

Appendix B Heritage Statements

- Proposed Facade Material – Graham Brooks & Associates, 22 January 2014
- Proposed Rooftop Observatory - Graham Brooks & Associates, 14 July 2014
- Proposed Southern Entry – OCP Architects, July 2014

The University of Sydney AIN Project
22 January 2014



Ms Cherylene Teoh
Project Manager
Lend Lease
30 The Bond, 30 Hickson Road
Millers Point NSW 2000

Dear Ms Teoh

The University of Sydney AIN Building Amendment to SSD 5087-2011 Heritage Impact Commentary

Following the successful determination of SSD 5087-2011 for the Australian Institute of Nanoscience (AIN) Research and Education Facility at the University of Sydney Camperdown Campus, it is now proposed to amend the proposed façade material.

We confirm that there will be no additional adverse impacts on heritage items in the vicinity or on the conservation area as a result of the material change.

Yours faithfully
Graham Brooks and Associates Pty Ltd

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14 July 2014



The Director General
NSW Department of Planning
GPO Box 39
Sydney NSW 2001

Dear Sir/Madam

**SSD 5087-2011 S96 Application
Rooftop Observatory
Australian Institute of Nanoscience
Camperdown Campus, The University of Sydney
Statement of Heritage Impact**

This Statement of Heritage Impact has been prepared to accompany an application to modify the approved development for the construction of a new Science Research and Education Facility at the University of Sydney for the Australian Institute of Nanoscience.

The report evaluates the potential heritage impact of the proposed installation of an observatory on the roof of the approved building, based on a review of drawings and images prepared by Architectus.

Report Objectives

The main objective of this Statement of Heritage Impact is to analyse the potential heritage impact of the proposal in relation to the Environmental Planning Instruments (EPIs) specified in the Director General Requirements (DGRs) for this project and the guidelines endorsed by the NSW Heritage Council.

Methodology and Structure

This Statement of Heritage Impact has been prepared in accordance with guidelines outlined in the *Australia ICOMOS Charter for Places of Cultural Significance*, 2013, known as *The Burra Charter*, and the New South Wales Heritage Office (now the Heritage Division of the NSW Office of Environment and Heritage) publication, *NSW Heritage Manual*.

The Burra Charter provides definitions for terms used in heritage conservation and proposes conservation processes and principles for the conservation of an item. The terminology used, particularly the words *place*, *cultural significance*, *fabric*, and *conservation*, is as defined in Article 1 of *The Burra Charter*. The *NSW Heritage Manual* explains and promotes the standardisation of heritage investigation, assessment and management practices in NSW.

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Site Identification

The Camperdown Campus of the University of Sydney is bounded by Parramatta Road, City Road and Missenden Road. The new AIN Building is located at the junction of The University of Sydney's Camperdown campus and St Paul's College, immediately south of the Physics Building (A28), with part of the approved building footprint, including the proposed location for the observatory, being on land that is to be transferred from the ownership of St Paul's College to the University of Sydney.

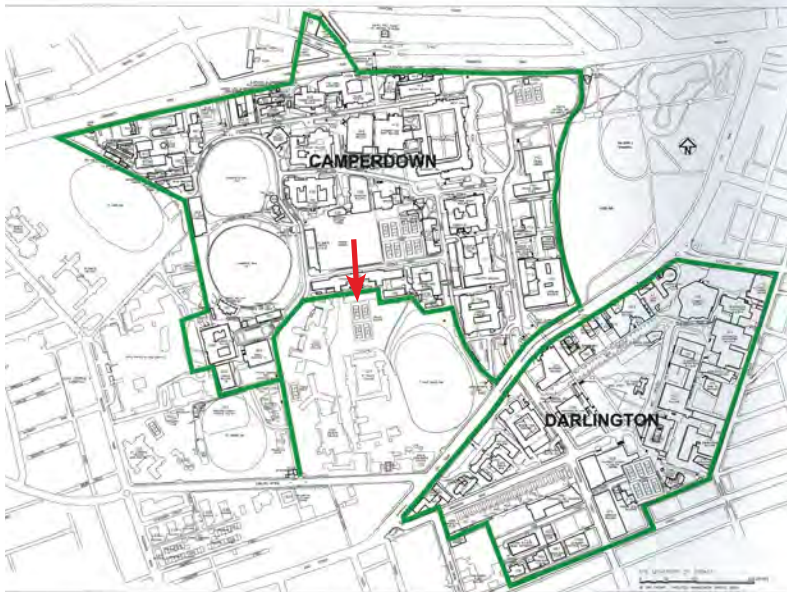


Figure 1
Map showing the location of the subject site (marked with a red arrow) in relation to the University of Sydney Grounds

Source: *University of Sydney Grounds Conservation Plan* (2002)

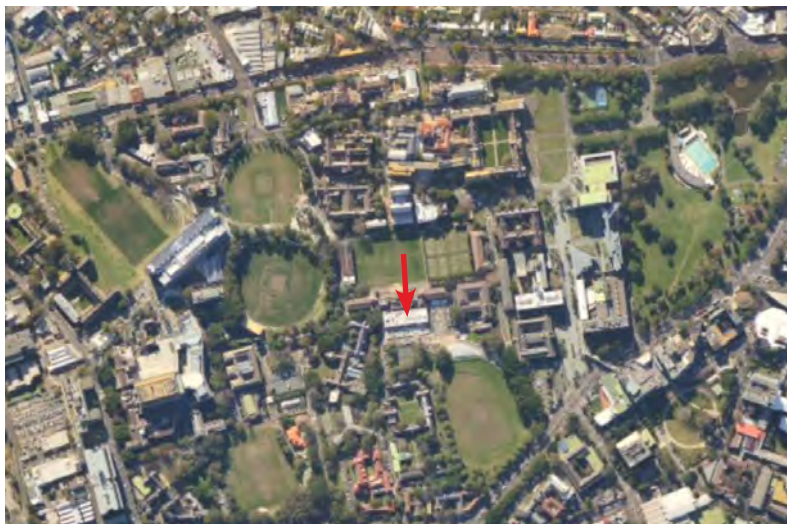


Figure 2
Aerial photograph showing the location of the subject site (marked with a red arrow) within the footprint of the AIN Building that is currently under construction and its relationship to the University of Sydney Grounds

Source: nearmap.com

Heritage Management Framework

The original Director General Requirements (DGRs) for this project noted the following in relation to heritage:

The EIS must address the following specific matters:

8. Heritage

A Heritage impact statement of the likely impacts of the proposal on surrounding/nearby heritage items, including:

- *an assessment on the character and significance of heritage items, their setting and the Sydney University Conservation Area;*
- *the relationship to any heritage items;*
- *construction and operational impacts on adjoining heritage items;*
- *assessment of the impacts on views to and from heritage listed buildings;*
- *assessment of any impacts on the Wilkinson axis;*
- *any impacts on natural areas and places of Aboriginal historic or archaeological significance and consideration of the wider heritage impacts on the surrounding area; and*
- *proposed conservation and mitigation measures.*

Relevant Policies and Guidelines:

- *University of Sydney Grounds Conservation Management Plan,*
- *Individual Conservation Management Plans for heritage items in the vicinity of the site;*
- *NSW Heritage Manual (1996); and*
- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (Office of Environment and Heritage, Department of Premier and Cabinet April 2011)*

When this application was submitted the site was subject to the controls of the *South Sydney Local Environmental Plan (LEP) 1998* and the *Draft Sydney LEP 2011*. These have been superseded by the gazettal of the *Sydney LEP 2012*.

