

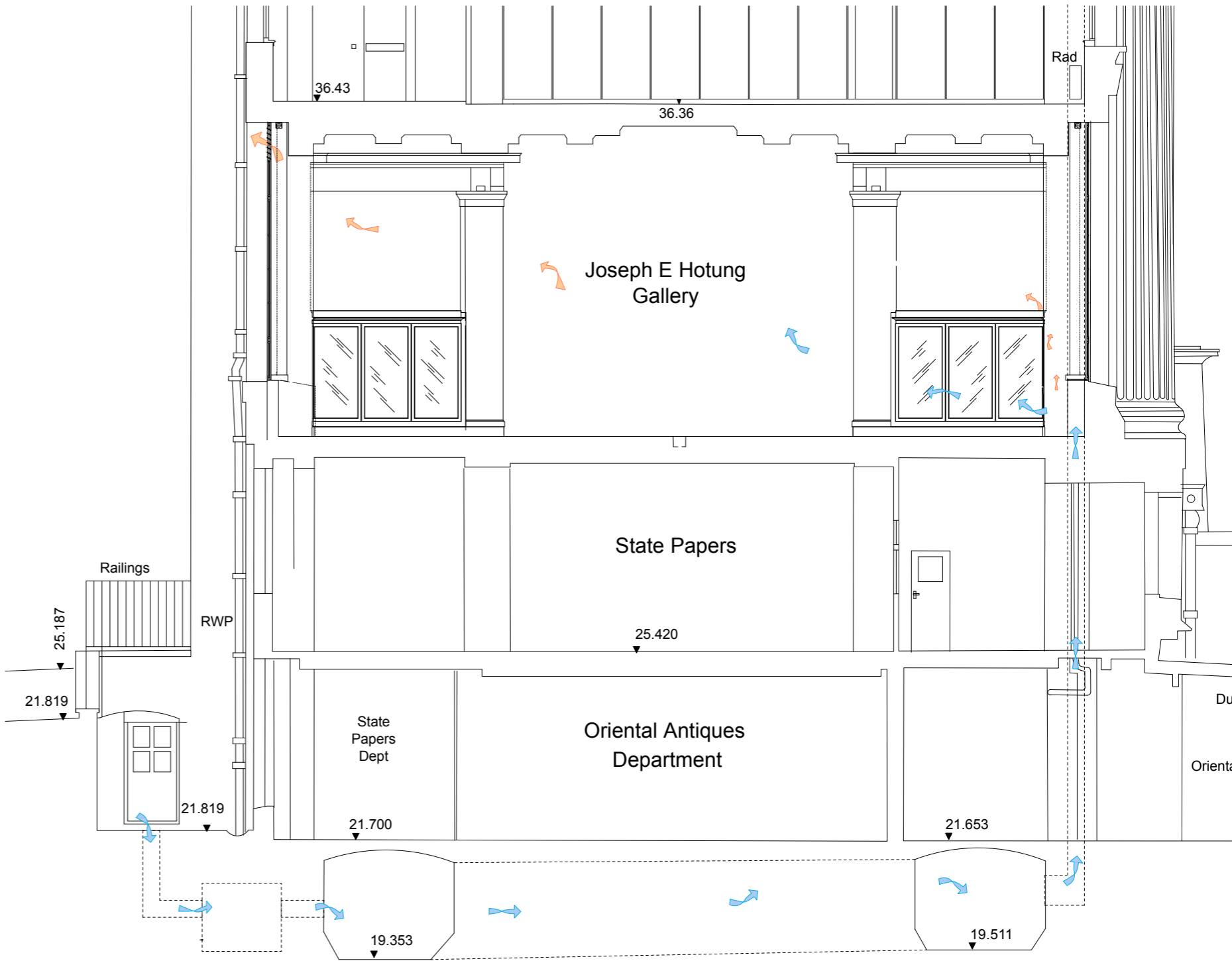
4.13 Seamless Integration of Building Services

