



PROJECT NO: 151

RYDE HOSPITAL REDEVELOPMENT ENABLING & EARLY WORKS

CMP.1 [REVISION 3]

CONSTRUCTION MANAGEMENT PLAN

HPAC PTY LTD DESIGN MANAGEMENT PLAN

BUILDING BETTER



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CONSTRUCTION METHODOLOGY

INTRODUCTION

The following document outlines in general principles, the methodology for the construction and delivery of enabling and early works at Ryde Hospital for Health Infrastructure.

The proposed scope of works for the Priority works package includes:

- Site establishment including chain link fencing and class A hoarding of impacted areas on site
- Set-up temporary accommodation and amenities to service the early/enabling works
- Design finalization and internal refurbishment to Graythwaite Rehabilitation Centre accommodation for functions of community aged care and Rehabilitation Services (CAREs)
- Design finalization and installation of temporary decant structure with required services – accommodation for functions of the chatterry
- Installation of temporary equipment store – accommodation for functions for building 11
- Installation of DDA compliant walkway from hospital Road to PRP Radiology
- Re-alignment of Denistone Rd Entrance to carpark
- Services Capping /Disconnection for electrical, gas, hydraulic and fire servicing CAREs, Chatterry and Building 11
- Asset protection zone and weed removal with Blue Gum High Forrest
- Decant of the following buildings:
 - CAREs (Building 17)
 - The chatterry (Building 18)
 - Cleaners Store (Building 11)

Taking into account the sensitive nature of the redevelopment by way of the building disruptions to the operation public hospital and local residents adjacent to the building works and within the adjacent area generally, the construction process needs to be carried out smoothly and efficiently from all parties to be deemed as successful.

HPAC have thoroughly reviewed the Tender documents in detail in order to provide a construction methodology and programme that best suits the new construction for the various stages within allotted budgets.

We acknowledge that further consultation with the major stakeholders is required & will be a benefit to all parties and this will also provide greater understanding of the sensitivity associated with Ryde Hospital operations.

GC21, Attachment 1 requires that a Start Up Workshop is held. HPAC looks forward to this meeting so that we can review and understand any further concerns that may not have been considered in this document.

HPAC appreciates the sensitive environment and the considerations required when working in and around operational environments and to critical time frames, and encourage an open communication process with our clients, and ensure that we remain flexible to address the Principal's needs at all times.

The methodology provided by HPAC identifies several phases in the overall construction and delivery of the project and provides a high level overview of how the project shall be delivered and enables HPAC to manage the projects objectives and our day to day management of the works.

1. CONDITIONS PRECEDENT

1.1 MANAGEMENT PLANS

The contract requires the Contractor to produce a number of Management Plans as Conditions Precedent to the commencement of various stages of the project works. HPAC confirm that they understand the requirements to produce, maintain, report and the like as necessary the required management plans in accordance with the requirements of the Contract.

- Work Health and Safety (WHS):
 - Corporate WHS Management System: implementation of a system that is acceptable to the Principal
 - WHS Management Plan in accordance with the WHS Regulation 2017 (NSW): required as part of the Contractor's tender
- Workplace Relations:

- Workplace Relations Management Plan: required to be provided within 14 days after the Date of Contract
- Quality Management:
 - Quality Management System: Contractor is required to implement a Quality Management System
 - Quality Management Plan: required before starting design or construction work in connection with the Contract
- Environmental Management:
 - Environmental Management System: Contractor is required to implement an accredited Environmental Management System
 - Environmental Management Plan: Contractor to provide at least 14 days before starting work on site
- Skills, Training and Diversity:
 - NSW Government Training Management Guidelines July 2020: contractor is required to comply with NSW Government Training Management Guidelines July 2020
 - Workforce Development Plan: Contractor is required to submit a Workforce Development Plan as part of it tender
 - Workforce Development Plan (Progress and Compliance): Contractor must provide reports on the progress and compliance with the Workforce Development Plan at either quarterly interval or at any such other time as may be necessary (in such manner and form required by the Principal)
- Aboriginal Participation:
 - NSW Government Policy on Aboriginal Procurement Policy (APP): Contractor is required to comply with the NSW Government Policy on Aboriginal Procurement Policy (APP)
 - Aboriginal Participation Plan: Contractor is required to submit an Aboriginal Participation Plan at tender with the final Aboriginal Participation Plan (complying with the Aboriginal Procurement Policy) to be submitted to the Principal within 10 Business Days of the Date of Contract
 - Aboriginal Participation Plan (Progress and Compliance): Contractor to provide monthly updates and quarterly reporting with a final report as part of the Completion requirement under the Contract

1.1.1 MANAGEMENT PLANS

HPAC ensure they will carry out the construction of the development in accordance with the most recent version of the CEMP (including Sub-Plans).

WHS Management Plan: HPAC has an extensive WHS Management system already in place that is reviewed and amended to satisfy the specific requirements and risks that are present on each project. HPAC has an in depth understanding of WHS issues and can quickly identify the risks that are or are likely to be present of different project. HPAC's System Manager will work with the Project Manager and the Site Manager to produce a site specific WHS Management Plan within the proven WHS Management framework that HPAC has already established. This will provide HPAC with the ability to submit a comprehensive WHS Management Plan within two week of contract award.

Workplace Relations Management Plan: Ryde Hospital Redevelopment – Enabling and Early Works Workplace relations management plan (WEMP Form has been completed and attached)

Quality Management Plan: HPAC has an extensive Quality Management system already in place that satisfies the requirements of IS9001.

HPAC has a thorough understanding of this type of building and the items that need to be specifically identified and managed via the QMP. The thorough construction knowledge of the project team will quickly identify the key requirements to allow trade and task specific Inspection and Test Plans to developed that are specific to this project. In conjunction with the Systems Manager, HPAC has the ability to quickly generate these ITP's and develop a site specific Quality management Plan within the proven Quality Management framework that HPAC

has already established. This will provide HPAC with the ability to submit a comprehensive Quality Management Plan within one week of contract award.

Environmental Management Plan: HPAC has a thorough understanding and experience with civil and external works gives HPAC the ability to identify and address items that need to be specifically managed via the Environmental Management Plan. The thorough civil and construction knowledge of the project team will quickly identify the key issue that have are potentially environmental risks or tasks that are potentially hazards to the environment. With the knowledge and experience of the site team and in conjunction with the Systems Manager we are able to quickly produce a comprehensive Environmental Management Plan within one week of contract award

Workforce Development Plan: The WDP in place for Ryde Hospital EEW is in accordance with NSW Government's Infrastructure Skills Legacy Program, this plan assesses, identifies and provides strategy to meet the skills and diversity targets for the engagement of apprentices, learning workers, young people under 25 years, women and Aboriginal and Torres Strait Islander people on major construction projects, as referenced in the NSW Government Training Management Guidelines: Skills, training and diversity in construction, July 2020, 'Training Management Guidelines'.

Aboriginal Participation Plan: HPAC acknowledges the Government's Aboriginal Procurement Policy and commitment to supporting Indigenous businesses. We are not discriminatory within our procurement approach for subcontractors or suppliers nor our employment practices. We believe that finding right person for the job is not dictated by an individual's background. We value fairness, equity and diversity. We are committed to preventing and eliminating discrimination on the basis of race, gender, age, disability, marital status, family responsibilities, religion or social origin. When working on projects, we seek to be understanding and culturally aware and commit to educating our staff and peers when required in order to provide an open workplace and be sensitive to the requirements of our clients, staff and industry partners. We submit the following Aboriginal Participation Plan in accordance with the The Aboriginal Procurement Policy (2021).

1.1.2 CONSTRUCTION COMMENCEMENT

Prior to any site works commencing the below plans will also be developed and implemented for this project.

Construction Management Plan: HPAC has an extensive Construction Management system already in place that is reviewed and amended to satisfy the specific requirements and risks that are present on each project. HPAC has an in depth understanding of construction issues and can quickly identify the construction risks that are or are likely to be present on each project. HPAC's System Manager will work with the Project Manager and the Site Manager to produce a site specific Construction Management Plan within the proven Construction Management framework that HPAC has already established. This will provide HPAC with the ability to submit a comprehensive Construction Management Plan within two weeks of contract award.

Traffic Management Plan: HPAC will outsource Traffic Management Plan to a reputable Traffic management company who have the suitable RMS qualifications and experience to be able to produce a comprehensive Traffic Management Plan. We have long standing relationships with multiple Traffic Management Companies who are able to produce the plans for submission for HPAC's review prior to submission within two weeks of the contract award.

All construction vehicles are to be contained wholly within the site, except if located in an approved on-street work zone, and vehicles must enter the site or an approved on-street work zone before stopping.

1.1.3 COMPLETION OF WORKS

HPAC has extensive experience working on projects that have quick turnaround times where the facility has the expectation to use the building for its intended use immediately after project construction works are completed and understand the importance of the project documentation for the successful and seamless use of the building immediately upon the completion, testing and commissioning of construction works. HPAC has proven time and time again our ability and our proven systems to have the documentation completed at the completion of the construction works. Additional information to the below is also provide in Section 154 of this document.

2. PROGRAMMING AND SCHEDULING

HPAC understand and appreciates the tight timeframe of this project and has had significant past experience in working on project with tight timeframes.

HPAC proposes the following to ensure that we manage the timing of the project effectively to ensure we meet the scheduled completion date:

- Ensure all procurement is completed in accordance with our procurement schedule (I.e project to be totally procured within the first 8 weeks of the project)
- HPAC contracts Administrator to manage the workshop drawing process for main elements and ensure drawings are completed and issued on the programmed dates and manage the consultants to ensure we

receive the approvals of the shop drawings on time. Shop drawings will be required for but not limited to the following:

- Mechanical services
 - Electrical services
 - MSB & DB's
 - Mechanical switchboards
 - Medical gases
 - Medical gas services panels
 - Hydraulic services
 - Internal linings
 - Joinery
 - Aluminium windows
- Weekly internal meeting between HPAC site staff and office staff will be held on site to ensure all team members understand where the project is up to and what is required in the short, medium and long term on the project.
 - Weekly subcontractor co-ordination meetings will be held on site with **ALL** subcontractors on the project so they are aware of what is expected and required from them each week and what their responsibilities are for manpower in order to maintain programme.
 - Our Site manager in conjunction with the project manager will undertake short term 2 week look ahead programmes focusing only on the works for the next 2 weeks and these will be issued to all subcontractors at subbie meetings to ensure they understand what is occurring in the next 2 week period and what their responsibilities are.
 - Prior to subcontract award HPAC undertakes a tender interview with all subcontractors and we run through what the subcontractors current project commitments are and what there available manpower and resources are to ensure that the subcontractor can meet the project requirement and are not overcommitted prior to even starting the works
 - HPAC will run a separate subcontractor programme to the main head contract programme whereby this target programme will aim for completion 1 week ahead of schedule contract completion to enable us enough time for any slippage or defect rectification
 - HPAC project manager will attend site weekly to review progress with the site manager to ensure the programme is being adhered to.
 - The Contract Administrator for the project will be responsible for obtaining all required authority approval and payment of all fees minimum 1 week ahead of when the works are scheduled to be completed to ensure there is no delays

3. MANAGEMENT OF DESIGN & CONSTRUCTION RESPONSIBILITIES

HPAC acknowledge and appreciate our design responsibility as listed in GC21 Contract. HPAC's experience with projects of this nature will ensure a smooth finalization of the design with the projects consultants while adding value to the project. HPAC acknowledges in particular that we are familiar with and understand:

1. the Process of Facility Planning (POFP) and the sequential stages that a project goes through to prepare the Service Procurement Plan and the Project Definition Plan; and
2. the Health Facility Guidelines (HFG) and the design and other requirements and constraints which these impose in respect of any Ministry of Health Project,

HPAC will have a dedicated design manager and the project manager will also assist in the management of the contractor's design responsibilities for the project.

