URBIS

TOWER 2, LEVEL 23
DARLING PARK, 201 SUSSEX ST
SYDNEY NSW 2000

URBIS.COM.AU
Urbis Pty Ltd
ABN 50 105 256 228

24 July 2018

The Minister for Planning
NSW Government, Department of Planning and Environment
320 Pitt Street
SYDNEY NSW 2000

Dear Sir,

HERITAGE IMPACT STATEMENT
PROPOSED TEMPORARY WORKS AND DEMOLITION - EDUCATION BUILDING
35-39 BRIDGE STREET, SYDNEY
S4.55 APPLICATION TO MODIFY SSD7484

INTRODUCTION

This concise Heritage Impact Statement has been prepared to assess the impact of the proposed modifications to the temporary works and demolition scope at the Department of Education Building (Education Building) located at 35-39 Bridge Street, Sydney. The proposed modifications, the subject of the S4.55 Application to Modify SSD7484, are required because:

- The architectural design has been further developed;
- Structural investigations and analysis by TTW have revealed vulnerabilities that must be addressed; and
- The contractor, who is very experienced with working on State listed heritage buildings, has concerns about buildability, protection of heritage fabric during construction and safety during construction.

The S4.55 Application is being submitted following approval of State Significant Development (SSD) Stage 2 Application Number SSD 7484, for the adaptive reuse of the Lands Building, located at 23-33 Bridge Street, Sydney, and the Education Building, located at 35-39 Bridge Street, Sydney as hotel facility. Both buildings have been described as the “Sandstone Precinct”.

We understand that this Heritage Impact Statement will be submitted to the Department of Planning and Environment. Overall, we consider that the proposed modifications will have an acceptable heritage impact in the context of the major adaptive reuse works that have been approved.

URBIS

METHODOLOGY AND STRUCTURE

This Heritage Impact Statement has been prepared in accordance with the 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.

SITE IDENTIFICATION

The Education Building (35-39 Bridge Street, Sydney) is located on the south side of Bridge Street and occupies a whole block bounded by Young Street to the east, Loftus Street to the west, and Farrer Place to the south. It is described by NSW Land and Property Information as Lot 56, DP 729620.

HERITAGE MANAGEMENT FRAMEWORK

The statutory heritage management framework of the Education Building is as follows:

- Listed on the NSW State Heritage Register under the NSW Heritage Act 1977 (SHR No. 00726)
- Listed in Schedule 5 of the Sydney Local Environmental Plan 2012 (Item I684) as a State heritage item - Department of Education building including interior.
- Partially included (northern portion) in the Bridge Street/Macquarie Place/Bulletin Place Special Character Area identified in the Sydney Development Control Plan 2012.
- Partially included (southern portion) in the Farrer Place Special Character Area identified in the Sydney Development Control Plan 2012.

REPORT LIMITATIONS

Archaeological assessment of the subject site is outside the scope of this report. Archaeological assessment is addressed under separate cover.

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

This report should be read in conjunction with the Education Building Conservation Management Plans (CMP) prepared by GBA Heritage dated May 2017 and endorsed by the NSW Heritage Council in June 2017.

URBIS

ESTABLISHED SIGNIFICANCE OF THE SUBJECT SITE

The following Statement of Significance for the Education Building, located at 35-39 Bridge Street, Sydney is drawn from the updated and endorsed CMP for the Education Building prepared by GBA Heritage in 2017, which in turn was drawn from the 2015 CMP:

Statement of Significance:

The Department of Education building has been synonymous with the provision of universal public education in New South Wales since its construction in 1915 and is still used for its original purpose. [As part of the approved lease and adaptive reuse of the building, this association is to imminently cease]. The Department's association with the site dates from its establishment under the Public Instruction Act 1880. The southern half of the building, the former Department of Agriculture offices, demonstrates that Department's importance in the development of scientific agriculture and support for primary production when this was a major industry in the state in the first half of the 20th century.

The architectural style of the building, a restrained form of Federation Free Classical with plain facades highlighted by ornamentation at the entrances and upper floor entablature, is representative of contemporary tastes demonstrating external materiality and scale of the building in its original design by George McRae with Stage 2 (for the Department of Agriculture) being completed by a private firm, John Reid & Son.

The Department of Education building is a fi ne example of early 20th century government offices combining elements of their historic 19th century predecessors, with a concern for contemporary office design. Built in two stages 1912-15 and 1929-30, the building demonstrates rapidly changing methods in building construction of the early 20th century. The 1994-95 refurbishment by noted architect Ken Woolley provided a rational and elegant solution to the historic problems posed by key planning differences between the two stages of construction and resulted in efficient circulation and improved accommodation to contemporary standards.
Although the second stage of the building (1915 and 1930) was designed by a different architect using a different, more technologically advanced form of construction, the external architectural presentation of the two stages is remarkably unified or consistent. Occupying the of the city block bounded by Bridge Street, Loftus Street, Young Street and Farrer Place, the building is a key element in the built landscape of Bridge Street, in the surrounds of Macquarie Place and in Farrer Place to all of which it makes a notable contribution. It is part of an important group of late 19th and early 20th century government offices that represent the continuing association of this area with government and administrative activities since 1788. The site is part of a street plan that reflects the earliest development of the city of Sydney.