The proposed mechanical services approach for the Asahi Shimbun Gallery of Amaravati Sculpture (Room 33a) is to replicate the existing, with conditioned air introduced to and removed from the space accordingly, via existing low level grilles and decorative boxing below the windows within the Gallery. The existing air handling unit (AHU) will be replaced on a like-for-like basis within its current location in a dedicated plant area below the Gallery. The new unit will be reconnected to the existing ductwork system utilising existing penetrations within the building structure. The new AHU will incorporate a plate heat exchanger heat recovery device to improve and reduce energy consumption and will utilise ultra-efficient fan technology.

The conditioned environment within the Sir Joseph Hotung Gallery (Room 33) is less critical, therefore the new mechanical services installation will comprise generally of heating and mixed-mode ventilation. New fan convectors connected to the existing heating distribution system will be provided and are to be positioned within a number of window bays along the north and south side of the Gallery, concealed behind new decorative boxings. Ventilation for occupants and to assist with limiting peak summer temperatures will be achieved via a mixed-mode strategy. Fresh air will be introduced into the space from an existing mechanical air handling unit (AHU) which is ducted into the sub-basement tunnel network at level -1 from its existing external location.

Fresh air will enter the Gallery via existing low level openings linked to existing riser shafts from the sub-basement level -1 within the northern external structure. High level ventilation openings to the southern side of the Gallery will be provided in the form of new motorised louvre boxes which will replace the uppermost glazing panels in the windows on the south elevation. The louvre boxes will sit sleeved within the existing window frames and will be concealed behind the existing ceiling downstand.

The existing mechanical services installation within the Selwyn and Ellie Alleyne Gallery (Room 33b) is to be retained with the provision of new mechanical extract fans, located within the roof void and ducted from the ceiling to external face, to encourage air movement within the space and limit peak summer temperatures.



(above) Overall ventilation design strategy for gallery

4.14 Existing Riser Shafts within Tunnels at Level -1

With the proposal to reintroduce fresh air to the main gallery via the existing riser shafts, these shafts that are lined with glazed bricks will need to be reopened at sub-basement level -1. While a number are already in operation for either electrical distribution or smoke ventilation, we propose to remove the masonry infill from the existing apertures and install suitable louvred vents (with suitable insect mesh and intumescent seals) to enable cooler fresh air from the sub-basement level to be delivered to the main gallery above.



(above) Northern tunnels at sub-basement level with existing blocked riser shafts visible



(above) Northern tunnels at sub-basement level with riser shaft currently blocked up



(above) Existing ducted air handling unit within sub-basement tunnels



(above) Northern tunnels at sub-basement level with riser shaft currently used as smoke vent

4.15 Decorative Boxings and Cills Below Windows

The existing treatment below the windows within the Sir Joseph Hotung Gallery (Room 33) is varied, and ranges from non-original window display cases that were relocated from another part of the museum to the gallery in 1992, timber radiator panels with perforated grilles at low and high level also related to the refurbishment works of 1992 and believed to have been relocated and adapted, and solid plasterboard panels. There is also different internal window cill treatments, with white marble used on the northern elevation and timber cills with integrated perforated grilles on the southern elevation.

As previously discussed, the proposal is to remove all but 2no. existing window cases, and then install new fan convectors connected to the existing heating distribution system that are to be positioned within a number of window bays along the north and south side of the Gallery. These convectors will be concealed by new decorative boxings comprising 4-panels similar to the existing arrangement and include a concealed low level grille and paired perforated grilles set flush within the internal window cills.

These decorative boxings will also conceal the existing low level openings linked to existing riser shafts from the sub-basement level -1 within the northern external structure. The delivery of fresh air and heating will be controlled by the Building Management System, thus the new horizontal grilles set within the window cills can either supply warm air or fresh cooler air depending on the environmental conditions. The use of a horizontal grille set within the cill has also been developed so that it can control the point of delivery, with hot air counteracting the potential down-draught from the windows as well as directing the warm air away from display cases.

