RCP

Student Centre and Library
Draft Construction Management Plan



Prepared for:
Waipapa Taumata Rau, University of Auckland

02 / 11 / 2026

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Preface

This plan has been prepared for the benefit of the University of Auckland. No liability is accepted by this company or any employee or subconsultant of this company with respect to its use by any other person. This disclaimer shall apply notwithstanding that the report may be made available to other persons for an application for permission or approval to fulfil a legal requirement.

This Construction Management Plan will be finalised upon granting of the resource consents and following appointment of the Contractor. The Contractor will determine the construction methodology for the Project on the basis of best practice. The environmental performance standards and environmental controls specified within this draft plan, resource consent conditions, and other management plans specified under the resource consents are the minimum requirements that the Contractors must comply with when undertaking construction activities on site. Confirmation will be required that the Contractors' management of the construction process is in accordance with the standards and controls specified within this management plan.

1 Background

1.1 Purpose of this document

This draft Construction Management Plan (CMP) details the principles, practices and procedures to be implemented on the demolition of the existing Student Union complex (Buildings B311 and B312) and the construction of a new Student Centre and Library (the "Project") on the corner of Princes Street and Alfred Street, within the City Campus of Waipapa Taumata Rau, the University of Auckland (the "Site"). These principles, practices and procedures are intended to meet conditions of consent, relevant legislation, and the objectives of the University of Auckland (the "University").

This CMP has been prepared prior to the appointment of a Main Contractor. An Early Contractor Involvement (ECI) contractor has been engaged and has informed the construction phasing, programme and methodology described in Section 2. This CMP therefore provides the framework for how effects will be managed to inform the application for consent. It is intended that a final Construction Management Plan, that builds upon and provides more detail to this CMP, will be prepared and submitted pursuant to a condition of consent once a Main Contractor is appointed, who will subsequently provide the final management plans.

Hard demolition is currently proposed to be procured as a separate contract package, in advance of the appointment of the Main Contractor for the balance of the works. The demolition contractor will be required to work in accordance with this CMP and the relevant Specialist Management Plans, and to provide its own detailed demolition management plans prior to commencing on site.

1.2 Scope and Application

This CMP is the umbrella document for the construction management and monitoring procedures to be implemented during the enabling, demolition and main works phases, together referred to as the "construction" phases of the Project unless otherwise specified. The CMP defines details of who, what, where and how management measures should be implemented.

It is supported by a range of Specialist Management Plans ("SMPs") for the management of specific effects. This suite of documentation presents a framework for appropriate environmental management practices to be followed throughout construction.

This CMP will be reviewed and modified (in line with the established framework) following confirmation of the resource consent and associated conditions as well as finalisation of detailed design and construction methods with the appointment of a Main Contractor. The CMP and SMPs will require review and amendment during the life of the Project to reflect changes to activities, risks, mitigation measures and management processes. Where changes are required, they will need to comply with the relevant consent conditions and will be submitted to Auckland Council for certification.

The Project team will be required to undertake all construction activities on site in accordance with the provisions of the relevant management plans and conditions of consent.

The Project Site sits within an operating university campus. A defining characteristic of this Project, and a matter addressed throughout this CMP, is that the majority of the buildings immediately adjoining the Site are owned and occupied by the University. Construction effects will therefore fall principally on the University's own students and staff, and the management of those effects is to be coordinated with the University's academic calendar and campus operations.

1.2.1 Purpose

This draft CMP, submitted in support of the consent application made under the Fast-track Approvals Act 2024, outlines a construction methodology and provides a framework of management plans and associated protocols to be implemented for the purposes of managing construction effects. The final CMP will outline all details required to enable the University and the contractor to construct the Project while managing effects resulting from construction activities. The most recent version of this plan will be held at the main site office at all times throughout construction.

Overall, the objectives of this CMP are to:

- Define the procedures to manage adverse effects resulting from construction activities;
- Set out the duration, frequency and timing of works to manage disruption, taking into account the University's academic calendar and other construction related activities occurring in the vicinity;
- Require engagement with affected receivers, including University students, staff and neighbouring occupiers;
- Protect the amenity, safety and continued operation of the surrounding campus; and
- Require timely management of complaints, including by implementing remedial actions, where appropriate.

1.3 Project Overview

The Project comprises the demolition of the existing Student Union complex and the construction of a new Student Centre and Library on the northern corner of the University's City Campus, at the intersection of Princes Street and Alfred Street, Auckland Central. The Site is legally described as Lot 1 DP 151178, Section 1 SO 46532 and Section 1 SO 44422, contained in Record of Title NA90A/610. The Project Site comprises approximately 6,000m² of the wider 26,282m² property and is zoned Business – City Centre under the Auckland Unitary Plan.

In summary the development comprises:

- The demolition of the existing Student Union complex, comprising Buildings B311 and B312 and the Student Quad Unit.
- Bulk excavation to establish two below-ground levels (Lower Ground and Basement), extending approximately 7.5 to approximately 10m below existing ground level with a basement foundation level of approximately RL 36 m.
- Total estimated bulk excavation of approximately 34,500m³.
- The construction of a new Student Centre and Library of approximately 19,568m² gross floor area over eight levels comprising two basement levels (Lower Ground and Basement), with six above-ground levels (Ground and Levels 1-5) and additional roof-top plant.
- New public realm and landscape works, including the interface with Alfred Street and the Princes Street frontage.

The buildings in closest proximity to the Site are:

- AUSA House (B322), a scheduled heritage building located directly adjacent to the works;
- Kate Edger Information Commons (B315), to the east;
- Hiwa Recreation and Wellness Centre (B310), to the south-east, including a basement pool hall retained by tensioned permanent ground anchors;
- The General Library (B109) and Old Choral Hall, across Alfred Street to the north; and
- Albert Park and the Albert Park Caretaker's Cottage, approximately 38m to the east, which is occupied by the Auckland City Mission during normal office hours and is the closest non-University occupied building to the Site.

2 Method Statement

The following methodology is to be refined and finalised once consents have been obtained, detailed design completed and a Main Contractor appointed.

2.1 Programme and Working Hours

2.1.1 Programme Summary

The following is a programme summary outlining the current programme developed for the Project.

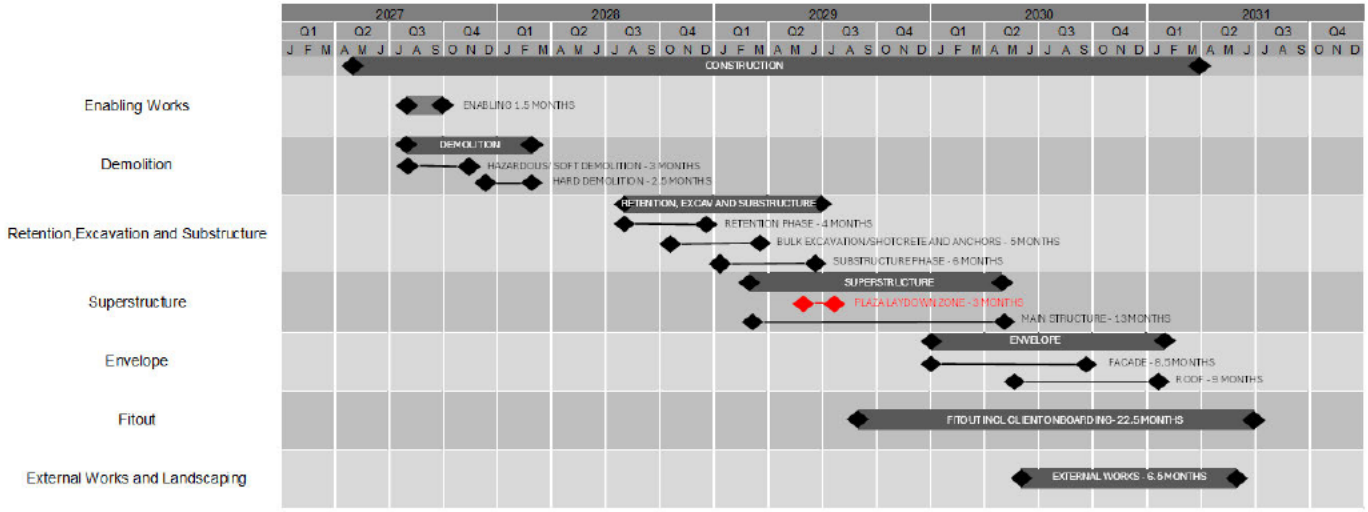

Figure 1: Indicative Summary Programme

This is summarised in the following table:

Project Phase	Duration
Enabling Works	1.5 months
Demolition	7 months
Retention, Excavation and Substructure	10 months
Superstructure	13 months
Envelope	12 months
Fitout	22.5 months
External Works and Landscaping	6.5 months

The key milestones for the Project are:

Milestone	Indicative Date
Commence enabling works and critical services investigation / relocation	May 2027
Commence soft demolition	August 2027
Commence hard demolition (following examinations)	November 2027
Complete demolition / clear site	February 2028
Site possession for main construction	June 2028
Commence main construction (from pile works)	July 2028
Complete retention, excavation and substructure	May 2029
Complete superstructure	March 2030
Fitout and Commissioning	February 2031
Practical Completion	July 2031

The hard demolition phase is programmed to occur between end November / December 2027 and February 2028, within the summer semester break, so that the noisiest activities fall outside teaching and examination periods. Programming against the University's academic calendar is a primary management measure for this Project and is to be carried through into the final CMP.

There is an interval of approximately four months between completion of demolition and site possession for the main construction works, during which the Site will be cleared, secured and largely inactive. Site security, hoarding and fencing, erosion and sediment control, dust suppression and tree protection will be maintained throughout, and the Site will be inspected in accordance with Section 5.2.

2.1.2 Construction Hours of Operation

Construction activities will be undertaken in accordance with the hours authorised by the relevant resource consents and project management plans.

It is anticipated that standard demolition and construction activities will generally be undertaken between 6:30am and 10:30pm Monday to Friday, 7:00am and 11:00pm Saturday, and 9:00am and 7:00pm Sunday (excluding public holidays), which reflect the time periods of the City Centre construction noise standards in Standard E25.6.28 of the Auckland Unitary Plan.

Certain activities may be undertaken outside these hours where required to safely carry out the works, maintain programme, or facilitate activities that are best undertaken during periods of reduced traffic and pedestrian activity, including major concrete pours, structural steel deliveries, crane and hoist erection and dismantling, and other critical/time-sensitive construction activities.

Any work undertaken outside standard construction hours will be managed in accordance with the approved Construction Noise and Vibration Management Plan (CNVMP), relevant consent conditions and any project-specific out-of-hours approval requirements.

2.2 Construction Methodology

2.2.1 Materials Deliveries

Material deliveries will be made via both the Princes Street loading bay and the Alfred Street site access points.

To ensure that there is sufficient public protection between the construction site and public roads, hoardings and site access gates will be erected prior to demolition works commencing.

The Traffic Engineer has provided input into the proposed materials handling sequences for each stage of the works. The stages for materials deliveries are detailed as follows:

Scenario	Phase	Loading and access	Movement
1a	Demolition, bulk excavation and substructure	Princes Street loading bay – 12.6m rigid, concrete mixer	Entry and exit to site
1b	Demolition, bulk excavation and substructure	Alfred Street – 12.6m rigid, concrete mixer	Entry and exit to site
2a	Remainder of construction – prior to construction of the Plaza	Princes Street loading bay – 19.45m semi-trailer, AT check vehicle, concrete mixer	Entry and exit to site
2b	Remainder of construction including Plaza access	Princes Street loading bay and Plaza – 19.45m semi-trailer, AT check vehicle, concrete mixer	Entry and exit to site

Figures 2 to 6 illustrate the above.

