Hippodrome Brighton

Preservation & Roofworks Application

March 2021

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Contents

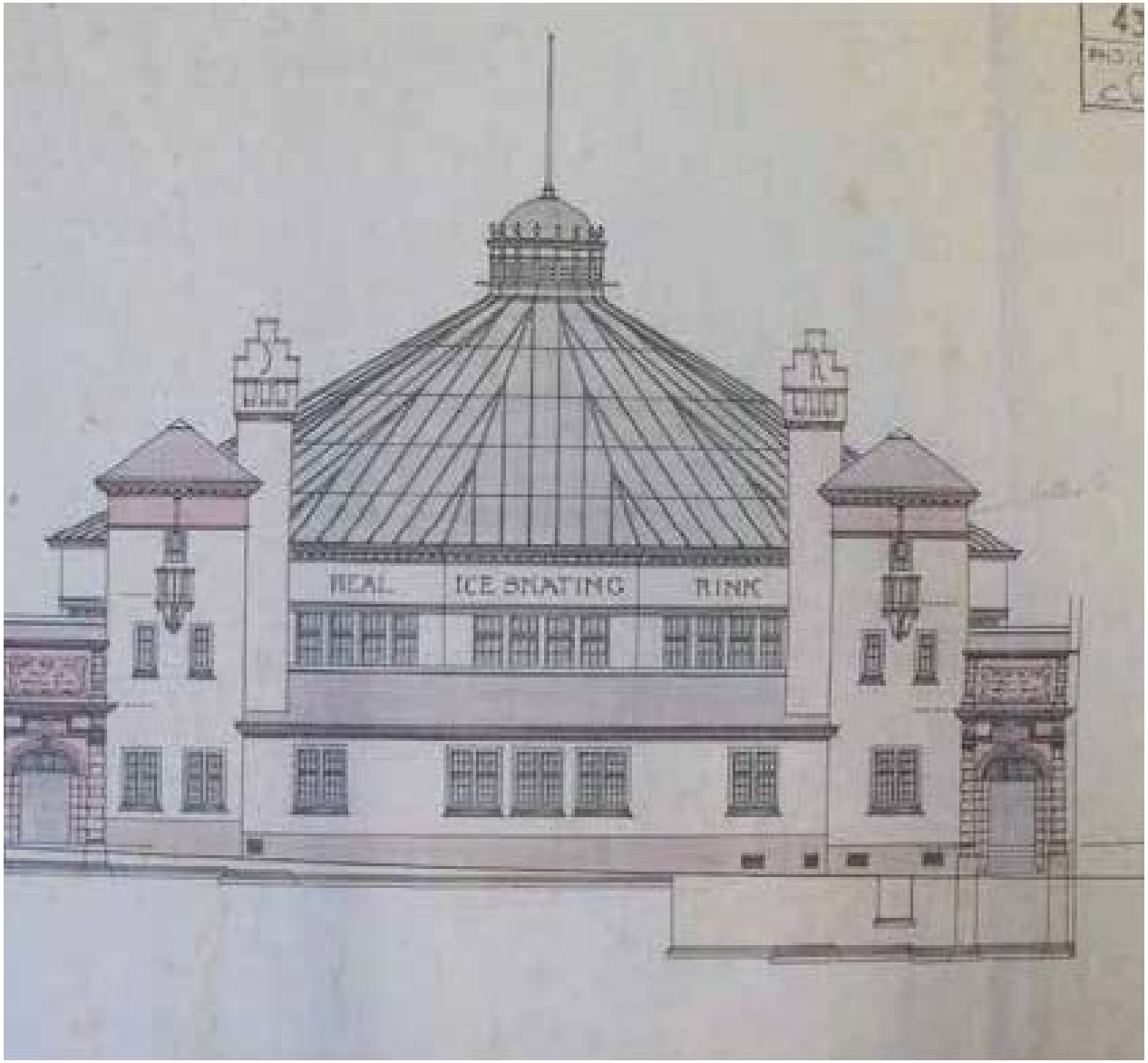
Introduction

Submission

This document has been prepared by Lomax architecture, as part of a set of documents submitted to assist in the consideration of the planning and listed building applications for the proposed roof works to the Grade II* listed domed roof structure.

The purpose of this statement is to describe and illustrate the proposed works to the dome roof, to outline the brief and analyse the existing site, in particular the current state of the roof structure and the urgent reason for the why roof work needs to be undertaken.

The statement should be read in conjunction with: The Hayles & Howes report on the current state of internal fibrous plaster work, undertaken in November 2020 as well as their Methodology for the consolidation and reinstatement of Heritage Plaster works produced in February 2021. Please also refer to the Historic Statement of the original retractable roof light produce by the Matsim Properties Ltd.



Proposed Elevation (1896)

Project Team

Client: Matsim Properties Ltd

Fibrous Plaster Specialist: Hayles & Howe – Ornamental Plasterwork & Scagliola

Consulting Civil & Structural Engineers: Dixon Hurst Kemp Ltd

Architects: Lomax architecture

Consultations

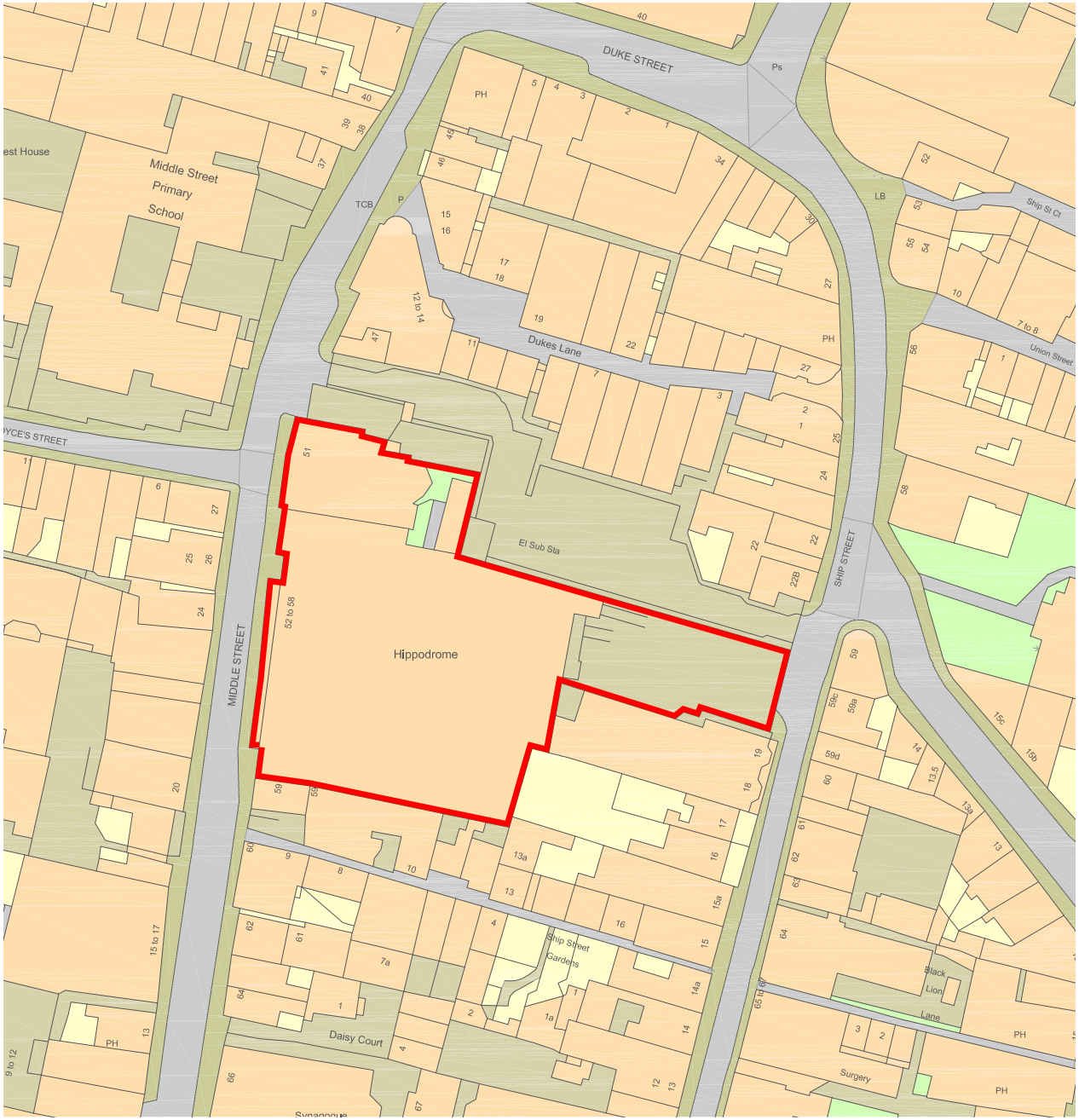
A number of on site meetings have taken place between Brighton & Hove City Council (BHCC) Conservation Department and the client to discuss the proposed roof works. The client has also been in contact with Historic England to explain the intention behind the proposed changes to the roof and the urgency with which this work need to be undertaken.

The Site

Location

The site is located in a historic part of Brighton adjacent to The Lanes, bound by Middle Street to the West and Ship Street to the East and lies at the heart of the Old Town Conservation Area. The main building fronts onto Middle Street with a car park area to the rear accessible from Ship Street. The existing Hippodrome has a party wall along various properties in Ship Street Gardens to the south and on the northern boundary is a car park and service access to Duke's Yard.

The main building has been re-developed at various stages in response to historic changes of use and now incorporates Hippodrome House to the North of the site.