It is proposed to re-use the existing marble cills to the northern elevation, but carefully insert the flush grilles within the surface of the stone. To the southern elevation we propose to remove the timber cills that were installed as part of the 1992 refurbishment (with the associated window showcases) and then introduce matching polished white marble cills and surrounds to match the northern elevation - this was the original intention of JJ Burnet, and we think this is an appropriate move in order to re-establish an equilibrium between both sides of the gallery. New timber decorative boxings will be provided with a dark French polished finish to match the existing peninsular showcases.

As with the many parts of the museum, innovation in the provision of central heating is evident to all the principal spaces within the museum. The use of perforated cast iron grilles set within stone or timber occur throughout the museum, and therefore our proposals are directly derived from this original context.



(above) Existing decorative boxings concealing radiator behind



(above) Proposed new decorative timber boxing, with new marble skirting and concealed intake vent



(above) Existing plasterboard infill on the north elevation



(above) Proposed new integrated heating grille set flush within either new or existing marble cills

4.16 Existing Windows

The existing windows were previously adapted in 1992 with the original low level lattice gate grilles and opening ‘Bostwick’ type grilles removed, and the top lights fitted with modern chain actuator opening devices. Unfortunately, these modern opening devices are manually operated and consequently do not offer the ability to control and manage the internal environmental conditions as one would expect. A number of windows can no longer be closed tightly that leads to a large amount of heat loss, while the ability to open windows during peak summer time temperatures relies on manual operation, while offering no protection from insects and vermin.

The achievement of acceptable comfort conditions has been the preoccupation of Museum architects and advisers throughout its history, and the provision and control of ventilation has been a central factor. One of the problems then and now is the large, but variable, numbers of visitors throughout the year. Therefore, we propose that the modern opening devices be removed from all windows and those on the northern elevation carefully cleaned and renovated so that the opening lights can be properly sealed to minimise potential heat loss. We also propose to undertake a similar exercise on the southern elevation, however also introduce high level ventilation openings in the form of new motorised louvre boxes which will replace the uppermost glazing panels in the windows on the south elevation. The louvred boxes, that will also contain a layer of insect mesh, will sit sleeved within the existing window frames and will be concealed behind the existing ceiling downstand. With these louvred boxes being glazed into the existing frames will allow the proposals to be reversed in the future if the need for the reintroduction of high level glazing is required.



(above) Existing window on north elevation with upper vent visibly unable to close fully



(above) Existing window on south elevation with existing film and teleflex openers to upper vents

4.16 Existing Windows

Many of the surrounding windows to both the King Edward VII Building and the adjacent north wing, either incorporate louvres or ventilation grilles (refer to photographs on following page), and given the proposal is limited to the uppermost glazed panel it is considered that the internal visual impact is limited by the existing downstand beam within the gallery, while externally the windows can not be seen from public areas.

The use of the motorised louver boxes will also provide the opportunity to have an ‘intelligent’ control over the internal environment while maintaining conservation standards to the existing displays and prevent the ingress of insects and vermin.

It is also of interest that various schemes were introduced over the years, notably by both Robert and Sydney Smirke, to provide improved ventilation to many of the galleries around the museum, some of them involving sophisticated mechanical systems for opening and closing louvres. Of greatest interest is the system introduced by Sydney Smirke into the Round Reading Room. Where details or remnants of these systems survive.