Under the *Sydney LEP 2012* the subject site is located within the University of Sydney Conservation Area (C5) listed as a heritage item of local significance in Schedule 5. The site of the proposed observatory, within the approved AIN Building footprint, is also located within the boundaries of item I52, the *St Paul's College group, University of Sydney, buildings and their interiors, quadrangles, oval and scoreboard, cricket pavilion and grounds*, as shown on Heritage Map 9 of the *Sydney LEP 2012*.

In the wider vicinity of the site there are a number of identified heritage items, within and adjacent to the University of Sydney Camperdown Campus. These include the Physics Building (A28), Edward Ford Building (A27) and Animal House (A27A).

As such, the following guidelines and policies have been considered in the preparation of this Statement of Heritage Impact in addition to those specified above:

- *St Paul's College University of Sydney Conservation Management Plan*
- *University of Sydney Grounds Conservation Plan*

As no part of the subject site is included on the NSW State Heritage Register (SHR), or has been nominated for inclusion of the SHR, there is no requirement under the *NSW Heritage Act* to seek approval from the NSW Heritage Council for this application.



Figure 3
Extract from the Sydney LEP 2012 Heritage Map Sheet 9 showing the approximate location of the subject site marked with a red arrow.

Source: www.legislation.nsw.gov.au



Figure 4
Aerial photograph showing the proposed location for the observatory on the roof of the approved building marked with a red circle, and the location of the heritage items in its vicinity

Source: www.nearmap.com

Report Limitations

This report is limited to the review of the European significance of the site. Recommendations have been made on the basis of documentary evidence viewed and inspection of the existing fabric.

Aboriginal and Archaeological assessment of the subject site is outside the scope of this report, and is addressed in a separate report.

This report only addresses the relevant heritage planning provisions and does not address general planning or environmental management considerations.

Established Significance of the Subject Site

The site of the proposed observatory, within the approved AIN Building footprint, is within the boundaries of item I52, the *St Paul's College group, University of Sydney, buildings and their interiors, quadrangles, oval and scoreboard, cricket pavilion and grounds*, as shown on Heritage Map 9 of the *Sydney LEP 2012*. It is noted that the boundaries of this heritage item are defined by the lot boundary that applied at the time the *Sydney LEP 2012* was prepared. Since that time approval has been sought and granted by City of Sydney Council for re-alignment of the boundary between St Paul's College and the University of Sydney. When the approved subdivision is registered the AIN Building will not be sited on the land that is subject to the heritage listing for St Paul's College.

The following Summary Statement of Significance for this item is sourced from the *St Paul's College University of Sydney Conservation Management Plan (St Paul's College CMP)*, prepared by Clive Lucas, Stapleton and Partners Pty Ltd in September 2012:

St Paul's College is of exceptional significance as Australia's oldest university college and as one of three foundation colleges affiliated with the University of Sydney, Australia's oldest university. St Paul's College is historically significant for its role in the establishment and development of tertiary education in Australia, and its associations with many eminent Australians.

St Paul's College is a remarkable college, quadrangle and grounds and includes the vest Gothic revival college quadrangle in Australia, including the buildings of Edmund Blacket (1817-1993).

The site, buildings and grounds together with the St Paul's College archives held on site provide a unique resource into the history of the place as well as the history of the University of Sydney and of tertiary education and collegiate life in Australia more generally,

The college is held in high esteem by current and past students and staff.

This CMP includes the following diagram confirming the subject site, at the edge of the St Paul's College grounds, is not an area of significance and identifying it as an area capable of University Development.

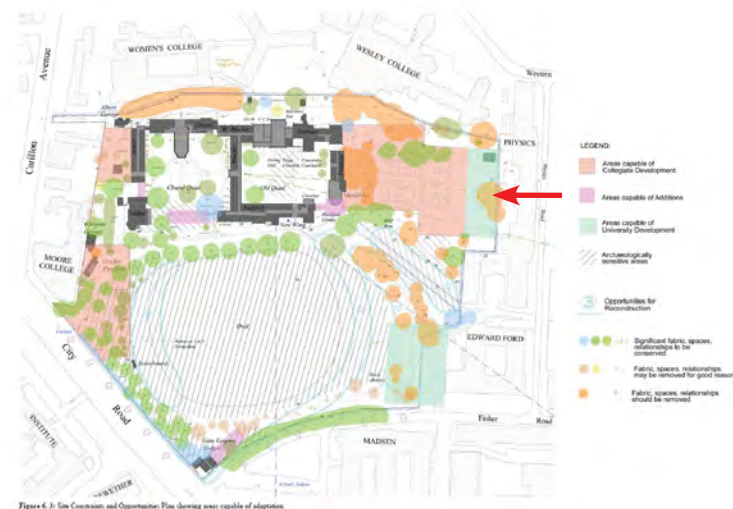


Figure 5
Site Constraints and Opportunities Plan from the *St Paul's College CMP* showing the subject site (marked with an arrow) is not an area of significance and is identified as an area capable of adaptation for University development

Source: *St Paul's College CMP*, page 85

Established Significance of the University of Sydney Conservation Area

The subject site is located within the University of Sydney Conservation Area (C5). The following Statement of Significance for this conservation area has been sourced from the NSW State Heritage Inventory entry for item id 2431001:

The university is a heritage cultural landscape containing buildings of exceptional individual value set within a designed landscape with large areas enclosed by a historic fence. The place developed into a series of precincts each with a special character. The Conservation Area has significance as the site of the first University in Australia established in 1850, operating continuously at Camperdown since 1858. The site has historic significance for its continuing association with the development of tertiary education in Australia. Incorporating Prince Alfred Hospital and various residential colleges, the Area represents the establishment and continued expansion of institutional uses on Grose Farm.

The area has high aesthetic significance for its collection of fine buildings and public spaces dating from the 1850s, and has association with several prominent architects including Blacket, Vernon and Wilkinson.

The continuing function of the institution as a University is also of exceptional cultural significance. An important Sydney landmark, containing what is probably the most significant group of Gothic Revival buildings in the country.

Established Significance of the Heritage Items in the Vicinity of the Subject Site

The site is also in the vicinity of a number of identified heritage items, within and adjacent to the University of Sydney Camperdown Campus. These include the Physics Building (A28), Edward Ford Building (A27) and Animal House (A27A).

