Metro Body of Knowledge

Planning Approval Consistency Assessment Form

SM-17-00000111

Sydney Metro – Metro Body of Knowledge (MBoK)

Assessment Name:	Structural works to Skinners Family Hotel
Prepared by:	Sydney Metro
Prepared for:	Sydney Metro and ETP contractor
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1. Existing Approved Project

Planning approval reference details (Application/Document No. (including modifications)):			
SSI-19238057: Sydney Metro West – Major civil construction between The Bays to Sydney CBD (Stage 2 of the planning approval process for Sydney Metro West)			
Date of determination:	Stage 2 – 24 August 2022	Type of planning approval:	Stage 2 - Critical State Significant Infrastructure (CSSI) (Division 5.2)

Relevant background information (including EA, REF, Submissions Report, Director General's Report, MCoA):

Sydney Metro West is a staged infrastructure application under Section 5.20 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). This Consistency Assessment (SMW15) is relevant to the Major civil construction between The Bays and Sydney CBD (Stage 2 of the planning approval process for Sydney Metro West – the Approved Project) which includes the following planning approval documentation:

- Sydney Metro West Environmental Impact Statement – Major civil construction between The Bays and Sydney CBD (Sydney Metro, November 2021) (referred to throughout this document as 'the EIS')
- Sydney Metro West Stage 2 Submissions Report – Major civil construction work between The Bays and Sydney CBD (Sydney Metro, April 2022) (referred to throughout this document as 'the RtS')
- Sydney Metro West Stage 2 – Assessment Report (SSI 19238057) (24 August 2022)

All proposed work identified in this Consistency Assessment to undertake work associated with the Approved Project would be carried out in accordance with the mitigation measures identified in the Sydney Metro West Environmental Impact Statement – Major civil construction between The Bays and Sydney CBD, Submissions Report and the Conditions of Approval (CoA) for the Approved Project.

Description of existing approved project you are assessing for consistency:

Sydney Metro West (the Concept)

Sydney Metro West (the Concept) would involve the construction and operation of a metro rail line around 24 kilometres long between Westmead and Hunter Street in the Sydney central business district (CBD). The key components are expected to include (as described in Chapter 6 of the EIS):

- Construction and operation of new passenger rail infrastructure between Westmead and the CBD of Sydney, including:
  - Tunnels, stations (including surrounding areas) and associated rail facilities
  - Stabling and maintenance facilities (including associated underground and overground connections to tunnels)
- Modification of existing rail infrastructure (including stations and surrounding areas)
- Ancillary development.

Sydney Metro West – all major civil construction work between Westmead and The Bays (Stage 1)

Sydney Metro West – Concept and Stage 1 (major civil construction between Westmead and The Bays), including station excavation and tunnelling, was determined on 11 March 2021.

It is noted that this Consistency Assessment does not relate to any aspects of Stage 1.

Sydney Metro West – all major civil construction work and tunnelling between The Bays and Sydney CBD (Stage 2 – the Approved Project)

This Consistency Assessment includes proposed works which relate to Stage 2 of Sydney Metro West. The scope of the Approved Project is described in Chapter 5 of the EIS and includes:

- Enabling work such as demolition, utility supply to construction sites, utility adjustments, and modifications to the existing transport network
- Tunnel excavation including tunnel support activities
- Station excavation for new metro stations at Pyrmont and at Hunter Street, in the Sydney CBD.

2. Description of proposed change which is the subject of this assessment

The proposed change involves the installation of structural reinforcements to the Former Skinners Family Hotel (SHR Item no. 00584)('Skinners Hotel'), located at the corner of George and Hunter Streets. The item is highly significant as one of the few Old Colonial Regency buildings remaining in the Sydney CBD. The Hotel forms part of the Hunter Street station western construction site established for the Approved Project and would be retained for adaptive re-use under future Sydney Metro West planning applications.

Technical Paper 3 of the EIS identified that the item was previously part of a row of four terrace shops which has over time been reduced to a single terrace as a result of neighbouring development in the 1960's. Noting this, the assessment concluded the potential for there to be a moderate direct impact to the item as a result of construction of the Approved Project, with the demolition of the adjacent building having the potential to damage the brick structure and façade of the item.

Since project approval, further structural investigations have occurred to confirm the condition of the building and understand any mitigation measures that may be required. These investigations found that various alterations to the building (preceding Sydney Metro's acquisition) have resulted in weakening of the structure. It was concluded that demolition of the adjoining buildings would risk leaving the item vulnerable to wind pressure and that to prevent damage occurring to the item, structural reinforcements to the Skinners Hotel would be required.

The Heritage Impact Assessment at Attachment A and Structural Memo at Attachment B outline the approach to developing the proposed works and the mitigation measures to be implemented for the work.

Temporary horizontal and vertical steel bracing would be installed between the external and internal walls of the item, with reinforcements being located on floors of the building (including the basement) (Figure 1). Fixings for the braces would be installed both internally and externally. The steel bracing would remain in place for construction of the Approved Project. An external downpipe on the northern side of the building would be removed to accommodate for the steel bracing, however, would be reinstated following installation of the structural supports.

The approach to removing the steel bracing would be developed under future works for Sydney Metro West and may form part of an Adaptive Reuse Strategy. A Conservation Management Plan would be prepared for the building under the Sydney Metro West Stage 3 planning approval.

Relevant elements of the Approved Project	Proposed change
Section 5.5.1 of the project description in the EIS states that enabling work may include activities such as: • Demolition of buildings and structures within the construction sites • Heritage investigations, protection and archival recordings	No change to the Approved Project. Demolition of the adjoining buildings would risk leaving Skinners Hotel vulnerable to damage and heritage protection works would need to occur.
Table 8-7 of the EIS - Skinners Family Hotel. *Potential direct impact: Moderate Physical impact* The heritage item is located within the north-western corner of the western construction site. While the heritage item would not be demolished, there is potential for direct physical impact as the demolition of the adjacent building has the potential to directly damage the brick structure and façade of the heritage item. *Potential direct impact: Vibration – Moderate* Vibration to the structure is predicted to exceed cosmetic damage screening criteria. Vibration is predicted to have a moderate potential for direct impact on the Skinners Family Hotel due to its location within the western construction site. *Indirect impact: Views and vistas (temporary) - Negligible* The western construction site would be within the heritage curtilage of the heritage item. The demolition of existing buildings and construction activities would result in nonsignificant changes to the setting of the heritage item.	The proposed change would now require direct impacts to the heritage building both internally and externally. The Approved Project assessed there to be a moderate direct impact to the item associated with demolition of the adjacent building which had the potential to damage the brick structure and façade of the item (particularly if the adjacent building is anchored to the southern wall of the item). The assessment in the Approved Project noted that despite construction occurring adjacent to the Former Skinners Family Hotel, that vibration and construction had the potential to cause damage to the significant fabric of the building, however, would not be anticipated to result in the removal of the item. The proposed works are required to ensure the structural integrity of the item throughout the duration of construction of the approved project, and Stage 3 of Sydney Metro West. At the time of preparation of the EIS for the Approved Project, it was not anticipated that such a level of intrusive reinforcement to the building would be required in order to ensure the building's structural integrity. The proposed historic heritage impacts are discussed in Section 10 of this document.

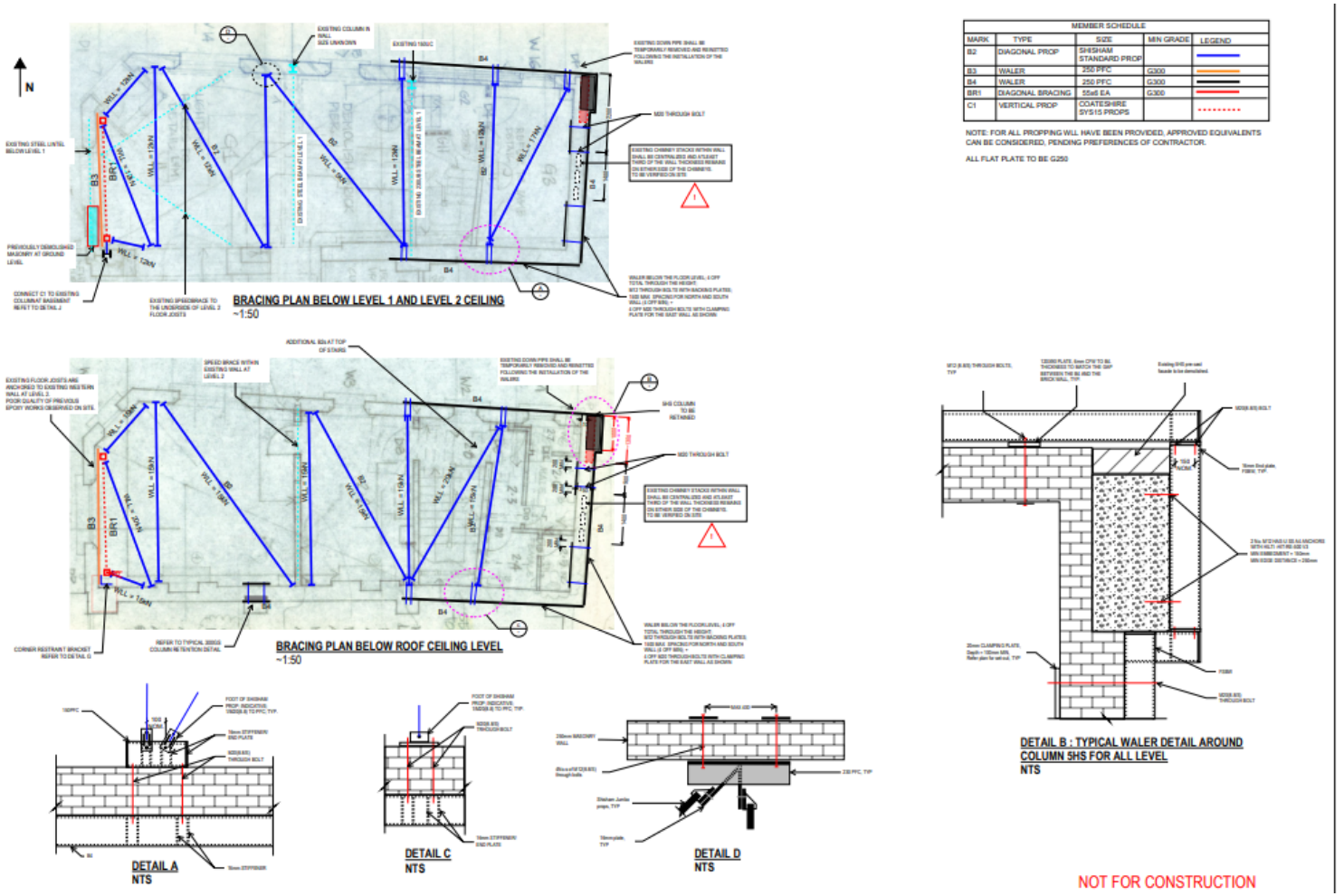


Figure 1 – Design of structural reinforcements

*Note: the final design and full technical assessment is included in Attachment B of this assessment.