(above) Example of existing louvres within windows to the north stair



(above) Existing gallery window to the southern elevation (facing the boiler room)



(above) Extensive mechanical plant below existing gallery windows with louvres and vents visible



(above) Existing louvres and vents inserted within windows directly below the gallery

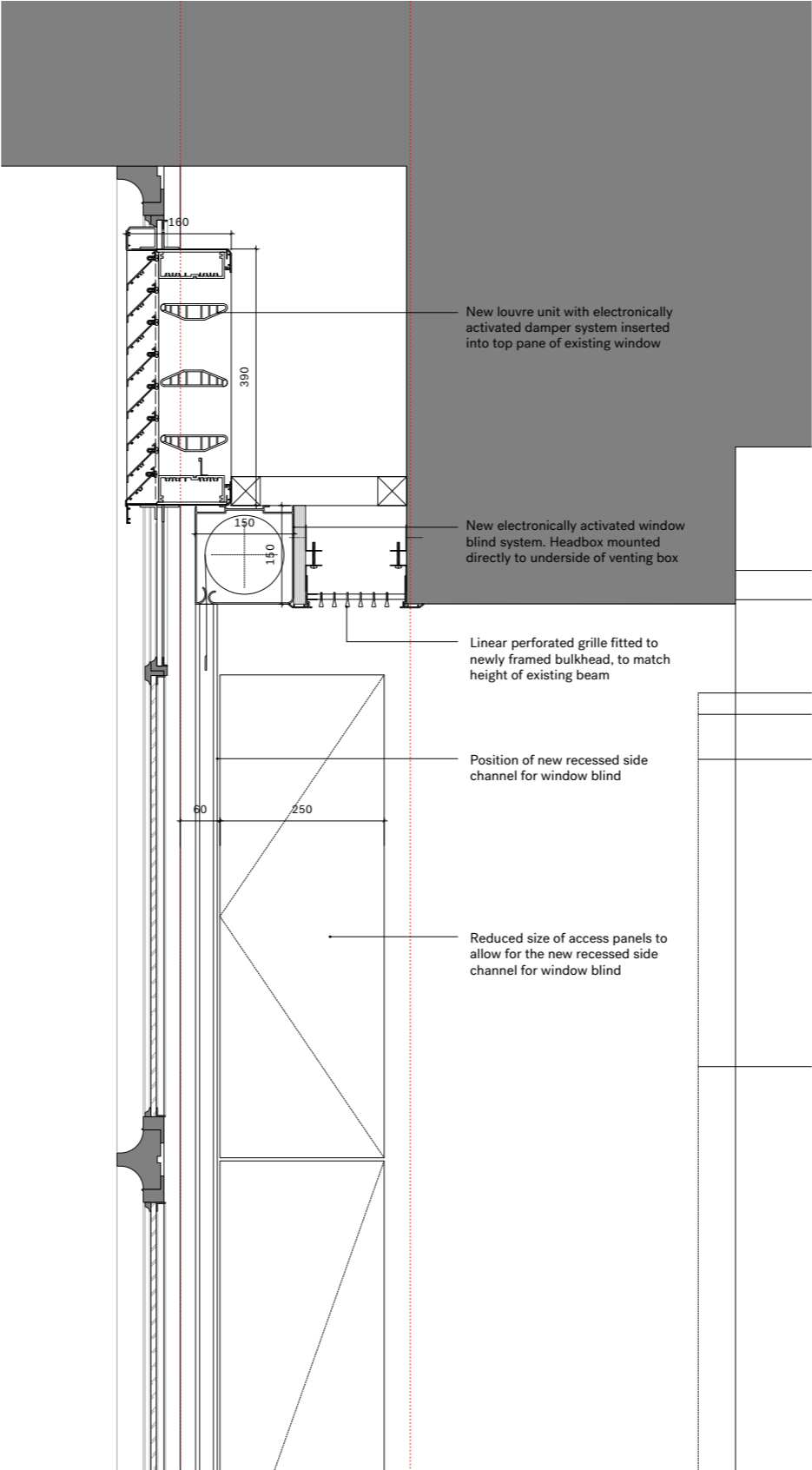
4.16 Existing Windows

The new louvre system is combined with a new automated blind system (as discussed in section 4.17), and carefully designed to be concealed within the void between the existing downstand beam and the window.