Physics Building

The Physics Building is identified as an item of local heritage significance on Schedule 5 of the *Sydney LEP 2012* and *The University of Sydney Section 170 Register*. The following extract from the Statement of Significance for this item is sourced from the *School of Physics CMP*:

The School of Physics is historically significant as the direct descendent of the original Physics school established at the University of Sydney, which contained the first purpose built physics laboratory in Australia. The transfer of the collection commenced by Professor Threlfall, reflected this continuity, showcasing Australian innovations such as Lawrence Hargraves flying machine models.

The construction of a substantial School of Physics outside of the science precinct shows the expansion of the teaching of science in the early 20th Century. The plan layout reflects the growth of the school from a single professorship during the 1880s to four professors in the 1920s, whose offices and associated laboratories Wilkinson placed in the towers. Some of the original furniture, particularly the tables with grooves to catch mercury, survives, as does a sequence of architectural drawings, photographs and Dellit's presentation sketch.

From 1950 new departments within the School of Physics were created and industry funded research programs, such as SILLIAC funded with a donation from Mr. Basser's Melbourne Cup winnings.

The School of Physics continues to be used for the purpose for which it was designed, with evidence of the original configuration of the large laboratories and the lecture theatres surviving internally and externally.

Associated with the development of the teaching of Physics at the University of Sydney and with the training of many prominent Australian scientists, both historically and today. Alterations to the building reflect growing staff and student numbers, the requirements of more recent professors and the introduction of new technologies for teaching and research purposes. Former staff and students are likely to have strong associations with both the School and the University in general.

A rare example of a purpose designed science faculty still in use for the purpose for which it was intended. Sydney University retains the longest sequence of Physics laboratories in the country, the former Physics Laboratory in Science Road, the School of Physics and subsequently the Physics Annex. Evidence of the sequence of laboratories survive.

Edward Ford Building and Animal House

The Edward Ford Building (A27) is identified as an item of local heritage significance on Schedule 5 of the Sydney LEP 2012 and *The University of Sydney Section 170 Register*. The Animal House (A27A) is included in the Sydney LEP 2012 as part of the curtilage of the Edward Ford Building entry and is identified on *The University of Sydney Section 170 Register* as a separate item.

The following Statement of Significance for the Edwards Ford Building is sourced from the *Edward Ford Building and Animal House University of Sydney CMP*:

The Edward Ford Building, constructed in 1929-30 to the design of the Commonwealth Department of Works and Railways to a concept by celebrated Australian architect Professor Leslie Wilkinson, is one of a group of University buildings in a Mediterranean-inspired style, which contributes greatly to the streetscape character of the University. It was the first building on the University campus to be entirely funded by the Commonwealth government, reflecting the national importance of public health education and research in the 20th century. Featuring a number of elements of aesthetic significance, the Edward Ford Building contributes substantially to the streetscapes of Physics and Fisher Roads, which are main roads within the University.

Associated with a number of individuals of note for their contribution to medical research, the building continues to be held in high regard by the University community and the community at large, including the National Trust of Australia (NSW Chapter) for its heritage values.

The following Statement of Significance for the Animal House is sourced from the NSW Heritage Inventory:

The establishment of the School of Public Health and Tropical Medicine was an example of the Commonwealth government's increasing interest in using state universities for projects of interest at the national level.

One of a number of purpose built animal facilities at the University of Sydney

The Rooftop Observatory Proposal

It is proposed to modify the approved development for SSD 5087-2011 to allow the installation of a rooftop observatory on the AIN Building. The proposed observatory comprises a dome measuring approximately 5m in diameter and 4.5m in height, to house the main optical telescope, as shown in the plans and perspective images below.

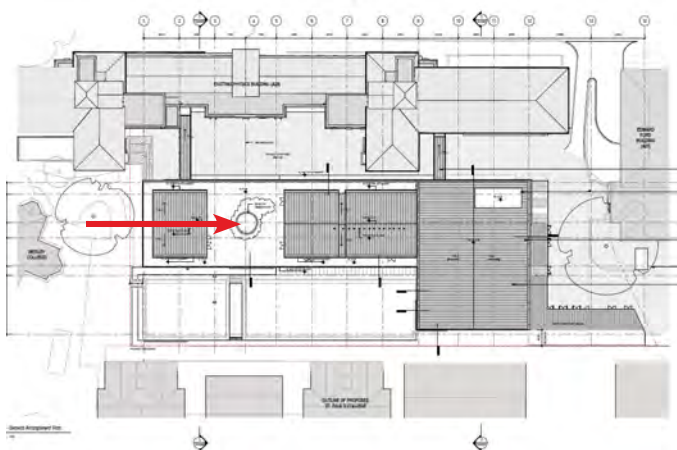


Figure 6
Roof plan showing the proposed location for the observatory (marked with an arrow)
Source: Architectus

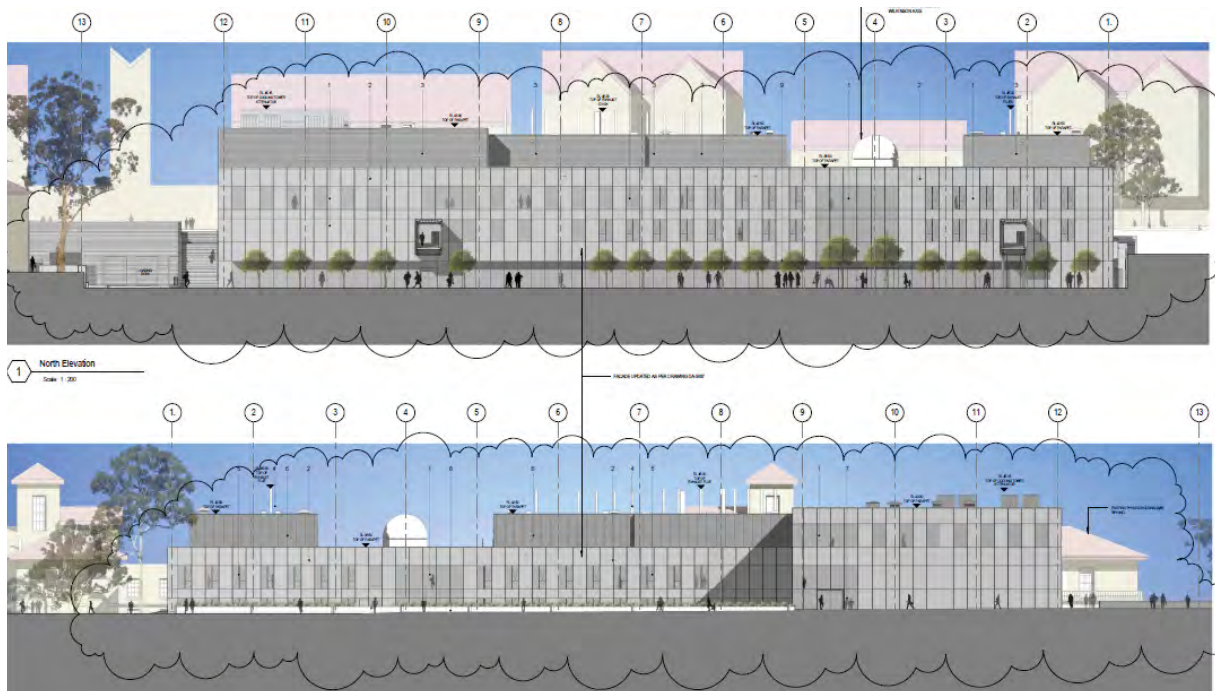


Figure 7
North (top) and south (bottom) elevations of the AIN building showing the proposed location for the rooftop observatory
Source: Architectus