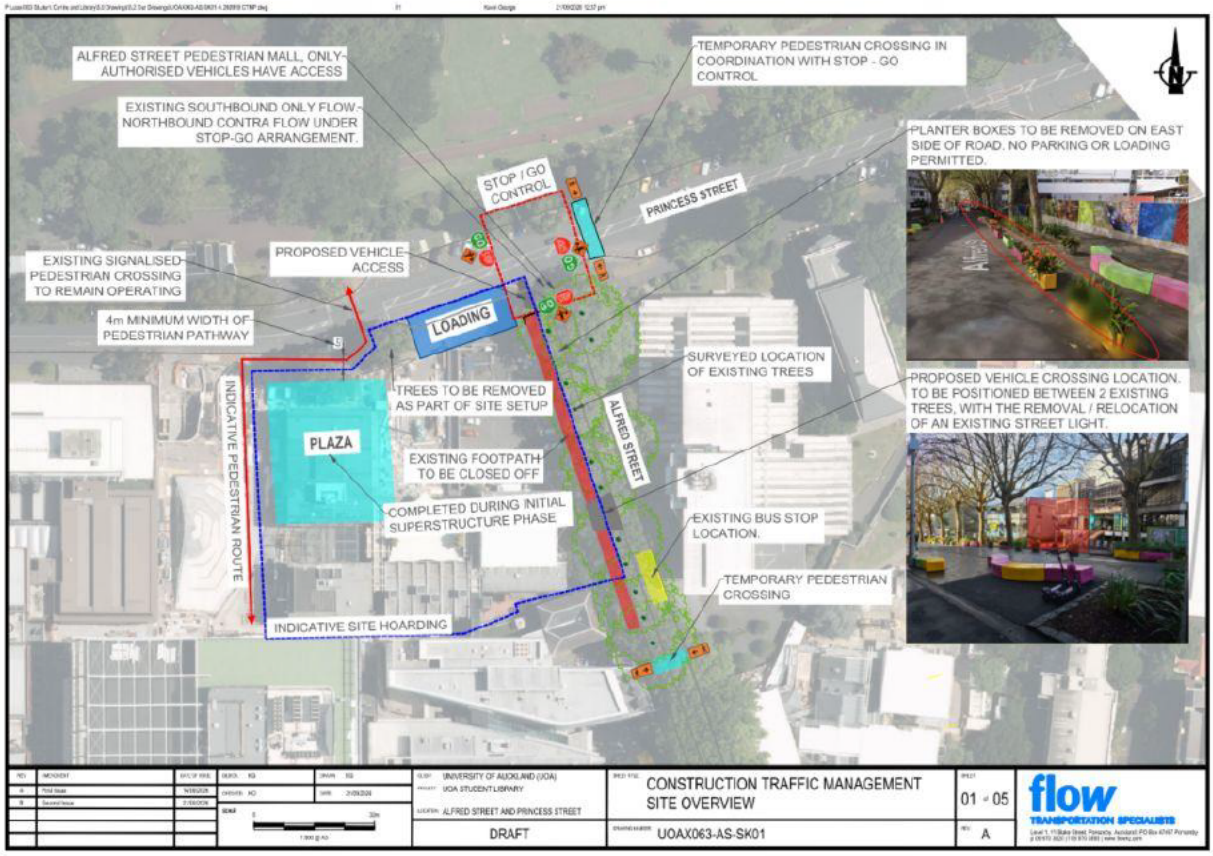

Figure 2: Construction Traffic Management Site Overview

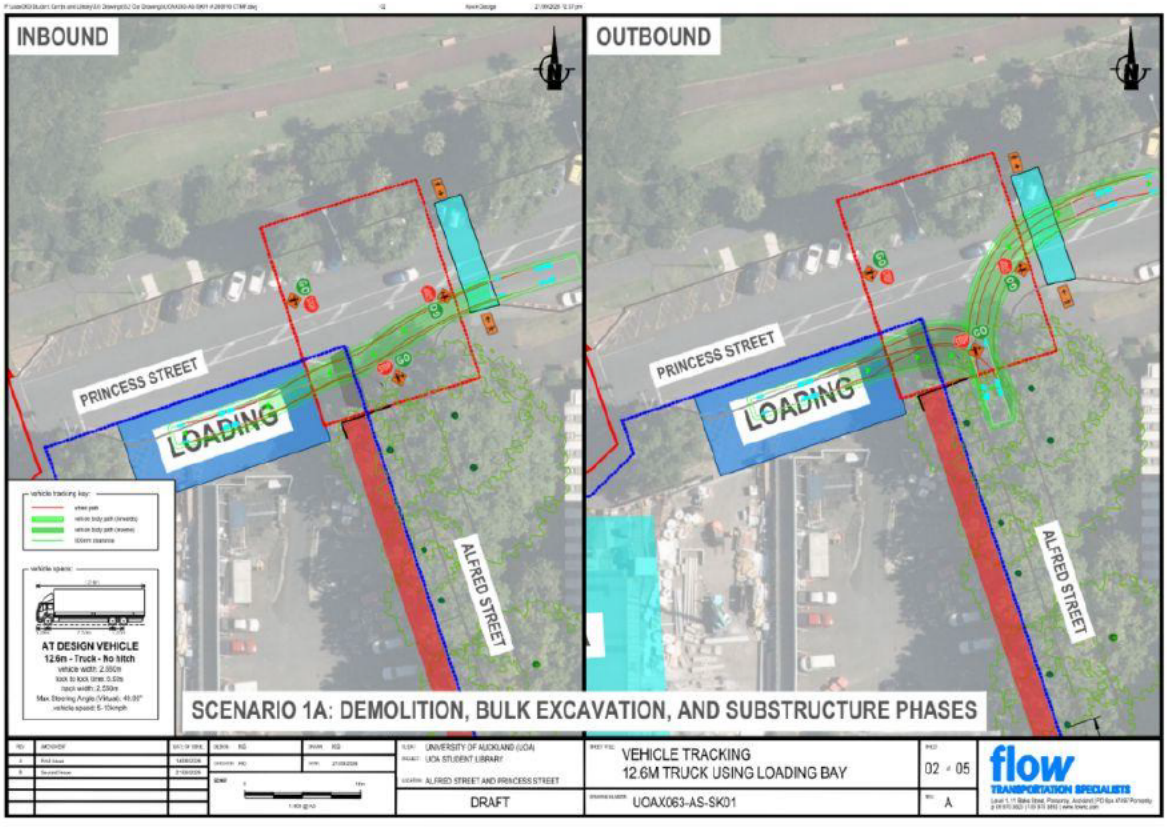

Figure 3: Scenario 1a – Demolition, Retention, Bulk Excavation and Substructure Phases

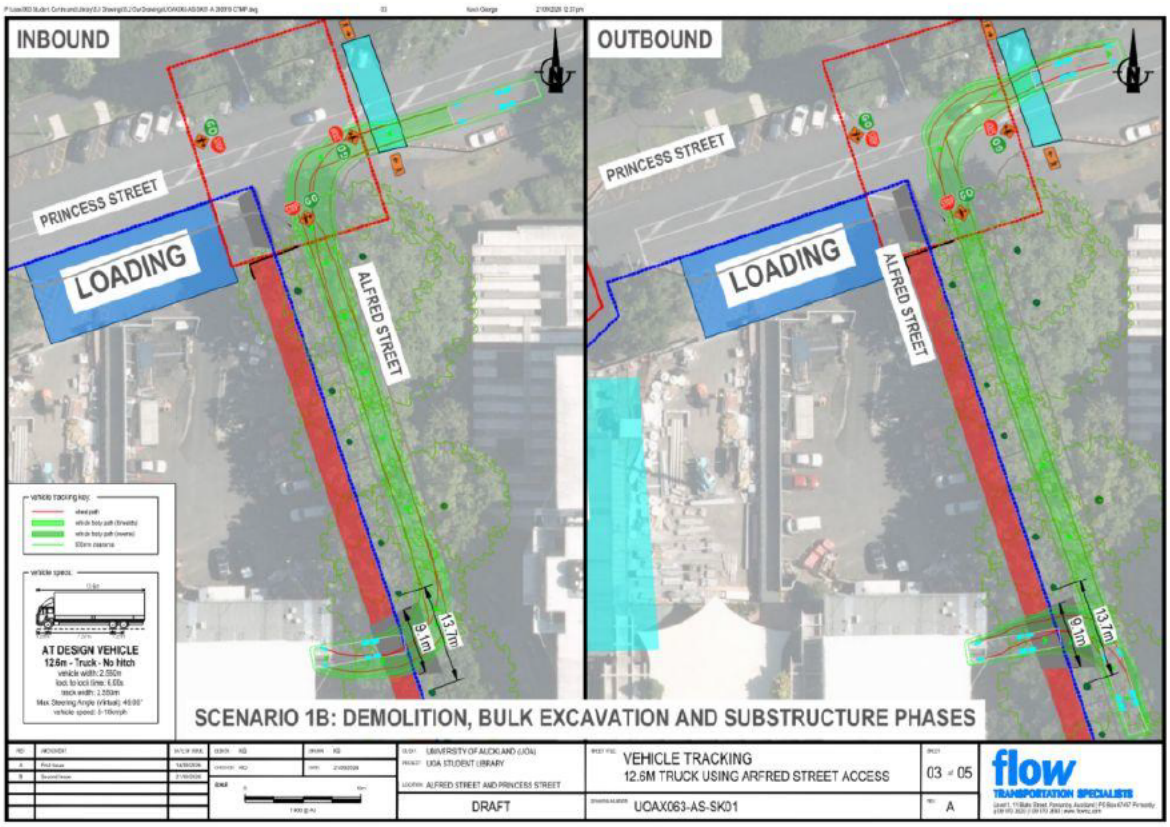

Figure 4: Scenario 1b – Demolition, Retention, Bulk Excavation and Substructure Phases

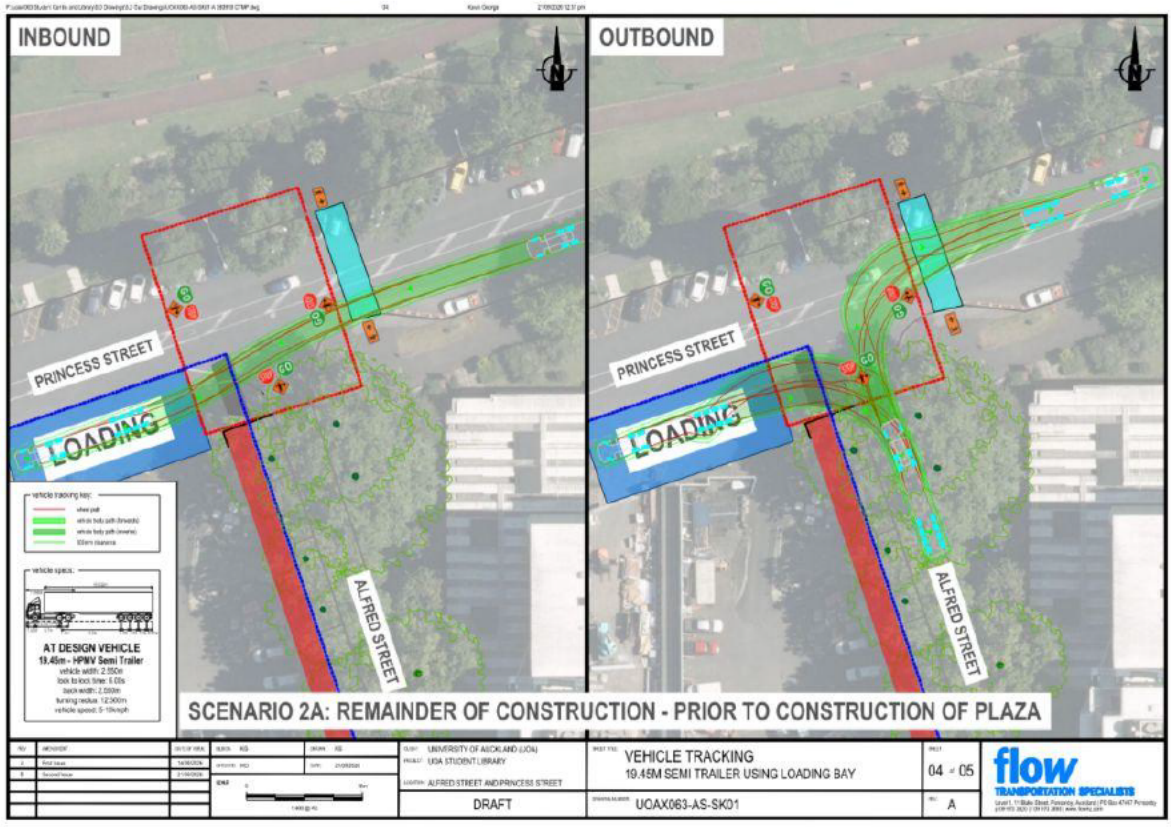

Figure 5: Scenario 2a – Remainder of Construction, Prior to Construction of the Plaza

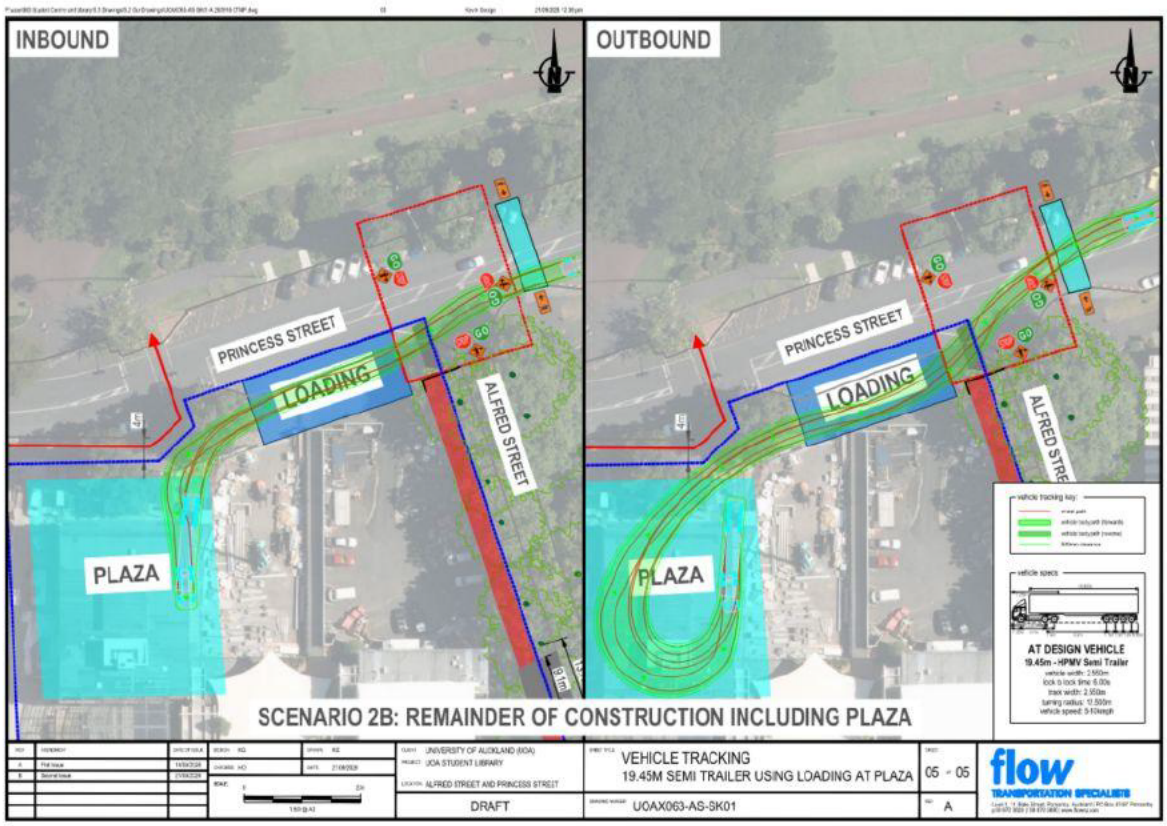

Figure 6: Scenario 2b – Remainder of Construction including Plaza Access

The following histogram represents the peak daily truck movements per month through each phase of the Project, and the likely materials deliveries scenario (1a, 1b, 2a or 2b) that will be used throughout the various activities in the programme, noting that the histogram is based on a gross programme.

Peak daily truck movements are forecast to reach approximately 80 movements per day during the bulk excavation phase in early 2029.

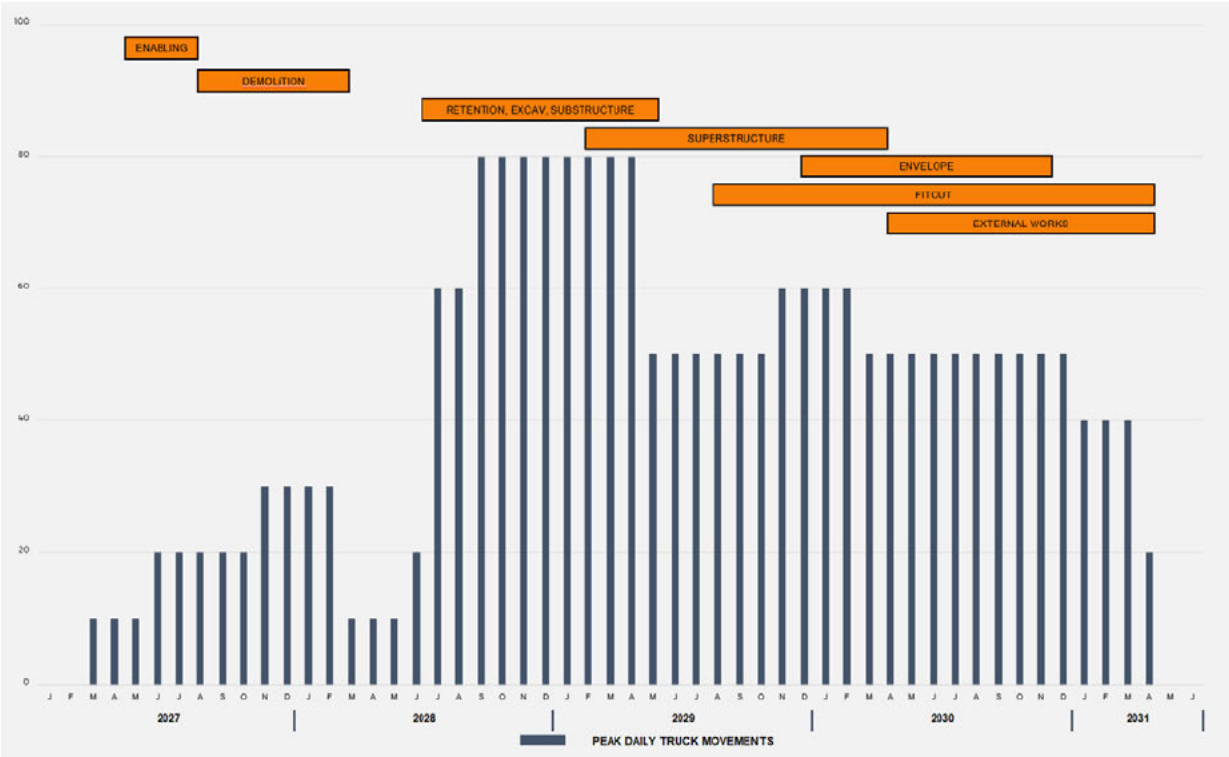

Figure 7: Peak Truck Movements Histogram

2.2.2 Hoardings and Site Access / Egress Gates

Hoardings will be installed along the site frontage of Princes Street and Alfred Street, as well as the adjacent University boundaries and pedestrian interfaces, to establish a secure barrier between the construction site and the public.