Ordnance Survey Existing Site Location

Access

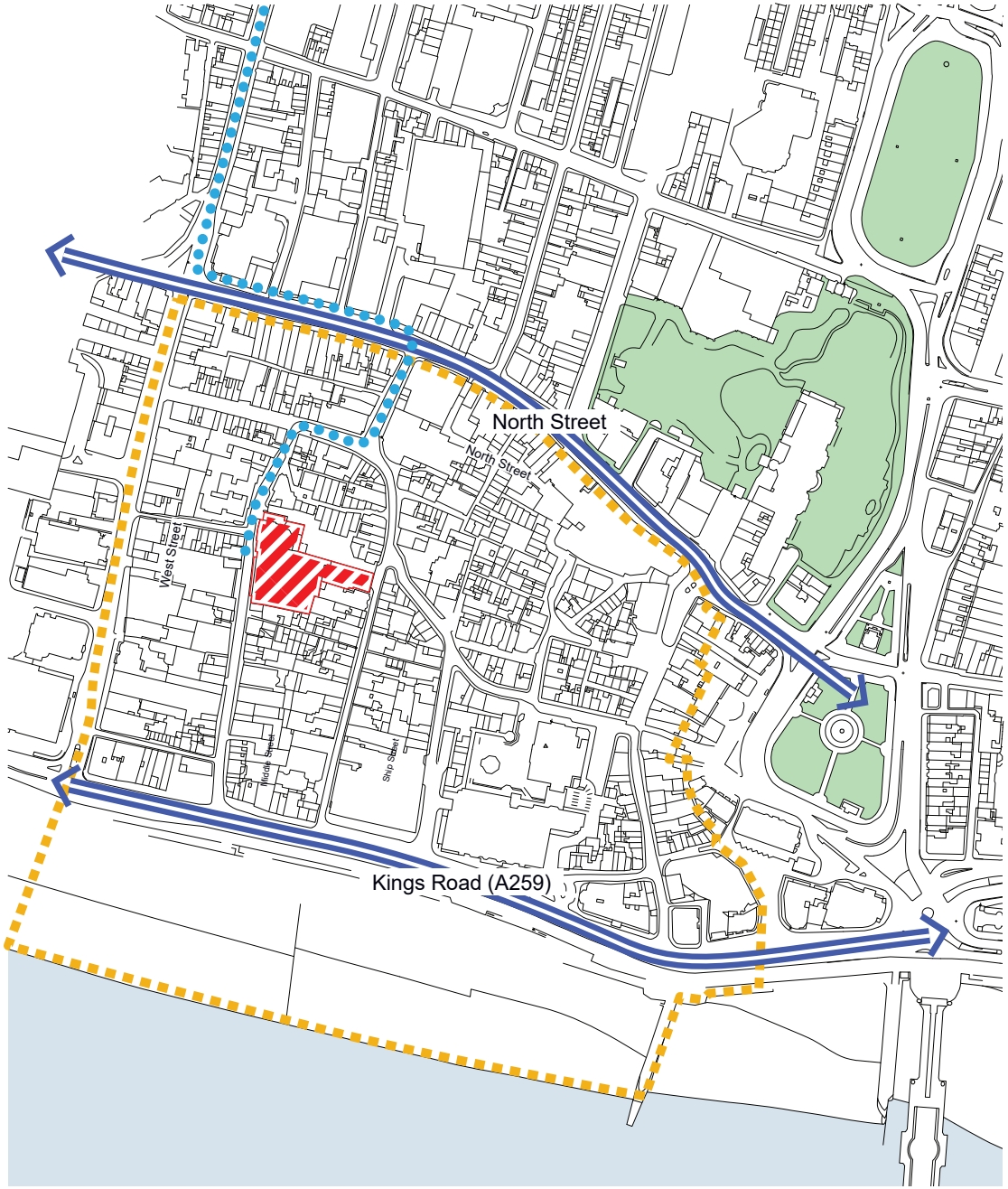
The site is in the Old Town Conservation Area right in the centre of Brighton It therefore has good connectivity and accessibility to a huge range of local amenities. The site is 10 minutes walk from Brighton's main line station and is 250 metres from North Street and bus stops for all main routes throughout the City. Middle Street School is adjacent to the site and all associated community facilities are within a short distance.

Key

Main Road Corridor

Route to Brighton Station

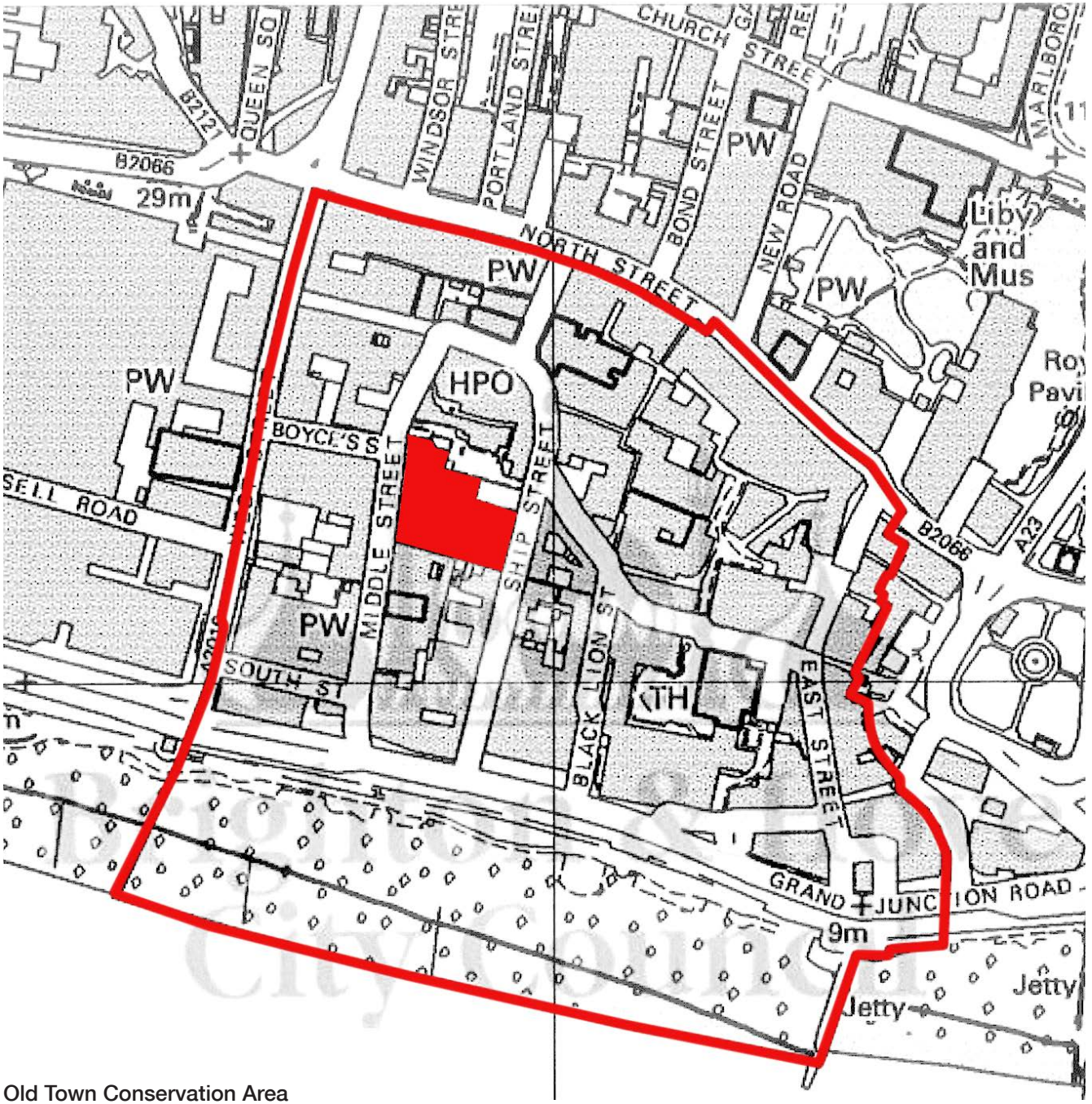
Old Town Conservation Area



Wider Site Access and Location Plan

Existing Site

The site occupies an area of approximately. 0.295ha. 76% of the site is occupied by the Hippodrome. This is one of a triumvirate of the Grade II* buildings located within the conservation area along with the Synagogue and the Old Ship Assembly Rooms. The site sits within an area of a high density of listed buildings, including some neighbours on Middle Street but particularly in the Lanes, Ship Street and Prince Albert Street. It also occupies a key position within the Central Character Sub-Area of the Conservation Area.



Old Town Conservation Area

Existing Building

The Hippodrome is a Grade II* listed building with a significant and distinctive space at its heart. It is almost a ‘found space’, a snap-shot of a grander time now in near-terminal decline. Its overall significance as an historic building has been diminished somewhat by the decay caused by being unoccupied for 15 years, and by the alterations to the Matcham theatre over the years. Although the evidential value of some of the fabric is compromised, the value of the building as an idea and as a place of entertainment and assembly continues to be of importance.

However, as a building, the Hippodrome is a curious one, it has an arresting landmark space internally bearing a highly atmospheric patina of age, enclosed by an external fabric with an historically interesting but architecturally varied appearance, a lot of which cannot be seen at street level. It is a real surprise to come off the street and encounter the substantial domed space behind.

Current View Along Middle Street

Existing Roof - History

The existing roof structures and its evolution to its present day form is very much entwined with the changing use of the building over its long history.

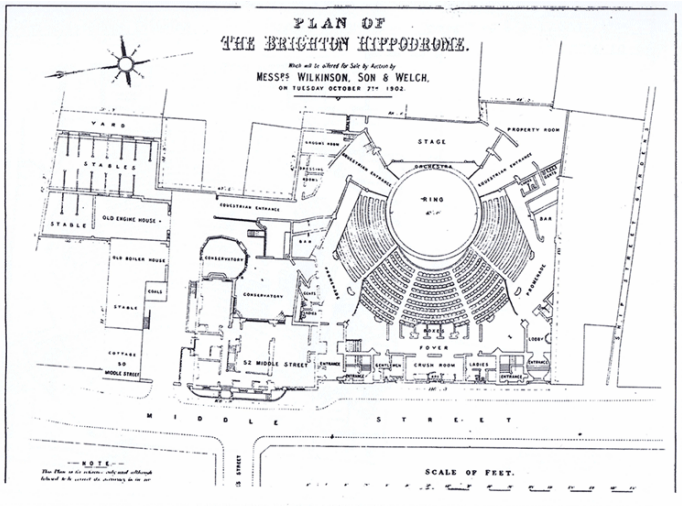
Originally developed as an ice rink back in 1897, the building had a large glazed domed roof structure, made up of concentric rings with sixteen steel raker beams sloping from a top centre and held in place by an outer ring, standing upon steel stanchions bedded into the enclosure walls. The ice rink lasted four years before the owner R Ellished Humfrey Bramall decided to convert it into an indoor circus and commissioned Frank Matcham to undertake the first of his alterations to the building.