Figure 8
Perspective diagram showing the proposed rooftop observatory within the approved AIN building footprint, and its relationship to the existing Physics Building (A28) to its north and the approved development within the grounds of St Paul's College to its south
Source: Architectus

Assessment of Heritage Impact

Evaluation Against the Guidelines of the NSW Heritage Division

The *NSW Heritage Manual* was published by the Heritage Office (now the Heritage Division of the Office of Environment and Heritage) and the Department of Urban Affairs in 1996, as the primary reference document for heritage management in NSW. The relevant guidelines relating to the assessment of heritage impact are *Altering Heritage Assets* and *Statements of Heritage Impact*. The relevant 'questions to be answered' in the *NSW Heritage Manual* 'Statements of Heritage Impact' guidelines considered in the preparation of this report are:

Minor Additions

- *How is the impact of the addition on the heritage significance of the item to be minimised?*
- *Can the additional area be located within an existing structure? If no, why not?*
- *Will the additions tend to visually dominate the heritage item?*
- *Are the additions sited on any known, or potentially significant archaeological deposits? If so, have alternative positions for the additions been considered?*
- *Are the additions sympathetic to the heritage item? In what way (eg form, proportions, design)?*

New Development Adjacent to a Heritage Item

- *How is the impact of the new development on the heritage significance of the item or area to be minimised?*
- *Why is the new development required to be adjacent to a heritage item?*
- *How does the curtilage allowed around the heritage item contribute to the retention of its heritage significance?*
- *How does the new development affect views to, and from, the heritage item? What has been done to minimise negative effects?*
- *Is the development sited on any known, or potentially significant archaeological deposits? If so, have alternative sites been considered? Why were they rejected?*
- *Is the new development sympathetic to the heritage item? In what way (e.g. form, siting, proportions, design)?*
- *Will the additions visually dominate the heritage item? How has this been minimised?*
- *Will the public, and users of the item, still be able to view and appreciate its significance?*

Comment

The proposed rooftop observatory for the approved AIN Building is a minor addition to the University of Sydney Conservation Area which is listed as a conservation area of local heritage significance under the *Sydney LEP 2012*. The visual impact of this addition has been minimised by its siting on the lowered section of the new building that is aligned with the main entrance to the Physics Building (A28). Although the observatory will be visible in the background of some views within the University of Sydney Conservation Area it will not be a dominant feature in the conservation area.

The AIN building is located at the edge of the University campus, between the rear of the Physics Building and the proposed St Paul's residential development. The new building includes specialist research laboratory spaces including Precision Metrology Laboratories, Transmission Electron Microscope suites, cleanrooms, high performance electronics and optics laboratories. The proposed observatory complements these facilities and as such it is essential that it be co-located with this building. There will be no adverse impact on the evolving cultural landscape of the University of Sydney or the aesthetic significance of the buildings within it, resulting from its installation.

The proposed observatory is to be sited on land currently identified as being within the boundaries of the heritage listing applying to St Pauls College. As it is to be separated from the historic buildings and grounds of St Paul's College by the approved residential development at the northern edge of the St Paul's College grounds it will not be seen from within these grounds in the longer term.

The *St Paul's College CMP* does not identify the subject site, at the edge of the college grounds, as an area of significance, in relation to this item. Furthermore, following the registration of the approved subdivision re-aligning the boundary between St Paul's College and the University of Sydney the subject site will no longer be on land that is subject to the heritage listing for St Paul's College.

The *St Paul's College CMP* notes there is a surviving, although somewhat restricted, historic view from the Tower Block to the Main Quadrangle of the University. This view will not be affected by the installation of the proposed observatory.

As such it is considered that there will be no adverse effect on the established heritage significance of St Paul's College resulting from the installation of the proposed observatory.

The location for the proposed observatory, immediately behind the centre of the Physics Building (A28) is on the alignment of the Wilkinson axis. This conceptual axis was a component of Professor Leslie Wilkinson's 1920 grounds development plan that sought to create and/or preserve the vistas from St Paul's College across Hockey Square to the Union and to the entrance to the university on Parramatta Road.

Subsequent development within both the St Paul's College grounds and the university has eroded this vista. Rather than being a formal axis it is now a series of vistas from points along the axis. The most significant of these is noted in the 2002 *University of Sydney Grounds Conservation Plan (2002 Grounds CP)* as vista V5, *view along Hockey Square Axis, the axial vista from in front to the Physics Building (A28) across Hockey Square along the access leading to the Union Refectory (A09)*.

The alignment of the conceptual Wilkinson axis is interpreted by the following current, and approved, built elements:

- lowered central form of the Physics Building (A28) and the AIN Building immediately to its south
- design and siting of the approved, but not yet constructed, St Paul's development
- bridge link between the Education Building (A35) and the Education Building Annexe (A36).

The photomontages below indicate that the new observatory will not be readily visible from within Hockey Square but will be seen in some views from within the campus as another minor built element defining and reinforcing the alignment of the axis. Thus it is concluded that there will be no adverse impact on the Wilkinson axis resulting from the installation of the proposed observatory.



Figure 8

Photomontage showing the proposed observatory will not be seen in views from Hockey Square along the Wilkinson axis (V5 identified in the 2002 *Grounds CP*)

Source: Architectus Visual Impact View 2 (Proposed View From Hockey Field)



Figure 9

Photomontage showing the proposed observatory will be visible from the bridge of the Education Building, reinforcing the alignment of the Wilkinson axis

Source: Architectus Visual Impact View 3 (Proposed View From Bridge of Education Building)

Evaluation Against Sydney LEP 2012 Heritage Provisions

Considering the above the proposed development is considered to be consistent with the relevant heritage objectives of the *Sydney LEP 2012* which are:

5.10 Heritage conservation

(1) Objectives

The objectives of this clause are as follows:

- (a) to conserve the environmental heritage of the City of Sydney,
- (b) to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,

and the guidelines of Section 3.9 Heritage of the *Sydney DCP 2012*.