During the demolition phase of the works, the hoardings will be extended to encompass the Demolition Exclusion Zone as shown in Figure 8. The extent of the Demolition Exclusion Zone will be adjusted to suit the demolition activities being undertaken at each stage of the works.

Vertical protection will be erected adjacent to the AUSA House facade during the demolition and substructure phases of the works.

Site vehicle access and egress gates will be located on Princes Street and Alfred Street, with all vehicle movements managed by ticketed traffic control.

Personnel access to the Site will be provided via turnstiles located at both the Princes Street and Alfred Street entrances. These turnstiles will be managed through a swipe card and biometric access system that records all personnel movements to and from the Site and restricts access to inducted personnel who have satisfied all Occupational Health, Safety and Environment requirements.

Figure 8 illustrates the key hoarding arrangements and demolition exclusion zones for the demolition, excavation and construction phases of the Project.



Figure 8: Hoarding Plan

2.2.3 Alfred Street Stakeholder Interface

Access to Alfred Street will be maintained at all times throughout the construction period. A Traffic Controller will control the vehicle access points and briefly hold traffic movements while vehicles leave the Alfred Street egress point towards Princes Street.

Pedestrian access along Alfred Street will be maintained as shown in Figure 9.

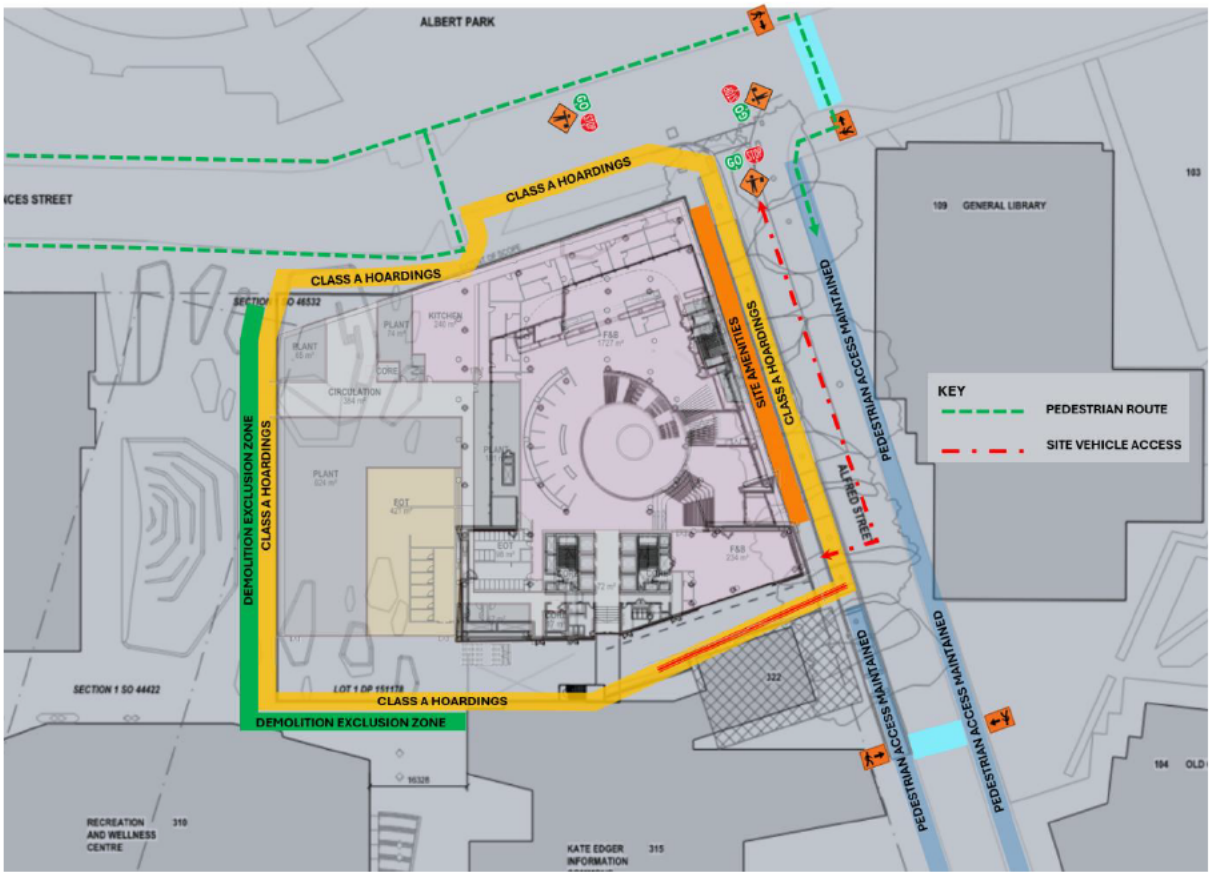

Figure 9: Alfred Street Interface

2.2.4 Scaffolding

External scaffolding will be erected up to Level 2 to facilitate the construction of the rainscreen facade only. External scaffolding will not be required for the installation of the curtain wall facade. Birdcage scaffolding may also be erected to facilitate the construction of the external soffits. The draft scaffolding plan is shown in Figures 10 and 11.

External scaffolding will generally be maintained within 2m of the new building facade. Localised buttress towers may extend beyond this footprint where required for stability, however, these will remain below the existing tree canopy where practicable.

Tree management and any required pruning adjacent to Alfred Street will be undertaken in accordance with the Project Arborist's recommendations, including trimming of existing trees up to 2m back from the building facade line (approximately 0.5m within the Site boundary), where approved and necessary to facilitate construction activities.

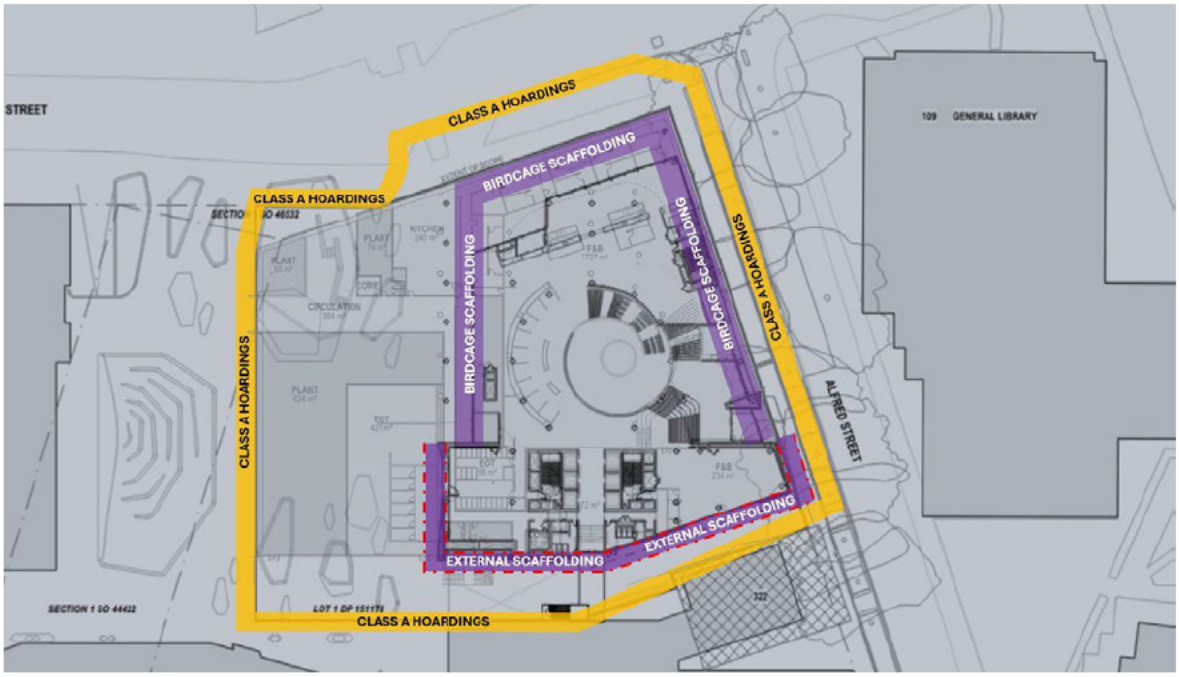

Figure 10: External Scaffold and Birdcage Plan

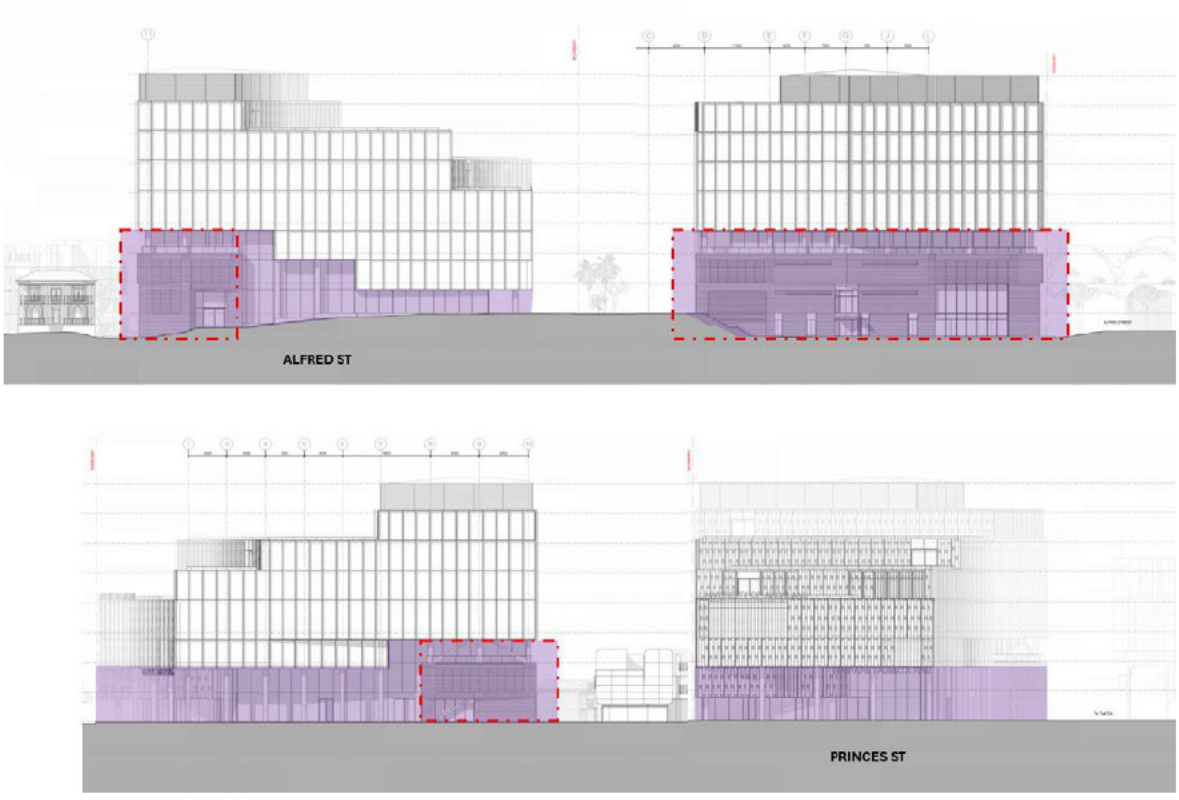

Figure 11: External Scaffold and Birdcage Elevations

2.2.5 Cranes and Hoisting

During construction, two tower cranes will be used to service the works. Mobile cranes may also be used periodically to undertake specific lifting activities or to supplement tower crane operations where required.

The indicative cranage configuration is as follows:

- Tower Crane 1 – luffing / flat-top tower crane located at gridlines C–D / 6–7; and
- Tower Crane 2 – luffing tower crane located at gridlines C–D / 2–3.

The crane configuration has been developed based on the anticipated lifting demands of the Project and will provide a safe and efficient means of constructing the Student Centre and Library, including structural works, facade installation, material handling and waste removal throughout the Project.

Once the Plaza has been constructed, a twin man / materials hoist will be installed along grid D / 4–5 to service Level 1 to roof.

Crane and hoist erection and dismantling are activities that may require works outside standard construction hours and will be notified in advance in accordance with Section 5.4. Crane over-sail of adjoining University buildings and of Albert Park will require agreement with the University and, where relevant, the landowner or administering body. Loads will not be over-sailed above occupied buildings or public areas outside the hoarding line without specific procedures agreed in advance.

