beyond repair. Reinstate all cladding back to the front and soffit of the canopy adjusting to the reduction in depth of the canopy cantilever.	Priority A
Paint finish	Investigate original paint finishes to canopy.	Cosmetic

Element	Works action	Priority
Soffit	Investigate the original soffit and confirm where the original details can be reinstated removing the 1960s tiled soffit. If insufficient details remain retain the 1960s soffit and repair accordingly.	Cosmetic
Paint	Prepare and paint the canopy structure prior to re-cladding. Prepare and paint the canopy cladding. Prepare and paint all suspension rods.	Priority A

### 3.3 Closing comments

The tower, balconies and minarets are the key concern at present and the need to make these elements watertight is fundamental to their repair and conservation. As detailed throughout this report, the structure is saturated and will require time to dry out and reach an equilibrium whereby further cracking and spalling is reduced.

It is considered that a scaffold will be needed to complete the various works recommended above, and that the scaffold can be focused on areas of the building at a time, such that the works may be staged over time. We consider adopting the following staging to make the most of the scaffold. All scaffolding will need to penetrate the canopy to reach the works, as such, the remediation of the canopy, should be the final stage of works to avoid abortive works actions. The canopy can be protected in the meantime to prevent continued damage.

Stage	Location / Description	Timeframe	
Stage 1a	Tower and Clock Tower	Within 1 year	2023-2024
Stage 1b	Balconies (south, east and east elevations)	Within 1 year	2023-2024
Stage 1c	Crenelation removal	Within 1 year	2023-2024
Stage 1d	Minarets (east and west elevations)	Within 1 year	2023-2024
Stage 2	East elevation	Within 5 years	2025-2026
Stage 3	South elevation	Within 5 years	2026-2027
Stage 4	West elevation	Within 5 years	2027-2028
Stage 5	Roof replacement	Within 10 years	2030-2031
Stage 6	Canopy remediation and alteration	Within 5 years	2028-2029

### 3.4 Next step

In order to undertake the works with an appropriate methodology and to ensure that the works are completed with the best possible conservation approach, we provide a summary of these next steps actions and associated timing:

	Action	Anticipated timing
1	Seek designs for temporary gantry for safety and access to the works	30 days
2	Apply for required City of Melbourn hoarding permits, footpath closure permits and Reg 116 for establishing a site outside the title boundary.	30 days
3	Apply for Vic Roads road closure permits including required traffic management plans.	30 days (concurrent to action 2)
4	Apply to Yarra Trams for works permits.	30 days (concurrent to actions 2 & 3)
5	Prepare application to Heritage Victoria to make holes in the canopy for the gantry protection and access structure and destructive testing	90 days (concurrent to actions 2,3 & 4)
6	Building permit application for gantry	14 days
7	Install gantry and traffic impact barriers (subject to tram shutdown)	14 days
8	Install scaffold and any protection works (subject to tram shutdown)	42 days
9	Hazardous material testing	7 days
10	Survey and detailed assessment including testing for carbonation and low coverage and Schmidt hammer testing.	5 days
11	Documentation of the required conservation works	100 days
12	Prepare application to Heritage Victoria to undertake the works	90 days
13	City of Melbourne planning applications	90 days (concurrent to action 12)
14	Tendering the works to contractors	42 days (concurrent to actions 12 & 13)
15	Contract negotiations	14 days
16	Building permit application	14 days
17	Contractor occupation of site and novate scaffold and gantry.	1 day
18	Construction duration – anticipated duration	300 days