Matcham retained much of the structure of the ice rink, but substantially altered the building internally. Although the tent-like structure of the auditorium, a segmented dome supported on 16 pillars was retained, modifications were made on the east side to introduce the stage and fly tower, which involved the removal of two of the primary columns and the trimming of the corresponding roof beams to the face of the new proscenium wall. The masonry arches between these columns were also demolished, affecting the stability of the dome. At this point in the theatre's history the height of the proscenium arch and the stage behind was limited by the height of the existing dome above it.

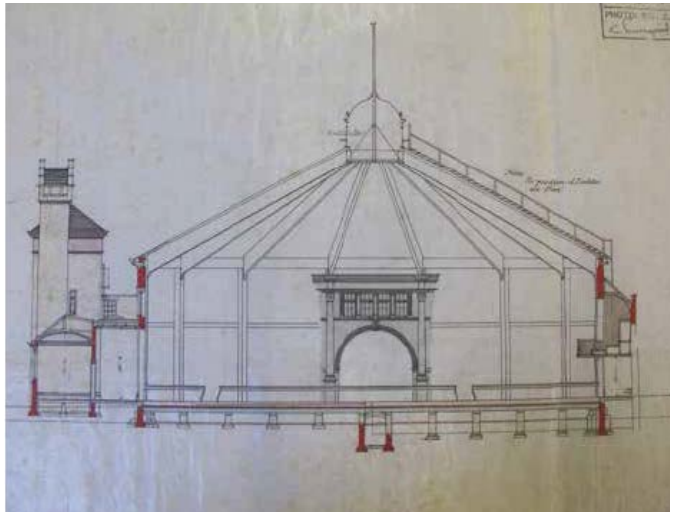
On either side of the proscenium were curtained animal entrances. Equestrian ramps were formed through the existing masonry arches to both sides in front of the stage. Access was from the stables to the north of the site which in turn was accessed from Middle Street. Matcham's alterations also included encasing much of the individual elements of the earlier building in decorative plaster features and a deep balcony, which remains one of the most spectacular features of the internal domed space.

The Brighton Hippodrome Theatre and Circus opened in August 1901 but only lasted one year. Bought by Thomas Barrasford (the owner of a chain of music halls in the north of England), the Hippodrome Theatre of Varieties re-opened in December 1902. Matcham was retained as the architect undertaking a further string of alterations to turn the circus into a theatre by widening the proscenium, replacing the circus ring with a raked floor in the stalls area and installing an orchestra pit. Stage boxes were added with their distinctive "onion" domes, replacing the animal entrances and truncating the equestrian ramps in the process.

With Barrasford's death in 1910 the building was acquired by Variety Theatres Controlling Company (VTCC), a company set up by two theatrical entrepreneurs, Sir Alfred Butt and Walter de Frece and with it the theatre architect J Emblin Walker was brought on board to make



Proposed Circus Plan 1902



Proposed Building Section of 1986

View Along Middle Street 1900

the first of several alterations to the buildings structure. These were very substantial in nature and included the creation of a new stage, fly tower, and the removal of a further two of the original primary columns. Remarkably these major alterations were carried out without closing the Theatre for a single night.

Other additions to the roof structure included the fitting of a new “Bioscope Box” in the roof at the rear of the circle and a retractable rolling roof light. The sea air and corrosion on the steel work meant that the rolling element of the roof light would only work for a short period and the light was sealed permanently shut.

With the popularity of Variety Theatre waning after the Second World War, the variety theatre closed in 1964. It was converted into a short lived television and film studio in 1966, before being turned into a Mecca Bingo hall. The conversion work included the insertion of a mezzanine floor above the stage and through the proscenium arch.

The building closed as a bingo hall in 2006 and has remained empty to the present day. Several proposals have been brought forward to restore the building during these intervening years including an attempt to establish it as a live music venue; a planning application to convert into an eight-screen cinema and restaurant and most recently a mixed use venue, hotel and apartments.

Existing Roof – Current Condition

Unfortunately the lack of use and an occupier for the building, has meant a rapid deterioration in the buildings fabric and structure over the last 15 year period. The Brighton Hippodrome has remained at the top of The Theatre Trusts, register of buildings requiring special attention since 2013 and every passing year has seen the building's interior slipping towards a state of terminal decline.

The current owners Matsim Properties Ltd purchased the property at the beginning of September 2020 with two main aims for its future:

Firstly the short term goal to prevent any further deterioration of the building's current historic fabric and to begin what will be a long and detailed period of restoration for the Grade II* Listed building and secondly to establish a long term sustainable and viable use for the building.

This application is very much embedded in the first aim.

The current roof structure has two main issues: Firstly, it leaks and this water ingress is helping to destroy the integrity of the internal fibrous plasterwork.

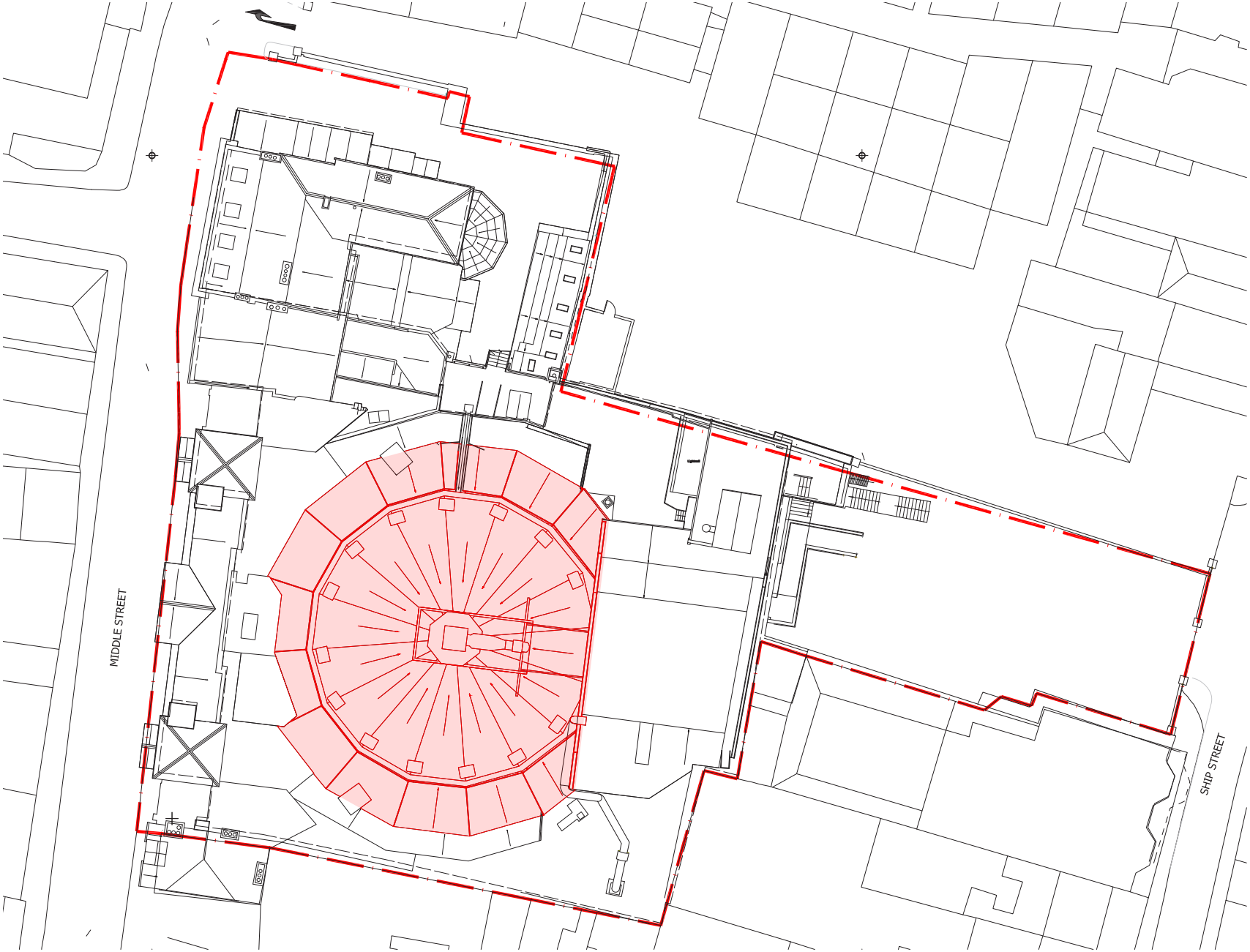
Secondly, the hessian that is used in the backing and wadding to retain the ceiling plaster was originally of poor quality and over time has deteriorated significantly to the point that it has now lost a lot of its strength.

The water ingress through the roof structure is linked to numerous structural penetrations that once supported a rolling roof light designed and constructed during the buildings period of 1915-1916. Its use as a retractable opening was abandoned shortly after its construction, however, the structure that remained has corroded over the decades making it impossible to prevent water ingress down through the roofs structure.

Compounded by the water ingress, the added weight of the water logged plaster on the hessian has meant that a substantial section of the plasterwork has already collapsed and without the proposed immediate repair work, the building is in danger of losing further sections of the heritage plasterwork.

For further details on the current state of the plasterwork please refer to the Hayles and Howes report 'Brighton Hippodrome Report 2020A.pdf'.