Conclusions

- The subject site, immediately south of The University of Sydney Physics Building (A28) is located within the Sydney University Conservation Area (C5) which is listed as a heritage item of local significance in Schedule 5 of the *Sydney Local Environmental Plan (LEP) 2012*.
- Although it is also located on land identified on *Sydney LEP 2012* Heritage Map 9 as within the boundaries of the heritage listing for St Paul's College it is noted that the boundaries of this heritage item are defined by the lot boundary that applied at the time the *Sydney LEP 2012* was prepared. Since that time approval has been sought and granted by City of Sydney Council for re-alignment of the boundary between St Paul's College and the University of Sydney. When the approved subdivision is registered the site of the proposed observatory on the roof of the AIN Building will not be on the land that is subject to the heritage listing for St Paul's College.
- In the wider vicinity of the site there are a number of identified heritage items, within and adjacent to the University of Sydney Camperdown Campus. These include the Physics Building (A28), Edward Ford Building (A27) and Animal House (A27A).
- As no part of the subject site is included on the NSW State Heritage Register (SHR), or has been nominated for inclusion of the SHR, there is no requirement under the *NSW Heritage Act* to seek approval from the NSW Heritage Council for this application.

- The proposed rooftop observatory for the approved AIN Building is a minor addition to the University of Sydney Conservation Area. It will not be a dominant feature in the conservation area and will not have an adverse impact on the evolving cultural landscape of the University of Sydney or the aesthetic significance of the buildings within it.
- The proposed observatory is to be separated from the historic buildings and grounds of St Paul's College by the approved residential development at the northern edge of the St Paul's College grounds and will not be seen from within these grounds in the longer term.
- It will not affect the surviving, although somewhat restricted, historic view from the Tower Block of St Paul's College to the Main Quadrangle of the University.
- There will be no adverse effect on the established heritage significance of St Paul's College resulting from the installation of the proposed observatory.
- The location for the proposed observatory, immediately behind the centre of the Physics Building (A28) is on the alignment of the Wilkinson axis which is now a series of vistas from points along the axis, with the most significant of these noted in the 2002 *University of Sydney Grounds Conservation Plan (2002 Grounds CP)* as vista V5, *view along Hockey Square Axis, the axial vista from in front to the Physics Building (A28) across Hockey Square along the access leading to the Union Refectory (A09)*.
- The proposed observatory will not be readily visible from within Hockey Square and will have no adverse affect on this vista.
- Although it will be seen in some views from within the campus there will be no adverse impact on the Wilkinson axis resulting from the installation of the proposed observatory which will reinforce the definition of its alignment.
- The proposed development is consistent with the heritage requirements and guidelines of the *Sydney LEP 2012*, the *Sydney Development Control Plan 2012* and the policies of the applicable Conservation Management Plans.

Recommendation

- Considering the above, Graham Brooks and Associates recommends the application to the Department of Planning for approval.

Yours faithfully
GRAHAM BROOKS AND ASSOCIATES PTY LTD



Gail Lynch
Associate Director
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HIS USYD A28
Southern Penetration and
Modification
Proposed Southern Entry

STATEMENT OF HERITAGE IMPACT



FOR: UNIVERSITY OF SYDNEY

July 2014

VERSION 23.07.14

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Document status

Issue	Date	Purpose	Written	Approved
A	25.07.14	Final	OC +CC	OC

1.0 INTRODUCTION

1.1 Aims of Report

OCP Architects has been engaged by the University of Sydney to undertake an assessment and analysis of the proposed entry on the southern facade on the Physics building on Physics Road.

This Heritage Impact Statement has been prepared on behalf of the University of Sydney to accompany the S96 Application that is to be submitted as part of the Application.

This report aims to:

- Briefly describe the history of the building and site.
- Assess the heritage significance of the building.
- Assess the proposed alterations and additions to building and site
- Recommend steps to mitigate any negative aspects of the breakthrough to conserve the building.

1.2 Site Location

The site is located at Physics Road, Sydney University, Camperdown campus. The site is bounded on the Physics Road, and Western Ave next to the university oval. The School of Physics forms the southern boundary of the Hockey Field (the Square) in the lower lying central area of the main Camperdown campus of the University. It is a free standing building constructed right on the boundary between St Pauls College and the University campus. Its location is shown by the circle on the plan below. The building is owned and managed by the University of Sydney. Refer **Fig. 1.1**.



Figure 1.1 - Location of the building at Physics Road, Sydney University. (Source: Sydney University Campus Maps 2014)

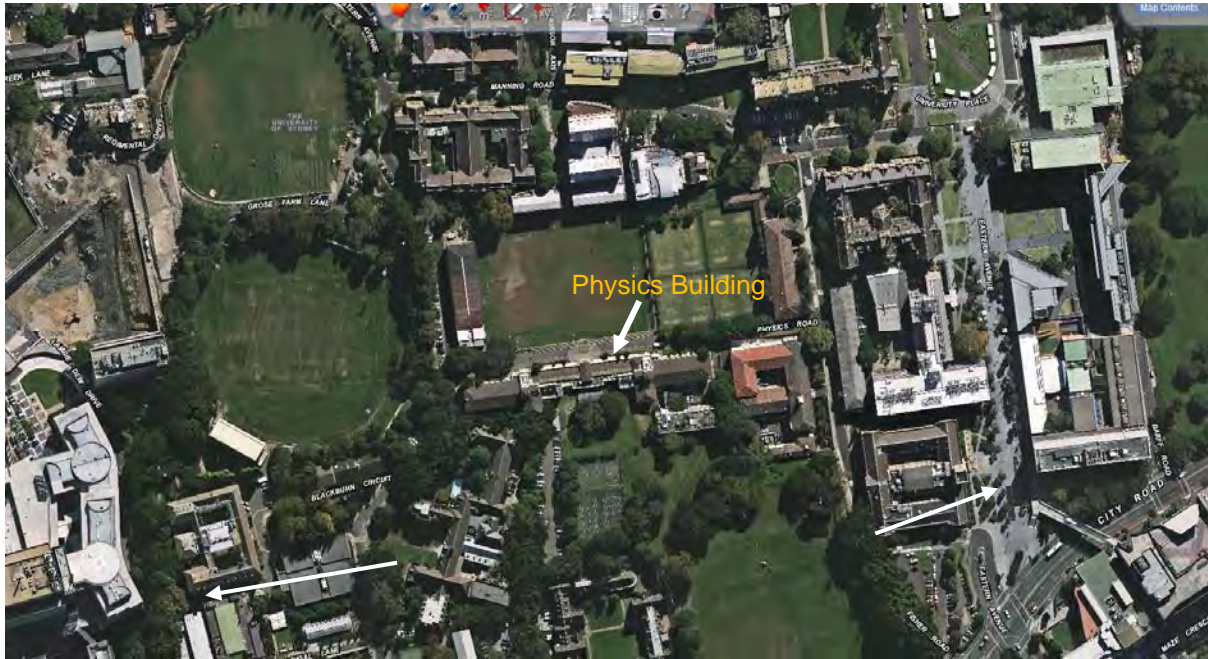


Figure 1.2 - Location of the Physics Building at Sydney University (Source: Google Maps 2014)

1.3 Authorship

The report was prepared by OCP Architects Pty Ltd and written by Otto Cserhalmi and Csilla Cserhalmi, and reviewed by Otto Cserhalmi.