Design Development:

HPAC acknowledge that the Contract Documents may be incomplete and may contain Faults, errors or omissions. HPAC will not rely on the completeness or accuracy of the Contract Documents. The following outlines the design process to be undertaken through finalisation of Schematic Design and Design Development

- Review and check the contract documents and notify the Principal of details (including supporting documentation) of any identified Faults, errors or omission
- As part of the fault notification, proactively develop a proposal to correct the Fault, error or omission in a manner that ensures that the design and construction of the Works remain fir for their intended purpose
- Review the current design with the Principal, Consultants and nominated others in order to identify the following design considerations:
 - Areas of incomplete design
 - Non-conformances in current design

- Safety in Design
- Ecologically Sustainable Development
- Value Engineering
- Whole of Life

These items will be kept on a Register for consideration in design development.

Note: Design must meet the requirements of Principal's Project Requirements; POFP, HFG and all relevant specifications and Guidelines

- Prepare a project program which show the start and finish dates all design activities. Review and agree this program with the Principal's Authorised person
- Confirm with the Principal a list of design deliverables required from each consultancy including, drawings, specifications, schedules, design reports, design calculations, supplementary reports. These will be included in the format as agreed with the Principal's Authorised person
- Undertake regular design coordination meetings with Principal and consultants to develop and finalise design.
- Undertake interim status reviews of the design with the Principal's Authorised person and nominated others at points as nominated in the agreed design program. Agreed comments will be considered in the updated design.
- In preparation for these interim reviews the Contractor will provide a design report confirming status of design against program, design compliance, design options considered, design assumptions, status of Authority Approvals.
- At the completion of Design Development, submit a consolidated package of Contractor's Documents to the Principal for review
- Discuss any comments raised by the Principal's Authorised person in regards to these documents and incorporate agreed comments into the final design.
- Provide a final Detailed Design Report including Design Compliance Statements from all nominated Consultants.
- Design Development Documents will be used to Tender.
- Following Tender and subject to any comments or alternatives raised by Subcontractors and agreed with the Principal's Authorised person, documents will be updated Approved for Construction.
- Provide a Monthly Design Certificate that certifies that the current design in the Contractor's Documents is consistent with the requirements set out in the Contract Documents and the relevant specific clauses

Construction & Construction Certification

The following outlines the requirements of the design team (Consultants & HPAC design team) to be undertaken through the construction phase of the project

- During construction review and approve Subcontractor Shop Drawings, equipment lists etc. ensuring they are compliant with agreed design.
- Respond to all Requests for Information in regards to design. Including any sketch drawings to assist RFI responds.
- Update documentation during construction as required.
- Undertake site inspections in accordance the project program reviewing construction to ensure that it is in accordance with the agreed design. These site inspections will be undertaken with the Principal's Authorised person , consultants and nominated others. It the event of any non-conformances a defects list will be prepared. This list will be circulated to the relevant subcontractors for rectification of their non-conformances. These will be re-inspected and signed off upon completion.
- Complete Final Inspection with Principal, consultants and nominated others. Confirm that all defects raised during construction have been rectified to the satisfaction of all parties.
- Contractor Consultants to provide Design Compliance Statements confirming that construction has been completed in accordance with approved design.
- The Contractor is to have the Consultants provide "As Built" documentation
- Review and comment on Operations and Maintenance Manuals

Consultants for design completion:

Hpac note the following consultants are being engaged for the completion of the design for project:

Consultant	Organisation
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Architect	Silver Thomas Handley
Structural Engineer	H & H Consulting Engineers Pty Ltd
Civil Engineer	H & H Consulting Engineers Pty Ltd
Mechanical Engineer	DSA Consulting Pty Ltd
Electrical Engineer	DSA Consulting Pty Ltd
Fire (Wet & Dry) Engineer	DSA Consulting Pty Ltd
Hydraulic Engineer	DSA Consulting Pty Ltd
Laboratory Gases Engineer	DSA Consulting Pty Ltd
Traffic Engineer	Transport Strategies Pty Ltd
PCA & DDA Consultant	Phillip Chun & Associates Pty Ltd
Acoustic Engineer	E-Lab Consulting Pty Ltd
Fire engineer	E-Lab Consulting Pty Ltd

Design Finalisation of Demountable building:

It is anticipated that the design finalisation of the demountable building will be undertaken by Hpac proposed contractor on a D&C basis.

All drawings will be issued to approval to PCA and HI for approval prior to proceeding to construction.

The main consultant team will not have any input into the demountable construction (Only services connections for ongoing use.

Design completion programme:

It is anticipated that design completion should take 7pprox.. 8weeks including all approval processes from the client and H.I

4. PCA MANAGEMENT & OBTAINING CC & OC CERTIFICATES

It is proposed that Phillip Chun & Associates will be engaged as the PCA for the project.

Obtaining CDC & CC:

It is noted that both the CDC and CC documents remain outstanding at time of tender and need to be obtained as part of the design finalisation process and prior to commencement of construction.

Hpac note there is a checklist for both the CDC and CC outstanding documents

Once the CDC is issued by Phillip Chun & Associates then application for the CC can be made.

It is Hpac expectation that all items surrounding CDC and CC to be completed within the first 4 weeks after contract execution which is at the completion of the design finalisation for the construction documentation.

Obtaining OC:

4 weeks prior to completion of the project Hpac will obtain and OC checklist from Phillip Chun & Associates to commence collating all required certifications and sign off's.

It will be the responsibility of the CA on the project to obtain all required documentation and issue to Phillip Chun & Associates for review.

Once the documentation has been reviewed and approved by Phillip Chun & Associates then it will be loaded onto the E Planning Portal at which point OC will be granted.

5. PROCUREMENT AND SUBCONTRACTOR MANAGEMENT

The procurement process will be programmed to meet all long lead time items that are outlined. This will be ordered, tracked and available before they are required. These generally will need feedback from both the architect and the consultant before it can be put into production. This has been shown in our tender programme.

Hpac will establish a procurement schedule at the inception of the project to ensure that all procurement is carried out effectively and efficiently and ensure it meets the head contract programme requirements.

The technical complexity, construction challenges and quality requirements of the project means that selection of the right subcontractors will be absolutely critical in meeting the demands of the project. With the key trades driving the construction program whilst maintaining high quality, safety standards and design, only "high quality" subcontractors will have the capacity and experience to succeed on this project. These include demolition, mechanical, electrical, hydraulic, fire services, Joinery, security, flooring, tiling and internal linings contractors. HPAC will only award these trade packages to subcontractors meeting these qualifications.

Subcontractor tendering is based on a trade document package which includes head contract specification, design & contractual considerations supplemented with HPAC's trade scope of works, construction methodology, program and site-specific requirements. Our evaluation process will consider tenders based on the following criteria:

- Commercial consideration
- Ability to deliver in accordance with the program
- Technical and management skills included in the offer
- Ethical behavior
- Trade specific requirements
- Previous experience in this type of work
- Design and construction knowledge and experience
- Safety and QA

Final contractor selection is determined after factoring the risk profile of the trade into the subcontractor tender performance on the above criteria.

6. MANAGEMENT OF LONG LEAD TIME ITEMS

Hpac have identified the following materials/finishes as have long lead time that will have a direct impact on the completion programme.

Item	Leadtime
Demountable Building (Including design finalisation)	8-10 weeks
Ductwork	2-3 Weeks
Grilles / Diffusers	6 – 8 weeks
Light fittings	6-8 Weeks
Fixtures and tapware	6 – 8 weeks
Card readers (Security services)	6 weeks
Joinery	6-8 Weeks
Flooring (Vinyl)	6-8 Weeks
FFE	6-8 Weeks

Corner guards / Wall protection	6-8 Weeks
Gym Equipment	6 weeks

In order to try and mitigate the impact of these long leadtimes Hpac propose to implement the following strategies:

- Prioritise Long lead time items in procurement schedule
- 2 CA's to be used during procurement to enable procurement to be completed within ASAP
- Deposits to be paid within 24hrs of purchase orders being issued to suppliers so orders will be placed into production
- Weekly phone calls to suppliers to chase status of manufacture of delivery
- Allowance for multiple deliveries from suppliers so products can be delivered and installed as they arrive rather than waiting for one shipment when everything is available
- Look at VM options for finishes/materials with reduced leadtimes (locally made products)

7. TEAM ORGANISATION & COMMUNICATION WITH PROJECT TEAM

HPAC understands the requirements of managing a construction project and as such have allowed for all required suitably qualified staff for the completion of this project

Design Manager: The design manager will be allocated to the project 100% of their time during the design finalisation phase of the project and then allocated 50% of the time for the first half of the project while inspections for connecting to existing services etc still needs finalising.

The Design manager will work from the HPAC Head Office located in Lane Cove Coast. The design manager will be responsible for engaging all remaining consultants and managing the design finalisation process including running all user group meetings, workshops, review of documentation and managing all submission and approval requirements for the documents in accordance with the design brief requirements.

Project Manager/Contractors Senior executive: The Project Manager will be allocated to the project for 100% of their time. The project manager will work from both the office & site 50% of the time each. The project manager will oversee all aspects of the project but also be responsible for all construction programming throughout the project to ensure handover without delay.

Hpac has allowed for 2 site manager on the project.

Site manager N.0 1 will be used for the management of the following works

- Milestone N.0 1: Refurbishment works inside Graythwaite and Trigg Buildings
- Milestone N.0 3: Demolition works. To building N.0 11, 17 18.

Site manager N.0 2 will be used for the management of the following works:

- Milestone N.0 1: Temporary building works (commencement works in occupied carpark, delivery and installation of modular temporary building, Ryedale road Median island and entry works, DDA compliance walkway from hospital to PRP radiology)
- Milestone N.0 2: Management of asset protection zone and bush regeneration works

Please note if there is out of hours/weekend works to occur in the respective works areas then the respective site managers will be on site for the supervision of these works as well)

Site Manager N.0 1 (Milestone 1 & 3): The site manager will be allocated to the project for 100% of his time. This will generally involve a 6-day working week with 10 hours per weekday. As HPAC has experience in completing many projects within live environments and working closely with the public, in the past our site managers are always prepared to complete tasks out of hours as necessary to ensure that the project runs smoothly and to the satisfaction of the Principal. HPAC will allocate the same site manager to the project for the duration of the works from Site Establishment though to Practical Completion. The site manager will be responsible for all site safety, adhering to the construction program and quality of the workmanship along with all other site tasks that arise daily. He will also be liaising with the Principal's Authorised person I and the surrounding buildings issuing notification of upcoming works that may cause disruptions or noise.

Site Manager N.0 2 (External works to Milestone 1 & 2) The site manager will be allocated to the project for 100% of his time. This will generally involve a 6-day working week with 10 hours per weekday. As HPAC has experience in completing many projects within live environments and working closely with the public, in the past our site managers are always prepared to complete tasks out of hours as necessary to ensure that the project runs smoothly and to the satisfaction of the Principal. HPAC will allocate the same site manager to the project for the duration of the works from Site Establishment through to Practical Completion. The site manager will be responsible for all site safety, adhering to the construction program and quality of the workmanship along with all other site tasks that arise daily. He will also be liaising with the Principal's Authorised person I and the surrounding buildings issuing notification of upcoming works that may cause disruptions or noise.

Contract Administrator: The Contract Administrator will be allocated to the project for 100% of their time. The contract administrator will work from both the office & site 50% of the time each. The contract administrator will be responsible for procurement and subcontractor lettings along with processing all financial claims and completing the monthly cost reporting for review with the Project Manager and Managing Director. The Contract Administrator will also issue all the relevant permits and closures for the project in the required timeframe and work to capture all the required documents to administer the permits.

The contract administrator will also complete any variation submissions as required. HPAC will generally try to complete variation works using fixed price lump sum quotes from subcontractors and / or suppliers that are submitted to and approved by the Project manager prior to commencement of the works. If day works are required then HPAC will provide an estimate of the works and then on completion of the works will submit all supporting documents such as signed day works sheets, delivery dockets and the like with the variations claim.