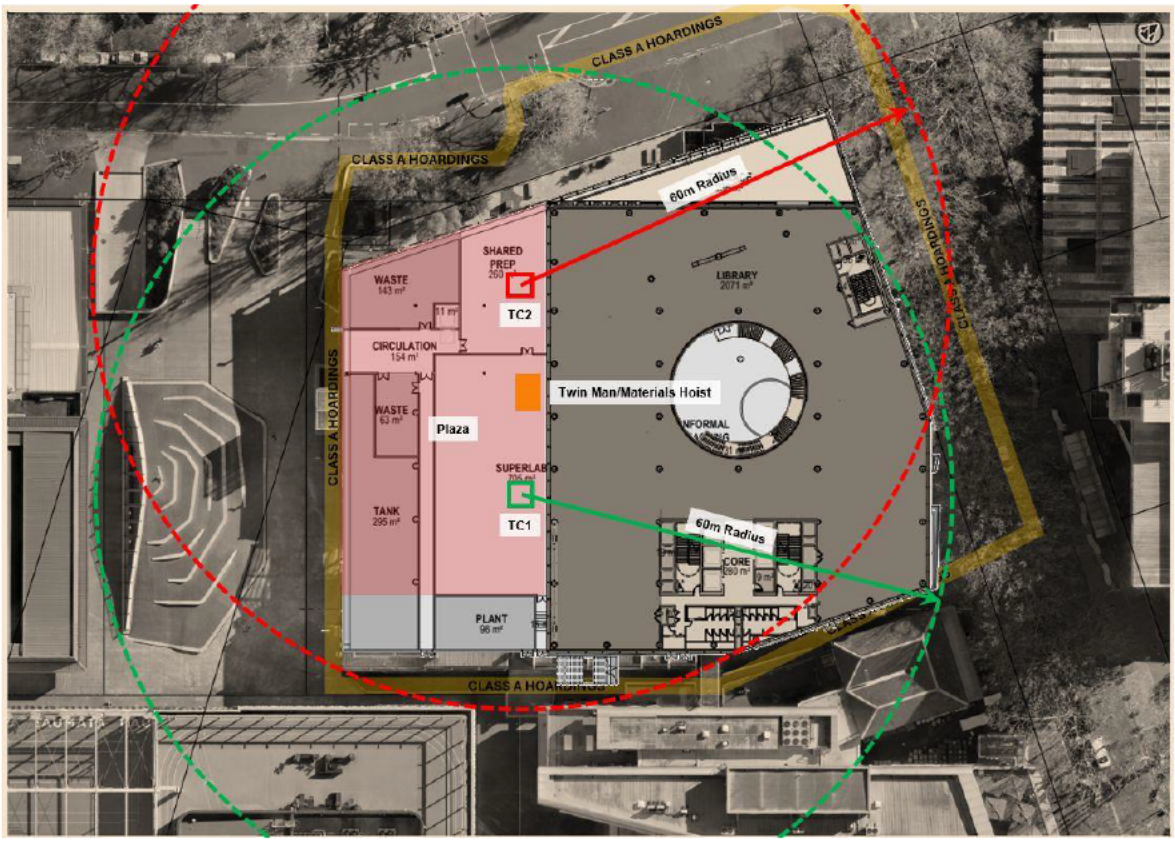

Figure 12: Indicative Crane and Hoist Locations

2.2.6 Site Office and Other Requirements

In order to complete the construction works it is necessary to provide site amenities for the workers, including lunch, ablution, first aid and wash down facilities.

Various possibilities exist for accommodating Project personnel and include:

- Portable offices along Alfred Street within the site hoardings; and
- Within the new basement and plaza structure once these are completed.

The following are to be determined:

- Measures to be adopted to maintain the Site in a tidy condition, including the disposal and storage of rubbish;
- Location and servicing of workers' conveniences, and transport and parking arrangements;
- A site plan showing material, plant and machinery storage areas; and
- Measures to ensure that, to the extent practicable, construction activities are managed taking into account other construction activities occurring in the vicinity at the same time.

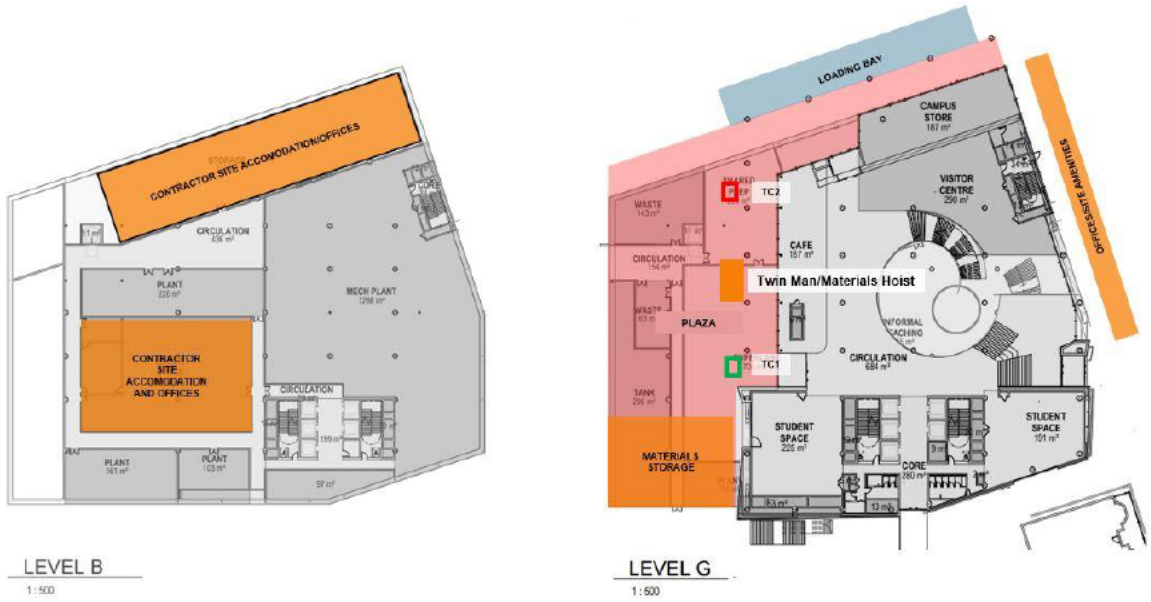

Figure 13: Possible Site Accommodation Zones

2.2.7 Pre-Demolition Works

Prior to the commencement of demolition works, there are a series of critical enabling works which must be undertaken. The scope of the enabling works is as follows:

- Management of all affected building services, including the necessary disconnection, relocation or protection of services as required;
- Completion of building condition and pre-demolition asbestos surveys to establish baseline conditions and inform the demolition works;
- Location and protection of drainage beneath Buildings B311 and B312 and the former Maidment Theatre;
- Location and isolation of public and University utility services serving Buildings B311 and B312;
- Establishment of a new fire attendance point on Princes Street;
- Relocation of the Building B312 Vector substation and decommissioning of the Building B312 low-voltage Vector transformer; and
- Completion of the required Building B315 Vector 11kV substation works.

The final sequence of service isolations, relocations and protection works will be coordinated with the University, utility providers and other relevant stakeholders. Services required to remain operational for adjacent buildings and continued University operations will be identified and appropriately protected or temporarily diverted before the affected demolition works commence.

2.2.8 Demolition

The scope of the Project requires that the construction methodology reflect a logical demolition and construction process capable of being undertaken in an efficient and safe manner within an active University campus.

The demolition works will include:

- Removal of asbestos-containing materials and other identified hazardous materials;
- Internal soft strip and removal of redundant building services;
- Removal of canopies, elevated walkways, atrium interfaces and other connecting structures;
- Structural demolition of the existing buildings;
- Removal of foundations and below-ground structures where required;
- Processing, segregation and removal of demolition materials; and
- Site clearance in preparation for the subsequent construction works.

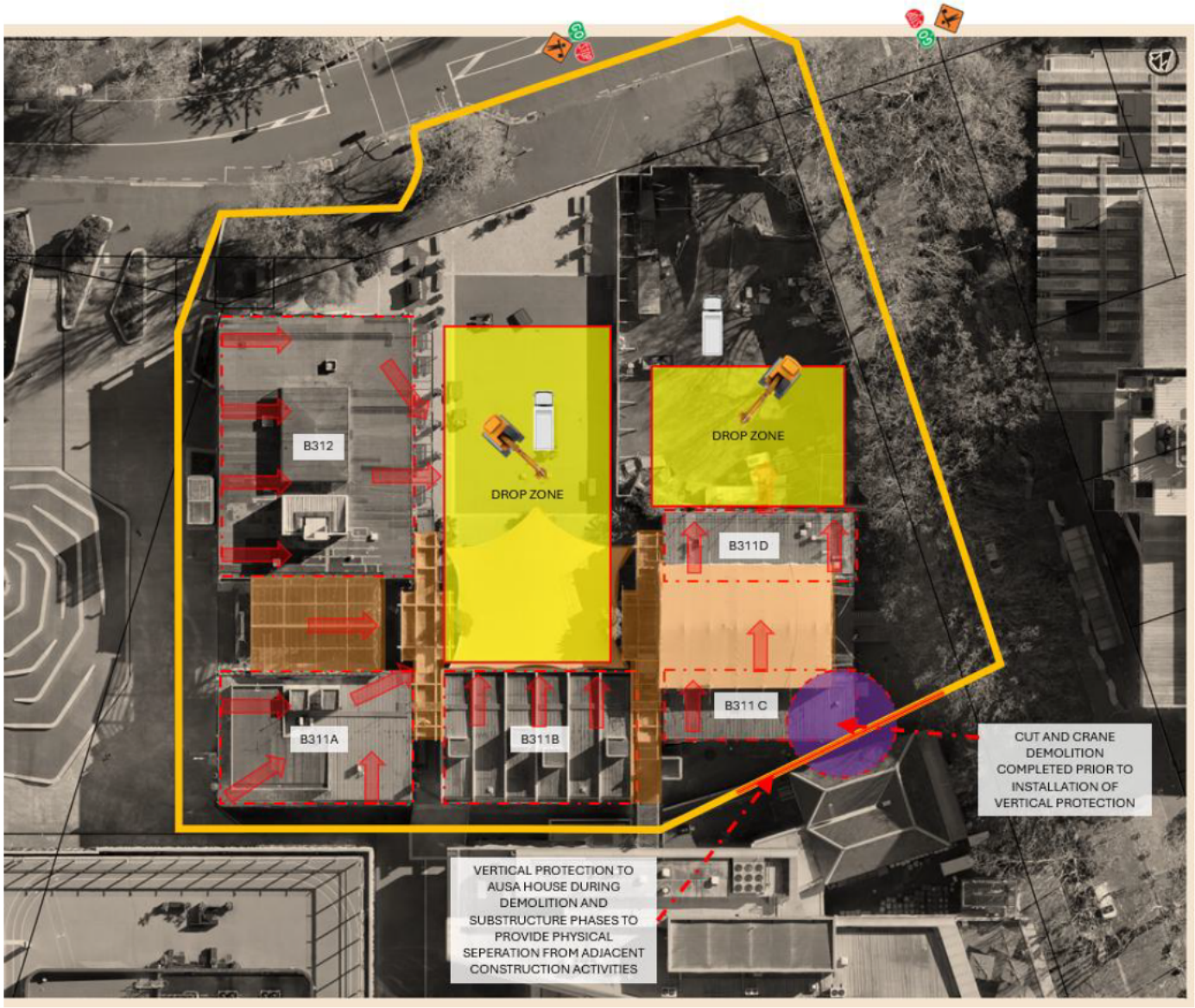

Figure 14: Indicative Demolition Staging Plan

Following termination of redundant services, the completion of make-safe works and removal of asbestos-containing and other identified hazardous materials, internal soft demolition strip-out will be progressively undertaken. Demolition activities will only commence within work areas that have received the required clearance certification from the suitably qualified and experienced person (SQEP).

Canopies, walkways, atrium interfaces, temporary roof structures and other elements connecting the existing buildings will be removed before or in conjunction with the structural demolition. These works may involve scaffolding, elevated work platforms, temporary supports, controlled deconstruction, saw cutting and crane-assisted lifting.

Hard demolition will proceed using a controlled top-down methodology. Demolition will commence at Building B311D and progress through the remaining structures as safe and cleared work areas become available. Demolition may proceed concurrently in other areas where structural stability, access and separation between work activities can be maintained.

The hard demolition phase is programmed to occur between November / December 2027 and February 2028 to reduce disruption to surrounding University buildings and campus activities during the academic semesters.

The existing structures will be mechanically demolished using appropriately sized excavators fitted with suitable demolition attachments. Pulverisers and shears will be used in preference to impact breakers where practicable to minimise noise and vibration effects. Demolition material will be progressively cleared from the work areas and transferred to designated processing, segregation and load-out areas.

The demolition approach will establish sequential work areas to support the safe and efficient progression of the works. Rudman Garden and the former Maidment Theatre site will be used for demolition laydown, material processing and load-out.

Care will be required where demolition activities interface with retained buildings, occupied University facilities and AUSA House.

The constrained interface adjacent to AUSA House, identified on Figure 14, will be demolished using a cut-and-lower methodology to provide a controlled separation between the existing structure and the heritage building. Following removal of this interface, vertical protection will be erected adjacent to AUSA House and maintained throughout the demolition and substructure phases of the Project.

Noise, vibration and building protection measures will be implemented in accordance with the Construction Noise and Vibration Management Plan, relevant local authority requirements and resource consent conditions.

Dust, noise and vibration generated by the demolition works will be managed through the relevant Specialist Management Plans. Measures will include wet suppression, local containment or screening, reduced material drop heights, progressive material removal and lower-impact demolition methods where practicable.

Demolition materials will be progressively processed and separated into appropriate waste streams. There will be no on-site crushing of demolition material. Concrete, masonry, structural steel, timber and other recoverable materials will be reused, recycled or recovered where practicable. Hazardous materials will be removed and disposed of through approved facilities. A site-specific Waste Management Plan will be developed following appointment of the contractor and prior to demolition commencing.

Detailed demolition methodologies, temporary works designs, Asbestos Removal Control Plans, lift plans and task-specific safety and environmental documentation will be developed prior to the relevant activities commencing. The demolition sequence, plant selection and methodology may be refined following detailed design, completion of site investigations and appointment of the contractor.

2.2.9 Retention Piling and Ground Retention

Following completion of the demolition works, perimeter retention activities will be undertaken. The retention system comprises of reinforced concrete piles, ground anchors and shotcrete facing installed in accordance with the approved geotechnical and structural design. Two piling rigs will be utilised to undertake the retention piling works, commencing at Grid A/3 and Grid A/10 respectively, before progressively working towards the Alfred Street site entrance.

Once the retention piling works are sufficiently advanced, construction of the retention wall capping beam will commence. This will facilitate the staged excavation of the site and the progressive installation of ground anchors and shotcrete facing. Retention and excavation activities will be sequenced to maintain ground stability and safe site operations, with all works undertaken in accordance with the project-specific geotechnical, structural and temporary works requirements.

The proposed retention and excavation sequencing is shown in Figure 15.