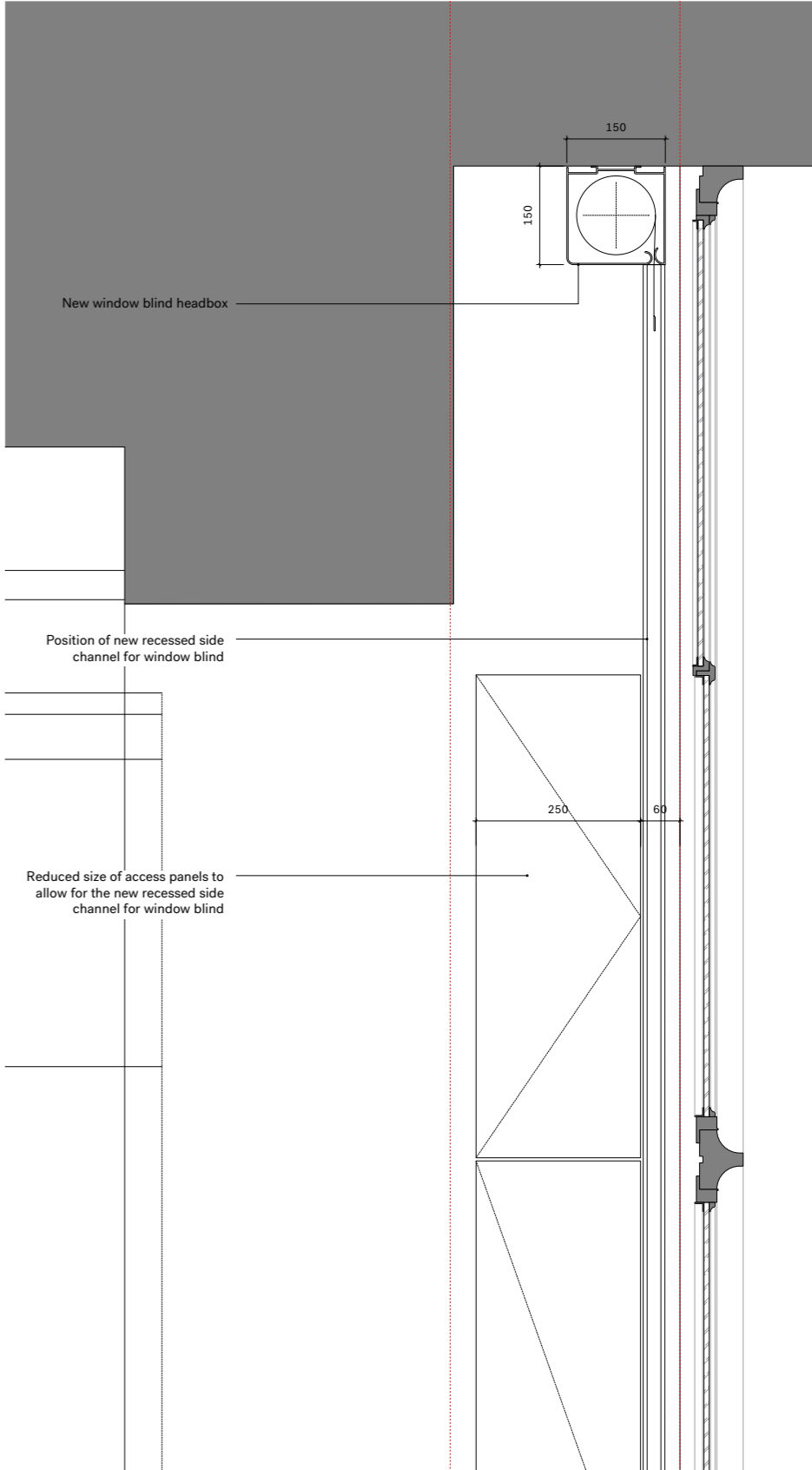
The 4 top glass panes of the south elevation windows will be removed, and in their place is inserted a new powder-coated steel panel with integrated louvre unit. The louvres remain static but are combined with an electronically activated damper system.