3. Timeframe

The installation of protective measures for the Former Skinners Family Hotel are expected to be installed progressively during the demolition of 5 Hunter Street and 300 George Street which would occur from the top down, floor by floor. The buildings are expected to experience increased wind loading and vibration from shaft excavation.

The works would occur for about 7 weeks generally during standard construction hours. Out-of-hours works will be required to manage the interaction with pedestrians and traffic at the George Street/ Hunter Street intersection. The work is planned to commence in late October in two phases. Phase 1 includes works to the external façade to install the parallel flange channels (PFCs) and internal props. This activity would take around one week and would continue consecutively as demolition of the adjoining buildings progresses. Phase 2 includes installation of internal props and columns on the western side of the structure. Phase 2 would take around three weeks to complete.

4. Site description

The building at 296 George Street is located on the corner of George Street and Hunter Street in the Sydney CBD. The three-storey plus basement building was originally constructed in 1845-46 as one of a terrace of four commercial buildings on George Street. It is the only remaining building of the original terrace after the other three were demolished in the 1960s.

The building is currently surrounded by multi-storey office buildings constructed from the 1960s onwards. These buildings will be demolished to facilitate construction of the Metro Station.

The building features load-bearing brickwork and stone walls and has a timber-framed and corrugated steel roof behind a parapet. The building is one of only a handful or Old Colonial Regency buildings remaining in Sydney. Metal balconettes adorn the first and second storey windows, with pilastered detailing to the main entry on the splayed corner of the building. The form of the original hipped roof was modified in 1989 to create a skillion roof with falls towards Hunter Street. Evidence of the original/earlier roof framing survives beneath.

Figure 2 - Location of the Former Skinners Family Hotel

5. Site Environmental Characteristics

The Hunter Street West construction site is located in a highly urbanised environment within the Sydney CBD. The site and surrounds are characterised by medium and high rise developments which are occupied by commercial office buildings, hotels and ground floor business premises. The Hunter Street West construction site is a short walk from some of Sydney's most prominent landmarks and attractions including Martin Place, Hyde Park, and Circular Quay. This part of the CBD is traversed by several important civic streets including Hunter Street which is lined by office towers, intermittent historic buildings, street trees and public squares. George Street is one of the busiest streets in the Sydney CBD, which experiences constant high volumes of pedestrians as well as light rail services. There are 8 other heritage items in the study area.

6. Justification for the proposed change

In accordance with JCG's Heritage Management Plan (Section 8.1.4), REMM NAH3 and MCoA D7 of SSI 19238057, a structural assessment of the Former Skinners Family Hotel was undertaken to complete structural engineering investigations for the Former Skinners Family Hotel.

This assessment concluded that '*various alterations to the building over its service life have resulted in weakening of the structure and a reduction in the structural performance for lateral loads or displacement. The demolition of 300 George Street and 5 Hunter Street will also leave the building exposed to wind pressures it has not previously been subjected to (except for short durations during the construction of those developments and not simultaneously)*'.

The conclusion of all structural assessments considers that there is a risk the proposed demolition and excavation works (and associated ground movements) may result in the building behaving in an unusual manner causing structural distress to the building, or stability issues. Five options were proposed by TTW to install protective measures to re-enforce the structure of the Former Skinners Family Hotel. The preferred option considered the impact to the significance of the building and was refined by JCG following the secondary assessment in relation to the northeast facing concrete pillar.

Acting in the capacity of a suitably qualified heritage engineer and consultant (NAH3) TKD Architects and AMBS reviewed the structural assessment undertaken by TTW and the refined design of the selected option by JCG. They confirmed that recommendations from TTW about temporary structural steelwork or props would provide appropriate structural re-enforcement by physically connecting the north and south walls of the building, and bracing with a new steel-framed structure for the west wall (illustrated below), were appropriate protective measures.

Furthermore, again acting in the capacity of a suitably qualified heritage engineer and consultant, TKD Architects and AMBS reviewed the refined design of the preferred option and concluded that it would provide adequate protection and in and of itself would have little to no impact on the heritage significance of the building when compared against the Material Threshold Policy (see attachments).

7. Environmental Benefit

The protective works will re-enforce the structure of the Former Skinners Family Hotel and reduce the likelihood of structural damage caused by wind loading, and vibration from adjacent excavation of the shaft.

The protective works also remove a safety risk to the public in the event of structural failure resulting from wind-loading pressure and/or vibration.

8. Control Measures

Will a project and site specific EMP be prepared?	☐ Yes ☒ No (HMP and CNVMP already in place)	Are appropriate control measures already identified in an existing EMP?	☒ Yes ☐ No

9. Conditions of approval / Environmental mitigation measures

Number	Condition of Approval/ Environmental mitigation measure	Discussion on relevance and consistency for proposed change

A3	In the event of an inconsistency between: (a) the conditions of this approval and any document listed in Condition A1, the conditions of this approval will prevail to the extent of the inconsistency; and (b) any document listed in Condition A1, the most recent document will prevail to the extent of the inconsistency.	Section 5.5.1 of the Stage 2 EIS states that enabling works may include activities such as Heritage protection to ensure safety measures are in place to provide protection to the public. While any document listed in Condition A1 does not specifically commit to protective measures to address the risk of wind loading, submissions did raise concerns over impacts to the Former Skinners Family Hotel (S-32778273, S-33463183, and City of Sydney). Subsequently in the Department's State Significant Infrastructure Assessment, DPHI recommended that conditions of approval address protective measures including measures that create structural improvements (page 46). As this condition addresses inconsistencies between any document listed in Condition A1 and the Conditions of SSI 19238057, it is reasonable to conclude that Condition D7 of SSI 19238057 obligates the proponent to install structural support where this is recommended by a suitably qualified and experienced built heritage expert. Furthermore, it is within the scope of the Approved Project to install heritage protection where a safety issue exists to provide protection to the public.
D5	Before installing acoustic treatment at any heritage item identified in the documents listed in Condition A1, the advice of a suitably qualified and experienced built heritage expert must be obtained to guide installation to minimise impact to the heritage significance of the item or fabric.	Acoustic Treatments (vibration) have been recommended by TTW and JCG. These recommendations have been validated by TKD Architects and AMBS as suitably qualified and experienced built heritage experts.
D7	During construction, the Proponent must implement protective measures to prevent adverse impacts to the heritage significance of the former Skinners Family Hotel. Before installing such measures, the advice of a suitably qualified and experienced built heritage expert must be obtained and implemented to ensure any such work does not have an adverse impact on the heritage significance of the item. Protection measures must also consider and avoid potential impacts to significant historical archaeology and seek the advice from the Excavation Director approved under Condition D16 below.	This condition obligates the proponent to take appropriate action (which considers the impact of such actions) to protect the heritage significance of the Former Skinners Family Hotel. This condition is also an additional obligation that builds upon commitments in the EIS to develop a detailed methodology for the protection of the Former Skinners Family Hotel.

D8	The Former Skinners Family Hotel, Tank Stream, Bennelong Stormwater Channel No. 29A, NSW Club house Building, Delfin House, Richard Johnson Square, Railway Cutting (Pyrmont), and St James Railway Station must not be destroyed, modified or otherwise affected, except as identified in the documents listed in Condition A1. Note: Affected in this condition means any impact above "little to no impact" as defined in the Material Threshold Policy (Heritage NSW, 2020).	This condition allows the Former Skinners Family Hotel to be impacted to the extent described in EIS Technical Paper 3 Non-Aboriginal Heritage. The technical paper makes assessments which are consistent with the *NSW Material Threshold Policy* (Heritage NSW 2020) that: • Up to a moderate adverse impact on the significance of the Former Skinners Family Hotel due to demolition of adjacent buildings. • Up to a moderate adverse impact on the significance of the Former Skinners Family Hotel due to vibration from adjacent demolition activities and shaft excavation. • Up to a minor adverse impact on the significance of the Former Skinners Family Hotel due to settlement caused by construction work and tunnelling. • A negligible impact on the significance of the Former Skinners Family Hotel due to impacts on significant view corridors to the building from George St. and the buildings contribution to the character of the area. The Historic Heritage Impact Assessment at Attachment A states that "the proposed impacts to the heritage significance of Skinners Hotel are considered to be "little to no impact" when measured against the Heritage NSW Material Threshold Policy". This assessment has been carried out in accordance with Condition of Approval D8.
D23(c)	Notwithstanding Conditions D21 and D22 work may be undertaken outside the hours specified in the following circumstances: … (c) By Approval, including: (i) where different construction hours are permitted or required under an EPL in force in respect of the CSSI; or (ii) works which are not subject to an EPL that are approved under an Out-of-Hours Work Protocol as required by Condition D24; or (iii) negotiated agreements with directly affected residents and sensitive land user(s).	In order to facilitate the safe installation of the structural mitigation measures, some out-of-hours works would be required in order to ensure the safety of pedestrians. The construction contractor would undertake works out-of-hours in accordance with an Environmental Protection License for the works under Condition of Approval D23(c)(i).

NAH 3	A method for the demolition of existing buildings and/or structures at specified construction site would be developed to minimise direct and indirect impacts to adjacent and/or adjoining heritage items. A structural engineering investigation would be carried out to heritage items, prior to demolition of adjacent existing buildings and/or structures to ensure the conservation of the item's fabric and significance. A detailed methodology for the protection of the Former Skinners Family Hotel, Tank Stream and Bennelong Stormwater Channel No.29A would be developed by suitably qualified heritage engineers and consultants.	This mitigation measure underpins JCG's demolition methodology to employ the use of pulverisers particularly directly adjacent to the Former Skinners Family Hotel, the use of a vibration monitoring system and vibration alerts to cease and assess demolition methodologies, and the use of saw cutters to separate adjoining walls from the fabric of the Former Skinners Family Hotel. This has also given rise to the reports from TTW, TKD Architects and AMBS in relation to structural support to protect the hotel.