HPAC uses Jobpac as its project cost management system. Jobpac is industry regarded as the best project cost management system and allows the Contract Administrator and Project Manager the best system to accurately forecast job costs and track the financial position of the project at any stage. The project is thoroughly analysed via Jobpac monthly during HPAC's project cost reporting meetings.

Procore or Aconex will also be used as document control for all RFI's, drawings, and relevant correspondence management for the duration of the project. Procore is an equivalent system to Aconex.

The entire project delivery team (Including consultants) will have access to Procore/Aconex so everyone has availability to the latest documentation at all times and can see the status of all pending items in "Live time".

Hpac propose to have the following staff involved in this project:

- Design manager
- Project Manager
- Contracts Administrator
- Site Manager x 2
- 1 x labourers (Full time)
- Traffic controller/gateman (As needed)

Please see project organisation chart below for this project:

8. REPORTING

Both the Contracts Administrator and Project Manager will be jointly responsible for both internal and external reporting for the project. All reporting will be issued via email to the Principal's Authorised Person and in weekly and monthly meetings internally to HPAC senior management.

Internal reporting to be provided from project team to HPAC's Project Manager include but not limited to the following:

- Updated Procurement letting Schedule (fortnightly)
- Updated RFI Register (fortnightly)
- Updated EOT Register (fortnightly)
- Updated Head contract variation register (fortnightly)
- Internal variation registers for each trades (fortnightly)
- Subcontractor Contract register (fortnightly)
- Updated cashflow (Monthly)
- Monthly financial reporting (Monthly)

- WHS Reports (Weekly & Monthly)
- Environmental reports (Weekly & Monthly)
- QA reports (Weekly & Monthly)

External reporting to be provided to the Principal's Authorised person include but not limited to the following:

- Project Management plan (Prior to commencing on site)
- Monthly PCG report (3 days prior to PCG Meeting held monthly)
- RFI Register (issued with each RFI and summary register issued fortnightly so all parties know the status of all RFI's)
- EOT Register (issued with each EOT and summary register issued fortnightly so all parties know the status of all EOT's)
- Variation register (issued with each variation and summary register issued fortnightly so all parties know the status of all Variations)
- Updated drawing register (Issued each time any documentation is revised, so all parties know what the current documents are)
- Updated cashflows
- Monthly progress claims
- Monthly WHS report
- Monthly environmental report
- Apprenticeship/Trainee monthly report
- Aboriginal participation report
- Completed ITP's
- Engineer inspection reports
- Weekly progress updates and schedule of works for the following week
- Weekly progress photos
- Defects reports from consultants upon final inspection (As issued by consultant)
- Defects register of closed out defects with photo evidence (once defects completed)

9. STAKEHOLDER MANAGEMENT / COMMUNICATION

HPAC will assign a dedicated staff member (HPAC Project manager / Senior Executive) to liaise with TSA Projects senior management in all matters relating to the project operations.

Our Senior Executive will be the single point of contact for all communication to enable a streamlined and concise communication path.

Our Senior Executive will ensure that all information is distributed to relevant parties through the use of Procure/Conex document management system.

Any site specific communication required specifically for subcontractors will be communicated through toolbox talks with trades on site.

HPAC propose the following schedule of meetings for the project delivery and design teams:

- Start-up Workshop
- Design meetings to be held weekly until design documentation is completed (Off site with consultants)
- Site meetings to be held fortnightly on site with Principal's project manager
- PCG meetings to be held monthly on site with Principal's project manager and the aged care facility senior management. At this meeting there will be a site inspection for all interested parties to inspect the works and a detailed report of progress for the month will also be issued at the meeting

HPAC will issue a monthly PCG report to the Principal project manager and the council senior management to show the progress of works and all contractual and financial matters.

All site level communications regarding existing services for investigations etc will be communicated directly with the Mostyn Copper to ensure all parties are aware of any investigations required.

HPAC propose that all communication regarding design, RFI's, EOT's variations, contractual issues etc. are to be directed to the Principal project manager and resolved directly between the 2 parties.

The day to day issues of co-ordination on site is to be left between HPAC site manager and the base building manager of the facility to ensure smooth daily operations of both the facility and the project.

HPAC will provide a weekly program to all parties of the upcoming weeks work and advise of any major interruptions or noisy works to occur so that all parties are informed well in advance and alternate methods/timings can be achieved if there are any clashes.

HPAC will issue weekly progress photos to the Principal's Authorised Person to show the progress of works for the week so they can provide feedback within the community as they see fit.

HPAC propose that all communication regarding design, RFI's, EOT's variations, contractual issues etc. are to be directed to the Principal's Authorised Person and resolved directly between the 2 parties.

The day to day issues of co-ordination on site is to be left between HPAC site managers and the onsite nominated Service Manager to ensure smooth daily operations of both the facility and the project.

9.1 MEDIA ENQUIRES/MEDIA ENGAGEMENT

HPAC and its staff will not engage with any media enquires in relation to the project. If HPAC is approached by any media outlet we will immediately direct them to the Principal's Authorised person for comment.

9.2 SOCIAL/ONLINE AND DIGITAL MEDIA

HPAC will not initiate nor maintain any communications about the proposed project on our social or online media outlets.

If the Principal's Authorised Person or Principal's Senior executive wishes to initiate any communications about the proposed project then this will be done directly through HI NSW website and social media pages.

Any day to day challenges on site will be liaised between HPAC's site manager and the project managers.

10. KEY RISKS & MITIGATION STRATEGIES

HPAC understand and acknowledge that RPA will have it's own specific risk and mitigation strategies but the below generally summarises the risks that need to be considered for the successful delivery of the works on Anatomic Pathology Unit & the Gloucester House Drive Civil works

HPAC has thoroughly reviewed the risks associated in delivering this project and has identified the following potential risks & mitigation strategies that need to be implemented to minimise the potential risks to the project.

<u>RISK</u>	<u>MITIGATION STRATEGY</u>
<ul style="list-style-type: none"> ▪ Working adjacent to a fully operating private hospital and working in a fully operation public hospital and the requirement not to cause disruption or unnecessary nuisance to the facility 	<ul style="list-style-type: none"> ▪ No communication between workers and hospital staff, children, family members, patients, facility staff unless absolutely necessary (i.e. emergency event). ▪ All workers are to have a working with children check completed by Services NSW prior to commencing any works on site. ▪ Appropriate segregation between worksite and the hospital facility (Class A Hoarding etc). ▪ Where possible segregate entry for site away from communal entry points. ▪ Weekly notices to the hospital about upcoming works and any possible disruptions so they are fully informed at all times. ▪ No impact to existing facility parking for duration of the project. ▪ No slewing of crane over private hospital permitted at all.
<ul style="list-style-type: none"> ▪ Traffic management control within an operating environment 	<ul style="list-style-type: none"> ▪ Full time traffic control to be in place during duration of the works ▪ All traffic management to be in accordance with the council approved TMP ▪ Co-ordinate deliveries so that they do not coincide with peak traffic periods ▪ Workzone to be implemented out the front of the site to eradicate for any need for double parking ▪ No contractors parking on site. All contractors to park in surrounding streets in accordance with street signage ▪ Contractors will be advised that there is no parking on site and they should carpool or catch public transport where possible
<ul style="list-style-type: none"> ▪ Knowledge of Existing Services 	<ul style="list-style-type: none"> ▪ Identifying all the existing services by way of a Dial Before you dig services and locating services. ▪ Having access to the building As-builts to check locations and type of service is as indicated. ▪ Tracing the services back to the origin to confirm the correct size connection and service. ▪ Knowing the implication of the service and potential hazard. ▪ Maintain water and power to the existing facilities that are not part our works.

<u>RISK</u>	<u>MITIGATION STRATEGY</u>
<ul style="list-style-type: none"> ▪ Effect of Power & Data Shutdowns (if circumstances change and any respective ambulance station is required to remain operational during construction works) 	<ul style="list-style-type: none"> ▪ Appropriate notices for power and data shutdowns (minimum 2 weeks notice). ▪ All power and data shutdowns to be undertaken on Weekends, nights or holiday periods. ▪ User group meetings to be held with ICT, Hospital GM, heads of departments that will be affected by shutdowns to ensure all equipment is shutdown properly prior to shutdowns ▪ Detailed specific methodologies including marked up drawings and durations to be produced by HPAC and our contractors to demonstrate to all parties exactly what equipment etc will be affected by the shutdown and alternate temporary measures can be put in place if necessary. ▪ Tracing of all services by electrical and data contractors to take place prior to works being undertaken .
<ul style="list-style-type: none"> ▪ Noise Interruptions 	<ul style="list-style-type: none"> ▪ Noisy works to be scheduled for out of hours/weekends/holiday periods. ▪ HPAC have allowed some contingency in our programme to allow for stoppages to reduce noise interruptions. ▪ See s below of the methodology for noise mitigation measures during the build.
<ul style="list-style-type: none"> ▪ Hazardous Substances removal if they are identified on site 	<ul style="list-style-type: none"> ▪ If any additional hazardous substances are identified they will be dealt with as per our Hazardous Substance portion of this methodology
<ul style="list-style-type: none"> ▪ Location of existing services- services not being in the location indicated on the drawings and need to find them. This could mean longer runs or shorter runs for services. 	<ul style="list-style-type: none"> ▪ Service locator will be engaged from the beginning to locate all services and give a clear indication. From that an assessment can be made for any changes to the design.
<ul style="list-style-type: none"> ▪ Delay in completion of design 	<ul style="list-style-type: none"> ▪ All consultants to be engaged within the first week after award of contract. ▪ HPAC design manager to produce design milestone programme and issue to all design consultants to ensure key dates are achieved to enable design reviews. ▪ HPAC Design manager to manage design process to ensure documents are submitted for review on time.
<ul style="list-style-type: none"> ▪ Consultant delays in reviewing shop drawings and approvals 	<ul style="list-style-type: none"> ▪ HPAC to implement a requirement for consultants to have 7 days to review and approve all workshop drawings from time they are submitted.
<ul style="list-style-type: none"> ▪ Working around public spaces and adjacent to other occupied premises 	<ul style="list-style-type: none"> ▪ Ensure works are carried out during out of hours/weekends/holiday periods or as directed by ambulance station management to program works to the most appropriate time to cause the least disruption ▪ Ensure works are adequately fence and protected ▪ Keeping roadways open for the public while still trying to complete the construction work. ▪ Maintain a clean and safe environment around the work site.
<ul style="list-style-type: none"> ▪ Delay in supply of specified materials and finishes due to COVID 19 	<ul style="list-style-type: none"> ▪ HPAC design manager to check with suppliers during the design phase lead times of materials to ensure they can be obtained in necessary timings. ▪ Early procurement of long lead time items to be factored into our procurement programme. ▪ Look to source local products and materials during design phase to limit the amount of international freight requirements.
<ul style="list-style-type: none"> ▪ COVID 19 Shutdown periods due to infection rates 	<ul style="list-style-type: none"> ▪ HPAC has implemented a Covid-19 Safety Action Plan to protect all the workers. This will be adopted on this project to maintain a safe environment. We are endeavouring with the implementation of the Covid-19 Safety Action Plan to mitigate the impact of any disruptions to the build works .