The Department's Art Gallery is unique in government offices and its student art collection, William Wilkins Memorial Art Collection, is the oldest in Australia.

The building is associated with key personalities in the history of education in New South Wales including Peter Board and Sir Harold Wyndham. It is also associated with Government Architect George McRae, who is considered as a key practitioner of the Federation Romanesque, Anglo-Dutch

and Free Style in Sydney and whose work played a dominant role in the evolution and spread of Federation architecture throughout Australia.

The building has been the symbolic headquarters for generations of teachers and administration staff who have worked in the NSW education system since 1915.

The heritage significance of the Education Building is enhanced by the collection of movable heritage including furniture and war memorials. The movable heritage of the building has an ongoing and continuous association with the government function and demonstrates the building's association with public service. The collections of furniture and fixtures associated with public service and government administration demonstrate superior quality in local design, manufacturing and materials. The war memorials are of particular social significance for its commemoration of the role of Department of Education employees in war.

The site also has high potential for surviving archaeological remains of State significance including the site of the Judge-Advocate's residence, and gardens, boundaries and setting for the residences of the Judge-Advocate and the Colonial Secretary. These remains may survive below the Loftus Street vehicular entry and the northwest corner of the site.

THE PROPOSAL

The proposed modifications, the subject of the S4.55 Application to Modify SSD7484, are required because:

- The architectural design has been further developed;
- Structural investigations and analysis by TTW have revealed structural vulnerabilities that must be addressed; and
- The contractor, who is very experienced with working on State listed heritage buildings, has concerns about buildability, protection of heritage fabric during construction and safety during construction.

The modified temporary works and demolition scope has been developed with Urbis' heritage input to minimise adverse heritage impacts while providing a safe workplace during construction and required structural upgrades to ensure the long term stability of the building.

URBIS

A DISCUSSION ABOUT THE MODIFICATIONS

The items referred to in the discussion below reference the plans (180629- Sandstones - TTW Demolition extent - explanation_RevB) included in the appendix to this letter.

Existing Facades

- The proposal to modify original window openings to provide access to some balconies has been reduced in scope.

Lower Ground Level

Item 1

- The original proposal was to retain this section of wall while digging a three storey basement below. To achieve this a grid of temporary steelwork and temporary piles would be required to support the wall while the excavation is being done. The wall would then need to be re-supported on the new slab. To limit the movement that occurs during this process controlled jacking and detailed monitoring of the existing structure would need to take place, however with such major changes in the load path some degree of movement is inevitable. Any movement in this masonry wall will result in cracking. Repairing the cracking would either require replacing the bricks around the crack (and toothing them into the good brickwork) or installing masonry reinforcement within the mortar joints. Once the repair is complete it is likely that most (if not all) of the existing plaster would have been removed, either from cracking / falling off or from the repair process. Making a vertical saw cut away from the excavation (in the location proposed) would result in the remaining wall being in a better condition than if the entire wall is retained.

Item 2

- Retaining this area of floor and the single column would result in the column needing to be underpinned while the three levels of basement is dug under it. To achieve this a grid of temporary steelwork and temporary piles would be required while the excavation is carried out. The new column would then need to be constructed under the existing to re-support it. To limit the movement that occurs during this process, controlled jacking and detailed monitoring of the existing structure would take place. With the existing structure experiencing such major changes in load path, movement of the column and floor will be unavoidable. This movement is likely to cause cracking in the concrete encasement of both the column and beams, with the possibility of it spalling off completely in some locations. It is also likely to cause cracking in the existing slab which will be difficult to repair without breaking out areas of slab and re-pouring.
- The careful demolition up to this line will require marble finishes in the Loftus Street foyer vicinity (up to approximately 1m away from the line of demolition) to be temporarily removed, stored and then reinstalled following demolition.
- The careful demolition up to this line will also require plaster finishes in the Loftus Street foyer vicinity (up to approximately 1m away from the line of demolition) to be removed and then reconstructed following demolition.

Item 5

- The slab on ground to the north of the building was proposed to retained. With such major work going on in this area, including column and foundation strengthening, new footings for temporary steel columns and service trenches, very little slab would be left intact. Dowelling the new and existing slabs together may not be feasible as the existing slab will probably be of poor quality concrete and not sufficiently thick. If the dowelled connection is not possible there would be differential movement between the two slabs which would cause cracking to the new finishes.