Will the proposed change be consistent with the conditions of approval?	☒ Yes
	☐ No

10. Impact Assessment – Construction

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed change, relative to the relevant impact in the Approved Project	Proposed Control Measures in addition to project CoA and REMMs	Consistent Impact Y/N	Do any CoA need to be changed? Y/N	Endorsed	
					Y/N	Comments
Biodiversity	No change from approved project	No additional measures required	Y	N	Y	-
Water	No change from approved project	No additional measures required	Y	N	Y	-
Soils and contamination	No change from approved project	No additional measures required	Y	N	Y	-
Air quality	No change from approved project	No additional measures required	Y	N	Y	-
Noise and vibration	Noise and vibration impacts were assessed in Technical Paper 2 of the EIS. The assessment considered potential vibration impacts to buildings in the vicinity of construction work, including for the Former Skinners Family Hotel. The assessment predicted exceedances of the Cosmetic Damage Screening Criteria (PPV 7.5 mm/s) at the Former Skinners Family Hotel in a worst-case scenario where a large rockbreakers is in use proximal to the item. Section 3.5.3.3. of Technical Paper 2 stated that 'where heritage buildings or and structures are found to be structurally unsound a more conservative cosmetic damage objective of 2.5 mm/s Peak Particle Velocity (PPV) (from DIN 4150) should be considered.' The Former Skinners Family Hotel was not identified as requiring consideration of the more conservative PPV 2.5 mm/s cosmetic damage screening criterion at the time of assessment as the condition of the building was not fully known. Overall the assessment of the approved project concluded a potential moderate direct impact to the item noting that vibration may cause damage to the	No additional measures required	Y	N	Y	-

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed change, relative to the relevant impact in the Approved Project	Proposed Control Measures in addition to project CoA and REMMs	Consistent Impact Y/N	Do any CoA need to be changed? Y/N	Endorsed	
					Y/N	Comments
	significant fabric of the building, however would not result in the removal of the item. The proposed works would reinforce the building to provide improved structural integrity and prevent damage occurring to the item as a result of demolition and excavation works for the approved project. There would be some minor damage to the significant fabric associated with the installation of the structural supports, however the mitigation measures would prevent the permanent removal of the item (refer to the historic heritage section). Installation of the protective measures would occur concurrent with the demolition of the adjoining building at 300 George Street. Technical Paper 2 (Noise and Vibration) of the EIS considered that during the 'typical peak' enabling work phase (which includes demolition of surrounding buildings using rockbreakers) the following exceedances would be experienced: • 1-10 dBA – 50 receivers (during standard construction hours) and 55 (during daytime out-of-hours) • 11 – 20 dBA – 33 receivers (during standard construction hours) and 35 during daytime out-of-hours) • >20 dBA – 10 receivers (during both standard construction hours and daytime out-of-hours) Installation of the protective measures would require the use of hand-held tools and cranes which were considered as equipment likely to be					

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed change, relative to the relevant impact in the Approved Project	Proposed Control Measures in addition to project CoA and REMMs	Consistent Impact Y/N	Do any CoA need to be changed? Y/N	Endorsed	
					Y/N	Comments
	used during construction under Section 5.6.7 of the EIS. As the EIS considered impacts to receivers under a worst-case scenario whereby rockbreakers were in operation, it is unlikely that the concurrent installation of the protective measures and demolition of buildings would increase impacts to receivers during standard and out-of-hours daytime works. Where elements of the proposed works would be required out-of-hours, noise and vibration impacts would be managed under Condition of Approval D23(c) through compliance with the requirements of the Environmental Protection License (EPL) in force. Overall there would be no change to the noise and vibration impacts from the approved project.					
Aboriginal Culture and Heritage	No change from approved project	No additional measures required	Y	N	Y	-
Historic Heritage	Historic heritage impacts of the Approved Project were assessed in Technical Paper 3 of the EIS. The assessment considered the potential that the adjoining building at 300 George Street may be anchored into the southern wall of the item, however, as the adjoining building had not been demolished at the time of the assessment preparation, the actual conditions were not known. A potential moderate direct impact to the item was concluded, associated with the potential for damage to the brick structure and façade of the item through demolition of the adjoining building.	Installation of protective measures that will re-enforce the structure of the Former Skinners Family Hotel and protect it from wind loading stress. To avoid, or further minimise physical impacts, the following mitigation measures would be implemented: • The number of fixings and fixing plates are minimised to only what is necessary to achieve the structural design intent.	Y	N	Y	-

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed change, relative to the relevant impact in the Approved Project	Proposed Control Measures in addition to project CoA and REMMs	Consistent Impact Y/N	Do any CoA need to be changed? Y/N	Endorsed	
					Y/N	Comments
	The proposed works would involve the installation of horizontal and vertical braces throughout the building. Braces would be held in-place using fastenings secured to the internal walls and external façade of the building. While the proposed installation of props and bracing will result in some irreversible physical impacts to the item, the impacts have been minimised by ensuring that only works necessary to mitigate the risks associated with demolition and excavation are undertaken. Furthermore, the works have been designed to avoid additional impacts on other significant building elements such as the windows and associated architraves and external detailing. The assessment at Attachment A confirms that this proposed approach would be suitable in providing structural reinforcement to the building to ensure it can withstand the anticipated vibration and settlement impacts from demolition, excavation and construction of the approved project. The proposed protective measures may cause minor damage to the fabric of the Former Skinners Family Hotel. The assessment at Attachment A has considered that despite this, the impacts would not result in an adverse impact (per the Heritage NSW Material Threshold Policy) and would result in a minor direct impact to the item. This is consistent with the impacts of the approved project where it was anticipated that demolition of the adjoining buildings had potential to cause damage to the façade of the item.	All fixings and fixing plates would be located to avoid physical impacts on the windows and associated interior architraves and rendered masonry surrounds to the exterior, including the sills, lintels (and entablature above) and 'posts' on either side. • The walers on the north wall would be offset to ensure a minimum of 50mm clearance to the rendered masonry details around the windows. The walers would be held in place with steel plate packers. The assessment at Attachment A recommends that: • a photographic archival recording of the exterior and interior of the building be undertaken to document recently exposed fabric including original and later modifications and paint finishes. • The painted sign on the east wall should also be recorded. • Further recordings should be undertaken during the demolition works. • The photographic recording should be undertaken				

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed change, relative to the relevant impact in the Approved Project	Proposed Control Measures in addition to project CoA and REMMs	Consistent Impact Y/N	Do any CoA need to be changed? Y/N	Endorsed	
					Y/N	Comments
	The approved project considered that the item would be located within the Hunter Street western construction site and that demolition of adjoining buildings and construction would result in non-significant changes to the setting of the heritage item, as the historic setting has been significantly altered. The assessment also found that the approved project would not result in impacts on the significant view corridors to the building on George Street, nor would it impact the building's ability to contribute to the character of the area. Since the commencement of construction, B-class hoarding has been provided along the frontage of the building at George Street and Hunter Street to protect pedestrians. This hoarding disrupts views of the ground level of the item, however, the first and second storeys and roof remain visible from both Hunter Street and George Street. This hoarding would remain in-place for the duration of construction of the approved project. The Historic Heritage Impact Assessment at Attachment A has considered visual impacts to the item as a result of the proposed works. The assessment found that while there would be visual impacts to the item, these would be temporary in nature for the duration of construction. Overall the assessment found that the impacts of the proposed change would not alter the temporary indirect (visual) impacts of the approved project. Furthermore, the proposed works would not result in permanent physical impacts that would adversely diminish the heritage values of the building.	consistent with Heritage NSW guidelines. Sydney Metro has undertaken Archival Recording for the Former Skinners Family Hotel consistent with the Heritage NSW guidelines. Prior to undertaking the proposed works, Sydney Metro would confirm any further recordings to be undertaken also in accordance with the Heritage NSW guidelines.				

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed change, relative to the relevant impact in the Approved Project	Proposed Control Measures in addition to project CoA and REMMs	Consistent Impact Y/N	Do any CoA need to be changed? Y/N	Endorsed	
					Y/N	Comments
Community and socio-economic	Retaining the Former Skinners Family Hotel makes a positive contribution towards culture and creates opportunities for interpretation of the hotel in the precinct for educational purposes. The proposed scope involves the majority of the structural intervention work occurring internally within the building. This minimises disruptions to pedestrians on Hunter Street and George Street throughout the duration of construction of the approved project.	No additional measures required	Y	N	Y	-
Traffic and transport	Section 6.8.2 of the EIS states that "…while footpaths and cycleways would remain open during construction, temporary diversions would be required at times during construction and oversized deliveries. These deliveries would be anticipated to require either nighttime or weekend road closures to minimise impacts to traffic. Temporary diversions would be required for the duration of the closure if required to facilitate safe loading/unloading.". For the proposed works, pedestrian diversions may be required on George Street during the installation of external parallel flange channels (PFC's). Works may be completed during out of hours to maintain pedestrian flow during standard hours. Delivery vehicles will access the site from Pitt Street via the current approved construction vehicle haulage routes. Where required a crane will be established adjacent to Skinners Hotel on Hunter Street to assist with the installation of the protective structures. Materials will be delivered	No additional measures required	Y	N	Y	-

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed change, relative to the relevant impact in the Approved Project	Proposed Control Measures in addition to project CoA and REMMs	Consistent Impact Y/N	Do any CoA need to be changed? Y/N	Endorsed	
					Y/N	Comments
	and installed as required. There may be a requirement for materials to be temporarily unloaded on Hunter Street prior to lifting into position. This would be consistent with the arrangement described in Section 6.8.2 of the EIS. A Road Occupancy License (ROL) will be obtained where required and diversions would be undertaken in accordance with the construction contractors Construction Traffic Management Plan.					
Waste and resource management	No change from approved project	No additional measures required	Y	N	Y	-
Visual	Visual impacts associated with construction of the Approved Project were assessed in Technical Paper 5 of the EIS. Daytime visual impacts (during construction) on Hunter Street (between Pitt Street and George Street) were considered in viewpoint 3 in Section 7.5.3 of Technical Paper 5 of the EIS. The assessment identified that the character of buildings in the vicinity of the construction site, particularly the Skinners Hotel, contributed to the viewpoint having local visual sensitivity. Overall, it was concluded that there would be a moderate adverse landscape impact associated with construction of the Approved Project, with these impacts being primarily associated with visible construction hoarding and equipment on George Street and Hunter Street (within the approved western construction site).	No additional measures required	Y	N	Y	-

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed change, relative to the relevant impact in the Approved Project	Proposed Control Measures in addition to project CoA and REMMs	Consistent Impact Y/N	Do any CoA need to be changed? Y/N	Endorsed	
					Y/N	Comments
	The current construction contractor has implemented B-class hoarding along Hunter Street and George Street, along the frontage of the Former Skinners Family Hotel. This would remain in-place until the completion of construction of the approved project. Temporary indirect (visual) impacts to the significance of the building are considered under 'Historic Heritage' in Section 10 of this Consistency Assessment. It is expected that while this would potentially detract from the amenity of the existing streetscape, that the impact would be minor and would not result in a change to the overall moderate adverse impact associated with the Approved Project.					
Land use and property	No change from approved project	No additional measures required	Y	N	Y	-
Hazard and risk	The proposed works would provide essential structural reinforcement to the building to safeguard from potential collapse. The proposed methodology focuses structural reinforcement works on the internal areas of the building, and interacts with the façade only where necessary along the northern wall (on the frontage of Hunter Street). This approach reduces hazards and risks associated with structural collapse of the building, and avoids physically impacting external elements such as windows, architraves and detailing. The likelihood of a strong wind event which could cause structural distress occurring in the first few weeks following demolition of the adjacent buildings is relatively low. However, this	No additional measures required	Y	N	Y	-