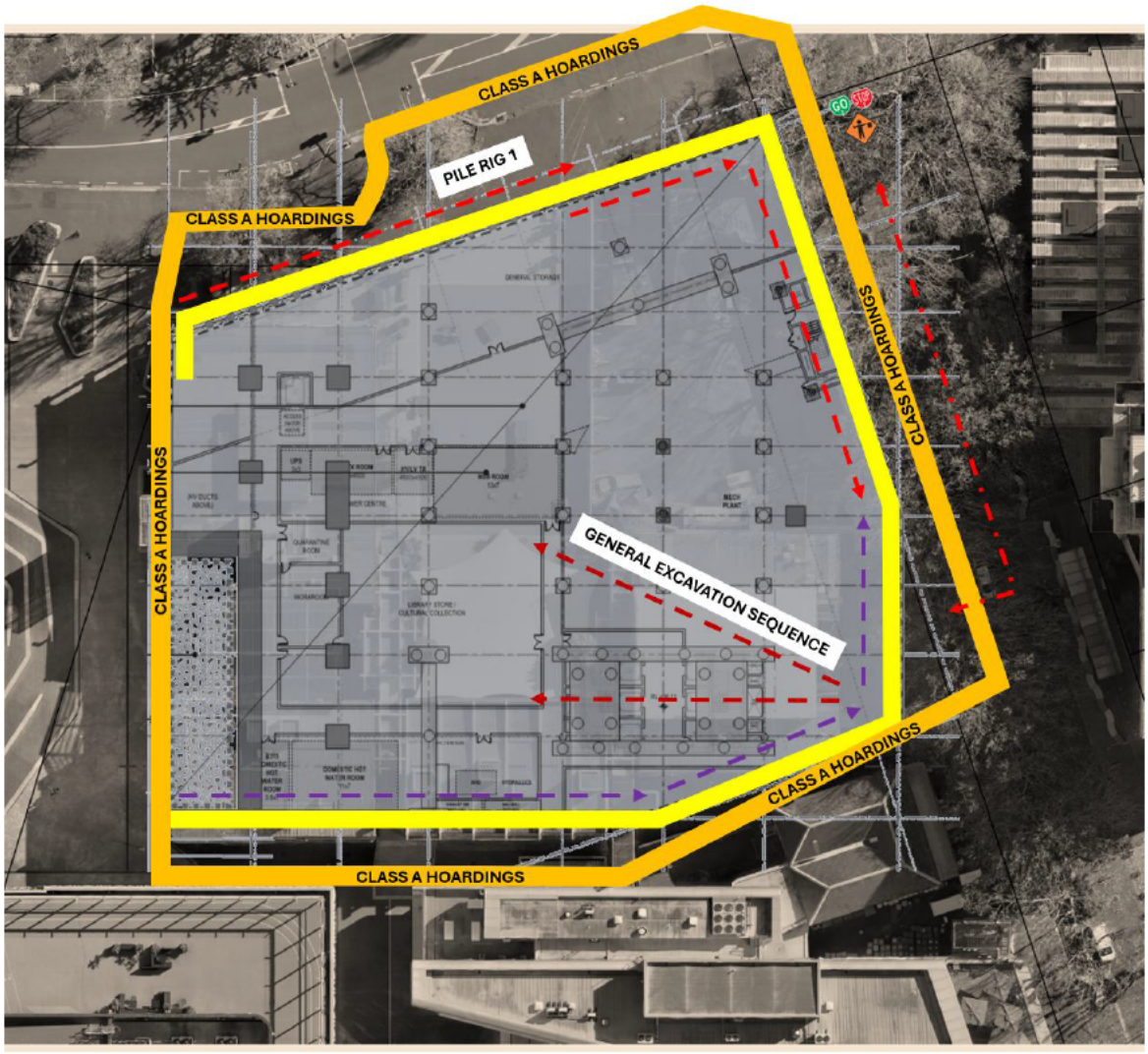

Figure 15: Proposed Retention and Excavation Sequencing

2.2.10 Bulk Excavation and Substructure

Bulk excavation will commence following completion of the initial perimeter retention works. A site access ramp will be established from Alfred Street to provide access to the basement excavation. Bulk excavation will then proceed to the required formation levels, with a perimeter bench retained as required to allow construction of the capping beam, installation of ground anchors and application of shotcrete.

Any unsuitable material or localised soft spots encountered during excavation will be removed and replaced with engineered fill in accordance with the project geotechnical requirements. Particular care will be taken in areas adjacent to the Hiwa Recreation and Wellness Centre where existing retaining structures and associated ground anchors interface with the proposed excavation.

Following completion of the bulk excavation works, an engineered piling platform will be established and building pile construction will commence. Detailed excavation for pile caps, ground beams and foundation pads will then follow to allow foundation construction. The works will be sequenced to prioritise construction of the in-situ core and superstructure, with associated civil works, tanking works and basement slabs completed progressively in accordance with the overall construction programme.

2.2.11 Superstructure

The superstructure comprises a predominantly structural steel frame with composite floor construction and localised in-situ concrete elements. The primary structural core is an in-situ reinforced concrete core extending from Basement Level to Level 6.

The superstructure has been divided into three construction zones (Figure 16), with Zone 3 comprising the podium structure and terminating at Plaza Level, while Zones 1 and 2 form the main building structure.

Zone 2 terminates at Level 5, while Zone 1 continues above to accommodate the Level6 plant room, lift overruns and associated roof plant areas.

Construction of the in-situ concrete core will commence following completion of the foundation works. The core will initially be constructed from Basement Level to Level 1 using a jumpform system.

Following completion of the Level 1 floor structure, the core will continue to progress to Level 4. Structural steel erection and composite floor construction will then proceed, allowing the core to be tied into the structure before continuing to Level 5. Structural steel erection will be coordinated around the column splice levels at Levels 1 and 4, with the structural steel frame, composite floors and in-situ core progressing concurrently as the building structure is constructed.

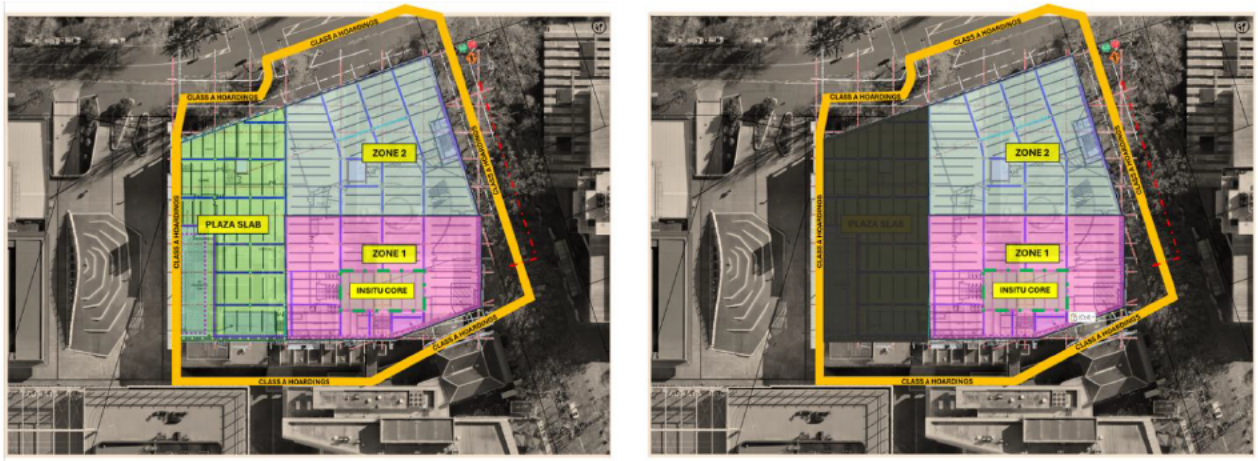

Figure 16: Construction Zones

2.2.12 Facade

Façade works will commence once the superstructure has progressed sufficiently to allow safe installation of the building envelope. The façade comprises a combination of unitised curtain wall systems, façade screening elements, vertical fins, podium glazing, terracotta rainscreen cladding, louvres, balustrades and associated roof plant enclosures.

The primary façade system will comprise unitised curtain wall panels. Where required, façade fins will be attached to the unitised panels prior to installation. Curtain wall panels will be delivered and loaded out from Levels 3 and 6, with installation undertaken progressively as the structure advances. Façade installation will be undertaken using a combination of Unic cranes, monorail systems and the tower crane, depending on the location and access requirements of the work area. Terracotta rainscreen cladding will be installed from scaffold working platforms as the building envelope progresses. The building envelope will be installed progressively to allow internal fitout activities to commence as areas become enclosed.

2.2.13 Services, Fitout and Commissioning

Services and fitout works will be undertaken as the superstructure progresses. Activities not dependent on a weather-tight building envelope will be undertaken where access permits. These activities will include building services first fix, steel stud framing, riser construction and associated coordination works.

To support construction activities, portions of the basement and ground floor levels will remain in use for site accommodation, material storage, vertical transport and construction logistics. As a result, fitout of these areas will be deferred to maintain efficient site operations and support completion of the remaining works.

Main plant rooms, electrical rooms, communications rooms, risers and associated back-of-house areas will be prioritised to support the installation, testing and commissioning of building services. Provision of access for utility services and placement of major plant and equipment will commence once floors are sufficiently clear of back propping from the structural works to provide a safe and suitable working environment. Emphasis will also be placed on establishing permanent power as soon as practicable.

The building services strategy includes central air handling units (AHUs), Variable Air Volume (VAV) terminal units and associated electrical, hydraulic and mechanical services infrastructure. Heat pumps, chillers and associated plant located at Level 6 will provide domestic hot water and chilled water to the building.

Installation of major plant and equipment will be coordinated with the structural, façade and fitout works.

A detailed commissioning plan will be developed by the Contractor to ensure all building services, systems and functions are inspected, tested and commissioned prior to handover. Commissioning activities will include testing, balancing, system integration and ongoing optimisation to ensure the facility operates efficiently and effectively following occupation.

2.2.14 External Works and Public Realm

External works comprise the Alfred Street and Princes Street interfaces, the new public realm, landscape and planting works. These works will be undertaken in coordination with the University's wider City Campus Masterplan initiatives, including the proposed pedestrianisation of Alfred Street, and with Auckland Transport where works fall within the road corridor.

Tree protection measures will remain in place throughout the external works and will only be removed once all heavy vehicle and plant movements in the vicinity of protected trees have been completed.

2.2.15 Campus Interface and Continuity of University Operations

The Site is bounded on three sides by operating University buildings, and pedestrian desire lines through and around the Site carry very high student volumes, peaking between 12 noon and 1.00pm. The following interface measures apply throughout construction:

- There will be no pedestrian access through the Site. Alternative routes will be maintained via the Recreation Centre plaza and Alfred Street, and will be signed and lit.
- The footpath on the eastern side of Princes Street, past the Site, will be closed for the duration of the works. Pedestrians will be diverted to the western footpath, which will remain open throughout, with signage and lighting provided at the points of diversion.
- Crossing points on Princes Street will be maintained at the existing signalised pedestrian crossing and at a proposed temporary pedestrian crossing to the north of Alfred Street.
- With the eastern footpath closed, no pedestrian movements will cross either of the site vehicle accesses.
- Access to AUSA House, Kate Edger Information Commons and the Hiwa Recreation and Wellness Centre will be maintained at all times, including accessible access and emergency egress.
- Service and emergency vehicle access to the surrounding campus buildings will be maintained.
- Works with the potential to affect the operation of adjoining buildings, including works affecting shared services, will be programmed in consultation with the University's Property Services team and, where practicable, scheduled outside teaching periods and examination periods.
- The construction programme will be reviewed against the University's academic calendar at least each semester, and the noisiest activities scheduled into breaks wherever practicable.

3 Environmental Management

This section outlines and addresses environmental effects that may be generated from construction activities.

Each of the issues identified as requiring control, management or mitigation has been discussed in an SMP to address effects and set out appropriate management. Specialist subject authors have developed the SMPs that support this CMP.

The following sections identify Project related potential impacts, the guidance for the management of those impacts, and the Project issues that need to be considered in their management. The referenced SMPs set out the current expectations for the successful Main Contractor when appointed and should be read in their entirety for full detail.

The management plans that are required for the Project are:

- This Construction Management Plan;
- Construction Noise and Vibration Management Plan;
- Construction Traffic Management Plan;
- Construction Air Quality Management Plan;

- Erosion and Sediment Control Management Plan;
- Stormwater Management Plan;
- Groundwater and Settlement Monitoring and Contingency Plan;
- Contaminated Site Management Plan;
- Asbestos Management Plan;
- Tree Protection and Management Plan;
- Archaeological Management Plan.

3.1 Noise and Vibration

3.1.1 Potential Effects

Construction activities including demolition, piling, excavation and structure construction are likely to generate periods of elevated noise and vibration levels. There are likely to be some temporary noise and vibration effects on buildings surrounding the Site, principally:

- AUSA House (B322) – a scheduled heritage building located directly adjacent to the works;
- Kate Edger Information Commons (B315);
- Hiwa Recreation and Wellness Centre (B310);
- The General Library (B109) and Old Choral Hall, across Alfred Street; and
- Albert Park Caretaker's Cottage, approximately 38m from the buildings to be demolished and 30m from the new building – the only non-University occupied building within 100m of the Site, occupied by the Auckland City Mission during normal office hours and not occupied overnight.

All other occupied buildings within 100m of the Site are owned and operated by the University. The University has nonetheless directed that effects on its own students and staff be managed as a Project objective, not only as a compliance matter.

3.1.2 Management Measures

Construction noise and vibration effects have been assessed by Marshall Day Acoustics. Construction noise is predicted to infringe permitted limits at the most exposed occupied rooms of neighbouring UoA buildings but comply at the closest non-University building. Construction vibration standards are predicted to be met with the CNVMP in place.

A draft Construction Noise and Vibration Management Plan ("CNVMP") has been prepared by Marshall Day Acoustics that outlines the Project's construction noise and vibration mitigation and management measures, and identifies the best practicable option. Once a contractor is appointed the CNVMP will be updated to reflect the confirmed methodology and plant. The following key mitigation and management measures are proposed to be implemented:

The following key mitigation and management measures are proposed to be implemented:

- Programming of the hard demolition phase into the summer semester break (end November / December 2027 to February 2028).
- Temporary noise barriers with a minimum surface mass of 6.5 kg/m² and a minimum height of 2m, abutted or overlapped to provide a continuous screen without gaps, installed before works commence and maintained throughout, and positioned close to the activity to block line of sight to sensitive receivers, recognising that the site hoarding alone may not be effective for receivers on upper floors. Noise enclosures will be used where a barrier cannot achieve the noise limits, particularly for stationary plant and cutting stations.
- Selection of quieter methodologies and plant – cutting and lowering large sections of the structure adjacent to AUSA House, pulverisers or shear attachments in preference to breakers, breakers fitted with blankets or shrouds, large concrete pieces removed for off-site breaking, bored piling in preference to driven piling, electric motors in preference to diesel engines, rubber tracked in preference to steel tracked equipment, plant suitably sized for the task and well maintained, and non-tonal reversing alarms where practicable.

- Activity-specific measures set out in the CNVMP for concrete cutting, concrete breaking, bored piling, compaction and rattle guns, including a shrouded blade and water supply for cutting, an initial perimeter saw cut before concrete breaking to reduce vibration transfer to nearby buildings, avoidance of shaking the auger to remove spoil during piling, and avoidance or minimisation of the vibratory function on rollers.
- Avoidance of unnecessary noise and vibration through site discipline – no shouting, no unnecessary use of horns, no outdoor site radios, no rough handling of material, no banging or shaking of excavator buckets, no unnecessary steel-on-steel contact, no high engine revs, no unnecessary dropping of heavy objects, and no potholes, bumps or corrugations in site accessways.
- Induction training for all staff before starting work, covering the activities with potential to generate high noise and vibration levels, the mitigation and management measures, the sensitive receivers and any agreements reached through engagement, and the monitoring requirements, with updates addressed at regular site and toolbox meetings.
- Written communication to neighbouring building occupants at least ten working days prior to the commencement of demolition and construction, ongoing communication of upcoming activities and any changes to their timing, and at least three days' notice to the occupants of all buildings within 50m where daytime vibration is predicted to exceed 2mm/s PPV.
- Attended noise and vibration monitoring by a suitably qualified and experienced acoustic specialist at the commencement of concrete breaking, compaction and any other activity with potential to infringe the vibration limits at AUSA House, and in response to any reasonable complaint, with the predicted levels updated as results become available.
- Pre-construction and post-construction building condition surveys of AUSA House, and cessation of any vibration-generating activity as soon as it is safe and practicable to do so where a building protection limit is exceeded, with works not recommencing until the methodology has been reviewed by the acoustic specialist and, in the case of AUSA House, the Project Heritage Architect.