Deterioration of Supporting Roof light Structure



Domed Roof Extent, Forming This Application

Hippodrome Roof Works Proposal

Roof Replacement Reasoning

The state of the detailed plaster ceilings to the auditorium roof are in an extremely vulnerable condition as highlighted in the inspection report prepared by Hayles & Howe. Following the inspection carried out in November 2020 further sections of the plaster ceiling have been lost.

The original work was carried out in a rushed period of conversion and refurbishment carried out in the space of a few months in 1901 The hessian used in the backing and wadding to retain the ceiling plaster was of a poor quality. Over time it has deteriorated significantly and has now lost a lot of its strength.

The steel structure supporting the original rolling roof penetrates the roof structure in many locations. Where the steel work has rusted over the decades it is now impossible to prevent water penetration through these extensively laminated steel members. The rolling roof has not opened for possibly 95% of its life and presents a significant weight on the steel supporting structure of more than 3 tonnes.

The access to the void over the ceiling plaster is extremely limited and restricted. Because of this the specialist contractors feel that a very invasive method must be used to access the void for the repair works necessary. It is proposed to cut circular holes in the plaster ceilings to allow a man to access the ceilings for repair around these access points. This will mean that the holes will need to be cut into the ceilings, the frequency of which will be dictated by the arms reach of the specialists.

The existing roof covering over the timber structure is of built up felt in many layers undetermined at this stage. This is laid on a 35 mm timber boarded roof deck. The vibration that would be caused in trying to remove the built up felt from the boarding would be such that large areas, if not all, of the ceilings would be lost.

The proposal is to provide an additional protective roof over the existing structure which could be carried out in a way to avoid the vibration that would cause additional ceiling collapse. Posts would be fitted over the existing brick columns and between these posts a timber frame could be formed with screwed connections. The roof structure can then be fixed between the perimeter wall and central structure again using screwed connections to negate vibration. A fibreglass roof covering can be laid in the manner of leadwork thereby removing the need for mechanical fixings.

Following the collapse of the ornate plaster ceiling at the Apollo Theatre in London in 2013 Historic England have produced a paper setting out the inspections required to these ceilings. Access for regular inspection and repair is essential and the proposals will greatly assist in these requirements moving forward.

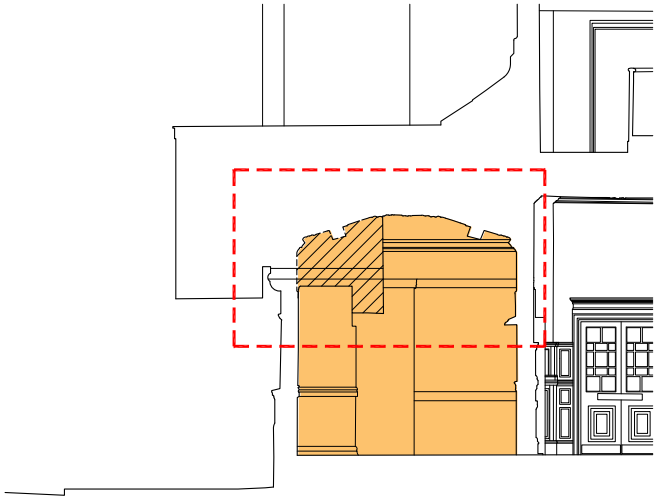
By providing this form of additional roof structure we will remove the problematic rolling roof and supporting structure, protect the auditorium roof from further water penetration, provide additional working space for the specialist plaster repairs, allow far greater access for maintenance and repair in the future and provide an enhanced more attractive structure than that which exists at present.

Initial Work to Main Entrance Lobby

An initial section of restoration work has been started at the main entrance lobby of the Brighton Hippodrome. The original curved Matcham ceiling soffit was partially concealed to accommodate mechanical ventilation for the buildings conversion to a Mecca Bingo hall in the 1960's. This has been removed to expose the original timber ceiling battens. Identical replacement ceiling panels are currently being constructed to help transform this room back to its former condition.

It is hoped that any future public consultations will be conducted in this space, enabling the residents of Brighton & Hove to understand the work that has already been achieved, to appreciate the amazing domed space beyond and to get a clear understand of the clients future vision for the building.

Middle Street Entrance Lobby



Hatched area is being removed to expose original ceiling

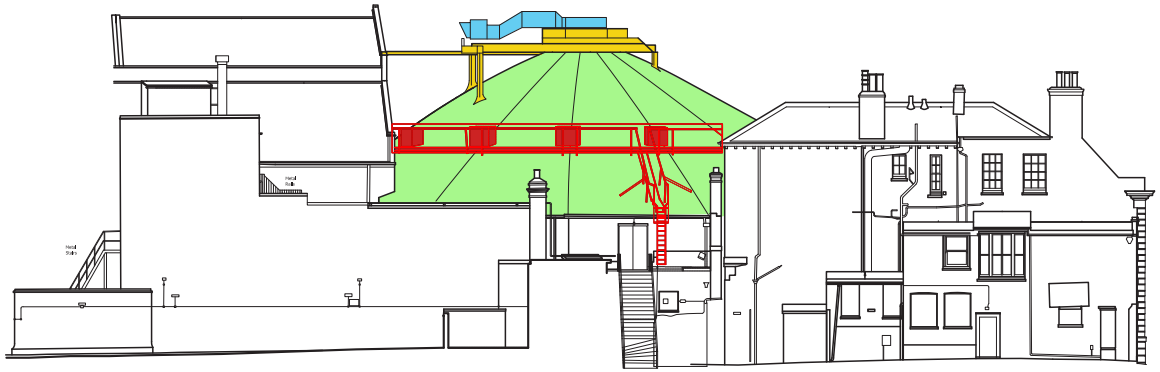
Current Work To Restore Entrance Ceiling

Extent of proposed demolition works

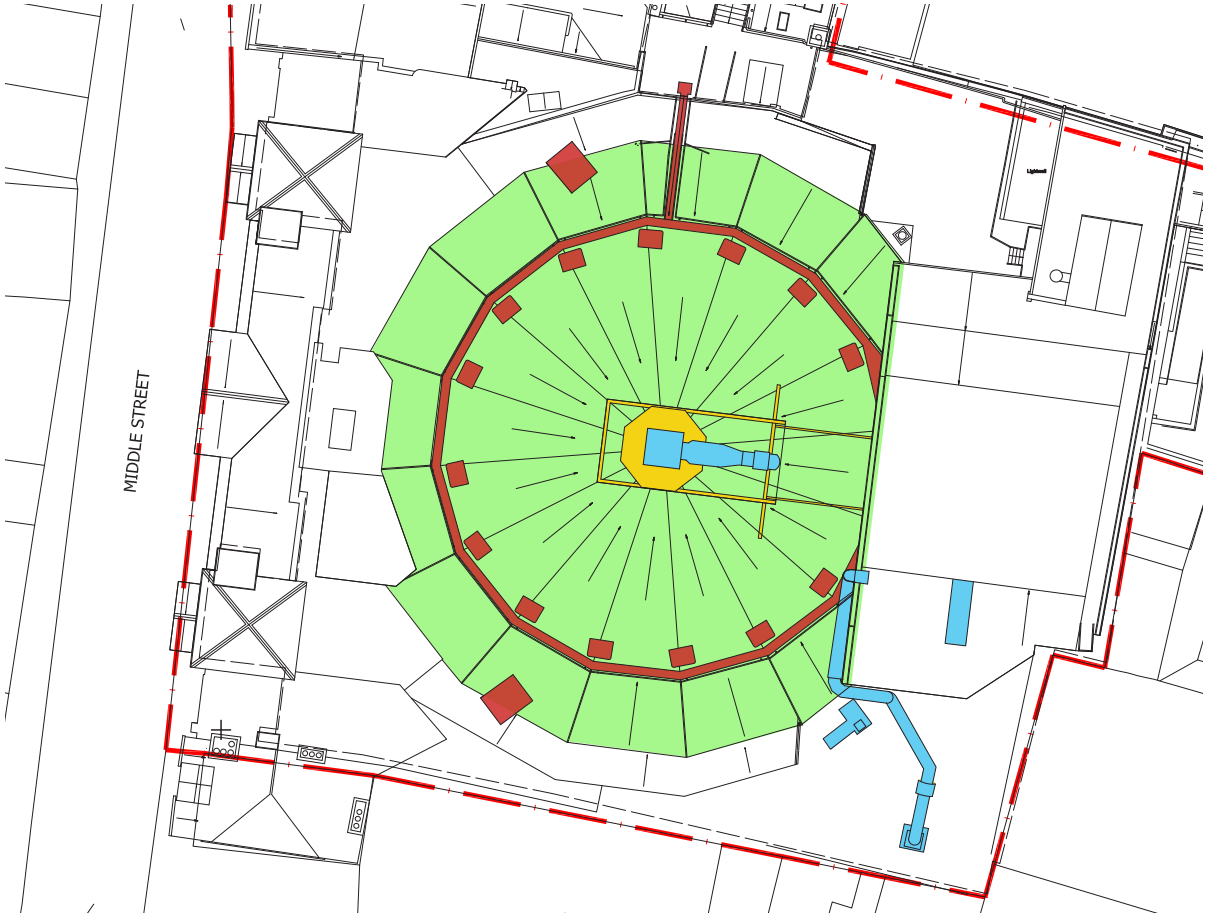
The demolition works to the existing domed roof are four fold in nature:

1. To remove the existing structure that formed the support of the rolling roof light as (highlighted in yellow on the attached drawings)
2. To remove existing gang walks, access steps and ventilation boxes off the sloped surface of the roof (highlighted in red)
3. To remove layers of felt roofing that have been laid over the segmented sections of the dome's sloped roof and to take up sections of the timber boarded roof deck to allow plaster specialists access to the hessian plaster ties below, (highlighted in green)
4. To remove existing duct work that was installed during the buildings life as a bingo hall and which are also causing water ingress through the roofs structure, (highlighted in blue)

These demolition works will be predicated on the establishment of a new roof structure that will sit above the existing roof, giving a work space for the current and continued future maintenance of the heritage plasterwork.