Aspect	Nature and extent of impacts (negative and positive) during construction (if control measures implemented) of the proposed change, relative to the relevant impact in the Approved Project	Proposed Control Measures in addition to project CoA and REMMs	Consistent Impact Y/N	Do any CoA need to be changed? Y/N	Endorsed	
					Y/N	Comments
	likelihood will increase the longer the building is left exposed. In consideration of the above, ideally these measures should be implemented prior to the complete demolition of 5 Hunter Street and 300 George Street, but a maximum of one month following, to minimise the likelihood of a wind event occurring that exceeds the capacity of 296 George Street which would cause structural distress.					
Other	No other changes from approved project identified.	No additional measures required	N/A	N/A	Y	-

11. Consistency with the Approved Project

Question	Response
Is the project (including the proposed changes) consistent with the conditions of approval?	Yes. Section 5.5.1 of the Stage 2 EIS states that enabling works may include activities such as heritage protection to ensure safety measures are in place to provide protection to the public. Furthermore, the proposed works would be consistent with the conditions of approval because condition D8 allows for a moderate Direct impact to the significance of the Former Skinners Family Hotel and the Heritage Impact Assessment shows that the protective measures will not cause an impact above this threshold. Condition of Approval D7 requires the Former Skinners Family Hotel to not be destroyed, modified or otherwise affected (meaning no impact above 'little to no impact' as defined in the material threshold policy) except as identified in the documents listed in Condition A1. The proposed protective measures are necessary in ensuring the structural integrity of the building during construction of Sydney Metro West and preventing an adverse impact to the item. While it is recognised that the proposed protective measures are intrusive on the building, these measures have been designed to avoid impacting significant fabric and minimise impacts to views and vistas of the building from George Street and Hunter Street and would not result in an adverse impact (as defined in the Material Threshold Policy). Overall the implementation of the proposed protective measures would ensure that Sydney Metro and the construction contractor can meet the requirements of Condition of Approval D7.
Is the project (including the proposed changes) consistent with the objectives and functions of elements of the Approved Project?	Yes. The proposed works would be consistent in any changes to environmental impacts as assessed in the project approval in the sense that protective measures are being installed to mitigate impacts to the significance of the Former Skinners Family Hotel. Specifically, the desired performance outcome for the Heritage Secretary's Environment Assessment Requirement for Heritage states the design and construction of the proposal avoids or minimises impacts, to the greatest extent possible, on the heritage significance of environmental heritage and Aboriginal objects and places.
Are the environmental impacts of the proposed change consistent with the impacts of the approved project?	Yes. The assessment at Attachment A confirms that this proposed approach would be suitable in providing structural reinforcement to the building to ensure it can withstand the anticipated vibration and settlement impacts from demolition, excavation and construction of the approved project. There would be no overall change to the direct physical impacts to the item and the proposed protective measures would not result in an adverse impact (per the Heritage NSW Material Threshold Policy). Temporary indirect (visual) impacts would remain unchanged from those identified for the Approved Project and would not reduce the overall heritage value of the building, however, views of the ground floor would remain obstructed by B-class hoarding for the remainder of construction of the Approved Project. Overall the impacts are consistent with the Approved Project.
Are there any new environmental impacts as a result of the proposed works/project changes?	The structural engineers report has raised the risk that wind loading may apply lateral stress to the hotel while adjoining buildings are absent, however this is not a new environmental impact as the EIS already considered direct physical impacts to the hotel. Rather it is a new impact source.

Question	Response
Are the impacts of the proposed activity/works known and understood?	Yes, the structural risks to the hotel have been assessed by a suitably qualified structural engineer and heritage architect. The proposed protective measures have been developed in accordance with the recommendations of both experts and the reports at Attachment A and B of this consistency assessment.
Are the impacts of the proposed activity/works able to be managed so as not to have an adverse impact?	Yes. The impacts of the Proposed Works can be managed under the existing environmental mitigation measures so as to avoid an adverse impact. Protective measures have been assessed by a structural engineer as appropriate to mitigate the risks of wind loading.
Would any Conditions of Approval be required to be changed as a result of the proposed change (having regard to the above assessment)?	☐ Yes ☒ No
Is the proposed change/s consistent with the approval (having regard to the above assessment)?	☒ Yes ☐ No

13. Other Environmental Approvals

Identify all other approvals required for the proposed works:	Nil

14. Recommendation

Based on the above impact assessment, and with reference to the Appendices to this assessment and the Stage 2 EIS, including the conditions of approval, it is recommended that:

	Tick relevant box
The proposed change has negligible or more than negligible impacts on the environment or community however is consistent with the Approval, including the conditions of approval. The proposed impacts are consistent with those assessed for the Approved Project (i.e., does not trigger a change to the conditions of approval).	✓
The proposed change is not consistent with the Approved Project including the conditions of approval and would be subject to a separate modification application.	

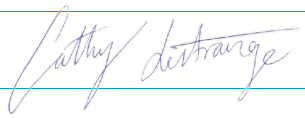
The proposed change is not substantially the same as the Approved Project and is considered a radical transformation. A new planning pathway should be considered.	

Author certification

I certify that to the best of my knowledge this Consistency Checklist: • Examines and takes into account the fullest extent possible all matters affecting or likely to affect the environment as a result of activities associated with the proposed change; and • Examines the consistency of the proposed change with the Approved Project; is accurate in all material respects and does not omit any material information.			
Name:	Matthew Marrinan/ Charlotte Brogan	Signature:	
Title:	Senior Manager Environment, Sydney Metro West/ Manager Planning Approvals, Sydney Metro West		
Company:	Sydney Metro	Date:	21/10/2024

Assessment Supporting Signature

This section is for Sydney Metro only.

Application supported and submitted by			
Name:	Cathy Lestrange	Date:	21.10.2024
Title:	A/Senior Manager Planning Approvals	Comments:	N/A
Signature:			

Assessment Endorsement

Based on the above assessment, are the impacts and scope of the proposed change consistent with the existing Approved Project?

Yes ☒ The proposed change is consistent with the Approved Project and no further assessment is required.

No ☐ The proposed change is not consistent with the Approved Project.

A modification or a new activity approval/ consent is required. Advise Senior Project Manager of appropriate alternative planning approvals pathway to be undertaken.

Endorsed by			
Name:	Ashe Earl-Peacock	Date:	21 October 2024
Title:	A/Director Planning Approvals	Comments:	-
Signature:			

Attachment A – Historic Heritage impact assessment

MEMO

DATE: 27 September 2024 **AMBS Ref**: 23111 Memo 50

TO: Sally Reynolds, Environmental, Approvals & Sustainability Director, John Holland CPB Contractors Ghella JV

FROM: Lian Ramage, Heritage Team Leader, AMBS Ecology & Heritage

SUBJECT: Hunter Street West – Skinners Hotel, 296 Goerge Street, Protective Measures for demolition of surrounding structures

AMBS Ecology & Heritage Pty Ltd (AMBS) has been engaged by John Holland CPB Contractors Ghella JV (JCG JV) to provide heritage services for Stage 2 of the Sydney Metro West project, a new 24 kilometre metro line connecting Greater Paramatta to Sydney CBD. Stage 2 of the project includes all major civil construction works including station excavation and tunnelling between The Bays and CBD. This project is being completed under the State Significant Infrastructure approval SSI 19238057.

As a part of the current works, JCG JV are required to undertake protective measures to ensure protection of the State significant Skinners Hotel, 260 George Street. A review of the interface between Skinners Hotel and 298-302 George Street was undertaken by TTW following the strip out of internal finishes and investigation works. Various alterations preceding the possession of Skinners Hotel by JCG JV have resulted in weakening of the structure and a reduction in the structural performance for lateral loads or displacement. As such there is a risk the proposed demolition and excavations works of 300 George Street and 5 Hunter Street will leave Skinners Hotel exposed to wind pressures it has not previously been subjected to.

To minimise this risk the project Heritage Structural Engineer (TTW) provided risk mitigation measures. These options were assessed by the project Heritage Architect (TKD) and *Temporary bracing between walls* has been assessed as the preferred option.

The purpose of this memo is to assess the heritage impact of the proposed works, and their consistency with the project approval. Documents reviewed for this assessment include:

- *296 George Street Sydney – Skinners Hotel (SHR Item No. 00584) Sydney Metro West: Protective measures for Skinners Hotel Statement of Heritage Impact*, 18 July 2024, prepared by TKD Architects
- *296 George Street Sydney – Skinners Hotel (SHR Item No:00584) Sydney Metro West: Protective measure for Skinners Hotel Statement of Heritage Impact Addenda,* 20 September 2024 prepared by TKD Architects
- *ETP – 296 George Street Existing Structural Performance*, (R3) 17 July 2024, TTW
- *Sydney Metro West - Major civil construction work between The Bays and Sydney CBD Technical Paper 3: Non-Aboriginal Heritage* (Artefact, 2021)
- *Sydney Metro West. The Bays to Sydney CBD Conditions of Approval.* SSI 19238057. 24 August 2022.

The protective measures will involve the following:

- The number of chemically bonded fixings into the sandstone blockwork in the basement has been significantly reduced by relocating more than half of the fixings to a reinforced concrete column and to modern brickwork introduced in the late-twentieth century. The remaining fixings can be removed on completion by coring and filling the fixing holes with a lime mortar patch.
- The use of Python MT fixings has been replaced by through bolts and fixing plates. The Python MT fixings, while relatively easy to remove, would cause considerable damage to the sandstock bricks. They would also not achieve the required structural design due to the soft consistency of the bricks. While the through bolts would result in damage to the face of some bricks on the exterior of the building the fixings would achieve the structural requirements. This method would also require a smaller number of fixings overall. They are also easily removed at completion. Although some bricks may need to be replaced, the overall physical impacts would be reduced.
- While a series of steel whalers (250 PFC) have now been introduced around the north (part), east and south (part) sides of the building they greatly reduce the risks associated with the demolition and excavation works on adjacent lots. To avoid or further minimise physical impacts the following will be undertaken:
    - The number of fixings and fixing plates are minimised to only what is necessary to achieve the structural design intent.
    - All fixings and fixing plates would be located to avoid physical impacts on the windows and associated interior architraves and rendered masonry surrounds to the exterior, including the sills, lintels (and entablature above) and 'posts' on either side.
    - The walers on the north wall would be offset to ensure a minimum of 50mm clearance to the rendered masonry details around the windows. The walers would be held in place with steel plate packers.

In order to assess the consistency of the proposed works to the project approval, Table 1 provides a reproduction of the statement of significance and impact assessment for Skinners Hotel from the *Sydney Metro West - Major civil construction work between The Bays and Sydney CBD Technical Paper 3: Non-Aboriginal Heritage (Artefact, 2021),* along with an assessment of the heritage impact of the proposed protective measures and a statement outlining weather the proposed works are consistent with previously approved impacts.