1.4 Methodology and Terminology

This report has been prepared in accordance with the NSW Heritage Manual “Statements of Heritage Impact”(2002) and “Assessing Heritage Significance“(2001) guidelines. The principles and process follows the guidelines contained in the Australian ICOMOS *Charter for the Conservation of Places of Cultural Significance (The Burra Charter), 1999*.

1.5 Basis of Assessment

The material upon which this assessment of the proposed development of the site is based on is the documentation provided by the University of Sydney Design Manager.

2.0 CURRENT SITUATION

2.1 Brief History of the Site

The following excerpt has been selected from the NSW Heritage database.

The building was part of the 1920s program of capital works funded by the State government under the 1919 Act to accommodate the doubling of student numbers after WWI.

Sited in accordance with Leslie Wilkinson's master plan, the location of the new physics school represented the first major extension of the University's buildings beyond the main quadrangle and Science Road. The building was the largest of the new buildings designed by Wilkinson in his own distinctive Mediterranean style.



Figure 1.3 - View of the recently completed Physics School, taken by Cazeneaux in 1927 (University of Sydney Archives)

2.2 HERITAGE STATUS

The Physics building at Sydney University, Camperdown has the following heritage listings:

2.2.1 Statutory Controls, Policies and Guidelines

The Physics School, as part of the University of Sydney Campus, is the subject of various statutory instruments, which have an impact on the future uses, and management of the site. These are set out in the sections below.

The historic core of the University of Sydney Campus, is listed on the following statutory and non-statutory registers:

- Listed as the Sydney University Conservation Area on the State Heritage Inventory (reflecting the inclusion of the Conservation Area on the City of Sydney Council LEP 2012)
- Listed as a conservation area in City of Sydney Council LEP 2012
- In addition the Physics School has been individually listed as follows:
- Listed on the National Trust Register
- Registered on the National Estate
- Listed on the City of Sydney Council LEP 2012
- Listed separately as an item of State Significance as part of the University of Sydney Draft Section 170 Heritage and Conservation Register (August 2000)

2.2.2 Analysis of Significance

The basis of assessment used in this report is the methodology and terminology of the Burra Charter 1999, The Conservation Plan and the criteria of the NSW Heritage Office. Article 26.1 of the Burra Charter states that:

Work on a place should be preceded by studies to understand the place which should include analysis of physical, documentary, oral and other evidence, drawing on appropriate knowledge, skills and disciplines. Once the place has been studied, the cultural significance can be assessed and appropriate policies developed. Article 1.2 of the Burra Charter defines cultural significance as the aesthetic, historic, scientific, or social or spiritual value for past, present or future generations.

The cultural significance of the place has been determined by the analysis and assessment of the documentary, oral and physical evidence that are presented in the previous sections of this document. Understanding significance enables decisions on the future management of the place. It is important that the future decisions do not jeopardise the cultural significance of the place. This report addresses the Physics building only but it should be noted that the overall Sydney University Campus, in particular the group of historic faculties has a very high level of significance, in excess of national significance.

Historical Significance

The place is historically significant as it is the direct descendent of the original Physics school established at the University of Sydney, which contained the first purpose built physics laboratory in Australia and was considered as good as any in the world at the time of its completion. The majority of the contemporary laboratories were in the Northern Hemisphere. Evidence of this original Physics building (now Badham), including some of its benches also survives, indicating Professor Threlfall's original intention for the teaching of Physics at the University.

The expansion into the new building demonstrates the expansion of the sciences in the early 20th Century and the growth in the teaching of Physics from a single professorship to the four professors, whose offices and associated laboratories Wilkinson placed in the towers. Some of the original furniture, particularly the lab tables with grooves to catch mercury, survive as does a sequence of architectural drawings by Wilkinson and Harris, commemorative photographs by Cazeneaux and others, and Dellit's presentation sketch. The University, either within the University Archives or within the School of Physics itself, holds this material.

The School of Physics continues to be used for the purpose for which it was designed, with evidence of the original configuration of the large laboratories and the lecture theatres surviving internally and externally. Alterations to the building reflect growing staff and student numbers and the introduction of new technologies for teaching and research purposes. The subsequent use of the sections of the School of Physics resulted from technological advances and research undertaken by the School, particularly in the fields of cancer research and nuclear physics. There is no physical evidence of this occupation, however photographs of what would today be considered extremely primitive x-ray equipment installed in the eastern end of the building survive.

The use of the building during World War II was significant, both for the production, by a largely female staff, of optical munitions and for the training of the Bailey Boys in the newly emerging technique of radiolocation (radar). Associated with this development in radar were the coastal stations at Collaroy and Dover Heights, of which little trace remains. Other associated facilities including the air raid trenches and searchlights were located on the campus. Existing facilities within the building appear to have been used, and no fabric relating to this phase has been identified. The University campus, sections of which were used by both the US and Australian armed forces did not ever come under attack.

From 1950 new departments within the School of Physics were created. Unlike the construction of the school, funded by the Commonwealth Government, or the 1930s Medical School, funded by the Rockefeller Foundation, the funding of the mainframe computer SILLIAC was obtained in a typically Australian manner, Adolph Basser twice donated the prize money from his Melbourne Cup winning horses.

Associative Significance

Associated with, and the site of, the development of the teaching of Physics at the University of Sydney from the mid-1920s and the site of the training of many prominent Australian scientists, both historically and today. This is a continuing significance.

The collection of instruments within the building retains a link with Professor Threlfall and the original Physics School in Science Road.

There is physical evidence in changes to the building of associations with more recent professors such as Messel who was well known not only to the scientific community but also to school students through textbooks.

Associated with the development of the series of residential colleges surrounding the University, with views to and from St Paul's College to the buildings of the main quadrangle surviving today.

Social Significance

The Physics School continues to be utilised today as a teaching venue in addition to containing professorial offices and researchers facilities. This balance has occurred since 1925 when cancer research facilities were included, continuing the link between the university and medical research that

already existed between the Medical School and the adjacent teaching hospital: Royal Prince Alfred Hospital.

Former staff and students are likely to have strong associations with both the School and the University in general. Intangible significances such as traditions associated with the teaching of Physics at the University, staff and student traditions may also survive but are currently not well documented.

Aesthetic Significance

The Physics Building is one of the largest Mediterranean style buildings constructed in NSW during the 1920s, and is an early use of the style in Australia. Indicating changes in architectural thought post World War 1, the style selected by Wilkinson for the building is thought to have influenced architects in other states as well as in NSW. Of the two complete faculty buildings designed by Leslie Wilkinson at Sydney University, the Physics Building is generally considered to be his finest composition.

Marking the move away from the design of campus buildings inspired by the quadrangles and Gothic buildings of Oxford and Cambridge, indicating an American influence in Campus layout. For the application of American inspired Beaux Arts campus planning, in particular the axial planning and the deliberate creation of a vista across the Campus to St Paul's College beyond. The form of the Physics school reflects Wilkinson's c. 1920 campus layout that included the vistas. Indicating the design philosophy taught to architecture students by

Leslie Wilkinson, the Professor of Architecture at the University of Sydney, which focused on picturesque composition and symmetry rather than functional requirements or climate control. The comments in the architectural press at the time of completion of the building commented on features of the design such as the un-shaded north facing windows.