The head box for the blind system is proposed to fit underneath the louvre unit, with the underside of the head box aligning with the line of the downstand beam. A discreet linear perforated grille will allow continuous ventilation to the louvre unit. This integrated strategy will be designed to maximise the maintenance accessibility of all components involved.

From the visitors' line of vision, it will appear as though the line of the downstand beam continues towards the window, as illustrated in the following section.



(above) Sectional detail drawing of proposed new louvre and blind system (south elevation only)



(above) Sectional detail drawing of proposed new blind system to north elevation windows

4.17 Internal Blinds

Controlling daylighting is a key component in the new gallery design. Working with our lighting designer studio ZNA, the current daylight levels have been carefully modelled and the aim will be to provide a reduced level of daylighting while maintaining a level of transparency.

Currently blinds are provided to the southern elevation only, however we propose to install internal blinds to both the southern and northern elevation. It is intended that the blind boxes and controls to the south elevation be integrated with the high level louvre boxes and concealed within the downstand beam zone, while on the northern elevation these blind boxes and controls are concealed behind the downstand beam and mounted at high level.

New recessed side guide rails will be installed within the zone of the existing window reveal access panels.

The design team are currently experimenting with a variety of transparencies and colours and these will be tested further within the gallery before finalising the exact specifications.

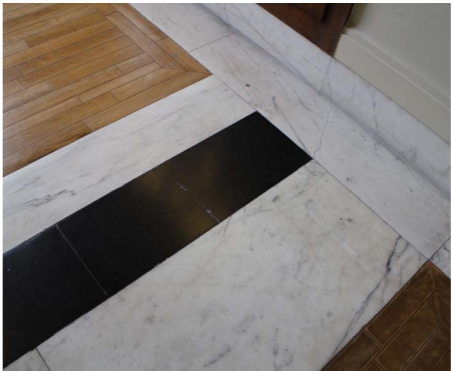


(above) Proposed new bay arrangement with full height blind, new decorative low level boxing, polished white marble cill and high level louvres (south only)

4.18 Floor Finishes

It is proposed to retain all existing stone floors throughout the galleries. These stone floors, comprise white marble and black stone, as well as smaller areas of mosaic are in fairly good condition but will benefit from some minor repair work and general cleaning throughout. The existing marble skirtings will also be retained, and will be made continuous across window openings so that there is a consistent approach throughout the gallery.

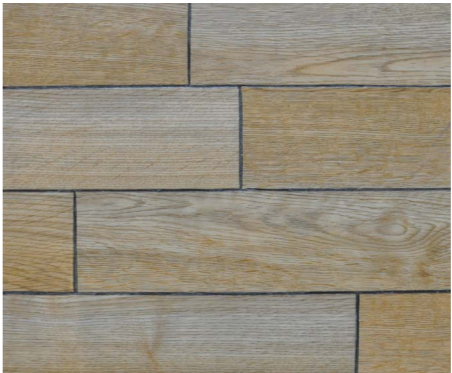
The existing vinyl ‘wood effect’ flooring that replaced the original cork floor will be removed, and it is intended to replace this with a new high quality vinyl floor that has a ‘herringbone timber effect’. This flooring will then also extend into the Selwyn and Ellie Alleyne Gallery (Room 33b) and replace the existing carpet within this gallery.



(above) Existing inlay stone floors comprising white marble and dark/black stone



(above) Existing marble flooring and variety of mosaics that appear in small areas around steps



(above) Existing ‘wood effect’ vinyl flooring that we propose to replace



(above) Existing marble skirtings that we proposed to extend across the window openings

4.19 Wall Finishes

Historically the walls were covered with gold paper and the present painted and gilded plaster wall surfaces date from 1992. We propose to retain the existing gold leaf gilding, which has been applied in small squares and undertake a careful programme of repair and restoration.