The assessment methodology and gradings used in this memo are consistent with Section 3 of the Non-Aboriginal Heritage Technical Paper for the project (Artefact, 2021). For consistency with the EIS, AMBS has referred to the terminology used to assess the magnitude of direct and indirect impacts (Artefact, 2021, pp. 21-22):

- *Major: Actions that would result in an irreversible and substantial loss of significance. Major impacts would result in comprehensive and irreversible changes to the significance of the historic building elements, intangible cultural heritage values, or significant archaeological materials, setting, landscape, or character of heritage items. These actions cannot be adequately mitigated and would result in irreversible changes to the significance of the item.*
- *Moderate: Actions involving considerable changes to a heritage item which would impact the significance, including altering the setting or landscape of a heritage item, partially removing archaeological resources, the alteration of significant elements of fabric from historic structures. Moderate impacts may involve considerable changes to intangible cultural heritage. The impacts arising from such actions may be able to be partially mitigated.*

- *Minor: Actions that would result in slight impacts to the significance of a heritage item, through changes to archaeological materials, historic building elements, few changes to key landscape elements that would result in slight changes to the visual setting. The impacts arising from such actions can usually be mitigated.*
- *Negligible: Actions that would result in minimal change to the significance of heritage items. These impacts would not usually require mitigation.*
- *Neutral: Actions that would have no change and therefore no impact to the significance of a heritage item.*
- *Positive: Actions which improve the condition of fabric or local setting which improves the legibility of the significance of the heritage item.*

The scope of works assessed in the EIS covered enabling works, identified as:

> *…those activities that would typically be carried out before the start of substantial construction in order to make ready the key construction sites and to provide protection to the public. Enabling work may include activities such as:*
>
> - *Construction site establishment*
> - *Demolition of buildings and structures within the proposed construction footprint*
> - *Utility adjustments and protection*
> - *Utility supply to the construction sites including power and water*
> - *Transport network modifications to roads, public transport, and pedestrian and cyclist facilities*
> - *Heritage investigations, protection and archival recordings*
> - *Additional geotechnical and contamination investigations, and remediation where required (Artefact, 2021, p. 34).*

The proposed works constitute Heritage investigations, protection, and archival recordings with the intent of providing protective measures for Skinners Hotel and are therefore consistent with the scope of works assessed in the EIS, with an assessment of the level of impact provided in Table 1.

Approval conditions applicable to this scope of works include:

- ***D7*** *During construction, the Proponent must implement protective measures to prevent adverse impacts to the heritage significance of the former Skinners Family Hotel. Before installing such measures, the advice of a suitably qualified and experienced built heritage expert must be obtained and implemented to ensure any such work does not have an adverse impact on the heritage significance of the item. Protection measures must also consider and avoid potential impacts to significant historical archaeology and seek the advice from the Excavation Director approved under* ***Condition D16*** *below.*
- ***D8*** *The Former Skinners Family Hotel, Tank Stream, Bennelong Stormwater Channel No. 29A, NSW Club house Building, Delfin House, Richard Johnson Square, Railway Cutting (Pyrmont), and St James Railway Station must not be destroyed, modified or otherwise affected, except as identified in the documents listed in* ***Condition A1****.*

Table 1 Heritage Impact and consistency assessment for Skinners Hotel – SHR 00584.

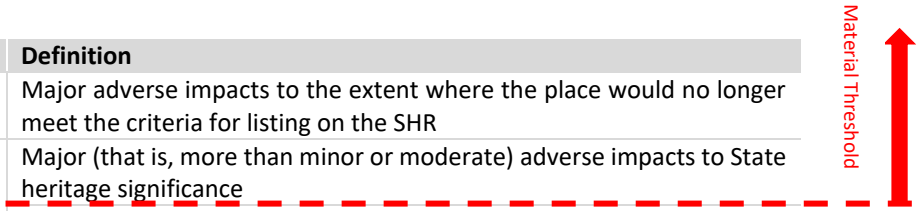
Statement of Significance (reproduced from Artefact 2021)	Impact Assessment (reproduced from Artefact 2021)	TKD Impact Assessment – Protective measures	Consistency
The Former Skinners Hotel, located at the corner of George and Hunter Streets, is highly significant as one of the few Old Colonial Regency buildings remaining in the city. The former hotel has significance as one of only four buildings in the Old Colonial Regency style in the city although it no longer has the traditional hotel uses of bar and accommodation; the other buildings in the style are the Lord Nelson, the Hero of Waterloo and a commercial terrace at 246 George Street. While the Lord Nelson is the finest example of the remaining buildings, this former hotel is also significant for its strong contribution to the character of the immediate area and as one of the few remaining buildings of this style in the heart of the city. It has significance as a rare surviving example of an early hotel and as part of the network of corner hotels which provided social / recreational venues and budget accommodation in the city. It has significance as a possible site for scientific investigation due to the age of the building and continuing use of the site since the early days of European settlement. The building now carries the name of the first licensee of the hotel.	Direct impact: Within the north-western corner of the western construction site, but not to be demolished. Potential direct: Vibration Skinners Family Hotel is an item of High heritage significance and is rare as one of only four extant buildings in the Old Colonial Regency Style in the city. The heritage item is located within the north-western corner of the western construction site. Although the building has been truncated in size along its George Street façade (allowing for the construction of its adjacent high rise building), the demolition of the adjacent building has the potential to directly damage the brick structure and façade of the heritage item, particularly if the adjacent high rise building is anchored into the southern wall of the Skinners Family Hotel. **Direct impact: Moderate** The heritage item is located within the north-western corner of the western construction site. The construction site is within the expanded heritage curtilage of the heritage item. The item would experience vibration levels which are predicted to exceed cosmetic damage screening criteria. Vibration is predicted to have the potential for direct impact on the Skinners Family Hotel due to its location within the western construction site. Vibration may cause damage to the significant fabric of the building but is not anticipated to result in the removal of the item. Settlement impacts due to the proposed construction work and tunnelling has been assessed as 'Slight'. Proposed work would have possible superficial damage that is unlikely to have a structural significance. Overall, impacts from settlement and ground movement would have a minor impact on the aesthetic significance and fabric of the heritage item. **Potential direct impact: Moderate (Vibration), Minor (Settlement)**	While Option 3, on its own, is considered to be a less effective risk mitigation measure than Option 5, it is understood that the higher level of risk can be effectively managed through implementation of the additional measures set out in the Heritage Management and Noise and Vibration Sub-Plans, many of which have already been put in place. Provided that the additional protection measures are maintained throughout the demolition, excavation and construction phases of the Project, Option 3 is considered a suitable alternative to Option 5. Supplemented by the additional protection measures identified in the Heritage Management and Noise and Vibration Sub-Plans, Option 3 is considered a suitable risk mitigation measure given that it achieves a reduced risk of 'structural distress' during demolition, excavation and construction works while limiting operational impacts on the adjacent footpaths and light rail. The works associated with this option would not result in permanent physical impacts and would not adversely diminish the heritage values of the building.	The proposed protective measure will result in a **minor direct impact** to Skinners Hotel through the installation of internal bracing between the walls. While the proposed installation of props and bracing will result in some irreversible physical impacts, the impacts have been minimised by ensuring that only those works necessary to mitigate the risks associated with demolition and excavation are undertaken. In addition, the works have been designed to avoid additional impacts on other building elements such as the windows and associated architraves and external detailing. Visual impacts to the heritage significance of Skinners Hotel would be temporary in nature and re-established at the end of the project. **The heritage impacts of the works are consistent with the assessment made in the EIS.**

	The heritage item is located within the Hunter Street Station (Sydney CBD) western construction site. The demolition of existing buildings and construction activities would result in non-significant changes to the setting of the heritage item, which is not identified as part of its significance and is substantially altered from its historic setting and currently surrounded by large modern office buildings, of varying architectural styles and provenance. The proposal would not result in impacts on the significant view corridors to the building on George Street, nor would it impact the building's ability to contribute to the character of the area. **Indirect impact: Negligible**		

The Heritage NSW Materials Threshold Policy is triggered by potential adverse impacts to State heritage significance. Under the guidelines the material threshold is reached when major adverse impacts are identified.

Table 2 Scale of impact to State heritage significance as per the Heritage NSW Material Threshold Policy.

Impact	Definition
Total loss of significance	Major adverse impacts to the extent where the place would no longer meet the criteria for listing on the SHR
Adverse impact	Major (that is, more than minor or moderate) adverse impacts to State heritage significance
	Moderate adverse impacts to State heritage significance
	Minor adverse impacts to State heritage significance
Little to no impact*	An alteration to State heritage significance that is so minor that it is considered negligible. *Little to no impact (as opposed to no impact) acknowledges that any change will result in some level of impact/alteration to State heritage significance.
Positive impact	Alterations that enhance the ability to demonstrate the State heritage significance of an SHR listed place.



For proposed impacts to be considered below the material threshold, the adverse impacts to State heritage significance must be moderate or below. The proposed impacts to the heritage significance of Skinners Hotel are considered to be little to no impact when measured against the Heritage NSW Material Threshold Policy, thereby not triggering the threshold. Whereby the works are minor enough that they are outweighed by the intention of the impacts, that is to protect Skinners Hotel from adverse impacts from demolition of surrounding structures.

Condition D8 specifies that Skinners Hotel must not be destroyed, modified or otherwise affected, except as identified in the documents listed in Condition A1. Based on the impact assessment outlined in Table 1 and the Heritage NSW Material Threshold Policy, the proposed works are consistent with the project approval from a heritage perspective and will not increase the heritage impacts of the project works beyond the levels assessed in the EIS.

Attachment B – Structural assessment

20 September 2024

TKDArchitects
Tanner Kibble Denton

John Holland CPB Contractors Ghella Joint Venture
Level 6, 60 Union St, Pyrmont
Sydney, NSW 2009, AU
Attention: Stuart Anstee, Environment Manager

296 George Street Sydney – Skinners Hotel (SHR Item No. 00584)
Sydney Metro West: Protective measures for Skinners Hotel
Statement of Heritage Impact Addenda

Dear Mr Anstee,

This Statement of Heritage Impact Addenda identifies and assesses the potential impacts associated with the detailed design of the proposed risk mitigation and protective measures for the Skinners Hotel at 296 George Street, Sydney. The measures are required to be put in place as part of approved works on adjoining lots to facilitate construction of Sydney Metro West.

296 George Street, known as the 'Skinners Hotel', is a place of State heritage significance and is included on the State Heritage Register (SHR Item 00584). It is also identified as an item of Local heritage significance in Schedule 5 of Sydney Local Environmental Plan 2012 (Item I1766).

The Statement of Heritage Impact Addenda has been prepared on behalf of John Holland CPB Contractors Ghella Joint Venture (JCGJV). It should be read in conjunction with the following:

- The updated design details for the selected mitigation methods prepared by TTW (dated 18 September 2024) – a copy of which is attached.
- The Heritage Impact Statement prepared by TKD Architects (dated 18 July 2024).
- Memo prepared by TTW Structural Engineers (dated 17 July 2024) outlining options for risk mitigation measures for the building, a copy of which was attached to the HIS.
- Eastern Tunnelling Package Heritage Management Sub-Plan, which describes how the JCGJV will minimise and manage the heritage impacts of the Project; and
- Noise and Vibration Management Sub-Plan, which describes how the JCGJV will minimise and manage the construction noise and vibration impacts of the Project.