Item 6

- Calculations have shown that for these columns to take the new loads they will require strengthening. The proposal is not to demolish these columns but to remove the existing finishes and concrete encasement (while keeping the existing steel column) and pour new concrete encasement around the existing steelwork.
- The affected finishes will be reinstated. In particular, the marble finishes on the two columns in the Bridge Street foyer will be carefully removed and stored. The marble cladding will be reinstalled following the completion of the structural augmentation.
- The structural augmentation will require marble finishes in the Bridge Street foyer (up to approximately 1m away from the column) to be temporarily removed, stored and then reinstalled following structural augmentation.
- The structural augmentation will also require plaster finishes in the vicinity of all affected columns (up to approximately 1m away from the columns) to be removed and then reconstructed following structural augmentation.

Item 20

- It is now only proposed to remove one steel window and grille on the canted south west corner of the building. The Stage 2 SSD7484 included approval to remove all the windows and grilles on the canted corner on the Lower Ground Level.

Item 21

- It is proposed to utilise these openings as staff access points. The work will involve activating the existing doorway that is currently locked off. The work will also involve converting the dummy doorway into a working doorway.

Ground Level

Item 1

- The proposal was to retain this section of wall while digging a three storey basement below. To achieve this a grid of temporary steelwork and temporary piles would be required to support the wall while the excavation is being done. The wall would then need to be re-supported on the new slab. To limit the movement that occurs during this process controlled

jacking and detailed monitoring of the existing structure would need to take place, however with such major changes in the load path some degree of movement is inevitable. Any movement in this masonry wall will result in cracking. Repairing the cracking would either require replacing the bricks around the crack (and toothing them into the good brickwork) or installing masonry reinforcement within the mortar joints. Once the repair is complete it is likely that most (if not all) of the existing plaster would have been removed, either from cracking / falling off or from the repair process. Making a vertical saw cut away from the excavation (in the location proposed) would result in the remaining wall being in a better condition than if the entire wall is retained.

Item 2

- Retaining this area of floor and the single column would result in the column needing to be underpinned while the three levels of basement is dug under it. To achieve this a grid of temporary steelwork and temporary piles would be required while the excavation is done. The new column would then need to be constructed under the existing to re-support it. To limit the movement that occurs during this process, controlled jacking and detailed monitoring of the existing structure would take place. With the existing structure experiencing such major changes in load path, movement of the column and floor will be unavoidable. This movement is likely to cause cracking in the concrete encasement of both the column and beams, with the possibility of it spalling off completely in some locations. It is also likely to cause cracking in the existing slab which will be difficult to repair without breaking out areas of slab and re-pouring.
- The careful demolition up to this line will require marble finishes in the Loftus Street landing (up to approximately 1m away from the wall) to be temporarily removed, stored and then reinstalled following demolition.
- The careful demolition up to this line will also require plaster finishes in the Loftus Street landing (up to approximately 1m away from the wall) to be removed and then reconstructed following demolition.

Item 3

- Retaining this area of floor whilst demolishing the line of columns supporting it and excavating 3 levels down beneath it would require a large amount of temporary support including a temporary steel frame and piles. This support would have to remain in place until the new permanent concrete frame has been installed. Even with every effort taken in design and construction, such major changes in the load path of this floor will result in a significant amount of movement. This movement is likely to result in cracking of the floor and beams, with the possibility of the concrete encasement spalling off in some locations. Any damage to the slab and/ or beams would require repair, which is likely to result in more breaking out damaged areas until sound concrete is found and re-pouring the area.

Item 5

- There are temporary works occurring to the Farrer Place foyer stairs required to install the Sesame equitable access lift. The marble finishes will be carefully removed, stored and then reinstalled when the Sesame lifts are installed.

Item 6

- Calculations have shown that for these columns to take the new loads they will require strengthening. The proposal is not to demolish these columns but to remove the existing finishes and concrete encasement (while keeping the existing steel column) and pour new concrete encasement around the existing steelwork.
- Where necessary the existing finishes will be reinstated. In particular, the marble finishes on the two columns in the Bridge Street landing will be carefully removed and stored. The marble cladding will be reinstalled following the completion of the structural work. The timber panelling of the two southern pilasters in the Board Room will also be carefully removed and stored. The timber panelling will be reinstalled following completion of the structural work. The plaster finish and capitals of the pilasters will be reconstructed with a lime plaster mix to match the existing exactly.
- The structural augmentation will require marble finishes in the Bridge Street landing (up to approximately 1m away from the columns) to be temporarily removed, stored and then reinstalled following structural augmentation.
- The structural augmentation will require timber joinery including skirting boards and finishes in the vicinity of all affected columns (up to approximately 1m away from the columns) to be temporarily removed, stored and then reinstalled following structural augmentation.
- The structural augmentation will also require plaster finishes in the vicinity of all affected columns (up to approximately 1m away from the columns to be removed and then reconstructed following structural augmentation.

Item 10

- A new concrete wall is proposed against the existing wall. This wall is to pass through the existing slab requiring it to be cut out to let the wall run through. The existing steel beams are to remain.