We estimate that approximately 10% of the gold leaf has been damaged through either wilful damage, abrasion and marking through object mounting, and any repairs will be carefully colour matched. The areas of existing low level glass protection will be maintained as existing.

Areas of existing painted plaster finish will be redecorated.



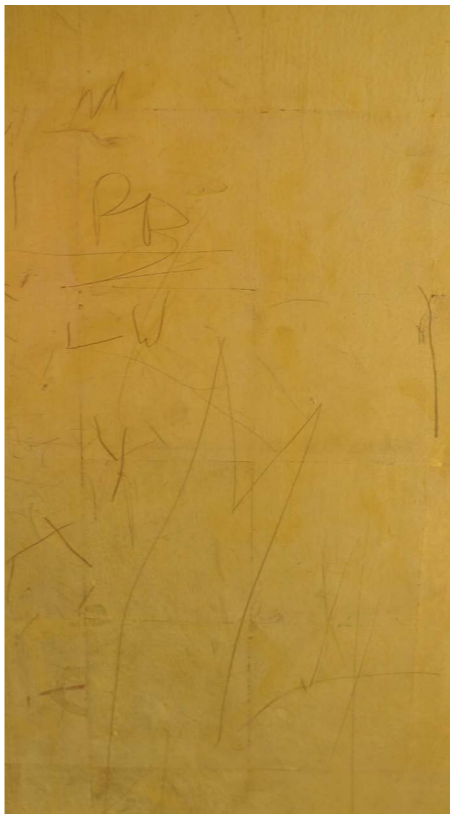
(above) Existing gold leaf visible within each bay



(above) Existing gold leaf extends full height



(above) Existing damage to gold leaf visible within the gallery



(above) Existing glass protective screens to be retained to vulnerable areas

4.20 Ceiling Finishes

In order for new electrical services to be threaded through the existing ceiling voids as part of the new gallery lighting, some areas of existing plaster ceiling will be temporarily opened up, but once these works are completed the ceilings will be made good.

No further modifications are proposed to the ceilings and associated mouldings are proposed with the exception of some redecoration, however the gilding will remain insitu.



(above, all) Existing plaster ceilings, showing associated mouldings, gilding details and light fittings

4.21 Interpretation Devices

We propose to mount new bay introduction panels printed direct to new bronzed metal panels together with projecting identification fin. All new panels will be set off the the existing fabric of the gallery, using concealed spacers, to provide a shadow gap between the new and old. The graphic language is consistent with the other interpretation throughout the gallery and provides fully integrated exhibition design approach.



(above) New introduction panels mounted to each bay column with projecting bay identification fin



(above) Each panel to include introduction text, scene-setting image and bay identification fin

4.22 Gallery Lighting

The Sir Joseph Hotung Gallery at 115 meters in length is the longest single gallery in the museum. The gallery's collection displays material cultures from major countries of Asia. Illuminating their histories and culture, art and technologies. The scale of the gallery and collection is such that the lighting design must serve several functions.

The new lighting scheme will showcase the beauty of the classical architecture and scale, creating a real sense of wonder on entering the gallery and serve to delineate the space between periods and themes. The central area of the gallery needs special attention to allow the visitor to appreciate the long vistas with their rich content and to understand the ways in which the exhibits are arranged. The lighting will punctuate the vista accordingly and serve to orientate the visitor. The two halves of the gallery are dedicated to very different regions and cultures - to the east, China, to the West the Indian sub-continent and South-east Asia. The light, airy and open ambience of the gallery is part of what makes it a distinctive space to visit on a journey through the Museum. We would seek to compliment and supplement this soft diffused modulation of light but it is important that we tackle the areas of glare around the window bays and a more focused lighting on the displays so that the objects become the clear priority in the visual hierarchy. The Central Area around the well has to accommodate large groups of visitors that assemble there before being led through the gallery. It should have a distinct atmosphere and visual presence to create a natural meeting point/ orientation point with significant vistas down each gallery.