The proposed risk mitigation and protective measures were selected after a thorough investigation of the effectiveness and associated impacts of five option put forward by the consultant structural engineer. Supplemented by additional protection measures identified in the Heritage Management and Noise and Vibration Sub-Plans, the proposed installation of structural steel members or temporary props to connect the walls together (Option 3) was considered a suitable risk mitigation measure given that it achieves a reduced risk of 'structural distress' during demolition, excavation and construction works while limiting operational impacts on the adjacent footpaths and light rail.

Tanner Kibble Denton Architects Pty Ltd | ABN 77 001 209 391 | **Gadigal Country** Level 1, 19 Foster Street, Surry Hills NSW 2010
W www.tkda.com.au | **T** +61 9281 4399 | **E** contact@tkda.com.au
NSW Nominated Architects Robert Denton Registration No. 5782 | Alex Kibble Registration No. 6015

The works associated with this option were considered unlikely to adversely diminish the heritage values of the building.

The selected option has since been refined as a result of more detailed analysis of the risks associated with demolition and excavation on the adjacent lots and as a result of the findings of further site investigations. The site investigations, which included removal of non-significant internal wall linings to expose the internal fabric of the building, not only assisted with the risk analysis but uncovered opportunities to further reduce potential for physical impacts.

The selected option for risk mitigation and protection measures has been refined as follows:

- The number of chemically bonded fixings into the sandstone blockwork in the basement has been significantly reduced by relocating more than half of the fixings to a reinforced concrete column and to modern brickwork introduced in the late-twentieth century. The remaining fixings can be removed on completion by coring and filling the fixing holes with a lime mortar patch.

- The use of Python MT fixings has been replaced by through bolts and fixing plates. The Python MT fixings, while relatively easy to remove, would cause considerable damage to the sandstock bricks. They would also not achieve the required structural design due to the soft consistency of the bricks. While the through bolts would result in damage to the face of some bricks on the exterior of the building the fixings would achieve the structural requirements. This method would also require a smaller number of fixings overall. They are also easily removed at completion. Although some bricks may need to be replaced, the overall physical impacts would be reduced.

- While a series of steel whalers (250 PFC) have now been introduced around the north (part), east and south (part) sides of the building they greatly reduce the risks associated with the demolition and excavation works on adjacent lots. To avoid or further minimise physical impacts the following will be undertaken:

  - The number of fixings and fixing plates are minimised to only what is necessary to achieve the structural design intent.

  - All fixings and fixing plates would be located to avoid physical impacts on the windows and associated interior architraves and rendered masonry surrounds to the exterior, including the sills, lintels (and entablature above) and 'posts' on either side.

  - The walers on the north wall would be offset to ensure a minimum of 50mm clearance to the rendered masonry details around the windows. The walers would be held in place with steel plate packers.

While the proposed installation of props and bracing will result in some irreversible physical impacts, the impacts have been minimised by ensuring that only those works necessary to mitigate the risks associated with demolition and excavation are undertaken. In addition, the works have been designed to avoid additional impacts on other building elements such as the windows and associated architraves and external detailing.

In addition to the risk mitigation and protective works documented by TTW it is also recommended that other works are undertake to ensure that significant fabric is stabilised and the building envelope is made watertight.

To identify what is required it will be necessary to undertake a full audit of the condition of the existing fabric of the building. While an audit has not been undertaken, it is anticipated that the following works would be required as a minimum:

- Repairs to the brickwork on the north and east walls previously impacted by construction of the reinforced concrete column at 5 Hunter Street. This would include replacement of missing bricks with salvaged sandstock bricks. The bedding and pointing would be with a traditional lime-rich mortar.

- Repairs to the sandstone blockwork in the parapet. This work may include installation of some stone indents and mortar patching to fill holes in the sandstone blockwork. The bedding and pointing would be with a traditional lime-rich mortar.

- Reinstatement of missing or damaged cappings and flashings to the parapet and east wall and to the mechanical plant platform.

- Reinstatement of the rainwater head and downpipe to ensure functional roof drainage.

In addition to the above it is recommended that a photographic archival recording of the exterior and interior of the building be undertaken to document recently exposed fabric including original and later modifications and paint finishes. The painted sign on the east wall should also be recorded. Further recordings should be undertaken during the demolition works. The photographic recording should be undertaken consistent with Heritage NSW guidelines.

Please do not hesitate to contact me should any of the above require clarification.

Yours sincerely
TANNER KIBBLE DENTON ARCHITECTS PTY LTD

Attachment: *296 George Street Building Strengthening, prepared by TTW (dated 18 September 2024).*

SYDNEY METRO WEST - EASTERN TUNNELLING PACKAGE

HUNTER STREET STATION

TW-258 TEMPORARY WORKS

296 GEORGE STREET BUILDING STRENGTHENING

GENERAL NOTES

1. THE TEMPORARY WORKS DOCUMENTED IN THIS PACKAGE HAVE BEEN DESIGNED AS A RISK MITIGATION MEASURE TO IMPROVE THE STRUCUTURAL ROBUSTNESS OF THE BUILDING FOLLOWING RECENT FINDINGS AND INVESTIGATIONS OF 296GS. THE STRUCTURAL INTENT HAS CONSIDERED THE HERTIAGE SIGNIFICANCE OF THE BUILDING AND TRIED TO MINIMISE THE AMOUNT OF INTERVENTION TO THE HERITAGE FABRIC. WE NOTE THIS DESIGN SOLUTION IS NOT COMPLIANT TO CURRENT AUSTRALIAN STANDARDS. REFER TO THE STAGE 3 DESIGN REPORT FOR FURTHER INFORMATION.

2. THESE PROPOSED STRENGTHENING WORKS WILL BE UNDERTAKEN IN CONJUCTION WITH VIBRATION AND SURVEY MONITORING OF THE BUILDING. REFER TO THE DESIGN REPORT FOR FURTHER DETAILS.

3. ALL FIXING PLATES AND CONNECTIONS TO BE LOCATED TO AVOID ARCHITECTURAL HERITAGE FINISHES SUCH AS WINDOW ARCHITRAVES, EXTERNAL RENDER DETAILS, CORNICES ETC. NO ARCHITECTURAL HERITAGE FINISHES TO BE DISTURBED WITHOUT CONSULTATION WITH THE HERITAGE ARCHITECT. REFER TO THE HERITAGE MEMO PREPARED BY TKDA FOR FURTHER INFORMATION.

4. ALL STRUCTURAL STEELWORK TO BE HDG600 (HOT DIP GALVANIZED 600 g/m2)

5. ALL WELD TO BE 6mm CFW, SP, 490 MPa U.N.O

6. ALL THROUGH BOLTS SHALL HAVE A 120X120X20mm THK BACKING PLATE ON THE OTHER SIDE OF THE WALL. REFER TO PLAN AND DETAILS FOR BOLT SIZE.

7. THROUGH BOLTS SHALL BE GALVANIZED 8.8/S BOLTS WITH ADDITIONAL QUARTER TURN FROM SNUG TIGHT POSITION

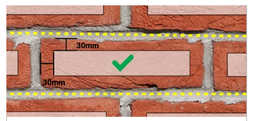
ANCHOR TESTING

ALL ANCHORS ARE TO BE INSTALLED STRICTLY IN ACCORDANCE WITH AS 5216:2018 AND THE MANUFACTURER'S SPECIFICATION AND TO THE EDGE DISTANCES, DISTANCE APART AND EMBEDMENT DEPTH FOR THE MAXIMUM RATED ANCHOR CAPACITY UNLESS NOTED OTHERWISE ON STRUCTURAL DRAWING DETAILS. ALL ANCHORS MUST BE INSTALLED PERPENDICULAR TO THE SUBSTRATE UNLESS NOTED OTHERWISE.

ALL ANCHORS SHALL BE TESTED IN ACCORDANCE WITH AS 5216:2018 AND THE MANUFACTURERS SPECIFICATION AND TO THEIR SATISFACTION. PROVIDE COPIES OF ALL TEST RESULTS TO SUPERINTENDENT FOR REVIEW. THE TABLE BELOW INDICATES THE AMOUNT OF ANCHORS TO BE TESTED, FOR EACH ANCHOR TYPE.

Type	Number of fixings	Anchors to be tested for each anchor type (%)	Test load (kN) and type
Mechanical fixed anchors	<100	10% (min 3)	Anchors fixed to masonry wall: 5.0 kN in tension; 5.0kN in shear
Chemical anchors on Sandstone	<100	10% (min 3)	Anchors fixed to Basement sandstone wall: 20.0 kN in tension; 20.0 kN in shear

2 Mark the location for screw installation on the brick, at least 30mm from the brick edge.



Installation location

Only install into mortar joints with approval from Engineer and on-site testing.

NOT FOR CONSTRUCTION

REV.	BY	DATE	DESCRIPTION	APPD.
C	BT	18.09.24	STAGE 3 SUBMISSION	

SCALES

40 0 40 80 120 160

SCALE 1:4 AT A1 SIZE

IC CERTIFICATE

CLIENT

NSW GOVERNMENT | sydney METRO

SERVICE PROVIDERS

JOHN HOLLAND | CPB CONTRACTORS | Ghella

DRAWN BALA THANDAYUTHAPANI

DESIGNED BALA THANDAYUTHAPANI

DRG CHECK LINCOLN LADDS

DESIGN CHECK --

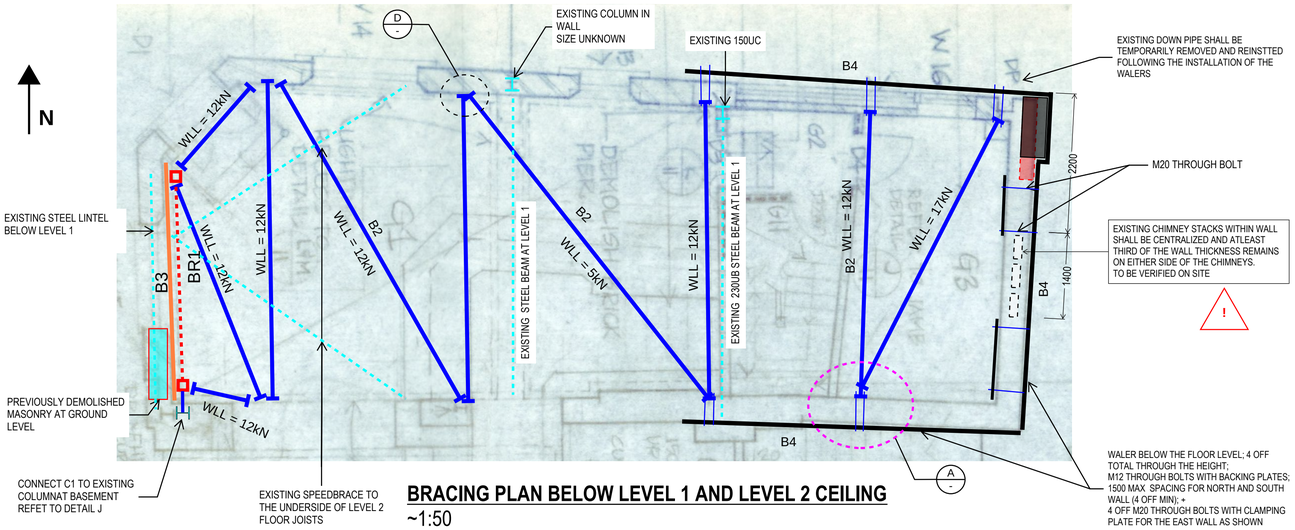
APPROVED GLEN FOWLIE

SYDNEY METRO WEST - EASTERN TUNNELLING PACKAGE
HUNTER STREET STATION
TW-0258 TEMPORARY WORKS
HUNTER STREET WEST SHAFT
296 GEORGE STREET BUILDING STRENGTHENING

STATUS: STAGE 3 SUBMISSION | SHEET 1 OF 4 | ©

DRG No. SWMS-ETP-JCG-SCB-SN100-TW-DRG-525851 | REV. C

A1 Original | Co-ordinate System: MGA Zone 56 | Height Datum: A.H.D | This sheet may be prepared using colour and may be incomplete if copied | NOTE: Do not scale from this drawing. | ALT. DRG No.