Details from Wilkinson's sketches of Spain can be identified in the design of the School of Physics, in particular the design of the external walkway and the central Juliette balcony.

The Physics School is an extremely well built and crafted building exhibiting excellence in its execution and use of high quality materials, including the carvings by Rayner Hoff. The decoration of the building reflects the subject taught, with both symbolic decoration and the names of prominent physicians. Other science faculties in Science Road are similarly ornamented.

2.4 STATUTORY CONTROLS

The following City of Sydney Council controls apply to heritage listed sites.

2.4.1 City of Sydney Council LEP 2012

(Part 5 Miscellaneous Provisions, 5.10 Heritage Conservation)

(1) Objectives

(1) Objectives

The objectives of this clause are as follows:

- (a) to conserve the environmental heritage of the City of Sydney,*
- (b) to conserve the heritage significance of heritage items and heritage conservation areas, including associated fabric, settings and views,*
- (c) to conserve archaeological sites,*
- (d) to conserve Aboriginal objects and Aboriginal places of heritage significance.*

(2) Requirement for consent

Development consent is required for any of the following:

(a) demolishing or moving any of the following or altering the exterior of any of the following (including, in the case of a building, making changes to its detail, fabric, finish or appearance):

- (i) a heritage item,*
- (ii) an Aboriginal object,*
- (iii) a building, work, relic or tree within a heritage conservation area,*
- (b) altering a heritage item that is a building by making structural changes to its interior or by making changes to anything inside the item that is specified in Schedule 5 in relation to the item,*
- (c) disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect, that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed,*
- (d) disturbing or excavating an Aboriginal place of heritage significance,*
- (e) erecting a building on land:*
 - (i) on which a heritage item is located or that is within a heritage conservation area, or*
 - (ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance,*
- (f) subdividing land:*
 - (i) on which a heritage item is located or that is within a heritage conservation area, or*
 - (ii) on which an Aboriginal object is located or that is within an Aboriginal place of heritage significance.*

(3) When consent not required

However, development consent under this clause is not required if:

(a) the applicant has notified the consent authority of the proposed development and the consent authority has advised the applicant in writing before any work is carried out that it is satisfied that the proposed development:

(i) is of a minor nature or is for the maintenance of the heritage item, Aboriginal object, Aboriginal place of heritage significance or archaeological site or a building, work, relic, tree or place within the heritage conservation area, and

(ii) would not adversely affect the heritage significance of the heritage item, Aboriginal object, Aboriginal place, archaeological site or heritage conservation area, or

(b) the development is in a cemetery or burial ground and the proposed development:

(i) is the creation of a new grave or monument, or excavation or disturbance of land for the purpose of conserving or repairing monuments or grave markers, and

(ii) would not cause disturbance to human remains, relics, Aboriginal objects in the form of grave goods, or to an Aboriginal place of heritage significance, or

(c) the development is limited to the removal of a tree or other vegetation that the Council is satisfied is a risk to human life or property, or

(d) the development is exempt development.

(4) Effect of proposed development on heritage significance

The consent authority must, before granting consent under this clause in respect of a heritage item or heritage conservation area, consider the effect of the proposed development on the heritage significance of the item or area concerned. This subclause applies regardless of whether a heritage management document is prepared under subclause (5) or a heritage conservation management plan is submitted under subclause (6).

(5) Heritage assessment

The consent authority may, before granting consent to any development:

(a) on land on which a heritage item is located, or

(b) on land that is within a heritage conservation area, or

(c) on land that is within the vicinity of land referred to in paragraph (a) or (b),

require a heritage management document to be prepared that assesses the extent to which the carrying out of the proposed development would affect the heritage significance of the heritage item or heritage conservation area concerned.

(6) Heritage conservation management plans

The consent authority may require, after considering the heritage significance of a heritage item and the extent of change proposed to it, the submission of a heritage conservation management plan before granting consent under this clause.

(7) Archaeological sites

The consent authority must, before granting consent under this clause to the carrying out of development on an archaeological site (other than land listed on the State Heritage Register or to which an interim heritage order under the Heritage Act 1977 applies):

- (a) notify the Heritage Council of its intention to grant consent, and*
- (b) take into consideration any response received from the Heritage Council within 28 days after the notice is sent.*

(8) Aboriginal places of heritage significance

The consent authority must, before granting consent under this clause to the carrying out of development in an Aboriginal place of heritage significance:

- (a) consider the effect of the proposed development on the heritage significance of the place and any Aboriginal object known or reasonably likely to be located at the place by means of an adequate investigation and assessment (which may involve consideration of a heritage impact statement), and*
- (b) notify the local Aboriginal communities, in writing or in such other manner as may be appropriate, about the application and take into consideration any response received within 28 days after the notice is sent.*

(9) Demolition of nominated State heritage items

The consent authority must, before granting consent under this clause for the demolition of a nominated State heritage item:

- (a) notify the Heritage Council about the application, and*
- (b) take into consideration any response received from the Heritage Council within 28 days after the notice is sent.*

(10) Conservation incentives

The consent authority may grant consent to development for any purpose of a building that is a heritage item or of the land on which such a building is erected, or for any purpose on an Aboriginal place of heritage significance, even though development for that purpose would otherwise not be allowed by this Plan, if the consent authority is satisfied that:

- (a) the conservation of the heritage item or Aboriginal place of heritage significance is facilitated by the granting of consent, and*
- (b) the proposed development is in accordance with a heritage management document that has been approved by the consent authority, and*
- (c) the consent to the proposed development would require that all necessary conservation work identified in the heritage management document is carried out, and*
- (d) the proposed development would not adversely affect the heritage significance of the heritage item, including its setting, or the heritage significance of the Aboriginal place of heritage significance, and*
- (e) the proposed development would not have any significant adverse effect on the amenity of the surrounding area.*

3.0 DESCRIPTION OF EXISTING STRUCTURE

The following has been taken from the Sydney University CMP for the School of Physics Building by OCP Architects (2005, with amendments made in 2008).

3.0.1 – North-South Axis

The Physics Building is a long range of building fronting Hockey Square, but separated from the lower level sports field by an embankment and roadway. In composition the building is symmetrical and the main central entrance is also the centre line of the axis from the Refectory, fronting Science Road at the north, to St. Paul's College in the south. This axis is not formally laid out as an axis, currently it is a series of vistas from points along the axis. It can largely be walked, although the section between the extension to the Union building and the Physics building involves crossing the Hockey Field. The stairs, which were located on axis from the Hockey field leading up to the main entrance to Physics, were removed in the 1994 landscaping works. The main entrance Physics, with features a shallow gable, forms both the centre of the building and the line of the axis. Unlike the other sections of the building, which are rendered (stuccoed) brickwork, the central pavilion is constructed largely of sandstone.