Hippodrome North Flank Elevation



Hippodrome Roof Plan

Design

Design & Layout

The proposal is to provide an additional protective roof over the existing structure. The design is based on the original segmented sloped sections of domed roof, but with the outer extent of the roof now built of a series of 16 vertical walls aligned with the original brick and steel column positions.

The top of the sloped roof segments would interlink at the same height of the current roof structure and be topped with a new octagonal pyramid roof light. As with the modifications that were made to the domes roof back in 1915-16 the intention is for the octagonal pyramid roof light to be retractable, providing natural air circulation to the large space below.

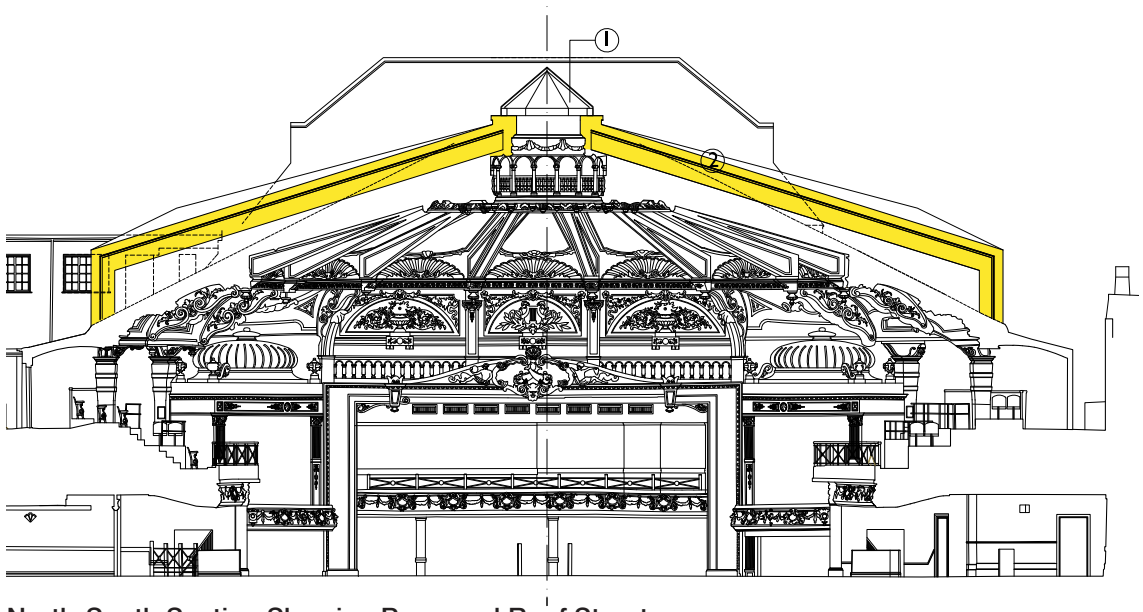
The height of the new vertical sections of roof around the edge of the dome will be 2.5 m above the current roof level. The sloped sections of roof above this will be set at an angle of 17 degrees compared to the previous roof slope of 25 degrees. The additional height gained around the outer edge of the domed roof will be extremely important for the restoration of the existing heritage plasterwork below. The slope of the new roof will be approximately the same as that of the internal sloped fibrous plasterwork below, giving a consistent depth of working space through the new roof void, something that is just impossible to achieve with the roof in its existing condition.

Example Of Octagonal Roof Light

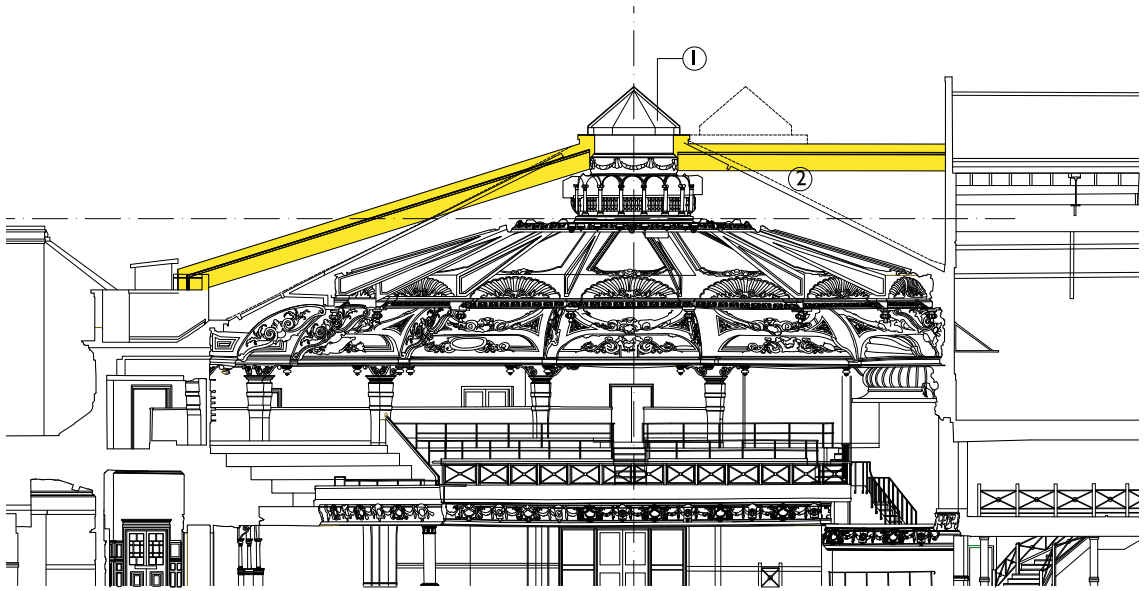
Example Of Retractable Roof Light

Scale & Mass

The segmented sloped sections of roof will appear very similar to the existing, raised to 2.5 m along it's outer edge. The sloped nature of the segmented roof will reflect that of the original on the west side of the building but would slope gradually up on the east side to meet a new section of flat roof spanning between the domes pinnacle and the fly tower. This new rectangular section of flat roof will accommodate the octagonal pyramid roof light when it is in its opened position.



North-South Section Showing Proposed Roof Structure



East-West Section Showing Proposed Roof Structure (With Flat Roof & Retractable Light)

Form & Appearance

The existing narrow grain of the streetscape within the Conservation area, particularly along Middle Street and Ship Street Gardens, will mean that the proposed domed roof addition would not be visible from the street level view. Where the site opens out to the carpark along Ship Street the new roof addition would again be hidden by the existing fly tower structure.

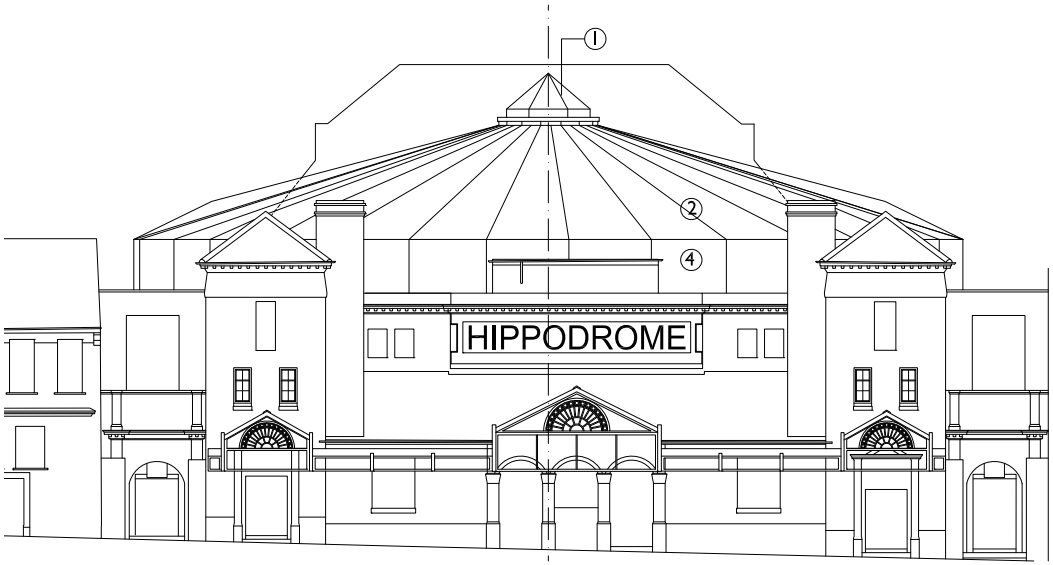
The only area where the proposed roof addition would be visible would be to the commercial premisses that run along the back of Dukes Lane and to the rear views of a small number of properties along Ship Street Gardens. In both case the additional roof height will have no adverse or detrimental effect on the these views providing a negligible change to their existing view of the Hippodrome roof.

Use & Amount

The proposed works covers a roof area of approximately 685 m² in plan. The new roof would provide weather protection to the existing structure below and current and future access for maintenance of the heritage plasterwork to the space below.

Materials

The vertical and sloped sections of the new roof are to be clad in dark grey fibreglass, with a rolled section on the angle line of the segments to mimic a leadwork roof detail.