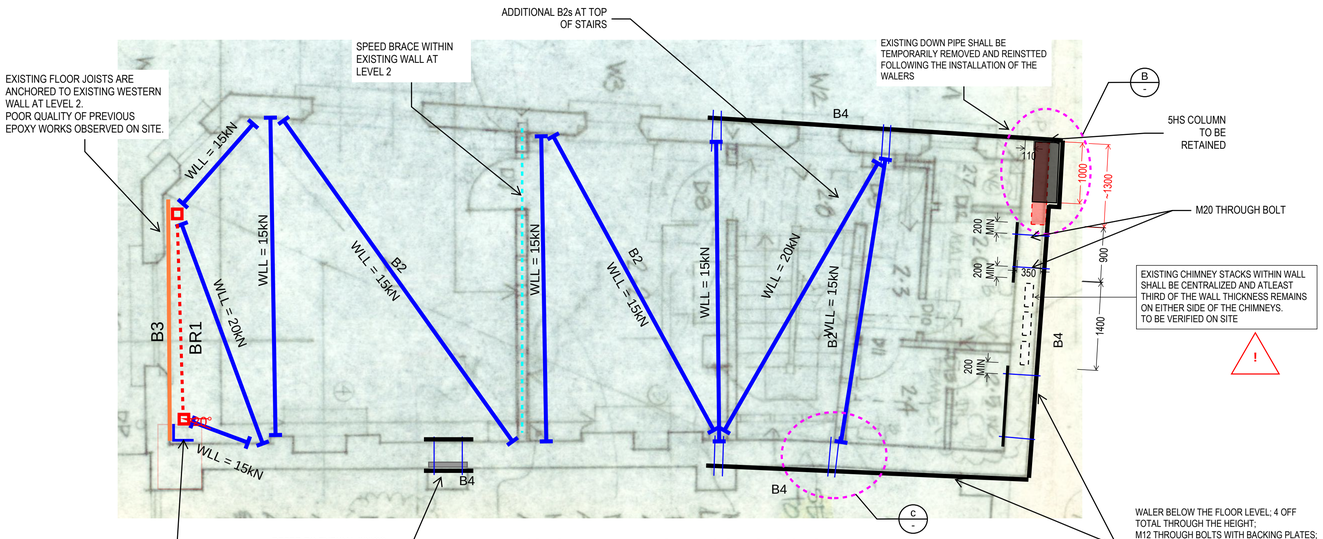


BRACING PLAN BELOW LEVEL 1 AND LEVEL 2 CEILING
~1:50

MEMBER SCHEDULE				
MARK	TYPE	SIZE	MIN GRADE	LEGEND
B2	DIAGONAL PROP	SHISHAM STANDARD PROP		
B3	WALER	250 PFC	G300	
B4	WALER	250 PFC	G300	
BR1	DIAGONAL BRACING	55x6 EA	G300	
C1	VERTICAL PROP	COATESHIRE SYS15 PROPS		

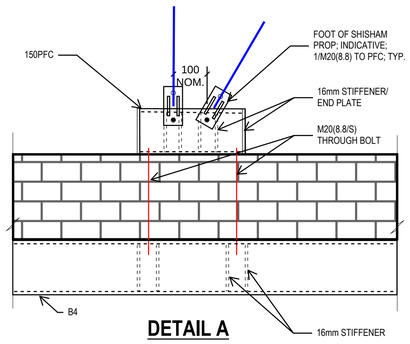
NOTE: FOR ALL PROPPING WLL HAVE BEEN PROVIDED, APPROVED EQUIVALENTS CAN BE CONSIDERED, PENDING PREFERENCES OF CONTRACTOR.

ALL FLAT PLATE TO BE G250

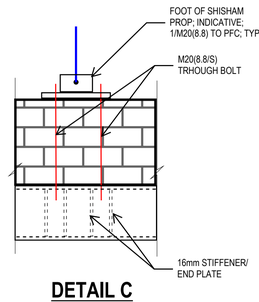


BRACING PLAN BELOW ROOF CEILING LEVEL
~1:50

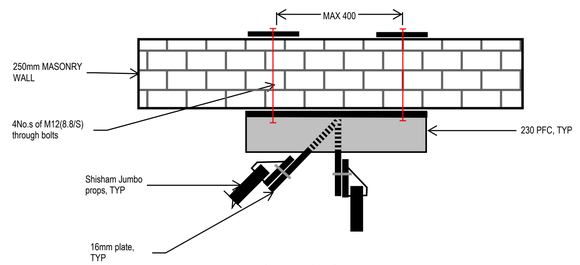
DETAIL B : TYPICAL WALER DETAIL AROUND COLUMN 5HS FOR ALL LEVEL
NTS



DETAIL A
NTS



DETAIL C
NTS



DETAIL D
NTS

NOT FOR CONSTRUCTION

REV.	BY	DATE	DESCRIPTION	APPD.
C	BT	18/09/24	STAGE 3 SUBMISSION	

SCALES
40 0 40 80 120 160
SCALE 1:4 AT A1 SIZE

IC CERTIFICATE

CLIENT
NSW GOVERNMENT | sydney METRO

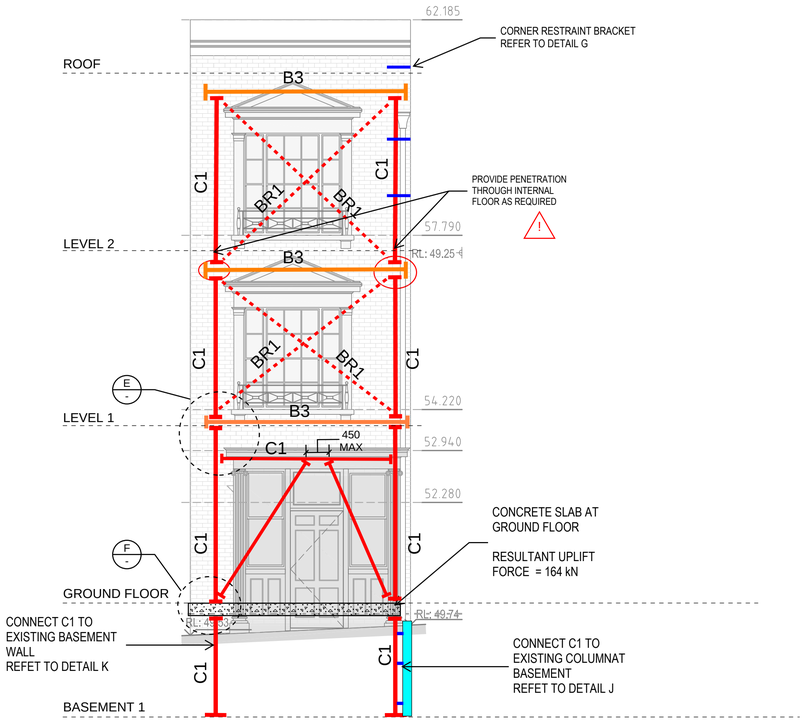
SERVICE PROVIDERS
JOHN HOLLAND | CPB CONTRACTORS | Ghella

DRAWN BALA THANDAYUTHAPANI
DESIGNED BALA THANDAYUTHAPANI
DRG CHECK LINCOLN LADDS
DESIGN CHECK --
APPROVED GLEN FOWLIE

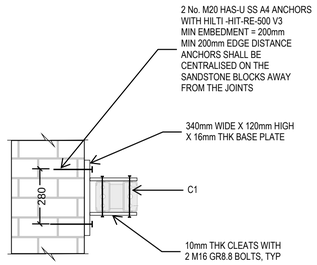
SYDNEY METRO WEST - EASTERN TUNNELLING PACKAGE
HUNTER STREET STATION
TW-0258 TEMPORARY WORKS
HUNTER STREET WEST SHAFT
296 GEORGE STREET BUILDING STRENGTHENING

STATUS: STAGE 3 SUBMISSION | SHEET 2 OF 4 | ©
DRG No. SWMS-ETP-JCG-SCB-SN100-TW-DRG-525852 | REV. C

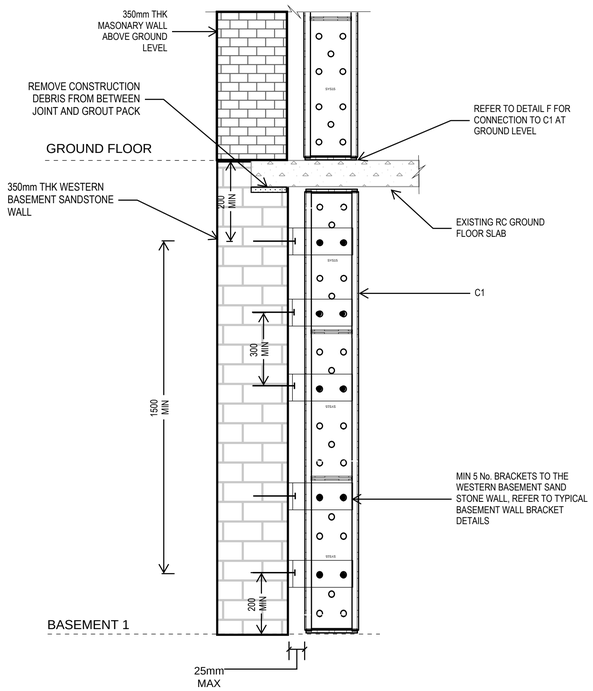
A1 Original | Co-ordinate System: MGA Zone 56 | Height Datum: A.H.D | This sheet may be prepared using colour and may be incomplete if copied | NOTE: Do not scale from this drawing. | ALT. DRG No.