<u>RISK</u>	<u>MITIGATION STRATEGY</u>
<ul style="list-style-type: none"> ▪ Dust and noise impacting on the surrounding neighbours housing and businesses 	<ul style="list-style-type: none"> ▪ Please refer to section 11.23 of this methodology for all mitigation measure regarding dust and noise suppression to be utilised on the project to ensure reduced impact of the demolition works on the surrounding community
<ul style="list-style-type: none"> ▪ Tight timeframe for the project duration 	<ul style="list-style-type: none"> ▪ Please refer to section 2.0 & 6.0 of this methodology for all mitigation measure regarding programming and management of the project to ensure the tight time frames of the project will be achieved ▪
<ul style="list-style-type: none"> ▪ Inclement Weather 	<ul style="list-style-type: none"> ▪ HPAC have allowed some contingency in our programme to allow inclement weather for the duration of this project. ▪ If Inclement weather is more than HPAC allowance in programme then HPAC will schedule double shifts in the works to make up any lost time to ensure completion date is achieved.
<ul style="list-style-type: none"> ▪ Incoming and outgoing deliveries from the operational health facility 	<ul style="list-style-type: none"> ▪ Hpac deliveries to be scheduled with loading dock manager and other delivery managers for the hospital so building material and equipment deliveries don't clash with standard hospital scheduled deliveries ▪ Dedicated access point for pedestrian traffic and for material deliveries have been schedule for these works so as to keep segregated access.

11. DEMOLITION WORKS

There are multiple different work fronts in Milestone 1 & 3 that require demolition works to be undertaken

Hpac propose that the same demolition contractor is used to undertake all stages of the demolition o the project to enable security, safety and continuity to the programme.

Given the amount of hazardous materials to be removed from the various work fronts our proposed demolition contractor will be a Class Licensed asbestos removalist and there will also be a hygienist present full time during the demolition works

Hpac propose to undertake the demolition works in the following sequences:

- 1) Graythwaite building
- 2) Trigg Building
- 3) Carpark modifications adjacent to ambulance building (entrance off Denistone Rd)
- 4) Median strip removal and associated demo to Ryedale Rd
- 5) Building 17
- 6) Building 11
- 7) Building 18

Hpac note that there are restricting factors which are driving the staging for the demolition in particular the demolition of building 11, 17 & 18 cannot be completed until the works in Milestone 1 & milestone 2 are completed, as such this is the reason why we have sequenced the works in the above order.

1) **Graythwaite Building (Basement, level 1 & level 2):**

Hazardous Material Status:

At this stage there is no record of any Hazardous materials being located in the Graythwaite building that need to be removed prior to demolition works proceeding.

Regardless of this we will proceed carefully and if we find any material that we believe could potentially be hazardous then we will follow our procedure for unexpected finds which is detailed in section 12.21 below.

Hoardings / protection of surrounding surfaces:

Speed wall plastic hoardings will be installed from ground to the ceiling height and sealed top and bottom track (to ground and ceiling) to prevent dust and noise transfer. (for more specific details around speedy wall hoardings please refer to section 12.1 of this methodology.

Sticky blue mats will be located on the floor inside the door lading into the hoarded off area to ensure people clean their feet etc prior to leaving the works area to limit the amount of potential dust spread. (Matts to be changed very couple of hours or as needed.

Plastic floor protection will be installed on the floor leading from the nearest exit of the building to the site hoarding entrance to prevent dust and debris from being tracked into the corridor carpet etc.

This plastic protection will be installed for the duration of the works and be replaced on an as need basis.

It will be cleaned everytime materials are loaded out and loaded into the worksite by the Hpac labourer

Demolition Method:

Internal demolition of lightweight walls, ceilings, joinery, wet areas, furniture etc will be done using hand demolition methods and loaded out using 240 and 660L bins

At completion of all demolition the works area will be swept clean and then vacuumed with a Hepa filter vacuum to remove any debris or dust on the ground or wall surfaces after demolition is completed.

Equipment to be used:

- 2 air monitors (full time internally within the hoarded off area while demolition is occurring)
- Various hand tools
- 240L & 660L Bins for debris removal (with plastic cover over materials in bin) and bin lids closed at all times
- Hepa Vacuum
- Appropriate PPE (gloves, masks, eye protection, ear protection etc)

Expected Duration:

6 days total for all areas

2) Trigg Building:

Hazardous Material Status:

At this stage there is no record of any Hazardous materials being located in the Trigg building room that we are working in that need to be removed prior to demolition works proceeding.

Regardless of this we will proceed carefully and if we find any material that we believe could potentially be hazardous then we will follow our procedure for unexpected finds which is detailed in section 12.21 below.

Hoardings / protection of surrounding surfaces:

Speed wall plastic hoardings will be installed from ground to the ceiling height and sealed top and bottom track (to ground and ceiling) to prevent dust and noise transfer. (for more specific details around speedy wall hoardings please refer to section 12.1 of this methodology.

Sticky blue mats will be located on the floor inside the door lading into the hoarded off area to ensure people clean their feet etc prior to leaving the works area to limit the amount of potential dust spread. (Matts to be changed very couple of hours or as needed.

Plastic floor protection will be installed on the floor leading from the nearest exit of the building to the site hoarding entrance to prevent dust and debris from being tracked into the corridor carpet etc.

This plastic protection will be installed for the duration of the works and be replaced on an as need basis.

It will be cleaned everytime materials are loaded out and loaded into the worksite by the Hpac labourer

The following hoarding requirements must be complied with:

- (a) no third-party advertising is permitted to be displayed on the subject hoarding/ fencing; and
- (b) the construction site manager must be responsible for the removal of all graffiti from any construction hoardings or the like within the construction area within 48 hours of its application.

Demolition Method:

Internal demolition of lightweight walls, ceilings, joinery, wet areas, furniture etc will be done using hand demolition methods and loaded out using 240 and 660L bins

At completion of all demolition the works area will be swept clean and then vacuumed with a Hepa filter vacuum to remove any debris or dust on the ground or wall surfaces after demolition is completed.

Equipment to be used:

- 1 air monitors (full time internally within the hoarded off area while demolition is occurring)
- Various hand tools
- 240L & 660L Bins for debris removal (with plastic cover over materials in bin) and bin lids closed at all times
- Hepa Vacuum
- Appropriate PPE (gloves, masks, eye protection, ear protection etc)

Expected Duration:

1 day total

3) Carpark Modifications adjacent to ambulance building (Entrance off Denistone Rd)**Hazardous material Status:**

At this stage there is no record of any Hazardous materials being located in the ground at this proposed location that need to be removed prior to demolition works proceeding.

Regardless of this we will proceed carefully and if we find any material that we believe could potentially be hazardous then we will follow our procedure for unexpected finds which is detailed in section 12.21 below.

Hoardings / Protection of surrounding areas

ATF type temporary metal fencing with required bracing and shade cloth is being used as hoarding in this location. For more detail surrounding temp fencing please refer to methodology section 12.1

Demolition Method:

Prior to commencing any demolition in this work front a services locating scan will be undertaken to locate all inground services in the vicinity of the works to determine their depths and if they will be affected by the proposed works.

A TMP will be produced for modifications to the proposed carpark and sent to TSA and HINSW for approval prior to undertaking works

A 2man traffic control team will be in use for the full time of the works in this area to manage the changed traffic conditions around the carpark and entry and exit of Denistone Rd.

Specialist tree loppers will be engaged to remove the trees in this work front.

The trees will be cut down using chain saws in small pieces and then removed from site in a 3 Tonne tipper truck

The light poles will be removed in conjunction with the electrician to ensure all power has been disconnected from the light poles and removed using a small 20T franna crane and then loaded onto 3 Tonne tipper truck and removed from site.

The demolition of the layback and asphalt carpark which is to be lowered and raised respectively in different areas will initially be saw cut using a demo saw into smaller pieces and then loaded out in a 3Tonne tipper truck using a 5T excavator.

A Spotter will be in place at all times when the excavator is in use.

The water cannon will be used as dust suppression when excavating the road materials.

At the completion of each day the street sweeper will be used to come and mechanically sweep the work front to limit the extent of dust and debris being away to spread.

2 air monitors will be in use the whole time until demolition works completed.

Equipment to be used:

- Water Cannon
- 5 Tonne Excavator
- Chain saw
- Franna Crane
- Various hand tools
- Portable Generator for power
- 3 Tonne tipper truck
- street sweeper
- 2 Air monitors
- Demo Saw

Expected duration:

7 days

4) Median strip removal and associated demo to Ryedale Rd

Hazardous material Status:

At this stage there is no record of any Hazardous materials being located in the ground at this proposed location that need to be removed prior to demolition works proceeding.

Regardless of this we will proceed carefully and if we find any material that we believe could potentially be hazardous then we will follow our procedure for unexpected finds which is detailed in section 12.21 below.

Hoardings / Protection of surrounding areas

ATF type temporary metal fencing with required bracing and shade cloth is being used as hoarding in this location for the modification works to the layback leading into the carpark. For more detail surrounding temp fencing please refer to methodology section 12.1

Council Fees:

Council fees will need to be paid to Ryde council for the following prior to any demolition works commencing:

- Lane closure for Ryedale Rd
- Approval of TMP
- New layback
- New crossover

Traffic control:

A TMP will be produced and submitted to council for approval for a lane closure to enable the median island to be removed, road made good and modifications to the layback to occur.

Full time traffic control with approved signage and lights will be used (generally 3 person crew) for the full duration of the lane closure during the demolition and make good works

Demolition Method:

Prior to commencing any demolition in this work front a services locating scan will be undertaken to locate all inground services in the vicinity of the works to determine their depths and if they will be affected by the proposed works.

The concrete median island will be demolished and removed using 10T Excavator and loaded and carted away in 3Tonne tipper truck

The same will occur with the removal of the old layback and crossover to modify for the new one.

A Spotter will be in place at all times when the excavator is in use.

The water cannon will be used as dust suppression when excavating the road materials.

At the completion of each day the street sweeper will be used to come and mechanically sweep the work front to limit the extent of dust and debris being away to spread.

2 air monitors will be in use the whole time until demolition works completed.

Equipment to be used:

- Demo saw
- 9 inch Grinder
- 10T Excavator (With hammer)
- Portable generator for power
- 3 Tonne tipper truck
- Street sweeper
- 2 Air monitors

Expected duration:

5 days

5) Building 17 Demolition

Hazardous material Status:

At this stage there is no record of any Hazardous materials being located in building 17 that need to be removed prior to demolition works proceeding.

There is a note that there is some SMF (synthetic mineral fibre) material in the building in the form of insulation and this will be removed in accordance with NOHSC: 2006 (1990) and this will be removed prior to the main demolition works of the building.

Regardless of the register advising there is no hazardous materials other than the SMF material we will proceed carefully and if we find any material that we believe could potentially be hazardous then we will follow our procedure for unexpected finds which is detailed in section 12.21 below.

Utility Disconnections:

Services to Demolition area to be reviewed, isolated and disconnected prior to commencement of any demolition works.

Services to be located using provided services survey drawings and conducting site scanning of the designated work areas.

Services that are required to remain live that run through the work zones are required to be diverted when necessary.

For services disconnection methodologies, please refer to the demolition work plan provided.

Services running throughout the hospital are scoped to be

Hoardings / Protection of surrounding areas

A Class Timber hoardings 2m high have been allowed to be installed around the perimeter of building 17 & 18 to provide and enclosed compound for the demolition works to be undertaken in.

This provides the best protection for the workers, public and hospital staff.

There will be a set of double gates in the front of the hoarding and rear of the hoarding to enable trucks and machinery to be able to enter the site and for the removal of demolished materials. (Please refer to our site drawings for extent of hoarding and gate locations)

The public way (outside of any approved construction works zone) must not be obstructed by any materials, vehicles, refuse, skips or the like, under any circumstances.

Public areas must be maintained in a safe condition at all times. Restoration of disturbed road and footway areas for the purpose of connection to public utilities, including repairs of damaged infrastructure as a result of the construction works associated with this development site, shall be undertaken in accordance with Council's standards and specifications, and DCP 2014 Part 8.5 Public Civil Works, to the satisfaction of Council.

Demolition Method:

Prior to commencing any demolition on building 17 all services contractors will make safe and disconnect all services feeding the building and cap off (Electrical, hydraulic, mechanical).

There will also be a service locating scan will be undertaken to locate all inground services in the vicinity of Building 17 to determine their depths and if they will be affected by the demolition of the building footings and inground services etc.