- There are also some additional areas of concrete slab that are to be retained generally.

Item 15

- The careful demolition up to this line will require marble finishes in the Farrer Place foyer (up to approximately 1m away from the line of demolition) to be temporarily removed, stored and then reinstalled following demolition.
- The careful demolition up to this line will also require plaster finishes in the Farrer Place foyer (up to approximately 1m away from the line of demolition) to be removed and then reconstructed following demolition.

Level One

Item 1

- The proposal was to retain this section of wall while digging a three storey basement below. To achieve this a grid of temporary steelwork and temporary piles would be required to support the wall while the excavation is being done. The wall would then need to be re-supported on the new slab. To limit the movement that occurs during this process controlled jacking and detailed monitoring of the existing structure would need to take place, however with such major changes in the load path some degree of movement is inevitable. Any movement in this masonry wall will result in cracking. Repairing the cracking would either require replacing the bricks around the crack (and toothing them into the good brickwork) or installing masonry reinforcement within the mortar joints. Once the repair is complete it is likely that most (if not all) of the existing plaster would have been removed, either from cracking / falling off or from the repair process. Making a vertical saw cut away from the excavation (in the location proposed) would result in the remaining wall being in a better condition than if the entire wall is retained.

Item 2

- Retaining this area of floor and the single column would result in the column needing to be underpinned while the three levels of basement is dug under it. To achieve this a grid of temporary steelwork and temporary piles would be required while the excavation is done. The new column would then need to be constructed under the existing to re-support it. To limit the movement that occurs during this process, controlled jacking and detailed monitoring of the existing structure would take place. With the existing structure experiencing such major changes in load path, movement of the column and floor will be unavoidable. This movement is likely to cause cracking in the concrete encasement of both the column and beams, with the possibility of it spalling off completely in some locations. It is also likely to cause cracking in the existing slab which will be difficult to repair without breaking out areas of slab and re-pouring.
- The careful demolition up to this line will require marble finishes in the Loftus Street landing (up to approximately 1m away from the line of demolition) to be temporarily removed, stored and then reinstalled following demolition.
- The careful demolition up to this line will also require plaster finishes in the Loftus Street landing (up to approximately 1m away from the line of demolition) to be removed and then reconstructed following demolition.

Item 3

- Retaining this area of floor whilst demolishing the line of columns supporting it and excavating 3 levels down beneath it would require a large amount of temporary support including a temporary steel frame and piles. This support would have to remain in place until the new permanent concrete frame has been installed. Even with every effort taken in design and construction, such major changes in the load path of this floor will result in a significant amount of movement. This movement is likely to result in cracking of the floor and beams, with the possibility of the concrete encasement spalling off in some locations. Any damage to the

slab and/ or beams would require repair, which is likely to result in more breaking out damaged areas until sound concrete is found and re-pouring the area.

Item 6

- Calculations have shown that for these columns to take the new loads they will require strengthening. The proposal is not to demolish these columns but to remove the existing finishes and concrete encasement (while keeping the existing steel column) and pour new concrete encasement around the existing steelwork. Where necessary the existing finishes can be reinstated.
- The structural augmentation will also require plaster finishes in the vicinity of all affected columns (up to approximately 1m away from the columns to be removed and then reconstructed following structural augmentation.

Item 7

- The lift core has moved to this location resulting in the area requiring to be demolished.

Item 9

- The proposal in this area is to keep the existing steel beams and columns and demolish the existing slabs between them. This is to accommodate the set down for wet areas in this location.

Item 10

- A new concrete wall is proposed against the existing wall. This wall is to pass through the existing slab resulting in it needing to be cut out to let the wall run through. The existing steel beams are to remain.

- There are also some additional areas of concrete slab that are to be retained.

Level Two

Item 1

- The proposal was to retain this section of wall while digging a three storey basement below. To achieve this a grid of temporary steelwork and temporary piles would be required to support the wall while the excavation is being done. The wall would then need to be re-supported on the new slab. To limit the movement that occurs during this process controlled jacking and detailed monitoring of the existing structure would need to take place, however with such major changes in the load path some degree of movement is inevitable. Any movement in this masonry wall will result in cracking. Repairing the cracking would either require replacing the bricks around the crack (and toothing them into the good brickwork) or installing masonry reinforcement within the mortar joints. Once the repair is complete it is likely that most (if not all) of the existing plaster would have been removed, either from cracking / falling off or from the repair process. Making a vertical saw cut away from the excavation (in

the location proposed) would result in the remaining wall being in a better condition than if the entire wall is retained.