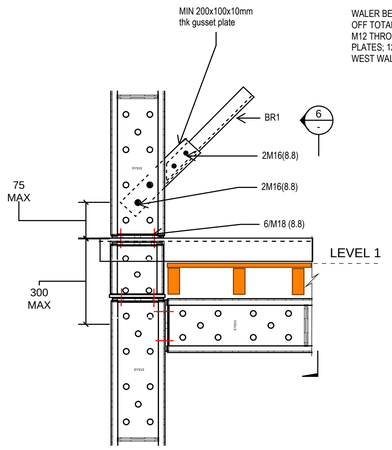
SECTION 1
NTS



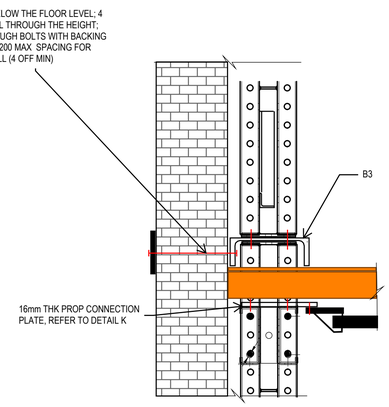
TYPICAL BASEMENT WALL BRACKET DETAILS - PLAN
NTS



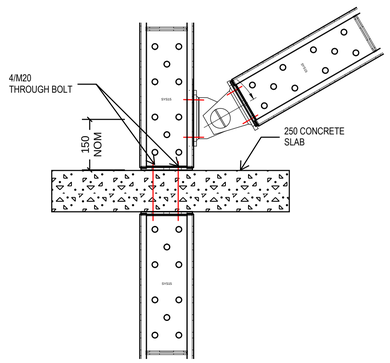
DETAIL K- TYPICAL WESTERN BASEMENT WALL TO C1 CONNECTION DETAILS
NTS



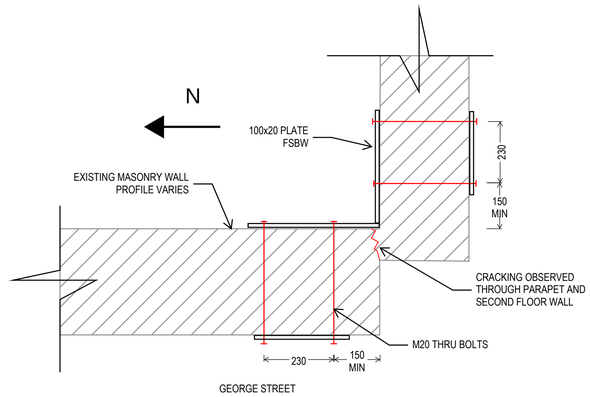
DETAIL E
NTS



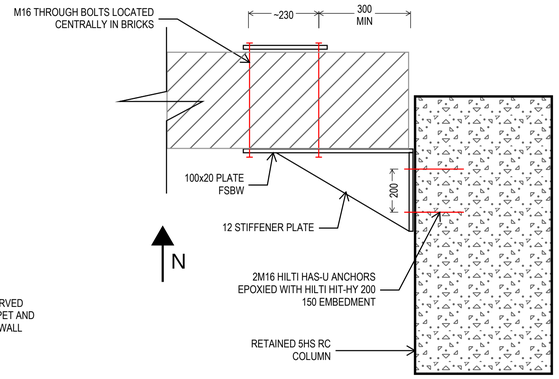
SECTION 6
NTS



DETAIL F
NTS



DETAIL G - SOUTH WEST CORNER BRACKET
NTS



DETAIL H - PARAPET RESTRAINT BRACKET
NTS

NOT FOR CONSTRUCTION

REV.	BY	DATE	DESCRIPTION	APPD.
C	BT	18.09.24	STAGE 3 SUBMISSION	

SCALES
40 0 40 80 120 160
SCALE 1:4 AT A1 SIZE

IC CERTIFICATE

CLIENT
NSW GOVERNMENT | sydney METRO

SERVICE PROVIDERS
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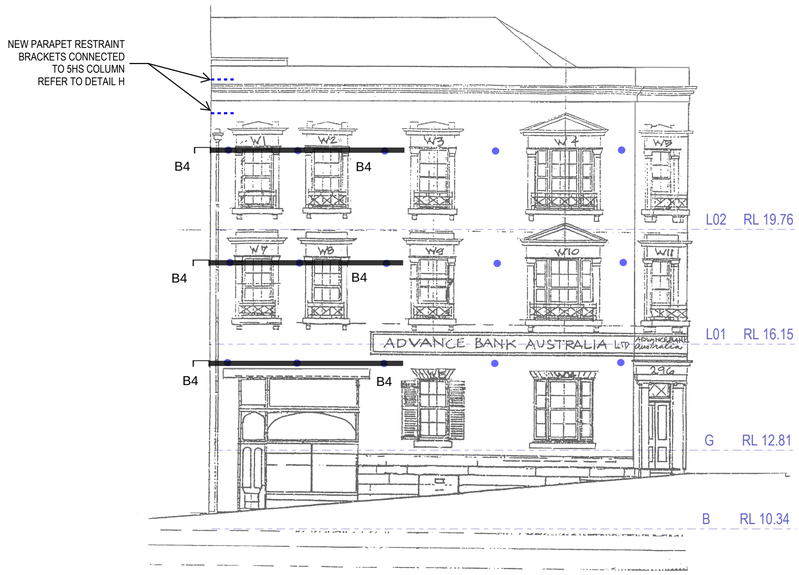
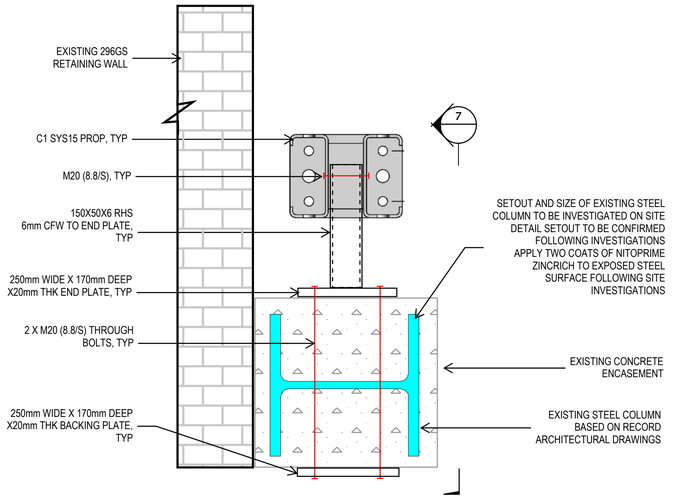
296 GEORGE STREET BUILDING STRENGTHENING

STATUS: STAGE 3 SUBMISSION | SHEET 3 OF 4 | ©
DRG No. SWMS-ETP-JCG-SCB-SN100-TW-DRG-525853 | REV. C

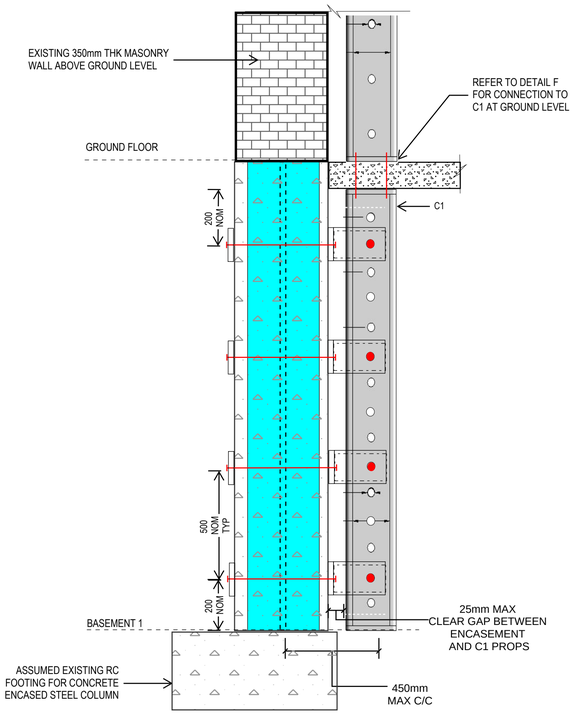
A1 Original | Co-ordinate System: MGA Zone 56 | Height Datum: A.H.D | This sheet may be prepared using colour and may be incomplete if copied | NOTE: Do not scale from this drawing. | ALT. DRG No.



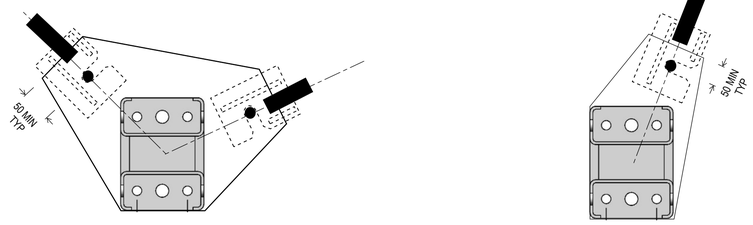
NORTH ELEVATION
NTS



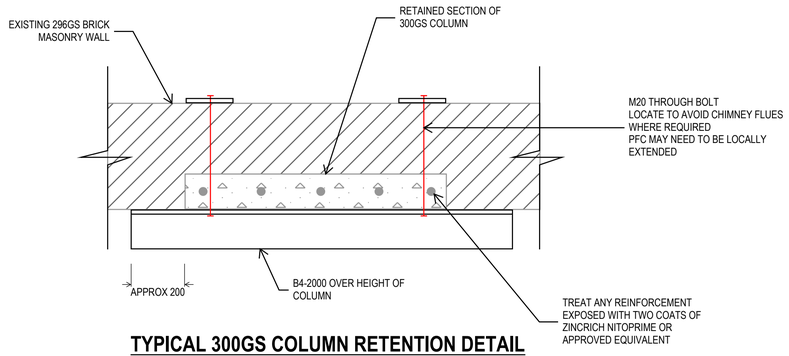
DETAIL J - EXISTING BASEMENT COLUMN TO C1(SYS15) PROP CONNECTION - PLAN
NTS



SECTION 7
NTS



DETAIL K- TYPICAL WESTERN BRACE PROP CONNECTION PLATE DETAILS
NTS



TYPICAL 300GS COLUMN RETENTION DETAIL
NTS

NOT FOR CONSTRUCTION

REV.	BY	DATE	DESCRIPTION	APPD.
C	BT	18.09.24	STAGE 3 SUBMISSION	

SCALES: 40 0 40 80 120 160 — SCALE 1:4 AT A1 SIZE

IC CERTIFICATE

CLIENT: NSW GOVERNMENT | sydney METRO

SERVICE PROVIDERS: JOHN HOLLAND | CPB CONTRACTORS | Ghella

DRAWN	BALA THANDAYUTHAPANI
DESIGNED	BALA THANDAYUTHAPANI
DRG CHECK	LINCOLN LADDS
DESIGN CHECK	--
APPROVED	GLEN FOWLIE

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STATUS: STAGE 3 SUBMISSION | SHEET 4 OF 4 | ©

DRG No. SWMS-ETP-JCG-SCB-SN100-TW-DRG-525854 | REV. C

A1 Original | Co-ordinate System: MGA Zone 56 | Height Datum: A.H.D | This sheet may be prepared using colour and may be incomplete if copied | NOTE: Do not scale from this drawing. | ALT. DRG No.