Hpac and our contractor have also allowed for our hygienist to inspect the internal and external of this building prior to any demolition commencing just to ensure that nothing has been missed in the JBS&G report.

Note Hpac has allowed for Hygienist to be on site for the full duration of the demolition of building 17 just in-case there is an unexpected find during the demolition process.

The internal elements of these buildings will be stripped first by hand to remove the synthetic mineral fibre materials outlined in the Hazmat report from JBSG

These elements include the following:

- Ceiling insulation
- Wall insulation
- Mechanical duct insulation
- Internal insulation on Kitchen Zip unit
- External insulation to the hot water system

Note that all demolishers will be wearing Hazmat suits and appropriate PPE when removing all SMF materials.

These will then be loaded into a truck and taken to registered tipping facility.

Once the SMF material has been removed and the hygienist confirms that there is no SMF material left in the building then a combination of a 14T & 23T excavators will be used to remove the external steel cladding and roofing material with shears/grabs

The building will be pulled apart separating the steel from the non-recyclable material.

Note that while all machine demolition is occurring there will be ongoing wetting down of the materials through the use of the water/fog cannon.

Each machine will also have their own spotter on the ground providing information to the machine operators

All material will be loaded into 20 cube bins or 10 wheeler trucks inside the hoarded off compound and either taken to a licensed tipping facility for the non-recyclable material and to the metal recycling yard for all steel and metal materials that can be recycled.

Tipping dockets will be kept and issued to Hpac as part of QA process & ITP's for the demolition of building 17.

4 air monitors will be in use the whole time until demolition works completed.

At the completion of each day the street sweeper will be used to come and mechanically sweep the work front and carpark and Ryedale Rd to limit the extent of dust and debris being spread.

Traffic Control

A TMP will be produced for the truck movements into and out of the site for the removal of the demolished materials and sent to TSA and HINSW for approval prior to undertaking works

A Fulltime traffic controller will be used to manage the truck movements into and out of the site compound and out onto Ryedale Rd. (Please refer to our site establishment plan and demolition sequencing plans to see proposed truck routes etc.)

Equipment to be used:

- Water/fog Cannon
- 14 Tonne Excavator
- 23 Tonne Excavator
- 10 Wheeler Trucks (Bogies)
- 20m3 bins

- Platform Ladders
- Mobile Scaffolds
- Various hand tools
- Portable Generator for power
- hoses
- Street sweeper
- 4 Air monitors
- Demo Saw
- Appropriate PPE

Expected duration:

10 days

6) Building 11 Demolition

Hazardous material Status:

There is significant hazardous materials that have been identified in the JBS&G Hazardous materials register for this building. These include but are not limited to the following:

- Non friable asbestos to mastic in external windows
- Non friable asbestos to eaves linings
- Non friable asbestos to electrical backing board
- Non friable asbestos to internal FC sheet ceilings
- Non friable asbestos to fibre cement debris in ceiling cavity
- Friable asbestos in the form of settled dust in the ceiling cavity
- Friable asbestos in the form of settled dust in the wall cavity
- Lead paint on external gutters and downpipes
- SMF material in the form of insulation in roof and on the external hot water heater.

There is also a note that in the Hazmat register from JBS&G that they were unable to undertake inspection of the light fittings but they have concerns that these might also contain PCB's.

Hazardous Materials Demolition / Removal:

Given the extent of the materials identified above from the Hazmat register by JBS&G the first thing that will occur is that our Hygienist will attend site to conduct an audit/site inspection of all areas identified in the Hazmat report and to review and ensure that there is no further unexpected finds.

The hygienist will also put together a detailed methodology for the removal of all bonded and friable asbestos materials and lead paint items and this will be issued to TSA and HINSW for review and approval prior to commencing any works.

Once approval has been granted by TSA and HINSW then all hazardous materials will be removed prior to any demolition commencing.

Our Demolition contractor is class A licensed and will remove all hazardous materials (Friable and non friable) in controlled manner in accordance with SWNSW 2019a, NOHSC: 2006 (1990).

Prior to the commencement of any works a decontamination unit will be set up in the area of the cleared trees adjacent to building 11.

In terms of Hazardous materials removal the following is a high level methodology on how the works would likely occur but more detail will be provided by the Hygienist:

- Prior to commencing any removal of hazardous materials all services within the building will be disconnected and capped off to enable all demolition works to occur.
- All external bonded asbestos to the external eaves, walls etc will be removed off the scaffold around the building and all materials will be wrapped in plastic once removed and then placed in 20m³ bins lined with plastic.
- Prior to commencing to remove the internal bonded asbestos the accessible ceiling cavities will be vacuumed using Hepa filter vacuums. All dust on top of ceilings will be treated as asbestos contaminated.
- After the completion of removal of ceiling space contaminated dust all the internal bonded and friable asbestos can be removed in stages working from the top of the building down under asbestos conditions. Only moving to the next level below once all ACM has been removed.

- Once the bonded asbestos is removed then the external windows will be removed as single units (under asbestos removal conditions) and then double wrapped in plastic and then placed in 20m3 bins lined with plastic.
- Lead paint contaminated objects that can be safely removed will be taken out and removed at the same time under asbestos conditions. Note Hpac have not allowed to strip lead paint from timber during the demolition process. Known items that have lead paint will be removed and tipped as hazardous waste in full with exception to dust which will be done same as ACM dust
- Once the internal materials have been removed then black plastic will be laid over the roof of the building to the ground to encapsulate the building so that the external skin of brickwork can be brought down to a safe level to be able to vacuum out the asbestos dust in the wall cavity with Hepa Vacuums. During this process the hygienist will take regular samples of the dust till it is clear of ACD. Noting this process will not be a negative air situation unless deemed by the hygienist but will be done under Class A license.

Once all Hazardous materials are removed then the Hygienist will undertake a thorough inspection and then issue a full clearance certificate to enable the rest of the building to be demolished.

All bonded and friable asbestos will be removed under asbestos conditions and tipped as asbestos waste

Full air monitoring will be ongoing for the full duration of the hazardous material removal of this building.

The hygienist will be onsite the whole time while these works are being undertaken.

Hoardings / Protection of surrounding areas

A Class Timber hoardings 2m high have been allowed to be installed around the perimeter of building 11 to provide and enclosed compound for the demolition works to be undertaken in.

This provides the best protection for the workers, public and hospital staff.

There will be a set of double gates in the front of the hoarding to enable trucks and machinery to be able to enter the site and for the removal of demolished materials.

It is proposed that all demolished materials once loaded into bins/ trucks will exit the site and drive directly into the compound on the opposite side of the road where building 17 has been demolished and then drive out through the carpark and enter the road via Ryedale St. (Please refer to our site drawings for extent of hoarding, gate locations and truck entry and exit paths)

Once all demolition works are completed to building 11 and final clearance certificates have been issued then the Class A hoarding will be demolished and removed from site.

Demolition Method:

Once the hazardous materials have been removed and the hygienist issues the building clearance certificate a 14T excavator will be used to demolish the building from the top down with shears/grabs and loaded directly into boogie trucks or 20m3 skip bins.

The building will be pulled apart separating the recyclable materials from the non-recyclable material.

The recyclable materials will be sent to concrete and metal recycling yards while unsalvageable timber will be sent to a sorting yard at either Benedict's or Bingo recovery yards.

Recyclable timber will be sent to reclaimable timber yards.

Note that while all machine demolition is occurring there will be ongoing wetting down of the materials through the use of the water/fog cannon.

Each machine will also have their own spotter on the ground providing information to the machine operators

Tipping docket will be kept and issued to Hpac as part of QA process & ITP's for the demolition of building 11.

4 air monitors will be in use the whole time until demolition works completed.

At the completion of each day the street sweeper will be used to come and mechanically sweep the work front and carpark and Ryedale Rd to limit the extent of dust and debris being spread.

Traffic Control

A TMP will be produced for the truck movements into and out of the site for the removal of the demolished materials and sent to TSA and HINSW for approval prior to undertaking works

A Fulltime traffic controller will be used to manage the truck movements into and out of the site compound and out onto Ryedale Rd. (Please refer to our site establishment plan and demolition sequencing plans to see proposed truck routes etc.)

Equipment to be used:

- Water/fog Cannon
- 14 Tonne Excavator
- 10 Wheeler Trucks (Bogies)
- Knuckle Boom
- 20m³ bins
- Platform Ladders
- Mobile Scaffolds
- Various hand tools
- Portable Generator for power
- hoses
- Street sweeper
- 4 Air monitors
- Demo Saw
- Appropriate PPE

Expected duration:

5 days for Hazardous materials removal

5 days for demolition of building 11

Total 10 days for this building.

7) Building 18 Demolition

Hazardous material Status:

There is significant hazardous materials that have been identified in the JBS&G Hazardous materials register for this building. These include but are not limited to the following:

- Non friable asbestos to mastic in external windows
- Non friable asbestos to eaves linings
- Non friable asbestos to electrical backing board
- Non friable asbestos to internal FC sheet ceilings
- Non friable asbestos to fibre cement debris in ceiling cavity
- Non friable asbestos to cable sheath
- Friable asbestos in the form of settled dust in the ceiling cavity
- Friable asbestos in the form of settled dust in the wall cavity
- Friable asbestos to old pipework lagging and gaskets
- Friable asbestos in the form of settle dust in the dirt of the subfloor of the building
- Lead paint on external gutters and downpipes, doors, windows, architraves, skirtings, external pipework, internal walls
- SMF material in the form of insulation in roof and on the external hot water heater.

There is also a note that in the Hazmat register from JBS&G that they were unable to undertake inspection of the light fittings but they have concerns that these might also contain PCB's.

Hoardings / Protection of surrounding areas

A Class Timber hoardings 2m high have been allowed to be installed around the perimeter of building 17 & 18 to provide and enclosed compound for the demolition works to be undertaken in.

This provides the best protection for the workers, public and hospital staff.

There will be a set of double gates in the front of the hoarding and rear of the hoarding to enable trucks and machinery to be able to enter the site and for the removal of demolished materials. (Please refer to our site drawings for extent of hoarding and gate locations)

Once building 18 has been fully demolished and a clearance certificate issued and the site padded down and left clean the A class hoarding will be demolished and removed from site.

Perimeter Scaffold:

Prior to any hazardous materials removal or any demolition heavy duty steel fixed scaffold will be erected around the perimeter of building 18 and extend 1m past the roof height to act as edge protection when demolishing the roof.

The scaffold will be wrapped in unimesh full height to prevent any demolition debris from falling off the scaffold.

The scaffold will be braced back down to the ground in double bays so the scaffold is not tied to the building that is being demolished.

The scaffold will be erected prior to any demolition commencing

The scaffold will be stripped in sequence with the demolition as the building is demolished 1 level at a time.

The scaffold will be in the form of 3 board scaffold with 1 board hop ups

A compliant stretcher access stair will need to be installed to gain access to the scaffold for safety and compliance purposes

Hazardous Materials Demolition / Removal:

Given the extent of the materials identified above from the Hazmat register by JBS&G the first thing that will occur is that our Hygienist will attend site to conduct an audit/site inspection of all areas identified in the Hazmat report and to review and ensure that there is no further unexpected finds.

The hygienist will also put together a detailed methodology for the removal of all bonded and friable asbestos materials and lead paint items and this will be issued to TSA and HINSW for review and approval prior to commencing any works.

Once approval has been granted by TSA and HINSW then all hazardous materials will be removed prior to any demolition commencing.

Our Demolition contractor is class A licensed and will remove all hazardous materials (Friable and non friable) in controlled manner in accordance with SWNSW 2019a, NOHSC: 2006 (1990).