More recent faculty buildings to the north of the Hockey field have been split in the centre to reveal the Physics Buildings however an upper level bridge between them obscures certain views of the central gable. Likewise mature planting in the grounds of St Pauls obscures views from the south across the University campus. This vista was what drove the external form of the Physics Building, the lowered section in the centre of the building was deliberate, to enable a view across the campus from St Pauls. This axis was marked on Wilkinson's published plan. The secondary axis to Wesley College from the Old Fisher Library is also shown.

3.0.2 – External Configuration

The Physics Building, when viewed from the north, is divided into sections, the larger end pavilions which appear to be three storey, the two towers, and the lowered mid-section, which occurs on either side of the central gabled entrance. To the rear of the building are the two sets of lecture theatres, located behind the towers, which are concealed from view by the pergolas located slightly above the level of the lowered mid-section. The form of the building is largely as constructed, although specific details such as the roof tiles and pergolas have been altered and the archways in the towers infilled. The use of these elements gives the appearance of geometric forms stepping up to the towers in the manner of an Italian hill town. The historic and the current view on the following page show the extent to which this characteristic of the design survives today.

The building is largely rendered, with a slight swirl to the trowelled finish that gives it a texture. This slight unevenness of texture impacts on the nature of the shadows cast across the building, which are slightly wavy rather than sharp. Overall the composition is highly romantic, and details such as this texture to the render (stucco) subtly contribute to composition.

3.0.3 – Internal Configuration

The internal configuration of the Physics building has been altered to a much greater degree than the exterior. Evidence of the original plan layout survives, particularly the long central corridor and the three main staircases and two large labs at each end. Timber framed and glazed partitions were used throughout the building, providing light and ventilation to the corridors and to provide preparation areas or offices within the labs. In some areas this glazing has been retained, however the internal

areas generally have to be supplemented with artificial light and are no longer cross ventilated. Many of the services are surface mounted, which was a characteristic of the original design, however the current level of servicing is much higher.

3.0.4 –Structure

The Physics building has reinforced concrete footings and internal structure with external masonry (brick) walls. It was deliberately designed with minimum use of steel so as to not affect experiments utilising magnetism. The extensive detailed construction drawings showing the concrete and reinforcing are held in the Sydney University Archives. The concrete floors are generally supported by concrete beams the underside of which are visible, especially in the corridors. They are generally finished in solid plaster. The internal walls are generally rendered or, in the workshop, exposed brick, which has been painted.

The keys to Wilkinson’s drawings shows the use of terracotta blockwork however the locations cannot today be confirmed by visual inspection. This lightweight blockwork may have been used for internal partition walls.



Fig 1.4: View of Northern Façade (OCP ARCHITECTS 2014)



Fig 1.5: View of Northern Façade showing main entrance (OCP ARCHITECTS 2014)

4.0 THE PROPOSED WORKS

The proposed works is outlined as follows:

The construction of a new entry way on the southern façade of the physics building. The proposed entry is to be at the extended window opening to minimise disturbance to the original fabric of the building.

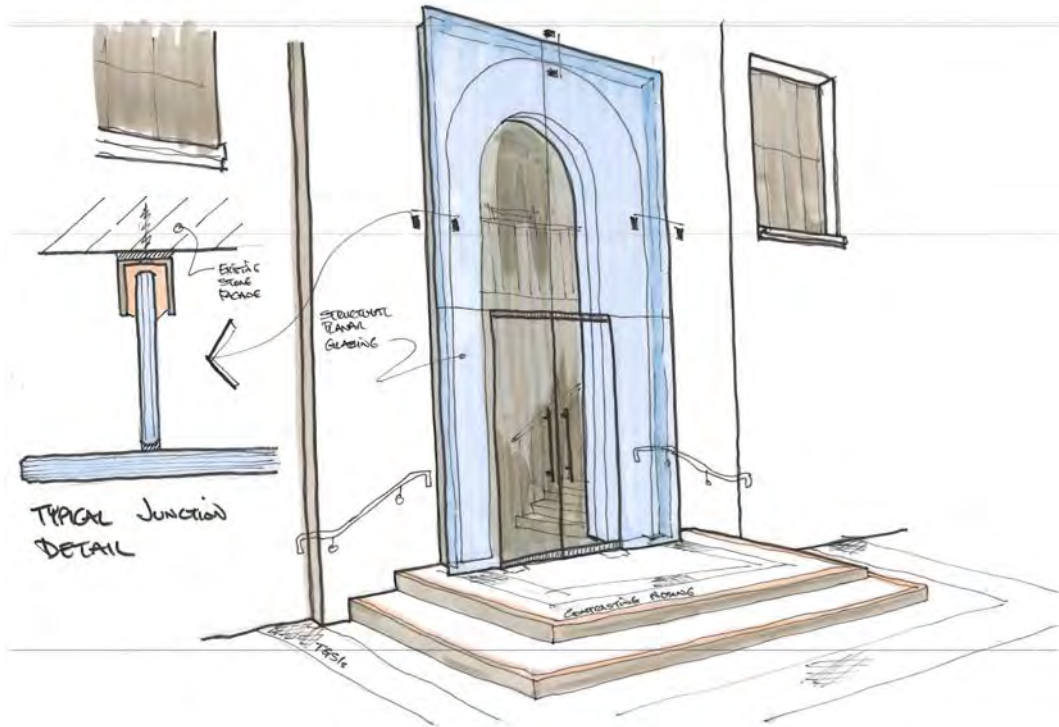


Fig 1.6 Sketch of proposed entry on Southern Boundary (provided by University of Sydney Design Manager, 2014)

5.0 ASSESSMENT OF HERITAGE IMPACT

The proposed conversion of windows to doorway is within the following heritage significant fabric:

- The continuation of the Entry Vestibule (Given an EX rating within the CMP page 164)
- The Internal Corridor with the Main Staircase including the arched window(Given an EX rating within the CMP page 165)
- External south wall with window (Given an EX rating within the CMP page 163)

Comments:

The arched window in the main stair-hall is of both architectural significance as it terminates the main view south from the Entry Vestibule and historically significant as associated with the original architect Leslie Wilkinson. The alteration of this original fabric for the greater benefit to the University

By providing a direct link between the historical building and the new major extensions to the south are acceptable from a heritage perspective subject to the recommendations outlined below.

6.0 RECOMMENDATIONS

1. The original window with its arch and framing be preserved, so that the vista from the Entry Vestibule and Main Stair Hall maintains as much the original composition as possible.
2. The current Stair Hall and arched window is archivally recorded to NSW Heritage Office Standards prior to alteration of the window and copy of records are deposited into Sydney University Library.
3. The proposed glass doorway detailing be further fine-tuned in detailing such as the increase in the horizontal depth from the main wall to allow for future maintenance such as the continued painting of the rear southern wall i.e. increase approx. 300mm.

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