Item 2

- Retaining this area of floor and the single column would result in the column needing to be underpinned while the three levels of basement is dug under it. To achieve this a grid of temporary steelwork and temporary piles would be required while the excavation is done. The new column would then need to be constructed under the existing to re-support it. To limit the movement that occurs during this process, controlled jacking and detailed monitoring of the existing structure would take place. With the existing structure experiencing such major changes in load path, movement of the column and floor will be unavoidable. This movement is likely to cause cracking in the concrete encasement of both the column and beams, with the possibility of it spalling off completely in some locations. It is also likely to cause cracking in the existing slab which will be difficult to repair without breaking out areas of slab and re-pouring.
- The careful demolition up to this line will also require plaster finishes in the Loftus Street landing (up to approximately 1m away from the line of demolition) to be removed and then reconstructed following demolition.

Item 3

- Retaining this area of floor whilst demolishing the line of columns supporting it and excavating 3 levels down beneath it would require a large amount of temporary support including a temporary steel frame and piles. This support would have to remain in place until the new permanent concrete frame has been installed. Even with every effort taken in design and construction, such major changes in the load path of this floor will result in a significant amount of movement. This movement is likely to result in cracking of the floor and beams, with the possibility of the concrete encasement spalling off in some locations. Any damage to the slab and/ or beams would require repair, which is likely to result in more breaking out damaged areas until sound concrete is found and re-pouring the area.

Item 6

- Calculations have shown that for these columns to take the new loads they will require strengthening. The proposal is not to demolish these columns but to remove the existing finishes and concrete encasement (while keeping the existing steel column) and pour new concrete encasement around the existing steelwork. Where necessary the existing finishes can be reinstated.
- The structural augmentation will also require plaster finishes in the vicinity of all affected columns (up to approximately 1m away from the columns to be removed and then reconstructed following structural augmentation.

Item 7

- The lift core has moved to this location resulting in the area requiring to be demolished.

Item 8

- Columns within the inter-tenancy walls are in this location from Level 2 up to Level 9. These columns can't continue down through the heritage entrance stair on Ground Floor, and there is not sufficient room at Level 1, so two transfer beams are required with Level 2 floor. This demolition is required to allow for these beams.

Item 9

- The proposal in this area is to keep the existing steel beams and columns and demolish the existing slabs between them. This is to accommodate the set down for wet areas in this location.

Item 10

- A new concrete wall is proposed against the existing wall. This wall is to pass through the existing slab resulting in it needing to be cut out to let the wall run through. The existing steel beams are to remain.

- There is also an additional area of concrete slab that is to be retained.

Level Three

Item 1

- The proposal was to retain this section of wall while digging a three storey basement below. To achieve this a grid of temporary steelwork and temporary piles would be required to support the wall while the excavation is being done. The wall would then need to be re-supported on the new slab. To limit the movement that occurs during this process controlled jacking and detailed monitoring of the existing structure would need to take place, however with such major changes in the load path some degree of movement is inevitable. Any movement in this masonry wall will result in cracking. Repairing the cracking would either require replacing the bricks around the crack (and toothing them into the good brickwork) or installing masonry reinforcement within the mortar joints. Once the repair is complete it is likely that most (if not all) of the existing plaster would have been removed, either from cracking / falling off or from the repair process. Making a vertical saw cut away from the excavation (in the location proposed) would result in the remaining wall being in a better condition than if the entire wall is retained.

Item 2

- Retaining this area of floor and the single column would result in the column needing to be underpinned while the three levels of basement is dug under it. To achieve this a grid of temporary steelwork and temporary piles would be required while the excavation is done. The new column would then need to be constructed under the existing to re-support it. To limit the movement that occurs during this process, controlled jacking and detailed monitoring of the existing structure would take place. With the existing structure experiencing such major

changes in load path, movement of the column and floor will be unavoidable. This movement is likely to cause cracking in the concrete encasement of both the column and beams, with the possibility of it spalling off completely in some locations. It is also likely to cause cracking in the existing slab which will be difficult to repair without breaking out areas of slab and re-pouring.

- The careful demolition up to this line will also require plaster finishes in the Loftus Street landing (up to approximately 1m away from the wall) to be removed and then reconstructed following demolition.

Item 3

- Retaining this area of floor whilst demolishing the line of columns supporting it and excavating 3 levels down beneath it would require a large amount of temporary support including a temporary steel frame and piles. This support would have to remain in place until the new permanent concrete frame has been installed. Even with every effort taken in design and construction, such major changes in the load path of this floor will result in a significant amount of movement. This movement is likely to result in cracking of the floor and beams, with the possibility of the concrete encasement spalling off in some locations. Any damage to the slab and/ or beams would require repair, which is likely to result in more breaking out damaged areas until sound concrete is found and re-pouring the area.

Item 6

- Calculations have shown that for these columns to take the new loads they will require strengthening. The proposal is not to demolish these columns but to remove the existing finishes and concrete encasement (while keeping the existing steel column) and pour new concrete encasement around the existing steelwork. Where necessary the existing finishes can be reinstated.
- The structural augmentation will also require plaster finishes in the vicinity of all affected columns (up to approximately 1m away from the columns to be removed and then reconstructed following structural augmentation.

Item 7

- The lift core has moved to this location resulting in the area requiring to be demolished.