Proposed Elevation on Middle Street

Example of Fibreglass Roof Material

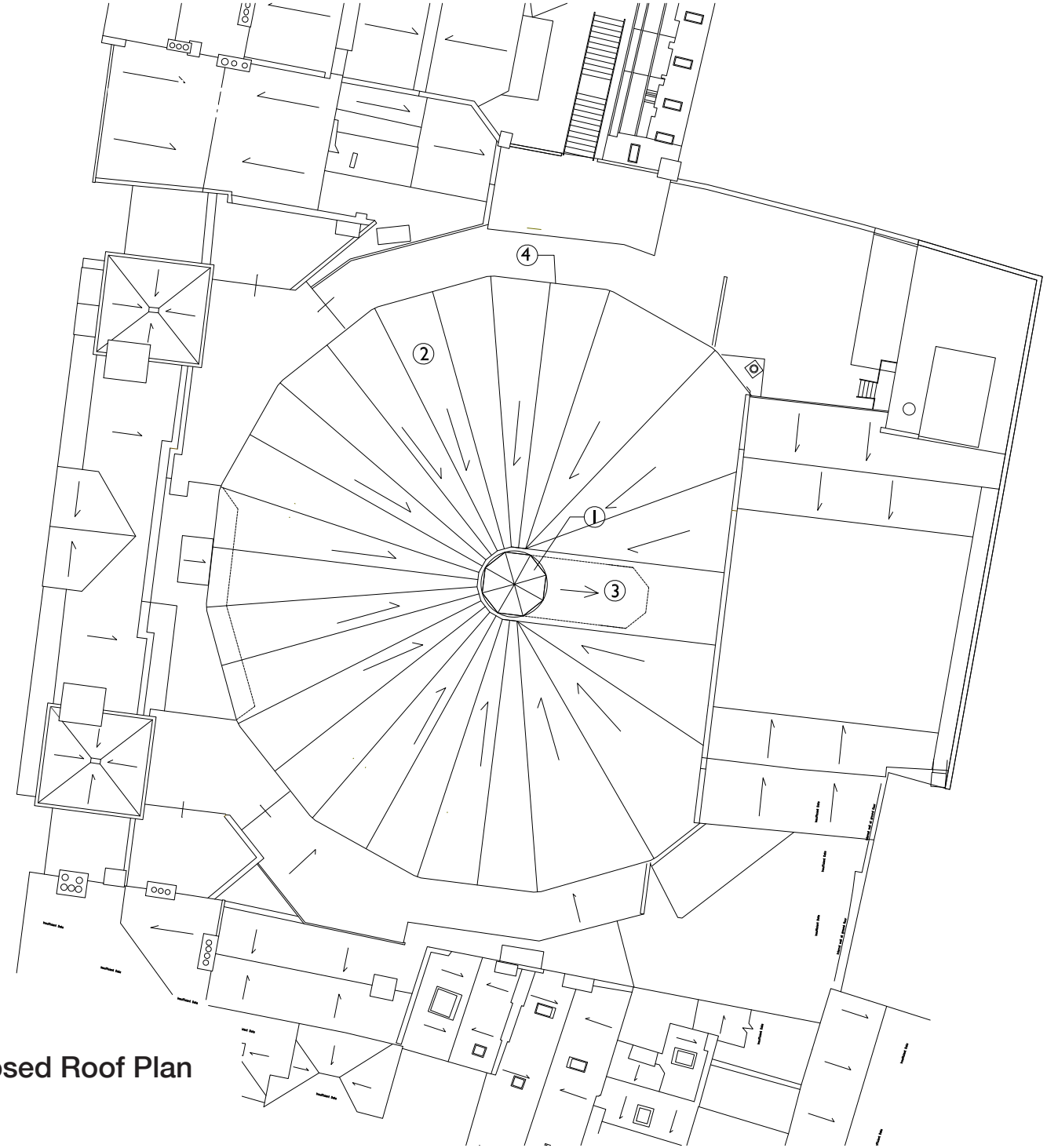
Technical Considerations

Sustainability

The introduction of a new roof structure over the existing domed roof allows the opportunity of improving the thermal build up of the overall roof. A warm roof system we be introduced over the top of the new structure providing an upgraded U-value for the dome in line with the requirements of Part L.

Access

The improved access to the existing soffit of the venue space will allow for regular checking of the hessian fibrous plaster ties, for maintenance of light fittings and potentially allow room for any mechanical extract that might be required to be installed for the space below.



notes

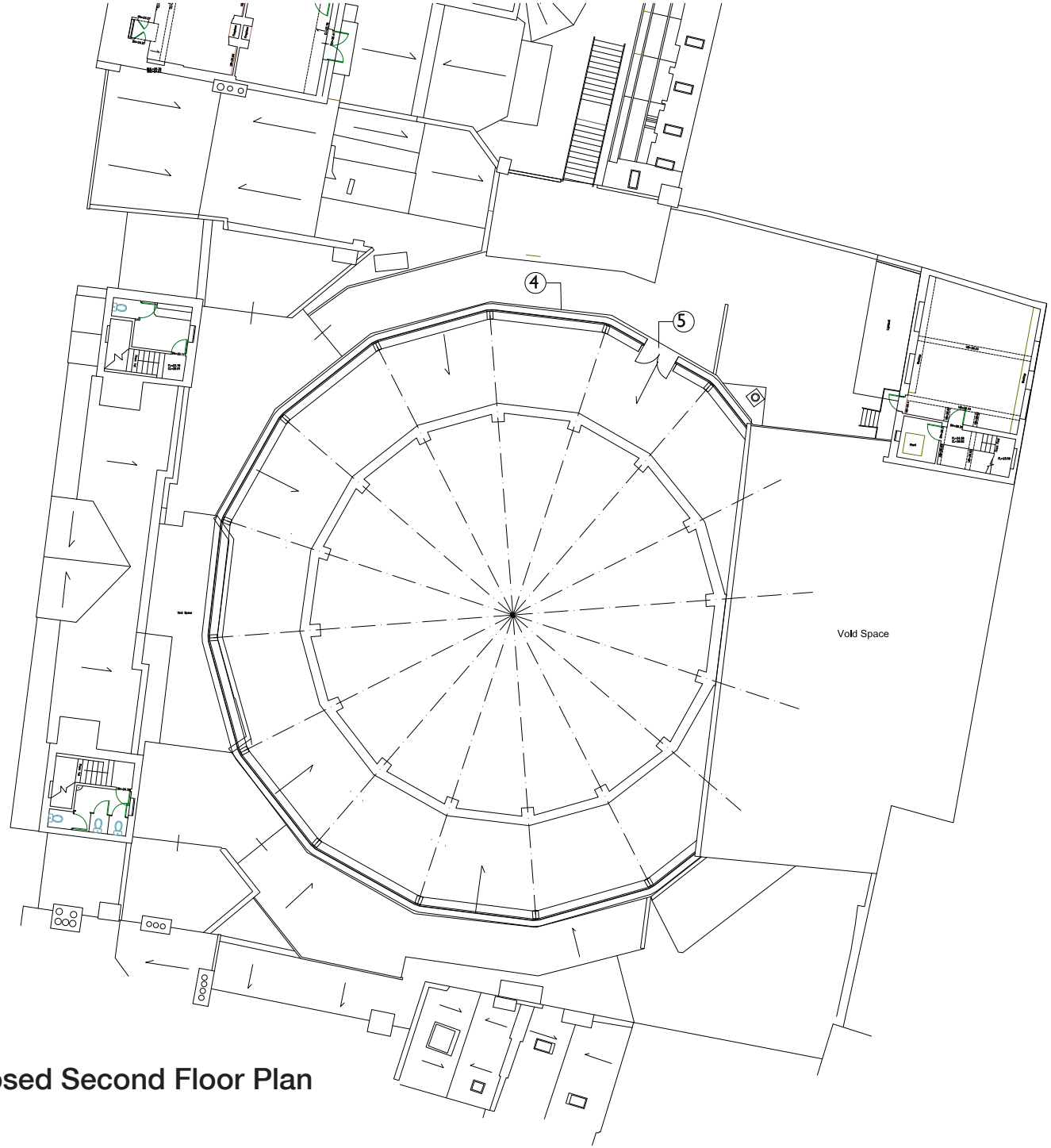
Scale in Metres

0 1 2 3 4 5 10

Materials Key :

1. Octagonal Retractable Roof Light
2. Grey coloured fibreglass roof covering
3. Flat Section of roof for maintenance access.
4. Vertical face to have Fibreglass roof finish to match sloped roof areas
5. Access door to maintenance access to roof void.

Proposed Roof Plan



notes

Scale in Metres

0 1 2 3 4 5 10

Materials Key :

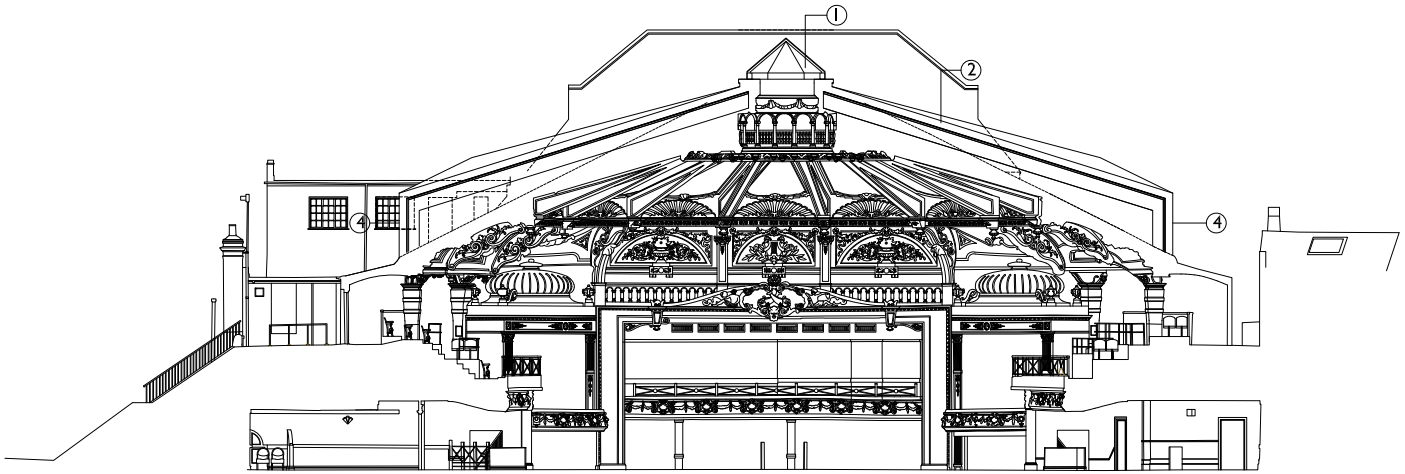
1. Octagonal Retractable Roof Light
2. Grey coloured fibreglass roof covering
3. Flat Section of roof for maintenance access.
4. Vertical face to have Fibreglass roof finish to match sloped roof areas
5. Access door to maintenance access to roof void.