Higher luminance levels will aid this area greatly so consideration of less light sensitive objects will be advantageous, for more dramatic renderings of open display and if required cased objects. A decorative pendant light over the oculus will also be introduced to make a feature of this central entrance. This will be complemented with a simple pendant light in each bay creating a lower datum line along the gallery and ensuring greater intimacy within the bays. Inspiration for this was taken from the 1912 lighting scheme.

In the proposed designs for the gallery, a sense of daylight and views to the north street (Montague Place) elevation will be retained. However, this is balanced with harnessing the extremes in luminance levels by using specialist translucent screens. These screens block between 50 to 80% of direct light whilst retaining a visual connection with the exterior views; presenting a more controlled scheme with a modulated light patterning down the gallery with accents of brighter light to punctuate the journey and refresh the eye. Precisely focussed spotlights of higher luminance levels will serve signal gateway objects, graphic signage, contextual imagery and the key vista to the significant collections at either end of the gallery.

A 100% LED scheme for the ambient, display and emergency lighting will be introduced, using museum quality fittings with high colour rendering properties. The aim will be to create a low glare, low reflectance scheme so that the objects are the main focus in the space. There will be a good modulation of light along the space to provide a good sense of comfort and lead the eye to the key interpretation panels. Both entrance and exits will be further defined with higher luminance levels and clear signage.

The ambient light levels will be approximately 150 lux, graphics, 200 lux and object lighting approximately between 30 to 250 lux dependent on conservation requirements. Any shifts in light levels will be carefully choreographed, modulated and controlled so that the public remains well orientated and the eye well adjusted.

Emergency lighting will achieve 10 lux at the entrance/exits with 5 lux throughout the gallery with 0.5 uniformity to more than meet best practice museum criteria.

The display lighting will be dimmed locally with museum access to equipment hatches at the top of the cases. The emergency lighting will feed back to the central battery system. Gallery lighting can be controlled locally in the access panel to the 3 entrances to the gallery where Patrol Lights can be switched on and this will also be fed back to the Building Management System for timed operations such as cleaning light state, gallery state and events state.



(above) Studio ZNA lighting strategy above central oculus



(above) Studio ZNA typical lighting strategy within peninsular showcase

4.23 Bespoke Lighting

New feature lighting will work to provide ambient and functional lighting across length of the gallery, whilst accentuating the rhythm of the existing architecture.

Above the central oculus, a new large-scale decorative hanging light will provide a new centrepiece upon arrival in the gallery. Several conceptual iterations were considered (including more vertically orientated, and circular designs) before concluding with the proposed design. The hanging light is composed of 2 symmetric, rectilinear C-shaped pendants, representing the 2 spatial and thematic halves of the gallery. The main part of the pendants is formed in welded panels of engineered alabaster - the colour and texture of which echoes the white marble found in the existing gallery. The translucent alabaster will be lit using LED strips from within to provide an even diffused glow to the gallery entrance; the veined texture is aimed to give the light an ephemeral presence. The alabaster is supported on a slim bronzed metal frame to match the materiality of the interpretation devices proposed, and allows the light to hover at high level, above the immediate eye level upon entry into the space. Colour-matched recessed angled spotlights within the alabaster will provide specific lighting to the interpretation text within and around the oculus.

At the entrance to each window bay, it is proposed to hang a single pendant light in a matching material language. The lights are suspended from the centre of the existing beam; matching the location of the similar feature lights as designed in the 20th century. The design takes inspiration from the central oculus light; composed in bronzed metal and internally lit alabaster, in a simple square form. The subtly lit pendants will mark the entry point to each bay, and create a raised datum level as visitors look down the central aisle of the gallery.

For both types of pendant lights, small directional LED light fittings concealed in the top of the pendant boxing, will provide uplighting to the existing coving details in the ceiling. The ceiling roses will be concealed within the plaster thickness of the existing structure using a proprietary fixing system, to ensure a minimal and lightweight appearance.



(above) New bay pendant light



(above) New central oculus hanging light