Prior to the commencement of any works a decontamination unit will be set up in the area of where building 17 has already been demolished previously

In terms of Hazardous materials removal the following is a high level methodology on how the works would likely occur but more detail will be provided by the Hygienist:

- Prior to commencing any removal of hazardous materials all services within the building will be disconnected and capped off to enable all demolition works to occur.
- All external bonded asbestos to the external eaves, walls etc will be removed off the scaffold around the building and all materials will be wrapped in plastic once removed and then placed in 20m³ bins lined with plastic.
- Prior to commencing to remove the internal bonded asbestos the accessible ceiling cavities will be vacuumed using Hepa filter vacuums. All dust on top of ceilings will be treated as asbestos contaminated.
- After the completion of removal of ceiling space contaminated dust all the internal bonded and friable asbestos can be removed in stages working from the top of the building down under asbestos conditions. Only moving to the next level below once all ACM has been removed.
- Once the bonded asbestos is removed then the external windows will be removed as single units (under asbestos removal conditions) and then double wrapped in plastic and then placed in 20m³ bins lined with plastic.
- Lead paint contaminated objects that can be safely removed will be taken out and removed at the same time under asbestos conditions. Note Hpac have not allowed to strip lead paint from timber during the demolition process. Known items that have lead paint will be removed and tipped as hazardous waste in full with exception to dust which will be done same as ACM dust
- Once the internal materials have been removed then black plastic will be laid over the roof of the building to the ground to encapsulate the building so that the external skin of brickwork can be brought down to a safe level to be able to vacuum out the asbestos dust in the wall cavity with Hepa Vacuums. During this process the hygienist will take regular samples of the dust till it is clear of ACD. Noting this process will not be a negative air situation unless deemed by the hygienist but will be done under Class A license.
- Access panels will be cut in the timber floor on ground floor to enable access into the subfloor to enable 2 layers of geofabric to be installed to cover the soil containing ACD to prevent any further contamination during the rest of the demolition of the building.

These works will be done under class A conditions while the piping and materials under the building noted as being ACM are removed to help limit the cross contamination of non ACM material during the building demolition.

Once all Hazardous materials are removed then the Hygienist will undertake a thorough inspection and then issue a full clearance certificate to enable the rest of the building to be demolished.

Once the timber floors are removed on the ground floor under normal demolition process and before the footings are removed the 2 layers of Geo fabric installed prior to demo commencing will be removed and disposed of as ACM material under normal asbestos procedures.

Once the soil is exposed the hygienist will undertake several tests to determine the extent of the contaminated soil.

At this stage Hpac has allowed to remove 100mm of spoil across the entire building footprint (approx. 190T) of material to be loaded with the 23T excavator and then tipped under Asbestos contaminated material at licensed tipping facility.

The hygienist will continue to undertake regular tests until the soil test return a negative result and then a clearance certificate will be issued for the soil under the building.

Once the clearance certificate is issued then the footings for the building can be removed and the site will be groomed flat with the excavator.

All bonded and friable asbestos will be removed under asbestos conditions and tipped as asbestos waste

Full air monitoring will be ongoing for the full duration of the hazardous material removal of this building.

The hygienist will be onsite the whole time while these works are being undertaken.

Demolition Method:

Once the hazardous materials have been removed and the hygienist issues the building clearance certificate the roof tiles will be removed from the roof via rubbish chute fixed to the scaffold into 20m3 bin below and the roof timbers will be removed.

Unsalvageable timber will be sent to a sorting yard at either Benedict's or Bingo recovery yards while Recyclable timber will be sent to reclaimable timber yards.

Once the roof structure is removed the 23T excavator and 14T excavator will work in tandem to demolish the building from the top down with shears/grabs and loaded directly into boogie trucks or 20m3 skip bins.

The building will be pulled apart separating the recyclable materials from the non-recyclable material.

The recyclable materials will be sent to concrete and metal recycling yards while unsalvageable timber will be sent to a sorting yard at either Benedict's or Bingo recovery yards.

The excavator will sit where building 17 used to be and the building will be progressively pulled down on itself and away for the scaffold.

Note while the building is progressively being demolished the scaffold will be dropped to match the building height. The scaffold will be fully removed prior to any spoil/footings being removed from site

Note that while all machine demolition is occurring there will be ongoing wetting down of the materials through the use of the water/fog cannon.

Each machine will also have their own spotter on the ground providing information to the machine operators

Tipping dockets will be kept and issued to Hpac as part of QA process & ITP's for the demolition of building 18.

4 air monitors will be in use the whole time until demolition works completed.

At the completion of each day the street sweeper will be used to come and mechanically sweep the work front and carpark and Ryedale Rd to limit the extent of dust and debris being spread.

Traffic Control

A TMP will be produced for the truck movements into and out of the site for the removal of the demolished materials and sent to TSA and HINSW for approval prior to undertaking works

A Fulltime traffic controller will be used to manage the truck movements into and out of the site compound and out onto Ryedale Rd. (Please refer to our site establishment plan and demolition sequencing plans to see proposed truck routes etc.)

Equipment to be used:

- Water/fog Cannon
- Heavy Duty Perimeter Scaffold
- 23 Tonne Excavators
- 14 T excavators
- 10 Wheeler Trucks (Bogies)
- 20m3 bins
- Platform Ladders
- Mobile Scaffolds
- Various hand tools
- Portable Generator for power
- hoses
- Street sweeper
- 4 Air monitors
- Demo Saw
- Appropriate PPE

Expected duration:

4 days scaffold erection

10 Days for Hazardous materials removal to building 18

12 days for demolition of building 18 after Hazardous materials removed

6 days for soil removal from under building

Total 24 days for this building.

12. SITE ESTABLISHMENT PLANS / CONSTRUCTION METHODS IN LIVE OPERATING ENVIRONMENTS

Attached is our draft site set up plans for the works we propose for this project. These can be further reviewed and discussed at the Start Up Workshop

In addition to the attached plans above please see below detailed outline of the major factors that HPAC have taken into consideration for the successful implementation on this project while working in a live environment.

12.1 FENCING / HOARDINGS

A Combination of hoarding / fencing types will be used on this project for the various stages. Below is a detailed explanation of the various types to be used in different locations.

Class A Hoarding:

Class A Hoarding will be installed around the perimeter of Building 11 when the milestone 3 demolition works are occurring with a set of double access gates built into the hoarding for access off the internal link road within the hospital directly opposite building 17&18.

Class A hoarding will also be installed on the Northern, Eastern and southern elevations of building 17 & 18 when the milestone 3 demolition works are occurring with a set of double access gates built into the hoarding for access off the internal link road within the hospital directly opposite building 11.

All class A hoardings will be painted solid plywood timber hoarding to a height of 1.8m. (Colour to be selected by client)

The bracing for all Class A hoarding will be located on the inside of the hoarding and will not impact on pedestrian or vehicular access inside the hospital grounds or access surrounding the site.

Chainwire Fencing

1.8m high galvanised chain wire fencing will be installed along the western elevation of building 17 & 18 when the milestone 3 demolition works are occurring with a set of double access gates into the compound.

This chainwire fencing will incorporate 1 set of double access gates into the site and a single pedestrian gate to access the site and amenities buildings.

These gates will be locked at all times unless deliveries are occurring.

Temporary Fencing

Temporary Fencing (ATF Style will be installed around the perimeter of the proposed location of the temporary modular building to be installed

This will only be installed for the duration of the installation works of the modular building and during the milestone 2 works.

Additionally we will have ATF style fencing around the perimeter of the carpark at the back of building 17 & 18 with a double gate installed for vehicular access at the driveway entry off Ryedale Rd during the milestone 3 demolition works.

There will also be ATF fencing around the new DDA compliance ramp being constructed from Graythwaite building to PRP Radiology Building.

Shade cloth with all relevant statutory and advisory signage will be installed on all perimeter fencing to protect the public, patients, staff and workers alike during the construction of the project.

Site signage with contacts details of HPAC Site Manager and HPAC Project Manager will also be installed on the fence and internal hoardings. Contact details provided will allow for 24hour contact

(a) minimum dimensions of the site notice(s) must measure 841 mm x 594 mm (A1) with any text on the site notice(s) to be a minimum of 30-point type size;

(b) the site notice(s) must be durable and weatherproof and must be displayed throughout the works period;

(c) the approved hours of work, the name of the builder, Certifier, structural engineer, site/ project manager, the responsible managing company (if any), its address and 24-hour contact phone number for any inquiries, including construction/ noise complaint must be displayed on the site notice; and

(d) the site notice(s) must be mounted at eye level on the perimeter

Speedy Wall Hoardings

Speedy wall plastic hoardings will be installed from ground to soffit level (And sealed top and bottom) in the carpark of the Graythwaite building with single access doors into each of the 2 work areas in the basement carpark.

These single doors will have a digi lock on them for security and access and will be locked at all times.

Additionally speedy wall hoardings will be installed inside both Graythwaite building and Trigg Building to enable individual work zones for the areas to be refurbished.

The hoardings will be installed from floor to ceiling and sealed top and bottom to prevent dust and debris from escaping from the work site

There will be sticky blue mats located on the inside of each of the speedy wall hoarding entrances for all trades to be able to clean themselves and their feet prior to leaving the construction area and entering the rest of the hospital.

Please see attached marked up drawings showing extent of fencings and hoardings for the various stages of the works.

12.2 SERVICE TRENCHING

Service trenches will also be bunded and / or fenced off during the works as required. HPAC will barricade only areas that can be completed in 1 day with temporary fencing during the service trenching. Upon the completion of each section of trenched areas it will then be re-opened

Integral in the set-up of each stage will be directional signage for pedestrians, vehicles and emergency vehicles

12.3 WORKING HOURS

"Construction, including the delivery of materials to and from the site, may only be carried out between the following hours:

(a) between 7am and 6pm, Mondays to Fridays inclusive; and

(b) between 8am and 1pm, Saturdays.

No work may be carried out on Sundays or public holidays."

"Notwithstanding condition C4, provided noise levels do not exceed the existing background noise level plus 5dB, works may also be undertaken during the following hours:

(a) between 6pm and 7pm, Mondays to Fridays inclusive; and

(b) between 1pm and 4pm, Saturdays."

"Construction activities may be undertaken outside of the hours in condition C4 and C5 if required:

(a) by the Police or a public authority for the delivery of vehicles, plant or materials; or

(b) in an emergency to avoid the loss of life, damage to property or to prevent environmental harm; or

(c) where the works are inaudible at the nearest sensitive receivers; or

(d) for the delivery, set-up and removal of construction cranes, where notice of the crane-related works is provided to the Planning Secretary and affected residents at least seven days prior to the works; or

(e) where a variation is approved in advance in writing by the Planning Secretary or his nominee if appropriate justification is provided for the works."

Notification of such construction activities as referenced in condition C6 must be given to affected residents before undertaking the activities or as soon as is practical afterwards.

"Rock breaking, rock hammering, sheet piling, pile driving and similar activities may only be carried out between the following hours:

(a) 9am to 12pm, Monday to Friday;

(b) 2pm to 5pm Monday to Friday; and

(c) 9am to 12pm, Saturday."

12.4 SITE AMENITIES

It is proposed to have 3 separate amenities facilities for this project.

Graythwaite Building:

It is proposed that the site amenities are established and located outside of Graythwaite building adjacent to building 18 to service the workers working in the following areas:

- DDA compliance ramp to PRP Pathology
- Graythwaite Building
- Trigg Building
- Road works on Ryedale Rd

Please note the following amenities will be located in this location:

- 1 x Site Shed
- 1 x Toilet block (Male and female)
- 1 x lunch room

Modular Building compound:

Given the distance of this work front from the Graythwaite building it is proposed that the following amenities are located within the fenced off compound of the modular building area to serve workers working on lanta clearing, modular building construction and carpark modifications adjacent to ambulance building off Denistone Rd:

- 1 x lunch room
- 2 x portaloo (male & female)
- 1 x bubbler/water point

These portaloo's will be emptied on a as need basis but generally every 2 weeks.

Milestone 3 compound behind building 17 & 18

Once Milestone 1 & 2 are completed Hpac propose to consolidate our site amenities into 1 area which will be located on the hardstand in the carpark behind building 17 & 18 which are to be demolished

This will allow direct access into the site off Ryedale Rd and not impact any other entries into the hospital for both vehicle and pedestrian access.