Proposed Second Floor Plan

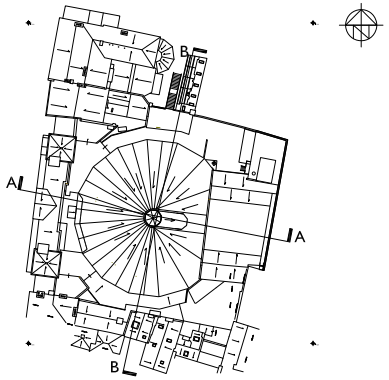
notes

Scale in Metres

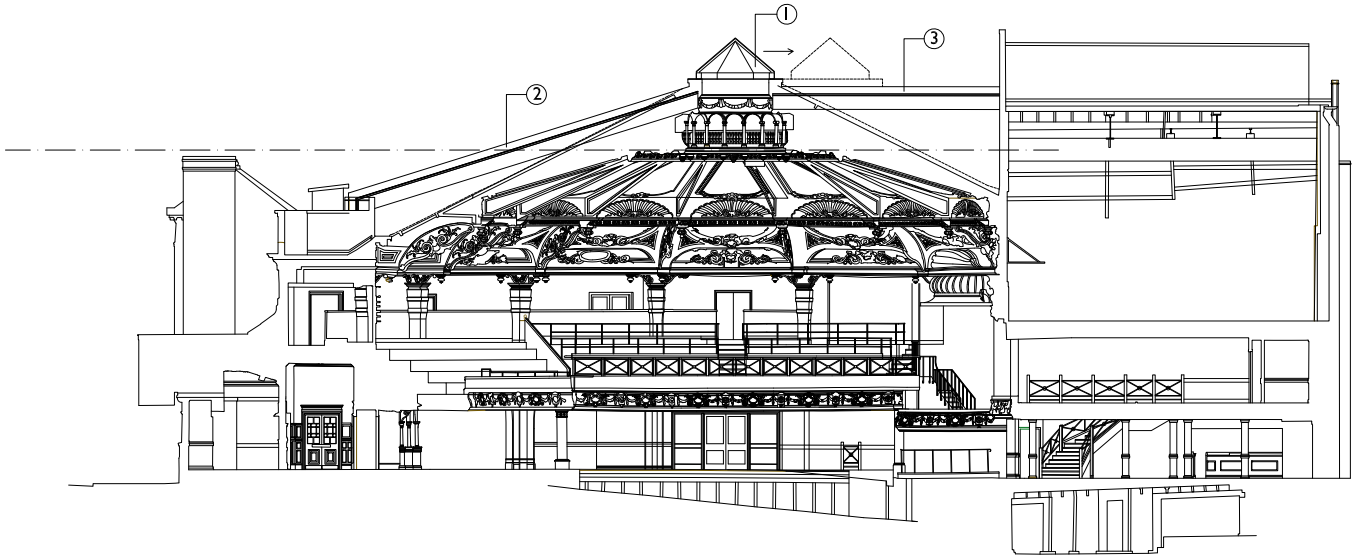
0 1 2 3 4 5 10



Proposed Section B-B



Key Plan



Proposed Section A-A

Materials Key :

1. Octagonal Retractable Roof Light
2. Grey coloured fibreglass roof covering
3. Flat Section of roof for maintenance access.
4. Vertical face to have Fibreglass roof finish to match sloped roof areas
5. Access door to maintenance access to roof void.

Proposed Sections

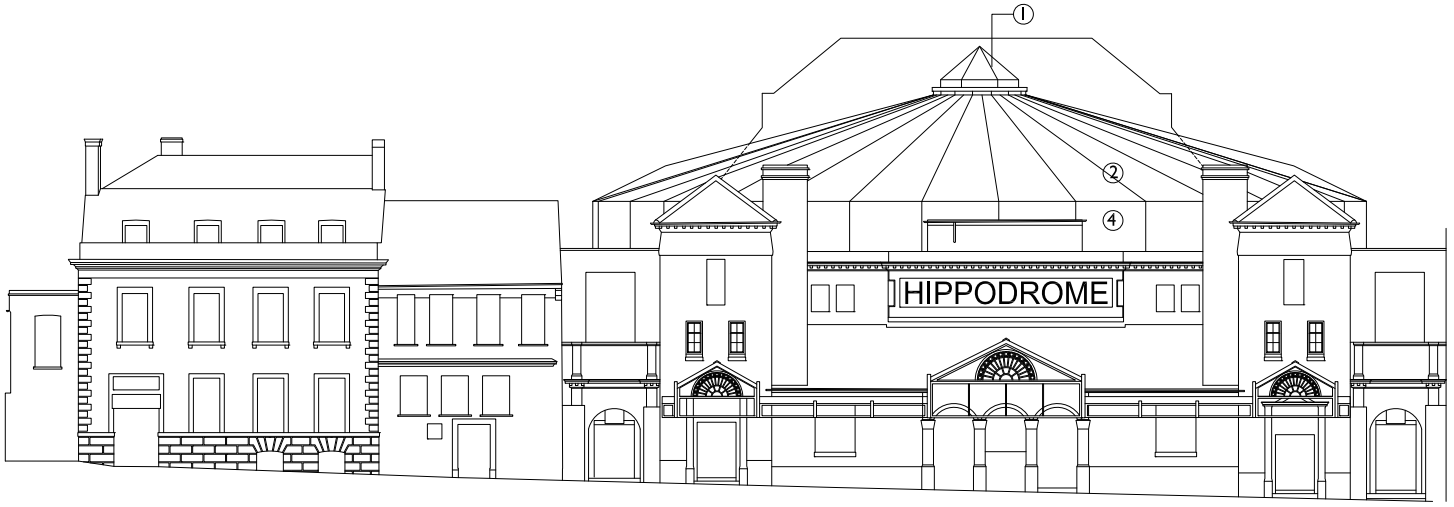
notes

Scale in Metres

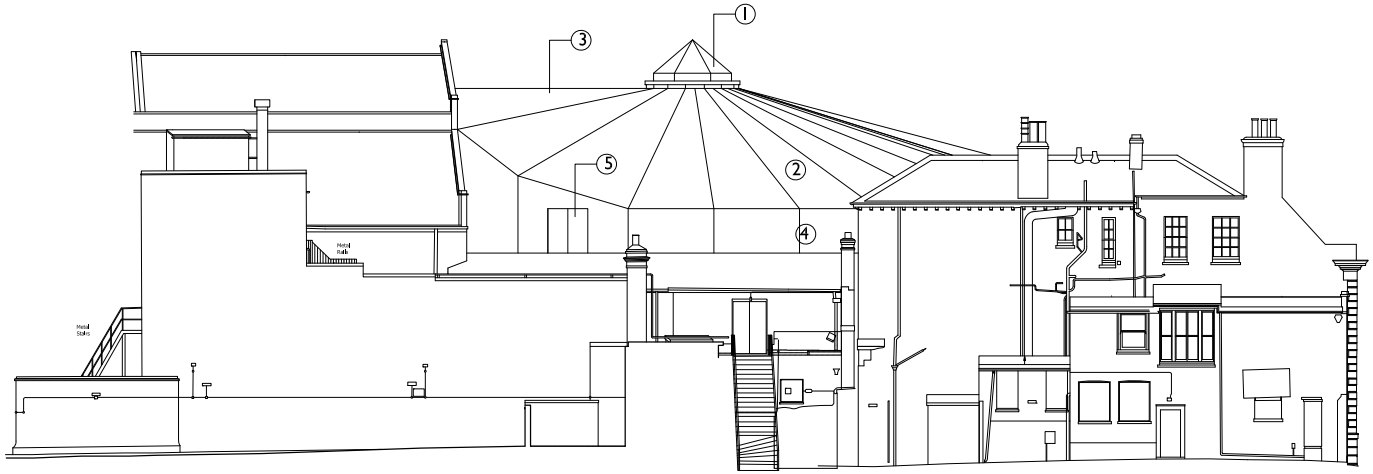
0 1 2 3 4 5 10

Materials Key :

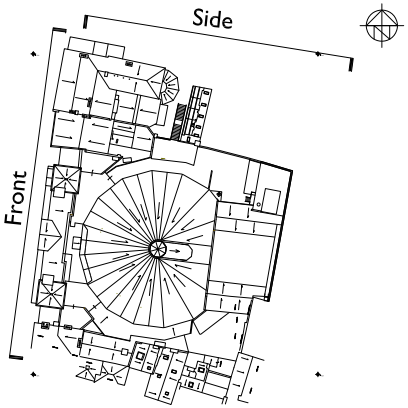
1. Octagonal Retractable Roof Light
2. Grey coloured fibreglass roof covering
3. Flat Section of roof for maintenance access.
4. Vertical face to have Fibreglass roof finish to match sloped roof areas
5. Access door to maintenance access to roof void.



Proposed Front Elevation - Middle Street



Proposed Side Elevation



Key Plan

Proposed Elevations

Conclusion

After 15 years of neglect, the Hippodrome is in a critical condition and needs urgent repair work to save and retain what is left of the original Matcham decorative plasterwork to the soffit of the venue space.

The proposal for an additional roof over that of the existing dome and the removal of structures that penetrate the original roof line will benefit this Grade II* Listed building in a number of key ways:

- It will stop the ingress of water into the building preventing further damage to the historic fabric.
- It will provide a less intrusive way for plaster specialists to access and maintain the hessian plaster ties, (from above rather than cutting a series of holes through the existing plasterwork from below).
- It will give a clear uninterrupted access space across the whole soffit of the Hippodrome roof.
- It will allow a permanent space for future access and maintenance to the roof.
- It will provide the venue space with a openable glazed roof light and natural ventilation.
- It will allow the roof build-up to be upgraded to meet current building regulation standards.