Item 9

- The proposal in this area is to keep the existing steel beams and columns and demolish the existing slabs between them. This is to accommodate the set down for wet areas in this location.

Item 10

- A new concrete wall is proposed against the existing wall. This wall is to pass through the existing slab resulting in it needing to be cut out to let the wall run through. The existing steel beams are to remain.

- There is also an additional area of concrete slab that is to be retained.

Level Four

Item 1

- The proposal was to retain this section of wall while digging a three storey basement below. To achieve this a grid of temporary steelwork and temporary piles would be required to support the wall while the excavation is being done. The wall would then need to be re-supported on the new slab. To limit the movement that occurs during this process controlled jacking and detailed monitoring of the existing structure would need to take place, however with such major changes in the load path some degree of movement is inevitable. Any movement in this masonry wall will result in cracking. Repairing the cracking would either require replacing the bricks around the crack (and toothing them into the good brickwork) or installing masonry reinforcement within the mortar joints. Once the repair is complete it is likely that most (if not all) of the existing plaster would have been removed, either from cracking / falling off or from the repair process. Making a vertical saw cut away from the excavation (in the location proposed) would result in the remaining wall being in a better condition than if the entire wall is retained.

Item 2

- Retaining this area of floor and the single column would result in the column needing to be underpinned while the three levels of basement is dug under it. To achieve this a grid of temporary steelwork and temporary piles would be required while the excavation is done. The new column would then need to be constructed under the existing to re-support it. To limit the movement that occurs during this process, controlled jacking and detailed monitoring of the existing structure would take place. With the existing structure experiencing such major changes in load path, movement of the column and floor will be unavoidable. This movement is likely to cause cracking in the concrete encasement of both the column and beams, with the possibility of it spalling off completely in some locations. It is also likely to cause cracking in the existing slab which will be difficult to repair without breaking out areas of slab and re-pouring.
- The careful demolition up to this line will also require plaster finishes in the Loftus Street landing (up to approximately 1m away from the line of demolition) to be removed and then reconstructed following demolition.

Item 3

- Retaining this area of floor whilst demolishing the line of columns supporting it and excavating 3 levels down beneath it would require a large amount of temporary support including a temporary steel frame and piles. This support would have to remain in place until the new permanent concrete frame has been installed. Even with every effort taken in design and construction, such major changes in the load path of this floor will result in a significant amount of movement. This movement is likely to result in cracking of the floor and beams, with

the possibility of the concrete encasement spalling off in some locations. Any damage to the slab and/ or beams would require repair, which is likely to result in more breaking out damaged areas until sound concrete is found and re-pouring the area.

Item 6

- Calculations have shown that for these columns to take the new loads they will require strengthening. The proposal is not to demolish these columns but to remove the existing finishes and concrete encasement (while keeping the existing steel column) and pour new concrete encasement around the existing steelwork. Where necessary the existing finishes can be reinstated.
- The structural augmentation will also require plaster finishes in the vicinity of all affected columns (up to approximately 1m away from the columns to be removed and then reconstructed following structural augmentation.

Item 7

- The lift core has moved to this location resulting in the area requiring to be demolished.

Item 9

- The proposal in this area is to keep the existing steel beams and columns and demolish the existing slabs between them. This is to accommodate the set down for wet areas in this location.

Item 10

- A new concrete wall is proposed against the existing wall. This wall is to pass through the existing slab resulting in it needing to be cut out to let the wall run through. The existing steel beams are to remain.

- There is also an additional area of concrete slab that is to be retained.

Level Five

Item 1

- The proposal was to retain this section of wall while digging a three storey basement below. To achieve this a grid of temporary steelwork and temporary piles would be required to support the wall while the excavation is being done. The wall would then need to be re-supported on the new slab. To limit the movement that occurs during this process controlled jacking and detailed monitoring of the existing structure would need to take place, however with such major changes in the load path some degree of movement is inevitable. Any movement in this masonry wall will result in cracking. Repairing the cracking would either require replacing the bricks around the crack (and toothing them into the good brickwork) or installing masonry reinforcement within the mortar joints. Once the repair is complete it is likely that most (if not all) of the existing plaster would have been removed, either from cracking /

falling off or from the repair process. Making a vertical saw cut away from the excavation (in the location proposed) would result in the remaining wall being in a better condition than if the entire wall is retained.

Item 2

- Retaining this area of floor and the single column would result in the column needing to be underpinned while the three levels of basement is dug under it. To achieve this a grid of temporary steelwork and temporary piles would be required while the excavation is done. The new column would then need to be constructed under the existing to re-support it. To limit the movement that occurs during this process, controlled jacking and detailed monitoring of the existing structure would take place. With the existing structure experiencing such major changes in load path, movement of the column and floor will be unavoidable. This movement is likely to cause cracking in the concrete encasement of both the column and beams, with the possibility of it spalling off completely in some locations. It is also likely to cause cracking in the existing slab which will be difficult to repair without breaking out areas of slab and re-pouring.
- The careful demolition up to this line will also require plaster finishes in the Loftus Street landing (up to approximately 1m away from the line of demolition) to be removed and then reconstructed following demolition.