3.2 Traffic Management

3.2.1 Potential Effects

A construction traffic assessment reflecting the construction methodology has been prepared by Flow Transportation Specialists and is contained within the draft Construction Traffic Management Plan (CTMP) and the Transport Assessment.

Princes Street carries approximately 6,180 vehicles per day with a peak hourly volume of 845 vehicles and a speed limit of 30km/h. It provides access to the University campus, contains extensive on-street parking, and generates considerable pedestrian activity given its proximity to Albert Park. Alfred Street is signed as a pedestrian mall, is used only by University-related service vehicles and the Outer Link bus route, and carries fewer than 1,000 vehicles per day at a speed limit of 10km/h.

Peak truck movements are forecast to reach a maximum of approximately 80 movements per day, being 40 trucks per day or approximately three to four trucks per hour if spread evenly over the day. That peak will occur only for a relatively short period during the initial earthworks and substructure phases, and truck volumes during the neighbouring Hiwa Recreation and Wellness Centre construction were broadly similar, peaking at 45 trucks per day. The largest vehicles accessing the Site will be 12.6m rigid concrete mixers during demolition, bulk excavation and substructure, and 19.45m semi-trailers for the remainder of the construction, with over-dimension loads required for large deliveries such as structural steel.

Different stages of demolition and construction will require management of traffic lanes and pedestrian footpaths on Princes Street, and potentially on Alfred Street. There will be no pedestrian access through the Site, the footpaths immediately adjoining the Site will be closed, and the Princes Street / Alfred Street intersection will be under temporary traffic management throughout the works. Auckland Transport proposes to reroute the Outer Link and the out-of-service 930 series away from Alfred Street as part of its City Centre transport plan; if that change is not implemented before construction starts, those services will continue to use Alfred Street alongside construction traffic. Given the overall length of construction and the different phases that will occur, the exact construction traffic methodology is likely to vary to adapt to the requirements and methodology of the Main Contractor.

The construction phase will also generate light vehicle movements. Contractors will be encouraged to use public transport, noting the Site's proximity to the Symonds Street frequent transit corridor.

3.2.2 Management Measures

It is considered that construction traffic effects can be managed with the implementation of a CTMP which will outline the agreed methodology for traffic management throughout the Project. The CTMP is to be prepared based on the following principles:

- Ensure safety for pedestrians, cyclists, motorists and construction staff at all times;
- Ensure construction traffic movements on the transport network are appropriately managed;
- Provide safe access and egress for construction vehicles;
- Protect the public from construction activities and contain the construction works within the Site;
- Minimise disruption to the transport network, including unnecessary pedestrian, road and bus lane closures, and provide safe alternatives where any closures are required;
- Ensure compliance with Auckland Transport's Temporary Traffic Management requirements; and
- Set out the proposed duration, frequency and timing of demolition and construction works to manage disruption to the transport network, taking into account other construction related activities occurring in the vicinity.

The following specific measures are proposed:

- The majority of construction vehicles will travel to and from the Site via the SH16 / Alten Road / Waterloo Quadrant / Princes Street route, keeping heavy vehicle movements generally away from Symonds Street, which is an important public transport and pedestrian corridor. Trucks will not travel eastbound on Alfred Street through the Symonds Street / Alfred Street intersection. Over-dimension vehicles will use Symonds Street, which is a permitted over-dimension route.
- A maximum of two vehicle crossings will be provided, on Princes Street and on Alfred Street, with the Alfred Street access used predominantly during the demolition phase. All demolition work, including the storage of equipment and materials, will take place within University property.
- The footpaths immediately adjoining the Site will be closed for the duration of the works, including the Princes Street footpath between the existing signalised crossing and Alfred Street and the southern side of the Alfred Street footpath. Closing the footpaths across both vehicle crossings removes routine conflict between pedestrians and heavy vehicles, and traffic controller management will be retained at both accesses.
- There will be no pedestrian access through the Site. Alternative routes will be maintained via the Hiwa Recreation and Wellness Centre plaza and Alfred Street, and will be signed and lit.
- The existing signalised pedestrian crossing on Princes Street will be kept open until the landscaping and streetscape works at the Site frontage, and a controlled pedestrian crossing will be provided across Princes Street on the eastern side of Alfred Street. During the Princes Street streetscape works the existing crossing will be closed and upgraded, with an alternative signalised crossing provided immediately to the west.
- Where large trucks need to reverse into or out of the Site, portable traffic signals will be set up on either side of the vehicle access and operated remotely by a Site Traffic Management Supervisor, with signals turned off after the manoeuvre. This arrangement was implemented for the Hiwa Recreation Centre construction on Princes Street in 2021/2022 resulting in minimal delays to traffic and to the Outer Link bus route.
- Trucks will enter the Alfred Street vehicle crossing in a forward direction and reverse out, travelling northbound up Alfred Street towards Princes Street against the existing one-way direction, in order to avoid the heavily used Symonds Street pedestrian crossing. This movement will be managed under a temporary Stop-Go arrangement, of similar effect to the Stop-Go traffic management agreed with Auckland Transport for the Hiwa Recreation Centre construction.
- Where Alfred Street is used for construction access or loading while the Outer Link service continues to operate, the contractor will operate a temporary Stop-Go or signal control at the Princes Street / Alfred Street intersection, with the traffic controller prioritising buses by holding trucks exiting the Site.
- Heavy vehicle movements will be avoided during the peak pedestrian period between 12:00pm and 1:00pm and managed by a booking system.

- No general staff parking will be provided within the Site, and contractor parking will be managed through the CTMP.
- Temporary protection measures will be implemented to minimise damage to public roads, footpaths, berms, kerbs and other public assets, together with measures to prevent the tracking of material onto public roads and, where Alfred Street is used for construction access, measures confirmed by the Project Arborist to avoid damage to the Notable Trees, including setbacks between vehicle movements and tree trunks.
- Detailed Temporary Traffic Management Plans will be provided by the Main Contractor and submitted to Auckland Transport for approval prior to demolition and construction works commencing, together with any Corridor Access Request required for works within the road reserve. Advance notification of any temporary closures or disruptions will be provided to the University community, Auckland Transport and other affected parties, and a process will be maintained to record and investigate traffic complaints.

3.3 Air Quality

3.3.1 Potential Effects

An Air Quality Assessment has been prepared by Tonkin & Taylor. The main discharge to air from demolition and construction activities will be dust. Dust has the potential to cause nuisance or to soil property if deposited in sufficient quantities in the environment. Fine particulate matter also has the potential to affect human health, and fly ash and cement used in grout and concrete may contain respirable crystalline silica.

The main sources of nuisance dust emission on this Project are:

- Demolition activities, including the knocking down and breaking up of building material and the cutting and breaking of concrete and masonry;
- Bulk excavation, stockpiling and the loading and unloading of trucks;
- Vehicle movements over exposed or unsealed surfaces, and track-out onto Princes Street and Alfred Street;
- Concrete cutting, grinding and drilling during structure and fitout works; and
- Wind entrainment from exposed surfaces and stockpiles.

3.3.2 Management Measures

A draft Construction Air Quality Management Plan (CAQMP) has been prepared by Tonkin & Taylor in accordance with the Ministry for the Environment Good Practice Guide for Assessing and Managing Dust (2016), which identifies the measures that are to be implemented to mitigate and manage potential effects of dust and other emissions from the demolition and construction phases. Once a contractor is appointed the CAQMP will be updated to reflect the confirmed methodology. The following key measures are proposed:

- Perimeter hoardings installed prior to demolition and earthworks, with dust screens or shrouds fitted to hoardings and scaffolding adjacent to demolition and breaking activities.
- No on-site crushing of demolition material.
- Only wet cutting of concrete, with concrete saws, grinders and drills operated with local air extraction or water suppression at all times.
- Controlled top-down demolition with water sprays to dampen material, pulverisers and wire saws used in preference to breakers and concrete saws where practicable, breaker shrouds fitted to hydraulic breakers, and enclosed drop chutes used for dropping material to lower levels.
- The demolition methodology at the AUSA House interface is to include erection of vertical protection at the boundary with AUSA House prior to demolition of the remaining elements.
- Water carts, hoses or sprinklers to damp down exposed areas, haul routes and stockpiles, with the frequency increased during dry and windy conditions, and pre-watering of dry surfaces prior to excavation.
- Stockpiles kept undercover where practicable, limited in height, located to maximise wind sheltering, and dampened, covered or stabilised when inactive, with handling and drop heights minimised.

- Progressive stabilisation of exposed areas, and stabilisation of all exposed surfaces during any period when the Site is inactive, including the interval between completion of demolition and commencement of the main construction works.
- Sealed or stabilised internal haul routes, a wheel wash or shaker grid at the Site exits, all trucks carting spoil or dusty material covered, and sealed exits and adjoining public roads cleaned by vacuum sweeper truck.
- Vehicle speeds limited to 20km/h on site, no idling, and heavy vehicle movements avoided during the peak pedestrian period (12:00pm–1:00pm) and managed by a booking system.
- Air intakes to adjoining University buildings identified prior to works commencing, with protection or temporary shutdown arrangements agreed with University Property Services where dust-generating works occur in close proximity.
- Soil disturbance in areas of contaminated or asbestos-containing fill undertaken in accordance with the Contaminated Site Management Plan.

Dust is to be monitored visually on a daily basis across all areas where dust-generating activities are in progress, with the findings recorded in the dust inspection log where deposits or visible plumes are observed at or beyond the Site boundary. Where monitoring indicates abnormal discharges, weather conditions make dust discharges more likely, or complaints are received, the Main Contractor will review site activities and implement additional mitigation. Where that mitigation is unsuccessful in controlling discharges causing significant adverse effects beyond the Site boundary, the activity causing the discharge will be suspended until adequate mitigation is in place.

3.4 Erosion and Sediment Control

3.4.1 Potential Effects

Earthworks and bulk excavation have the potential to generate sediment-laden runoff which, if not controlled, could discharge to the public stormwater network and ultimately to the Waitematā Harbour. The Site is largely paved at present and the surrounding catchment is fully urbanised and served by a piped network, which limits the pathways available but concentrates the risk at the Site's stormwater connections and at the vehicle crossings.

The designed earthworks comprise a net cut of approximately 34,500m³ over an earthworks area of approximately 6,000m², to a basement finished floor level of RL 36.11m. The excavation will extend below the perched groundwater levels and dewatering will occur during construction, so sediment-laden water and dewatering discharges will both require treatment before release. Any perched groundwater, groundwater or surface run-off encountered within the excavation is to be treated as potentially contaminated.

A minor overland flow path with a catchment of less than 4,000m² enters the eastern corner of the Site. Temporary land disturbance and stockpiling within that flow path has the potential to divert overland flows onto adjoining buildings, including the Kate Edger Information Commons courtyard.

3.4.2 Management Measures

A Draft Erosion and Sediment Control Plan (ESCMP) has been prepared by Beca in accordance with Auckland Council Guideline Document GD05 and forms an appendix to the Civil Infrastructure Report. A detailed construction stage Erosion and Sediment Control Plan will be prepared by the Main Contractor, aligned with the approved design and incorporating the final construction methodology and sequencing. The following measures are proposed:

- Clean water diversion, noting that existing surface levels direct most runoff away from the works area, with any clean runoff entering the earthworks area diverted away from disturbed surfaces and from sediment treatment devices.
- Inlet protection to existing catchpits within and adjoining the Site using silt socks or equivalent, assessed regularly and cleaned or replaced when significant volumes of sediment have accumulated.
- Treatment of sediment-laden water generated within the excavation, collected from a low point and pumped through a proprietary settlement device prior to discharge to the existing stormwater network. Alternatively, two decanting earth bunds may be installed at low points within the excavation, each

receiving approximately half the total excavation catchment and providing treatment prior to pumped discharge.

- Management of dewatering discharges through an appropriately sized treatment device, with discharge quality confirmed prior to release.
- Stabilised construction access at the vehicle crossings in accordance with GD05, together with a truck wheel wash, to minimise the tracking of sediment onto the surrounding road network.
- Progressive stabilisation of exposed surfaces and stockpiles using geotextile cover, aggregate, mulch or riprap, with temporary stabilisation applied before forecast rain events and inspected after each rainfall event and after periods of excessive wind.
- Temporary land disturbance and stockpiling within the overland flow path at the eastern corner of the Site managed so that overland flows are not diverted onto adjoining buildings, including the Kate Edger Information Commons courtyard.

3.5 Geotechnical and Groundwater

3.5.1 Potential Effects

Site-specific geotechnical investigations have been undertaken by Tonkin & Taylor and are reported in the Geotechnical Interpretative Report, the Geotechnical Basement Retaining Design Report and the Geotechnical Groundwater and Settlement Effects Report. The Site is underlain by fill overlying Auckland Volcanic Field volcanic ash typically 2.5–5m thick, over East Coast Bays Formation residual soils extending a further 5–6m, with competent rock typically found between 30mRL and 35mRL. Groundwater is a shallow perched regime recharged by rainfall, with the phreatic surface typically 2–5m deep; the deeper regional groundwater level lies below the depth of monitoring and will not be intercepted by the works. The two-level basement extends to a finished floor level of 36.1mRL, with an additional 1m of bulk excavation to 35.1mRL assumed for the temporary retaining design, and the basement will be permanently drained.

The key potential effects are:

- Ground movement and settlement affecting adjoining buildings and services during retention piling, bulk excavation and dewatering, estimated at 5–10mm at AUSA House and the Kate Edger Information Commons and 0–5mm at the Hiwa Recreation and Wellness Centre and the General Library, in each case with differential settlement of less than 1 in 500 and within the negligible damage risk category;
- Interaction between the proposed excavation and the existing tensioned permanent ground anchors supporting the Hiwa pool hall retaining structure, which extend towards and beyond the south-western boundary of the Site with total lengths of up to approximately 21m;
- Groundwater drawdown extending beyond the Site boundaries, with estimated steady-state inflows to the excavation of 8–15m³ per day;
- Settlement of the Princes Street and Alfred Street Road reserves, estimated at 15–30mm at the footpaths and 5–15mm at the carriageways, and of sensitive services within 15m of the excavation, including the 2,300mm diameter Ōrākei Main Sewer at a minimum setback of 2.0m; and
- The condition of AUSA House.