During milestone 3 it is envisaged that the following amenities will be needed:

- 1 x Site office
- 1 x Lunch rooms
- 1 x Toilet block (Male and female)

There will also be 3 cold water bubblers located around the site for workers use to ensure they do not need to walk back to the site compound for a drink and to comply with all WHS and IR regulations.

Connection of all services to above site amenities will be detailed below in temporary services section.

At no stage will HPAC contractors use any Hospital Facilities.

Please see marked up sequencing site plans for amenities locations

12.5 TEMPORARY SERVICES

Graythwaite & Trig Building:

The temporary services will be established for the site works and connected to the existing site services

Electrical: It is proposed that temporary electrical services for the Site will be taken from the site main switchboard

Temp power will be taken off existing live power circuits

On contract award further investigations will be required to ensure adequate power is available (If there is adequate power available HPAC will install a private meter on the board for recording and payment of electricity used for the duration of the project.

If adequate power is not available HPAC will make further investigations to determine the best alternate solution. Site temporary boards will be established within the site area. The quantity of boards is reviewed on a weekly basis and additional boards will be added as required to meet Code.

Temporary Water: It is proposed that we will connect to the existing water supply via an existing tap located internally of the work zones.

A separate water meter can be installed if required for water metering purposed for our usage during the construction works.

The final location for temporary connections will take place on site in conjunction with HPAC site manager, services contractor and the Principals Authorised person as required.

DDA Ramp to PRP Radiology:

Temporary power for the concrete accessibility ramp will be supplied from Diesel portable generators rather than running temp power out and needing site DB boards.

Temporary water: It is proposed that we will connect to the existing water supply via an existing hose cock located on within the vicinity

Modular Building location:

Temporary power for the construction of the modular building will be supplied from Diesel portable generators rather than running temp power out and needing site DB boards.

Temporary water: It is proposed that we will connect to the existing water supply via an existing hose cock located on within the vicinity

Compound in carpark behind building 17 & 18 – Milestone 3:

The temporary services will be established for the site works and connected to the existing site services and either run aerially or underground to our proposed site shed location.

Final locations for connections will be determined on site once final locations are agreed with Ryde hospital and HINSW.

Due to the staging and multiple stages it is proposed the Diesel portable generators will be used at each stage to supply all required power rather than running temp power out and needing site DB boards

Temporary Water: It is proposed that we will connect to the existing water supply via an existing hose cock located on within the vicinity of each stage of the demolition works.

HPAC has allowed for our own internet connections and will not rely on Wi-Fi or internet to be supplied by any facility at any stage.

12.6 MATERIALS HANDLING / STORAGE LOCATIONS

Hpac notes that there will 2 separate material delivery/storage areas on the project during milestone 1 & 2 and there will be 1 material storage area during milestone 3.

Operation of Plant & Equipment

All construction plant and equipment used on site must be maintained in a proper and efficient condition and operated in a proper and efficient manner.

Graythwaite & Trigg Buildings – Milestone 1:

All deliveries for materials and plant for the Graythwaite & Trigg Building works need to be delivered and stored in the inside the existing respective buildings in designated locations

Given the restricted storage areas internally of the existing building materials will only be delivered to site the day before they are required to be installed thus limiting the amount of excess material and equipment being stored on site.

Hpac note that none of the carpark bays adjacent to the existing building can be used for storage of plant or materials.

Due to the restricted access all materials/plant will be delivered on a single flat bed truck and not semi trailers

Modular Building work site –Milestone 1/2:

All deliveries for materials and plant associated with the modular building and Lanta removal will need to be delivered and stored in our proposed site compound adjacent to the modular building works area.

All materials stored in the site compound for the works will be moved to the respective stage locations only on the day that the materials are required.

It is proposed that Hpac will have a manitou on site to move these materials into place and this will be operated by ticketed labourer

Hpac will have a fulltime labourer to assist with all loading and loading of materials and to clean up after deliveries and pick-ups occur.

Carpark behind Building 17 & 18 – Milestone 3:

The materials storage area for the milestone 3 demoliton works will be in the carpark compound that Hpac propose to use behind building 17 & 18 which are bing demolished

Given the access off Ryedale Street again only single axel trucks and flat bed trucks will be able to enter the compound due to restricted turning circles.

All materials stored in the site compound for the works will be moved to the respective stage locations only on the day that the materials are required.

It is proposed that Hpac will have a manitou on site to move these materials into place and this will be operated by ticketed labourer

Hpac will have a fulltime labourer to assist with all loading and unloading of materials and to clean up after deliveries and pick-ups occur.

12.7 EMERGENCY EGRESS FROM SITE

Emergency egress will be via the designated pedestrian walkway within the site.

HPAC will not interfere or obstruct any existing emergency egress paths of the hospital during the project.

HPAC will ensure that our emergency notification system is not the same as the hospital contractor to avoid any confusion.

HPAC will notify the hospital immediately should there be the need for any evacuation.

The emergency muster point will be located as per the proposed compound and site layout and this will be coordinated to ensure the muster points are in separate locations.

All workers on site will have the emergency egress and muster points conveyed to them in the site specific induction prior to commencing works on site.

An emergency evacuation drill will be conducted once every 3 months while we are on site in accordance with our WHS management plan and the early works contractor will be notified prior to HPAC conducting any drill so they can alert their staff.

12.8 SCAFFOLDING & WORKING AT HEIGHTS

12.8.1 HEAVY DUTY STEEL FIXED SCAFFOLD

Heavy Duty Steel Fixed Scaffold will be erected around the perimeter of building 18 and extend 1m past the roof height to act as edge protection when demolishing the roof.

The scaffold will be wrapped in unimesh full height to prevent any demolition debris from falling off the scaffold.

The scaffold will be braced back down to the ground in double bays so the scaffold is not tied to the building that is being demolished.

The scaffold will be erected prior to any demolition commencing

The scaffold will be stripped in sequence with the demolition as the building is demolished 1 level at a time.

The scaffold will be in the form of 3 board scaffold with 1 board hop ups

A compliant stretcher access stair will need to be installed to gain access to the scaffold for safety and compliance purposes

Please see attached our site sequencing drawings showing scaffold set up locations.

12.8.2 MOBILE SCAFFOLDS & PLATFORM LADDERS

Mobile scaffolds will be used by trades for works over 3m in height to complete the building façade and external window installation.

Please note mobile scaffold maybe used for works with a working platform at a height of greater than 4m but it will be erected and dismantled by a qualified scaffolder.

A scaffold certificate will be provided for any mobile scaffold erected with a working platform over 4 metres.

Platform ladders will also be used by the trades for works most internal finishes works so as to not damaged finished surfaces rather than mobile scaffold.

All equipment will be inspected /checked and log books completed daily prior to use and registers will be kept.

Please note when all trades are working at heights exclusions zones will be in place around the base of the work zone while contractors are working at heights.

12.8.3 ELEVATED WORKING PLATFORMS (EWP'S)

Building 11:

An All terrain 40 foot Knuckle boom will be used to access the hazardous eaves materials for safe removal.

This knuckle boom will need to be set up around the perimeter of the building to enable access to all eaves linings to be able to work safely from both sides.

At all times there will be a spotter on the ground when the boom lift is in use.

For all areas all equipment will be inspected /checked and log books completed daily prior to use and registers will be kept.

Both Scissor and boom lifts will only be used by certified and competent operators

Please note when all trades are working at heights exclusions zones will be in place around the base of the work zone while contractors are working at heights.

The full extent of exclusion zone will be determined by the site manager and contractors carrying out the works at heights.

Please note working at heights permits will be obtained in accordance with HPAC policies.

12.9 WASTE MANAGEMENT

12.9.1 WASTE MATERIALS BIN SYSTEM

All waste generated onsite will be removed from site via dump trucks or skip bin trucks.

The removal of rubbish will be undertaken during the following times:

- 8:00am - 5:00pm Monday-Friday
- 8:00am - 1:00pm on Saturdays.

The Project Manager and site Manager will determine what bins will be required for the project. General construction waste bins, with recycling bins for materials and general food bins will be provided (as identified on site management plan)

Waste Storage

All waste generated during construction must be secured and maintained within designated waste storage areas at all times and must not leave the site onto neighbouring public or private properties.

All waste generated during construction must be assess, classified and managed in accordance with the Waste Classification Guidelines Part 1: Classifying Waste (EPA, 2014).

Ensure that concrete waste and rinse water are not disposed of on the site and are prevented from entering any natural or artificial watercourse.

Record the quantities of each waste type generated during construction and the proposed reuse, recycling and disposal locations for the duration of construction.

Ensure that the removal of hazardous materials, particularly the method of containment and control of emission of fibres to the air, and disposal at an approved waste disposal facility is in accordance with the requirements of the relevant legislation, codes, standards and guidelines.

Waste Facilities:

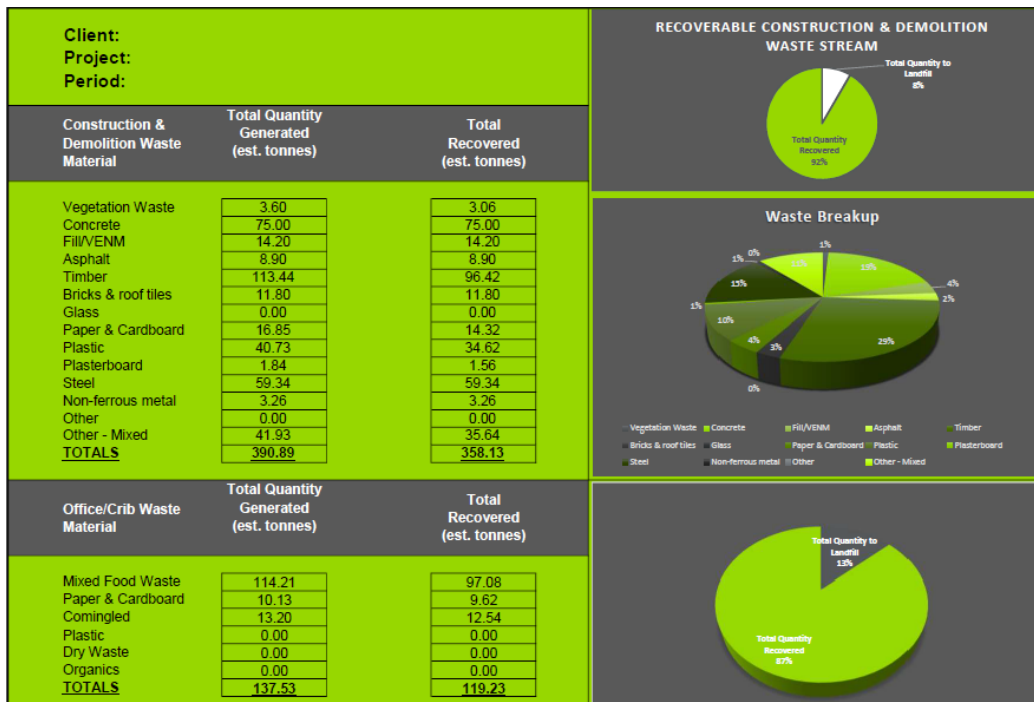
Type of Material	Items	Transport	Destination	Recycled
Mixed	Joinery Doors Carpet Flooring	Hookbins Tippers	Bingo Auburn 3/5 Duck St, Auburn NSW 2144	Partially
Timber	Joinery Flooring	Hookbins Tippers	Bingo Auburn Or Bingo Eastern Creek	Yes
Gyprock	Ceilings	Hookbins Tippers	Benedict Recycling Chipping Norton	Yes
Concrete	Slabs/Footings	Hookbins Tippers	Concrete Recyclers 14 Thackeray St, Camellia NSW 2142	Yes
Brick	Int/Ext Walls	Hookbins Tippers	Concrete Recyclers 14 Thackeray St, Camellia NSW 2142	Yes
Glass	Windows Corridor Glazing	Hookbins Tippers	Bingo Auburn 3/5 Duck St, Auburn NSW 2144	Yes
Green Waste	Trees and Shrubs	Hookbins Tippers	Bingo Auburn 3/5 Duck St, Auburn NSW 2144	Yes
Scrap Metal	Roofing Awning Support posts Cladding Misc Steel	Hookbins Tippers	Metal Top Recyclers 109 Woodpark Rd, Smithfield NSW 2164	Yes
Asbestos/ Asbestos Soils	Bonded Sheeting ACM	Hookbins Tippers	Bingo 1 Kangaroo Ave, Eastern Creek, NSW 2766	No
Hazardous or Restricted Waste	Lead Insulation	Hookbins Tippers	Cleanaway Kemps Creek	No

The following bin allocation are standard for this project:

- 1 bin for construction waste
- 1 bin for food waste

All waste will be legally disposed offsite through HPAC nominated skip bin provider. The bin provider will provide HPAC with a comprehensive monthly report showing waste collected and recycled with these records to be maintained in our site records and can be provided where requested.