The proposed changes have been designed in a sympathetic manor to match the existing form of the roof structure. The new roof, like the original, will not be observable from Middle Street at street level and where it is visible, has been designed to blend in with its current surroundings.

For the reasons laid out above we believe that BHCC should support this application.

Appendix

Heritage Report

Heritage Statement

The Brighton Hippodrome 52-58 Middle Street Brighton BN1 1AL

Background

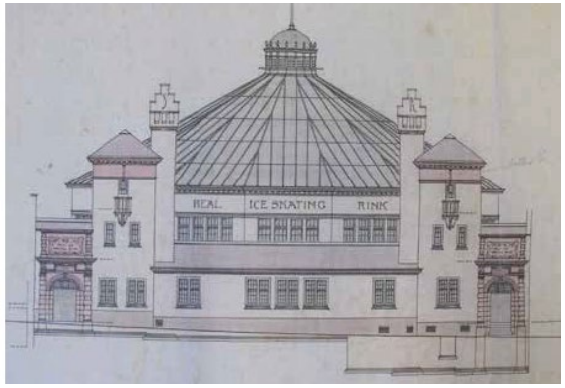
The site comprises the Brighton Hippodrome a currently redundant, vacant, and semi derelict building. The Hippodrome building and ancillary elements are listed at Grade II*. The grading is principally owing to Frank Matcham and the extraordinary layering of history and different uses the original building has accommodated. It was listed in 1985.

> *20/12/85 - II* Brighton ice rink, now bingo hall. Opened in 1897. Enlarged and converted into a circus and theatre called The Hippodrome in 1901, architect Frank Matcham; further enlarged by the addition of two houses to the north in 1939. Probably brick, stone, and/or terracotta all now painted, and the greater part of the building now rendered; roof obscured by parapet.*

The building was most recently in use as Bingo hall but has been vacant since 2006 and fallen into disrepair with a number of failed redevelopment schemes being brought forward but unfortunately non have proceeded or proved viable.

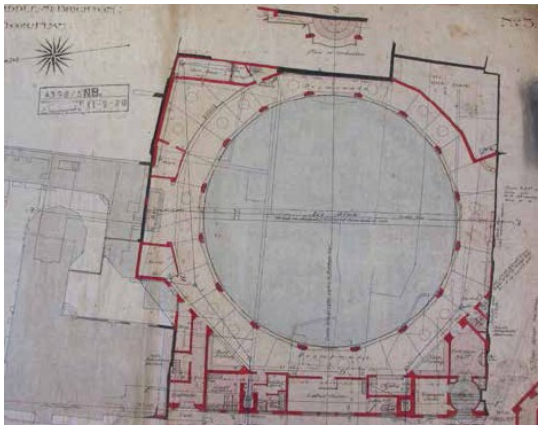
History.

In 1896, Brighton Town Council received proposals for the development of a substantial Ice Rink, from the architect Lewis Karslake. Some of Karslake's 1896 drawings relating to this development can be seen below. The building was erected and opened the following year as the 'Real Ice Skating Rink'. The building designed by Karslake was to form the structure of the auditorium that would follow, providing space for a variety of uses as Karslake's original building was converted, altered, and added to over time.

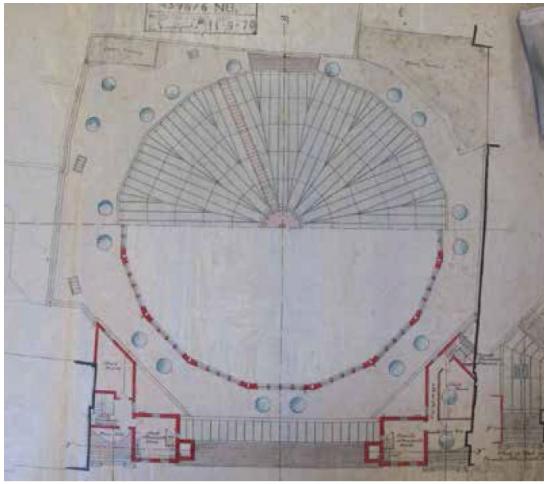


1896 - Lewis Karslake's Ice Skating Rink Front Elevation, Source ESRO

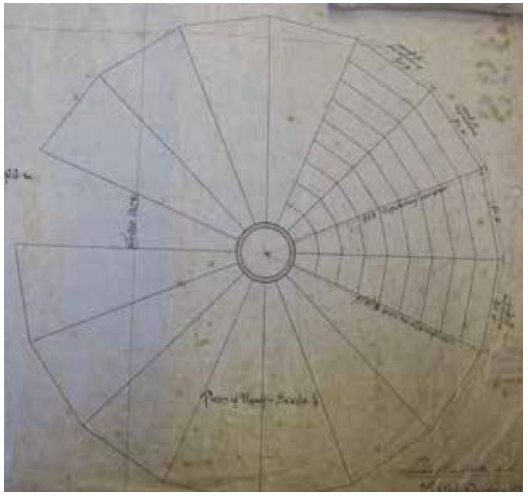
The plans display the layout of a 99 ft. diameter ice rink below a conservatory style glazed roof. The glazing panels are shown to have been fixed on to the lattice steel trusses. This supporting roof structure is still in place today.



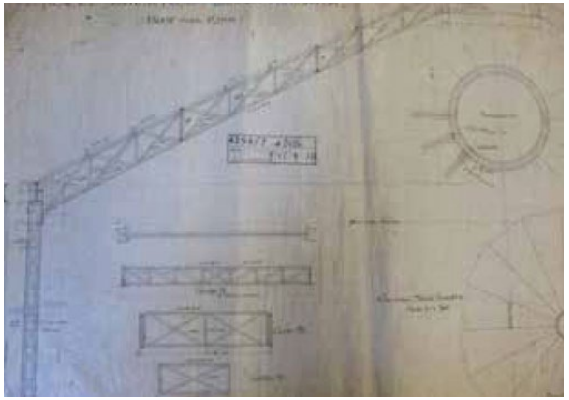
1896 - Lewis Karslake's Ice Skating Rink Ground Floor Plan, Source ESRO



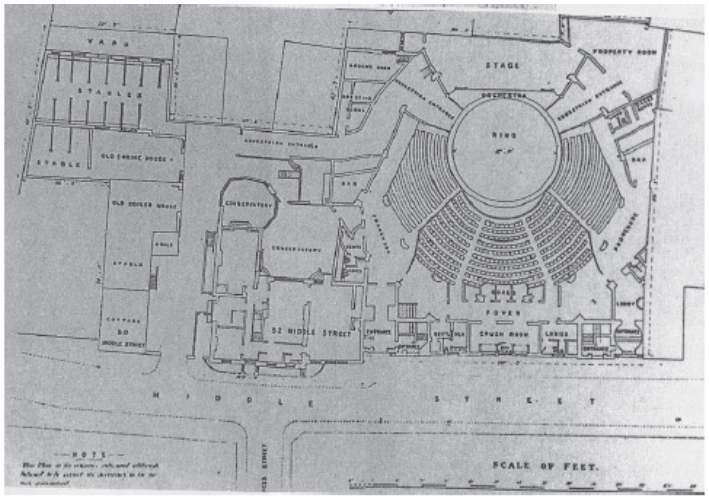
1896 - Lewis Karslake's Ice Skating Rink Conservatory Style Glazed Roof Plan Source, ESRO



1896 Roof detail plan showing steel frame layout, Source ESRO



The buildings life as an ice rink was short lived. In 1901 the building was sold with vacant possession and was purchased for conversion into a Circus by Frank Matcham. The Hippodrome came in to being with the theatrical conversion of the interior of the space. In the summer of 1901 the glazing was stripped from the roof leaving an open roof other than the steel lattice trusses and central steel ring forming the structure to the oculus.



1901 - Sales particulars for the building showing the Circus Theatre layout

The new layout incorporated a circus ring for equestrian and other animal displays. Matcham retained much of the structure of the ice skating rink. The east side of the Karslake structure was modified to accommodate a proscenium and stage, set within a new stage house and the replacement of the ice-rink rotunda with the circus ring located slightly further east to meet the new stage.

1901 – Following Frank Matchams conversion in to a Circus/variety theatre

The casting of plaster must have taken place in the building or in close proximity with the entire auditorium ceiling having decorative plaster casts fixed in place.

This is suggested to have been carried out in just 2 months in July and August 1901. Once the internal face of fibrous plaster castings had been fixed in place a roof covering was installed above. There appears to have been little thought given to ongoing repair with no access to repair wadding from above. The depth of the steel trusses minus the timber framing allows for no crawl space above the plaster work as had been allowed for in other purpose-built theatres of the time.

These were plaster casts formed with hessian support. A timber frame was fixed to the steel trusses with the plaster casts then secured on to the timber frame with hessian wads. The Hayles & Howes survey has confirmed that these wads did not have any wire inserts. They have also confirmed that the grade of hessian is poor with a cheaper thinner hessian used.

Proposals

The intention of the current application is to provide a protective roof over the existing auditorium roof to render it watertight and to provide working space for the specialist plaster contractors.

The proposals do not impact on the aesthetics of the building as they are in the most part hidden from view by the enclosing parapet walls. Whilst the previous forms of roof covering were glass, asbestos and more latterly built up felt, it is believed that the lightweight fibreglass roof can be formed to give the impression of a lead covering incorporating lead rolls. This is felt to be more appropriate to the form of building.

The entrance lobby has an attractive decorative panelled ceiling that has in the most part been lost during the conversion of the premises into a bingo hall in 1967. This application includes the

replication of the decorative panels using moulds cast from the existing ceiling panels to allow for the complete restoration of the entrance hall vaulted ceiling.

Mecca Bingo installed stud and plasterboard panelling masking heaters, ceiling and door surrounds

Vaulted ceiling and door surrounds exposed after removal of studwork

Photographs showing condition of steelwork in structure proposed for removal.