3.5.2 Management Measures

The following measures are proposed:

- Confirmation by the geotechnical designer of any construction loading proposed above or behind the retaining walls, including mobile cranes, gantries and material stockpiles.
- A staged decommissioning methodology for the Hiwa pool hall ground anchors, provided to Auckland Council before any anchor is decommissioned, undertaken by experienced personnel under controlled conditions and supported by real-time monitoring of pool hall wall deflection.
- Excavation of the volcanic soils undertaken during dry conditions where practicable, protection of subgrade materials from rainfall, groundwater ingress and construction traffic, and verification of the exposed ground conditions against the adopted ground model during construction.
- Confirmation of the ground anchor layout, anchor lengths and any extent of anchoring beyond the Site boundary, together with the associated landowner, road controlling authority and Watercare approvals.

- A Groundwater and Settlement Monitoring and Contingency Plan will be prepared by a SQGEP and submitted for certification prior to the commencement of dewatering, including:
    - Pre-construction condition surveys of AUSA House, the Kate Edger Information Commons and Hiwa including the pool hall retaining wall, and of potentially affected buried services.
    - Installation of a settlement, wall deflection and groundwater monitoring network, with baseline readings established prior to works commencing and monitoring frequencies tied to the stage of excavation and dewatering.
    - Defined Alert and Alarm levels for retaining wall deflection, building settlement and ground settlement, with pre-agreed contingency actions and the notification, review and reporting steps to be followed where a level is exceeded.

3.6 Contamination

3.6.1 Potential Effects

A Contaminated Land Preliminary Site Investigation (PSI) has been prepared by Tonkin & Taylor. The following HAIL activities have been identified on the Site:

- HAIL A17 – an underground diesel storage tank in the central portion of the Site between Buildings B311 and B312, associated with the historical boiler room, understood to have been filled with slurry and decommissioned;
- HAIL B2 – a historical transformer room on the west side of Building B312 and current transformers outside its western end; and
- Potentially HAIL I – uncontrolled filling during development and the loss of asbestos and lead from building materials over the Site's history, where present at concentrations that pose a risk to human health or the environment.

Preliminary soil sampling was undertaken from six boreholes in August and September 2026, concurrently with the geotechnical investigation and constrained by the presence of the existing buildings. All results were below the adopted human health criteria and below the Auckland Unitary Plan permitted activity criteria, with the exception of lead in surficial fill at BH06 in the central portion of the Site.

A Detailed Site Investigation has not been undertaken due to the access restrictions presented by the existing buildings, consent has been sought as a discretionary activity under Regulation 11 of the National Environmental Standard for Assessing and Managing Contaminants in Soil (NESCS).

Further intrusive investigation is to be undertaken following demolition and prior to construction.

The preliminary conceptual site model indicates potential for effects on human health and the environment during ground disturbance works, with receptors including site workers, adjacent site users, the public, disposal site operators, and ecological receptors at stormwater and groundwater discharge points.

3.6.2 Management Measures

A draft Contaminated Site Management Plan (CSMP) has been prepared by Tonkin & Taylor. A suitably qualified and experienced practitioner (SQEP) in contaminated land will be retained to supervise the works. The following measures are proposed:

- Pre-works soil sampling following demolition of the existing buildings and prior to bulk earthworks, increasing the sampling density.
- A CSMP briefing delivered by the SQEP to all site personnel before they commence work, covering the identification of unexpected contamination, asbestos control procedures, measures to minimise discharges of contaminants, and the minimum requirements for personal protective equipment and its use.
- Site establishment controls including fencing to prevent public access, a site hazard board summarising the works and the soil contamination risk together with notification procedures, contamination hazards addressed in the contractor's health and safety plan, disposal permits arranged before spoil leaves the Site, and a personal protective equipment store, decontamination unit and wheel wash established.
- Trace asbestos controls implemented in accordance with the CSMP and overseen by a competent person, comprising localised water spray suppression, foot wash and a used personal protective

equipment collection area, covered trucks with lining or soil wrapping as required by the receiving facility, and visual assessment following brush down or wash down.

- Spoil classified and disposed of by material type, with shallow fill in the vicinity of BH01 to a managed fill facility able to accept trace asbestos, shallow fill in the vicinity of BH06 to a landfill licensed to accept contaminated soil, and other shallow soils and the underlying natural strata expected to be accepted as clean fill. All soil transported off site in covered trucks with wheels free of debris, and weighbridge dockets and disposal documentation provided to the SQEP within one month of completion of the works.
- Stockpiles, where required, placed only where runoff can be controlled and clear of flooding or ponding areas, or otherwise surrounded by sediment and erosion controls, limited to a maximum height of 3m subject to geotechnical confirmation, covered with geotextile or mulched if not in use for more than three days, and stabilised if inactive for longer than one week.
- Imported material limited to hardfill from a consented quarry, crushed concrete from a commercial recycler able to demonstrate it is free of asbestos, or soil investigated by a SQEP in accordance with the Ministry for the Environment Contaminated Land Management Guidelines No. 5 to meet the clean fill definition, with testing information provided to the SQEP for approval prior to import.
- Clean water diverted away from ground disturbance areas, with water generated or encountered in those areas retained on site to soak away where practicable. Water that does not soak away will be discharged to trade waste or sewer under permit, or to the stormwater system following treatment and validation against the applicable discharge limits. Water showing visual evidence of contamination such as sheen or odour will not be discharged to stormwater. Perched groundwater encountered during excavation will be managed under the same procedures.
- An unexpected discovery protocol requiring all works to cease within 10m of suspected contamination, the SQEP to be contacted for advice once the area is made safe, works not to recommence until the SQEP has given approval, any discharge of ponded or dewatering water to stormwater to stop, and no soil to be taken off site from the impacted area until approved. All details are to be recorded and included in the Site Validation Report.
- Verification observations and validation sampling by the SQEP, and preparation of a Site Validation Report on completion of the earthworks for submission to Auckland Council, documenting the soil disturbance undertaken, sampling results, disposal and imported material records, dewatering discharges, unexpected discoveries and the final site condition.

3.6.3 Asbestos Removal

Building-specific asbestos management plans have been prepared for Buildings B311 (Blocks A–D) and B312 (Block E) from the University's asbestos management system. The asbestos-containing material identified is predominantly pipe lagging and insulation to services, gaskets to pipework, asbestos cement wall lining and a high level skylight panel, and bitumen membrane and vent pipes at roof level, together with a number of areas recorded as inaccessible and requiring survey when access becomes available.

Those plans are based on management surveys. Under the Health and Safety at Work (Asbestos) Regulations 2016, asbestos demolition surveys are required prior to the removal or demolition of buildings constructed before January 2000, and will be undertaken for Buildings B311 and B312 prior to demolition, including the areas currently recorded as inaccessible.

An Asbestos Management Plan will be prepared by the Main Contractor, and an Asbestos Removal Control Plan by the licensed removalist. All asbestos-containing material identified in the surveys will be removed and disposed of by an appropriately licensed removalist prior to hard demolition commencing, with clearance certification obtained before the following works proceed. The SQEP will liaise with the Main Contractor and demolition subcontractor to review the asbestos survey information and the removal processes implemented. Where asbestos is identified in soil, the New Zealand Guidelines for Assessing and Managing Asbestos in Soil will be applied to determine the level of oversight and control required, and the trace asbestos controls in the CSMP will apply.

3.7 Arboriculture

3.7.1 Potential Effects

An Arboricultural Impact Assessment has been prepared by Peers Brown Miller. The trees affected by the Project are:

- Trees T1 to T8, London plane (Platanus x acerifolia) in the Alfred Street road reserve, a scheduled and protected Group of Notable Trees (ID 1) under the Auckland Unitary Plan D13 Notable Trees Overlay and also assessed under Chapter E17 Trees in Roads;
- Trees T9 and T10, Lombardy poplar (Populus nigra), and Tree T11, olive (Olea europaea), street trees within the Princes Street road reserve, all of which are proposed for removal;
- Tree Group 12, a cluster of small trees and shrubs within the Princes Street road reserve, the removal of which is permitted under E17(A9); and
- Trees T13 (totara) and T14 (kauri), both University-owned and unprotected, which are proposed for removal.

Potential effects arise from root zone disturbance during excavation and services works, physical damage to trunks and canopies from plant and crane movements, soil compaction from vehicle and laydown areas, and changes to ground conditions adjacent to root zones. The construction access and delivery arrangements include vehicle movements to and from Alfred Street, beneath and between the notable trees, together with the location of site amenities along Alfred Street within the site hoardings.

The Arboricultural Impact Assessment concludes that, provided the works are carried out in accordance with the recommended tree protection methodologies, the long-term health of the Notable Trees will not be compromised.

3.7.2 Management Measures

A Tree Protection and Management Plan will be prepared by the Project Arborist, consistent with the Arboricultural Impact Assessment, and submitted to Auckland Council for certification prior to the commencement of construction. The following measures are proposed:

- A Project Arborist engaged for the duration of the Project to advise on, direct, supervise and monitor all works within the protected root zone of the Notable Trees and other retained trees in the road reserve, and all tree trimming and removal.
- Tree protection fencing erected prior to any works commencing to isolate the permeable areas of land within the trees' root zones from the general site works, with the precise location of the fencing and the width of the workspace agreed at the pre-start meeting, and maintained for the duration of the works.
- No storage of materials, spoil or equipment, no discharge or washings from fuels, oils or other toxic liquids including paint and concrete, and no passage of vehicles or machinery within the protective fencing or the root zone of any retained tree, other than on existing hard surfaces or where approved by the Project Arborist with appropriate ground protection in place.
- Ground protection measures installed for the proposed demolition haul road and beneath the site construction buildings to reduce compaction loads, allow air and water exchange to the roots, and prevent point loading uplifting the existing hard surfacing.
- Excavation and root pruning within the protected root zone of Trees 5 to 8 carried out by manual methods where practicable. Roots will be retained wherever possible, all root severance will be carried out by the Project Arborist, roots will be cut cleanly and exposed cut faces covered immediately with moist hessian, soil or other beneficial products. Where roots are pruned adjacent to a zone of compaction, waterlogging, a root barrier or a structure, they will be traced back and pruned to lateral roots, or aerated structural soil used.
- Canopy trimming carried out to a minimum of MIS308 Tree Pruning and in accordance with best arboricultural practice.
- Design of the Alfred Street vehicle crossing developed with Project Arborist input to manage effects on tree roots, including confirmation of the proposed finished levels over the existing tree pit kerbs, together with confirmation of the extent and method of pruning required to accommodate the external scaffold and buttress towers and any plant or crane movements.

- Removal of Trees T9, T10 and T11 undertaken by a suitably qualified and experienced arborist using accepted arboricultural practice, including dismantling techniques that control the fall of stems and branches, under the supervision of the Project Arborist. Replacement trees will be planted within the Princes Street road reserve or another location agreed with Auckland Council, with the species, location, grade and planting specification approved by the Council Urban Forest Specialist prior to planting and an establishment period of three years including staking, mulching, weed control and watering during summer and dry periods.
- Kauri dieback biosecurity controls applied to Tree T14.

3.8 Archaeology

3.8.1 Potential Effects

An Archaeological Assessment has been prepared by Clough & Associates. The Project Site lies within the recorded extent of the former Albert Barracks (R11/833) which forms part of the Albert Park Historic Landscape scheduled in the Auckland Unitary Plan as a Category A historic heritage place. Earthworks, piling and excavation therefore have the potential to affect recorded and previously unrecorded archaeological remains, and excavation to approximately 10m below existing ground level would remove any surviving deposits or features within the basement footprint.

The potential for surviving archaeological remains within the works area is assessed as low, given the extent of redevelopment of the Site in the 1960s. The Site is immediately adjacent to the Princes Street Historic Heritage Area, with the extent of the scheduled area following the Site's legal title boundary along Princes Street, so any works extending into the Princes Street road reserve will be located within that historic heritage area. The Site is also in close proximity to the scheduled Site and Place of Significance to Mana Whenua at Horotiu Pā / Te Reuroa, although no known archaeological sites of Māori origin will be affected. Subject to the implementation of the archaeological authority and its associated conditions, the potential adverse effects of the Project on archaeological values are assessed as minor.

3.8.2 Management Measures

An Archaeological Management Plan ("AMP") has been prepared by Clough & Associates. The following measures are proposed:

- A pre-start briefing held on site with the Project Archaeologist before works begin, at which the archaeological requirements are explained to the contractors.
- Archaeological monitoring by a qualified archaeologist of all preliminary excavations in the areas identified in the AMP.
- Protocols for kōiwi tangata (human remains) and taonga (Māori artefacts), under which works cease in the immediate vicinity and the area is secured, the Archaeologist contacts iwi representatives, Heritage New Zealand Pouhere Taonga and, for human remains, the New Zealand Police.
- Defined stand down periods allowing earthworks to cease only in the immediate vicinity of a find while work proceeds elsewhere
- An accidental discovery protocol for any discovery not otherwise provided for by the archaeological authority.
- Engagement with mana whenua in accordance with the cultural values expressed through the Taumata Rangipuke cultural concept for the Project.

3.9 Heritage

3.9.1 Potential Effects

A Heritage Assessment and a Heritage Impact Assessment have been prepared by archifact – architecture & conservation ltd. The Student Union Building, comprising Buildings 311 (A–D) and 312, is listed as a Category B item (ID 01927) in Schedule 14.1 – Schedule of Historic Heritage of the Auckland Unitary Plan, recognised for its physical attributes, aesthetic and context values. The Project involves the total demolition of the building.

The Site also sits within a wider heritage context. Adjoining and nearby heritage assets include AUSA House (Building 322, the Category B scheduled historic heritage place 'Residence (former)', ID 01926, also listed by

Heritage New Zealand Pouhere Taonga as a historic place), the Albert Barracks Wall, Old Choral Hall and Alfred Nathan House (each Category A), Albert Park and its Category A historic landscape including Albert Park Lodge, the notable trees of Alfred Street, and the wider Princes Street Historic Heritage Area. Those assets, particularly those close to the Site, have the potential to be affected by construction vibration, physical damage from plant and material movements, dust deposition and temporary visual effects. AUSA House is the most exposed, being immediately adjacent to the works, with no foundation information available and existing cracking recorded in its masonry wall.