Item 3

- Retaining this area of floor whilst demolishing the line of columns supporting it and excavating 3 levels down beneath it would require a large amount of temporary support including a temporary steel frame and piles. This support would have to remain in place until the new permanent concrete frame has been installed. Even with every effort taken in design and construction, such major changes in the load path of this floor will result in a significant amount of movement. This movement is likely to result in cracking of the floor and beams, with the possibility of the concrete encasement spalling off in some locations. Any damage to the slab and/ or beams would require repair, which is likely to result in more breaking out damaged areas until sound concrete is found and re-pouring the area.

Item 4

- The masonry wall (and portion of floor) at level 5 was proposed to be kept while the wall below was proposed to be demolished. Even with the utmost of care during design, demolition and construction, temporarily supporting this wall and portion of floor while 6 storeys of wall and floor are being demolished below will result in significant risk to the wall and an increase in risk to the site operatives.
- It is unavoidable that such work would result in movement of the wall, which would cause cracking in the brickwork and spalling of the plaster. Any cracks would need to be repaired which will consist of removing the cracked bricks and stitching in new bricks across the crack or installing masonry reinforcement within the mortar joints across the crack. This would require yet more of the plaster being removed. It is likely that even if this wall was retained the majority (if not all) of the plaster and a significant amount of brickwork would need to be replaced.

- It is proposed to temporarily remove this wall during construction. The wall will be accurately rebuilt using salvaged bricks from this original phase of the building. The wall will then be reset using lime plaster to match the original.
- The temporary removal of this wall will require timber joinery including doors, frames, sidelights and highlights in the vicinity of the wall (up to approximately 1m away from the line of the wall) to be temporarily removed, stored and then reinstalled following rebuilding.
- The temporary removal of this wall will also require plaster finishes in the vicinity (up to approximately 1m away from the line of demolition) to be removed and then reconstructed following rebuilding.

Item 6

- Calculations have shown that for these columns to take the new loads they will require strengthening. The proposal is not to demolish these columns but to remove the existing finishes and concrete encasement (while keeping the existing steel column) and pour new concrete encasement around the existing steelwork. Where necessary the existing finishes can be reinstated.
- The structural augmentation will require timber joinery including skirting boards and finishes in the vicinity of all affected columns (up to approximately 1m away from the columns) to be temporarily removed, stored and then reinstalled following structural augmentation.
- The structural augmentation will also require plaster finishes in the vicinity of all affected columns (up to approximately 1m away from the columns to be removed and then reconstructed following structural augmentation.

Item 7

- The lift core has moved to this location resulting in the area requiring to be demolished.
- Item 10 A new concrete wall is proposed against the existing wall. This wall is to pass through the existing slab resulting in it needing to be cut out to let the wall run through. The existing steel beams are to remain.

Item 11

- Three new beams are required in this area to enable 3 columns to transfer and avoid the columns passing through the heritage stairwell or the Level 6 heritage roof. The floor and pockets through the wall need to be demolished in this area to allow for the new beams.

- There are additional areas of concrete slab that are to be retained.

Level Six

- Additional areas of the slab are to be retained.

URBIS

ASSESSMENT OF HERITAGE IMPACT

Overall the modifications will have a material impact but are considered acceptable in the context of the imminent adaptive reuse works.

Some Exceptionally significant fabric is temporarily affected to carry out structural upgrades noting that the appearance of those elements will remain unaffected in the long term following reinstatement or reconstruction. The endorsed CMP for the Education Building prepared by GBA Heritage in May 2017 identifies the following policy for fabric of Exceptional significance:

Policy 6.9.3 ELEMENTS OF EXCEPTIONAL SIGNIFICANCE

- *In areas of Exceptional significance, aim to retain all significant fabric as a first conservation option.*
- *Any work which affects fabric, spaces or relationships with an Exceptional assessed heritage value should be generally confined to preservation, restoration, or reconstruction.*
- *Work involving the alteration or reduction of a particular element may be an acceptable option where it is necessary for the effective reuse and proper function of the place and does not reduce the overall significance of the place.*
- *Give preference to changes that are reversible.*
- *Undertake all new work in accordance with the policies in this Conservation Management Plan.*
- *Prior to any change, full archival recording is essential.*

The modifications to the approved proposal is largely limited to fabric of Moderate significance. The endorsed CMP for the Education Building prepared by GBA Heritage in May 2017 identifies the following policy for fabric of Moderate significance:

Policy 6.9.5 ELEMENTS OF MODERATE SIGNIFICANCE

- *In areas of Moderate significance, aim to retain all significant fabric as a first conservation option.*
- *Any work which affects fabric, spaces or relationships with a Moderate assessed heritage value should be generally confined to preservation, restoration, reconstruction or adaptation as defined in the Burra Charter.*
- *If adaptation is necessary, minimise extent of change and impact on significance. Some adaptation of elements may be acceptable.*
- *Work involving the alteration, reduction (or even the removal) of a particular element may be an acceptable option where it is necessary for the effective reuse and proper function of the place and does not reduce the overall significance of the place.*
- *Undertake all new work in accordance with the policies in this Conservation Management Plan.*

The modified proposal is also in accordance with the following policy identified in the endorsed CMP for the Education Building for the management of change to structure:

6.15 BUILDING INTERIOR

BACKGROUND
The building structure, from both phases of its original construction, is of heritage significance. The concrete slabs in both phases of the building are understood to be only approximately 100mm thick. In order to achieve BCA compliance it is understood that substantial sections of the concrete and steel structure will need to upgraded or replaced to meet seismic requirements.

Policy 6.15.1 STRUCTURE
Aim to minimise demolition of structural elements of the original c.1915 and c.1930 building phases. It is accepted that substantial components of the original concrete and steel structure may need to be replaced or altered.

Penetrations, risers and alterations to the retained concrete slabs are to be minimised.

The modified temporary works and demolition scope has been developed with Urbis' heritage input to minimise adverse heritage impacts while providing a safe workplace during construction and required structural upgrades.

Overall the modifications will have an acceptable material impact on the historic fabric of the building in the context of the approved major adaptive reuse works. It is noted that substantial examples of structural systems from both major original phases of development will be retained. The modifications will not reduce the overall significance of the place.

The structural upgrade work to important heritage fabric is regarded as being acceptable provided that there are no long term adverse impacts on the presentation of affected historic elements or spaces.

CONCLUSIONS

The modified temporary works and demolition scope will have a minor additional yet acceptable material impact on the historic fabric of the building in the context of the major adaptive reuse works. The proposed modifications, the subject of the S4.55 Application to Modify SSD7484, are required because:

- The architectural design has been further developed;
- Structural investigations and analysis by TTW have revealed vulnerabilities that must be addressed; and
- The contractor, who is very experienced with working on State listed heritage buildings, has concerns about buildability, protection of heritage fabric during construction and safety during construction.

The modified temporary works and demolition scope has been developed with Urbis' heritage input to minimise adverse heritage impacts while providing a safe workplace during construction and required structural upgrades to ensure the long term stability of the building.

The proposal is in accordance with the intent of the endorsed CMP prepared by GBA Heritage. The proposal is also considered to be in accordance with the relevant heritage requirements of the *Sydney Local Environmental Plan 2012* and the guidelines of the *Sydney Development Control Plan 2012*. The modifications will have an acceptable material impact on the historic fabric of the building in the context of the approved major adaptive reuse works. It is noted that substantial examples of structural systems from both major original phases of development will be retained.

Overall the proposal is considered to have an acceptable heritage impact on the significance of the Education Building in the context of the major adaptive reuse work.

RECOMMENDATION

The proposed work will have an acceptable impact in the context of the major adaptive reuse works approved by SSD7484 to adapt the building to hotel use. On this basis we recommend that the Department should have no hesitation, on heritage grounds, and approve the S4.55 Application to Modify SSD7484.

As the project heritage consultant, we recommend that we should play a role in the induction of those tradespeople that will carry out the work explaining the site's sensitivities and significance and stressing the importance of minimising fabric interventions. We recommend that we should continue to make regular heritage inspections of the investigative work while it is being carried out.

We recommend that TTW's engineering documentation should be deposited in the Education Building archive that should be established on site in accordance with the following policy identified in the endorsed Education Building CMP prepared by GBA Heritage:

Policy 6.27.2

The lessee and hotel operator is to maintain an archival record of changes to the building and to store such an archive in a single location accessible to all future decision makers and researchers. Records could include, but not be limited to, file notes or memos, logbooks, copies of heritage impact assessments or works proposals and works contracts.

We recommend that a copy of TTW's engineering documentation should also be lodged with the NSW Heritage Division and the City of Sydney Archives.

We also recommend that an experienced historic materials contractor prepares a methodology to temporarily remove, store and then reinstall historic materials or to reconstruct historical features in these areas following demolition and structural augmentation:

- Lower Ground Level - Bridge Street foyer;
- Lower Ground Level - Loftus Street foyer;
- Ground Level - Bridge Street landing;
- Ground Level - Board Room;
- Ground Level - Farrer Place foyer;
- Ground Level - Loftus Street landing;

- Level One - Loftus Street landing; and
- Level 5 – the Gallery and Annex.

Provided this work is successfully carried out, the modifications will not reduce the overall significance of the place.

Should additional information be required, please do not hesitate to contact the undersigned.

Yours sincerely,

Jonathan Bryant
Director Heritage

APPENDIX 1

180629- Sandstones - TTW Demolition extent - explanation_RevB