3.9.2 Management Measures

A Project Heritage Architect will be engaged for the duration of the Project. The following measures are proposed:

- Completion of a comprehensive record of the Student Union Building as found, prior to the commencement of any soft or hard demolition, comprising a three-dimensional laser scan survey of the whole of the building (Buildings 311 A–D and 312) including interiors and exteriors, together with comprehensive photographic recording of the interiors, exteriors and setting. The record to be placed in the University's archive and provided to Auckland Council (Heritage Unit).
- Identification and salvage of nominated building fabric, fixtures, fittings and artwork for re-use or interpretation, in accordance with the interpretation strategy for the Project, including salvage schedules and storage methodologies for the nominated fabric.
- Physical protection measures for AUSA House installed prior to the commencement of construction to protect the building from accidental impact, dust and construction activities. The measures will be confirmed by the Project Heritage Architect, recorded at the pre-start meeting, and maintained for the duration of the works. Any temporary scaffolding, hoarding or protection erected against AUSA House will be designed and secured so that it does not damage the heritage fabric of the building.
- Vertical protection erected adjacent to the AUSA House facade prior to demolition of the constrained interface and maintained throughout the demolition and substructure phases.
- A pre-construction condition survey of AUSA House, exterior and interior, undertaken by a suitably qualified and experienced person in consultation with the Project Heritage Architect, recording the existing condition of the building.
- A post-construction condition survey of AUSA House prepared in the same manner. Any damage attributable to the Project will be repaired in accordance with good conservation practice, under the direction of the Project Heritage Architect.
- Vibration monitoring at AUSA House in accordance with the DIN 4150-3 Line 2 limits. Where a limit is exceeded, the activity causing the exceedance will cease as soon as it is safe and practicable to do so and will not recommence until the methodology has been reviewed by the acoustic specialist and the Project Heritage Architect and Auckland Council has been notified of the measures adopted.
- Dust management noting that AUSA House, Old Choral Hall, Alfred Nathan House and Albert Park Lodge are each identified in the Air Quality Assessment as having a high sensitivity to dust soiling.
- Heritage awareness included in the site induction for all personnel, and a requirement to stop work and notify the Project Heritage Architect where demolition or construction works are giving rise to unanticipated adverse effects on adjacent historic heritage assets

4 Implementation and Operation

This section of the draft CMP addresses the implementation and operation of the CMP and SMPs.

4.1 Management Structure and Responsibility

Each person involved in the Project has equal responsibility to avoid, remedy or mitigate potential adverse environmental effects.

The expected management roles on site are provided below. The management structure and role descriptions for the Main Contractor shall be provided upon contract award.

Position	Name and contact details	Company	Responsibility
University Representative	[TBC]	University of Auckland	Client representative
Project Manager	[TBC]	RCP	Project delivery and consent compliance
Design Manager	[TBC]	[TBC]	Design coordination
Construction Manager	[TBC]	Main Contractor	Construction delivery
Site Manager	[TBC]	Main Contractor	Day to day site management
Environmental Manager	[TBC]	Main Contractor	Environmental management and monitoring
Stakeholder Relationship Manager	[TBC]	[TBC]	Communications and complaints
Acoustic Specialist	Craig Fitzgerald	Marshall Day Acoustics	Noise and vibration
Geotechnical Specialist	Matthew Kent	Tonkin & Taylor	Geotechnical, groundwater and contamination
Project Arborist	Ken Scarlett	Peers Brown Miller	Tree protection
Project Archaeologist	Glen Farley	Clough and Associates	Archaeological monitoring
Project Heritage Architect	Adam Wild	archifact	Heritage recording and protection

Generally, the key roles of personnel as they relate to environmental management during the construction of the Project are detailed below and will be confirmed following appointment of the Main Contractor.

Roles and responsibilities of personnel which implement specific environmental controls and monitoring programmes (such as the arborist, archaeologist and asbestos removalist) are to be detailed in the relevant SMPs.

4.1.1 All Staff

- Familiarisation with the requirements of the CMP and SMPs.
- Responsible for reporting environmental incidents, complaints, defects and other problem areas to senior staff as they arise on site.
- Ensuring that required processes and procedures for environmental management are followed.
- Ensuring that environmental mitigation and protection measures are maintained and working correctly.
- Within day-to-day work responsibilities, ensure the environment both on site and adjacent to the Site is protected and respected, recognising that the Site sits within an operating university campus.

4.1.2 University Representative

- Review CMP, Complaints Register, Incidents and Emergency Register, Non-Compliance and Environmental Performance Report.
- Meet monthly with the Environmental Manager and Site Manager to discuss non-compliance, complaints, incidents and emergencies, monitoring, auditing and review of the CMP and sub-plans.
- Coordinate the interface between the Project and University campus operations, including the academic calendar, examination periods and campus events.

4.1.3 Project Manager

- Takes ultimate responsibility for delivery of the Project.

- Establishes a ~~resource~~ consent conditions tracker to provide to the contractor to track compliance against conditions.
- Tracking the compliance of the conditions of resource consents.
- Approves environmental plans prior to issue.
- Ensures adequate resources are provided to ensure environmental issues and obligations are appropriately managed.
- Ensure that environmental requirements are incorporated into the works as required by the consent.

4.1.4 Design Manager

- Incorporates environmental requirements into design as required by the consent conditions, the CMP and sub-plans; and
- Advises the Environmental Manager of any design issues that may impact on the environment.

4.1.5 Construction Manager

- Reviews work packages against the CMP to ensure a high level of performance is achieved.
- Develops, implements and monitors construction works ensuring compliance with consents, the CMP and SMPs.
- Coordinates environmental interfaces with consultants, subcontractors and suppliers.
- Implements environmental protection measures in accordance with the contract, the CMP and sub-plans.
- Trains all workers in relation to environmental measures.
- Reports all incidents, system defects and complaints.
- Ensures all workers and others comply with environmental operating procedures and community relations protocols.
- Provides updates against the resource consent conditions tracker to confirm compliance.
- Non-compliance reporting to consent authorities in a timely manner.

4.1.6 Environmental Manager

- Provides leadership to ensure staff are motivated to achieve environmental standards and comply with all resource consent conditions and approvals.
- Develops, implements and reviews environmental management systems including the CMP for the Project.
- Co-ordinates the interfaces and communications with external agencies and stakeholders in relation to environmental management of the Project.
- Manages and co-ordinates compliance with all consent conditions and any new approvals required.
- Demolition monitoring and maintaining and submitting relevant reports and records to the consenting authorities as required.
- Notifies the Project Manager and consent authority of any significant environmental non-compliances.
- Responsible for resolving issues of environmental non-compliance.
- Undertakes regular site inspections and audits to ensure compliance with the CMP and consent conditions.
- Coordinates all site monitoring including groundwater, settlement, water quality, dust, noise and vibration monitoring, and provides related training and advice to staff.
- Coordinates environmental emergency responses and ensures spill kits are available, stocked and that training on their use is provided.

4.1.7 Stakeholder Relationship Manager

- Coordinates interfaces with the University, external agencies and stakeholders, ensuring all requirements of resource consents and approvals are met.
- Responsible for notifying surrounding building occupants of works occurring within the near vicinity and managing mitigation as required.
- Disseminates information to students, staff and the public as approved by the University Representative.
- Primary contact for Project related complaints and enquiries.

4.1.8 Site Manager

- Provides leadership to the site construction team to achieve Project environmental objectives and requirements.
- Ensures that the CMP and SMPs are implemented appropriately.
- Ensures environmental controls and erosion and sediment controls are protected and maintained on a day-to-day basis.
- Leads the emergency response crew.
- Reviews and authorises the closures of site access points to reduce the risk of dirt on roads.
- Reviews the need to use dust control measures such as water sprayers.

4.2 Training

All those holding project roles that relate to compliance with consent conditions and implementation of the Main Contractor's final CMP will have appropriate briefing and training in relation to the CMP and SMPs.

In addition to the project team having relevant backgrounds and qualifications, systems to be implemented shall include:

- Site inductions – communicating the specific site risks and potential impacts of work activities, including the campus context, heritage and archaeological sensitivity of the Site;
- Health and safety;
- Project briefing – including on the CMP requirements, consent conditions and consequences of non-compliance; and
- Specific training for those responsible for activities such as environmental monitoring and sampling, emergency response, environmental auditing, erosion and sediment control installation, and spill response.

The Main Contractor shall develop, implement and maintain necessary training systems to meet the requirements of this CMP for its staff and any subcontractors to ensure full compliance with the resource consent conditions.

4.3 Emergency Contacts and Response

This section outlines how environmental incidents and emergencies are to be managed by the Main Contractor if there is a requirement for an emergency response to unforeseen environmental impacts.

Incidents may include:

- Spills;
- Release of hazardous substances to air or water;
- Exceedance of settlement, groundwater or vibration trigger levels;
- Consent non-compliances; and
- Significant deviation from the requirements of the CMP or SMPs.

An environmental emergency is an event that has a detrimental effect on the surrounding environment, causing significant harm, which is not legally permitted and as such requires an immediate response.

In the event of an environmental incident or emergency the following shall be undertaken:

- Immediate action is to be taken to stabilise the situation (for example cessation of works, deployment of spill equipment), with specialist advice sought where necessary.
- The Main Contractor is to contact Auckland Council within 24 hours, or sooner where appropriate.
- The University Representative is to be notified immediately where an incident may affect the operation or safety of adjoining campus buildings.
- Any affected parties shall be contacted as soon as possible where an incident occurs that may affect land outside of the Project area.
- An incident report is to be prepared and all incidents recorded on a site incident register, which is to be elevated to project control group meetings as an agenda item.
- Emergency response and management equipment is to be available at all times on site, with all site staff made aware of its location as part of the induction process.

It is intended that following the appointment of the Main Contractor a site-specific Emergency Response Plan shall be developed prior to the start of construction, and that this plan shall be coordinated with the University's campus emergency procedures.

4.4 Engagement and Communication

The impacts of the Project's construction will be noticeable within the campus and as such open and two-way communication will be provided to ensure people are informed as to construction impacts. This may include:

- A project specific webpage on the University website, updated frequently to provide details on timing and durations, construction processes and project progress;
- Regular briefings to the Auckland University Students' Association and to the occupants of adjoining University buildings;
- Targeted notification to forewarn of construction activity, including advising adjacent occupiers before upcoming works that generate high levels of noise or vibration, with a minimum of three days' notice for works predicted to exceed the noise and / or vibration amenity criteria;
- Coordination with the University's communications team ahead of examination periods, graduation and other significant campus events;
- Signage and billboards positioned on the hoarding;
- Contact details for the Stakeholder Relationship Manager, the Site Manager and the Project Manager provided as appropriate; and
- A communications register kept for the Project to record all enquiries and complaints, with responses tracked and closed out within agreed timeframes.

5 Monitoring and Review

In order to ensure that compliance with consent conditions, legal requirements and relevant policies, standards and guidelines is achieved, on-going evaluation and monitoring shall be undertaken during the construction phase.

Environmental monitoring will be undertaken on both a scheduled (regular) and unscheduled (triggered) basis to check that specific activity controls have been implemented and that there are no adverse effects arising.

Monitoring shall be primarily based on:

- Erosion and sediment control devices;
- Water quality, including dewatering discharges;
- Spoil quality for off-site disposal;
- Noise and vibration;
- Groundwater levels and settlement; and

- Dust.

5.1 Consent Compliance Monitoring

Scheduled monitoring of environmental performance and compliance with conditions of consent will be required throughout the construction phase. This will enable the effectiveness of environmental controls to be assessed and corrective action taken where required.

Environmental monitoring shall take place:

- Prior to construction to establish necessary baselines, including building condition surveys, groundwater levels and background noise;
- During construction to assess the impact of construction on the environment; and
- After construction to assess the impact of completed works.

Monitoring requirements at various stages of construction as outlined in the SMPs and as prescribed by conditions of consent shall be undertaken and provided to the relevant authorities as required.

5.2 General Site Monitoring

General site monitoring shall be undertaken by the Main Contractor on site, in line with the timeframes noted below. In addition to the formal environmental monitoring, the following general site monitoring shall also be undertaken:

- Daily – informal visual inspections to check CMP compliance, focusing on specific activities including refuelling procedures, dust generation and track-out onto Princes Street and Alfred Street.
- Daily – checking of weather forecasts and any necessary pre and post weather event inspections.
- Inspections as required for environmental control procedures, including sediment and erosion control and tree protection.
- Weekly – formal site inspections completed by the Site Manager to check compliance with consent conditions and the content of the final CMP.
- Monthly – the Project Manager will conduct a monthly inspection on site to confirm the environmental monitoring programme and work procedures are being implemented in accordance with consents.

Triggered inspections will be undertaken in response to the following:

- Feedback – upon receiving feedback on any issue an inspection of that issue or area shall be undertaken;
- Extreme weather – site control measures shall be inspected prior to, during where possible, and after an extreme weather event;
- Exceedance of a settlement, groundwater or vibration trigger level; and
- Non-compliance – inspections will be undertaken immediately following an incident, emergency or near miss.

Reporting on the basis of the above shall be presented at monthly Project Control Group meetings and include a summary of any issues and actions.

5.3 Reporting

Reporting requirements for this CMP are provided below and are subject to the appointment of the Main Contractor:

- Statutory reporting requirements and resource consent compliance reporting as per resource consent conditions;
- Non-compliance reporting where corrective actions are required;
- Risk reports;
- Site monitoring and inspection reports and any corrective actions;
- Incident reporting and responses;

- Complaints and resolutions;
- Site auditing; and
- Internal monitoring on site of compliance with CMP and SMP requirements and identification of any necessary amendments.

On the basis of the above, a monthly report shall be prepared that provides a summary of all information pertaining to results of monitoring, sampling, environmental effects, incidents, complaints and corrective actions.

5.4 CMP Management Review

This draft CMP will be reviewed following confirmation of the resource consent and conditions and will be finalised in accordance with those conditions. The CMP will be updated to reflect consenting requirements and the confirmed construction methodology of the Main Contractor.

Approval from Auckland Council will be required for any relevant revisions of a material nature to the CMP or SMPs.

A management review of the CMP will be undertaken at least annually by the project management team and Main Contractor and will consider:

- Input from the University;
- Comments from site personnel;
- Recommendations and findings resulting from auditing, monitoring and sampling;
- Outcomes of any environmental incident and associated response;
- Outcomes of any non-compliance and associated corrective actions;
- Changes to Project personnel; and
- Changes to legislation or standards.

In particular the review process will take into account the environmental controls being employed and their continued applicability and effectiveness to the activities being carried out as part of the Project.

5.5 Complaints procedure

Complaints will be acknowledged immediately where practicable and responded to within 24 hours. If a more detailed response is needed, it will be provided within a timeframe agreed with the complainant.

All complaints will be recorded in a complaints file that is available to affected parties, the University and Auckland Council on request. For each complaint, an investigation will be undertaken as soon as practicable using the following process:

- Acknowledge receipt of the concern or complaint and record the name, address and contact details of the complainant (unless they elect not to provide them); the time and date the complaint was received and who received it; the time and date of the activity that caused the complaint; the complainant's description of the activity and its resulting effects; and any relief sought.
- Identify the relevant activity and review the activity log to verify the complaint or otherwise.
- If a complaint relates to building damage, inform the on-duty Site Manager as soon as practicable and stop the relevant works pending an investigation.
- Review data from monitoring, if available, to identify the time in question and, if possible, verify the relevant activity.
- Review the relevant conditions of consent to determine if the activity was identified.
- Review the mitigation and management measures in place to ensure these have been applied, review the relief sought by the complainant, and adopt further mitigation and management measures as appropriate.
- Review the potential residual effects if predicted to continue to exceed the relevant performance standards.

- Report the findings and recommendations to the Project Manager, implement changes and update relevant management plans as appropriate.
- Report the outcomes of the investigation to the complainant, identifying where the complaint has been upheld and what action has been taken.