Works carried out in Stage 1 must be carried out in accordance with the Remediation Action Plan titled 'Ryde Hospital Redevelopment, Denistone Road, Denistone NSW Remedial Action Plan 150554 | 60938' prepared by JBS&G and dated 18 April 2023 and any variations to the Remediation Action Plan approved by an NSW EPA-accredited Site Auditor.



12.9.1 REMOVAL OF DEMOLISHED MATERIALS

The removal of all demolished materials will be removed from site in either bins or bogies trucks.

Before any works can proceed a hygienist will inspect the properties to identify any material that could be contaminated. A report will be issued and assessed by HPAC and the contractor to best address any findings. These findings if any will then for the basis of how the contaminated material will be handled. As there has been no hazardous materials that have been identified in the report issued, we don't believe any other findings will come up.

The furniture, glass, joinery, flooring and any loose items will be removed first, which is called the soft strip. Some of this material will be salvaged to be resold. This is the aim to try and minimise the material going to land fill.

- (a) ensure that only VENM, ENM, or other material that meets the requirements of a relevant order and exemption issued by the EPA, is brought onto the site;
- (b) keep accurate records of the volume and type of fill to be used;
- (c) make these records available to the Certifier upon request

12.10 CRANAGE

It is expected that a crane will only be required for the installation of the modular building in milestone 1

It is proposed that an 80T crane will be needed to install the modular building

The crane will be set up within the fenced compound area for this work zone at all times

The crane will access the work front through the driveway adjacent to ambulance building off Denistone Rd.

The mobile crane will not be left on site overnight.

All cranes will be erected and dismantled on the same day

Please refer to marked-up staging drawings for crane location

12.11 CONCRETE PUMPING/PLACEMENT

It is proposed that all concrete will be able to be poured directly out the back of the truck or via a line pump due to the good access for each of the work fronts.

It is expected that the following areas can be poured directly out the back of the truck:

- Layback modification on Ryedale Rd

- Pad footings for modular building
- Infill service trenches for modular building

It is expected that the following works will need a line pump:

- DDA compliant ramp adjacent to PRP Radiology

Please note we will use the same pump company & operators for all concrete pours to ensure security and continuity of works.

The concrete works will be fully co-ordinated and traffic control will be deployed for safety during the movement of the plant

Please note full extent of exclusion zone will be determined by the site manager and contractors carrying out the works.

Full exclusion zones will also be implemented around the concrete trucks & pumps.

Please see site establishment plan for concrete pump set up locations

Please note that for all locations pump a dump will be used for the removal of waste concrete from the line and hooper of the pump and neither will be blown out on site.

Pumper Dump will be delivered to site on the morning of each concrete pour and removed from site at the completion of each concrete pours

12.12 DISRUPTION NOTICES

Any planned disruptions to the hospital operations will be managed through the processes of disruption notices (DN's)

A detailed Disruption Notice Procedure will be set up between Hpac, TSA and Ryde Hospital/HISNSW and this will one of the first things discussed and organised during the start up meeting for the project.

A detailed Disruption Notice Procedure will be set up between Hpac, TSA and Ryde Hospital/HISNSW and the redevelopment team. The process for providing a disruption notice includes but not limited to the following and this will one of the first things discussed and organised during the start up meeting for the project:

- Weekly stakeholder meeting with TSA, Ryde Hospital/HISNSW Redevelopment team and Hpac.
- Hpac to pre-consult and issue the developed draft DN for comment (DN format to be used from Standard HI documents issued as part of tender)
- TSA to review with stakeholders the draft for content suitability
- Hpac to send Formal DN via Aconnex to TSA/Redevelopment team.
- Redevelopment team to consult with Hospital stakeholders, NUMS, WHS, Infection control and Hospital General manager
- Hospital stakeholders to provide comments and/or acceptance
- Hospital stakeholders send acceptance (with potential conditions) to the redevelopment team and TSA
- Redevelopment team send approval to TSA and in-turn to Hpac

As a minimum the following information will be submitted for all disruption notices:

- Description of the applicable works
- Timetable of works
- Marked-up drawings clearly showing extent and staging of the works
- Methodology for the scheduled works
- Any temporary diversions or modifications to keep services live during the works
- Risk assessment for works to be undertaken
- Details of what services, locations and other hospital operations will be affected by the works
- List of control measures in place to ensure works are completed properly, on time and are functional again at completion of the works.

Hpac will issue all disruption notices 21 days in advance of the scheduled works as a minimum to enable review by TSA and HINSW but with complex disruption notices or for extended period Hpac will issue the DN's 6 weeks ahead of time.

Hpac propose to hold a meeting with TSA and HINSW on a weekly basis to review the DN's and communicate and co-ordinate the works around the hospital operations.

No works will be allowed to proceed with the correct management procedures and approval for each area of disruptive works.

12.13 CORE HOLES FOR NEW SERVICES

Hpac will establish suitable times for core holing to be undertaken through consultation with the project control group to determine suitable timings as to not interfere with hospital operations on the surrounding floors. Prior to any core holes being undertaken the slab will be scanned for existing services and reinforcement/PT so these can be avoided.

The area directly below will be hoarded off (with hoardings as identified above) and parts of ceilings removed to enable us to check for existing services under the slab (not picked up in slab scan).

This will also enable us to install a plywood catch deck which will be propped to the underside of the slab to prevent the core hole from dropping and it can be removed from the top site.

A large bin will also be placed on the underside of the proposed core hole location to catch any excess water while the core hole is being undertaken.

A spotter will be located on the underside of the proposed core hole with a wet and dry vacuum to vacuum up any water that may not end up in the bin to prevent it spreading to other floors.

All ceilings will be reinstated after core hole works are completed and a terminal clean will be carried out prior to removal of the hoarding to floor below.

12.14 SITE INDUCTIONS AND SECURITY

All staff and workers on the project will undertake a working with children check prior to commencing any works on this site and the certificate is to be provided to HPAC as part of the WHS paperwork from the subcontractors minimum 5 days prior to commencing on site and this will be checked and reviewed during the HPAC site induction process.

Note no contractor will be allowed on site unless they have their working with Children Certificate issued to HPAC prior to starting.

There will be security cameras located at each for the pedestrian access gates and the main set of double gates accessing the site, which will be linked back to base security monitoring so if there are any issues on site, they can be reviewed and resolved or forwarded to the police if needed

HPAC specific site Induction will be conducted prior to commencing any work on site.

The induction will outline the needs and procedures for site security, requirements about working within a live environment and all WHS, environmental and quality requirements under the contract.

The site specific site induction will cover the following main points in relation to working in and around the live aged care facility:

- Isolation of Services
 - Services must not be isolated without the prior approval of HPAC
 - The Contractor shall provide at least 7 days notice to HPAC of the required isolation of any services.
 - The approval of the HPAC to the isolation of services must be obtained immediately prior to the isolation.
- Electrical isolation and safety tags
 - The contractor shall not work on any existing distribution or main switchboards or isolate any essential or non-essential electrical circuits without first notifying the HPAC Storage of Materials and Equipment
 - No materials and / or equipment shall be left unattended without the prior approval of HPAC. The Contractor shall be responsible for the security of any such materials and/or equipment within the precincts of the aged care facility
 - The storage of flammable materials shall not be permitted in buildings at any time.
- Contractors Children
 - Contractors are not to make contact with children/residents in anyway. If children try to make contact with the contractor, they are to ignore the children/residents
 - Children/residents/staff are not permitted onto site under any circumstances
- Animals
 - Contractors are not to bring animals (e.g. dogs) on site. This includes animals left in vehicles, on utility tray-backs or tied to vehicles.
- Inconveniences to Public and Occupants
 - The Contractor shall work in such a manner so as to avoid and reduce the inconvenience to persons occupying and the surrounding businesses

- The Contractor shall arrange the execution of works to minimise nuisance to the public and ensure the safety of occupied premises.
- The Contractor shall not deviate from the access to work site included as agreed without prior approval of HPAC.
- Removal of Rubbish
 - Work areas must be kept clear and in clean and tidy condition.
 - Contractors must clean up any spillages of oil or chemical substances etc. as soon as practicable and ensure that such substances are returned to the proper storage facilities after use. Under no circumstances should chemicals, substance or oils etc. be allowed to pollute water courses, sewer and drains, and in the event of accidental occurrence, the matter be reported to HPAC immediately.
- Foods and Drink
 - No food or drink should be taken to or consumed in Plant Rooms with the exception of water containers.
- Clothing
 - All personnel undertaking work at the site shall be dressed in a manner considered appropriate by HPAC.
 - The minimum standard of dress required is safety foot wear, Hi-Vis clothing, hard hat and glasses Safety Requirements

12.15 GEOTECH

- The recommendations of the Geotechnical Investigation PSM referenced as PSM3828-002R dated 14 June 2019 as amended by additional information prepared by PSM dated 13 December 2022 are to be complied with during works.

12.16 SAFETY REQUIREMENTS

In addition to the requirements of the Work Health Act and standard site safety rules the following conditions apply:

- Before commencing any flame cutting or arc or gas welding operation, the contractor shall:
 - Acquire a hot work permit from the Supervisor.
 - Contractors are to be aware that welding operations are not permitted in all areas. (Issuance of a hot work permit will be subject to this consideration)
 - All electric hand tools, lights and the like must have earth leakage protection.
 - Trenches or excavations shall be fenced in accordance with HPAC Construction Safety Rules.
 - No explosive power tools shall be used on the grounds.
- Fire Precautions
 - Contractors must not obstruct any fire-fighting equipment or fire exit and ensure that fire escape routes and fire service points are maintained free from obstruction at all times.
- Restricted Areas
 - All areas outside of site compound (Fenced off areas) are deemed to be restricted areas and approval needs to be obtained from HPAC prior to entering restricted areas. (if any works needs to be done in neighbouring properties)
- Smoking
 - The Building site is a smoke free environment and smoking is not permitted. Smoking is also not permitted within 20m of the building any in direction.
- Radio/Cassette Players
 - The use of earplug of headset type devices is banned during working hours or whilst driving on road type plant and equipment.
 - The use of audible radio/cassette players is not permitted anywhere on site.

All contractors must attend the site office upon arrival and will not commence works until they are inducted and signed in the attendance register. At that point they will be temperature checked and questioned over their recent activities and health to avoid any Covid-19 on site.

There will only be one entry and exit point to be able to manage who is on site and who has visited the site.

At the end of each day all contractors will sign out the attendance register

All contractors will have copies of their driver's licences/photo identification taken at time of induction to be kept with the site induction records.

12.17 DILAPIDATION SURVEY

A dilapidation survey will be conducted prior to HPAC commencing any works to be able to fully determine existing conditions of adjoining buildings, road conditions, footpath conditions, early works services connections prior to any site works commencing.

The following areas will be covered by Hpac dilapidation report:

- Surrounding buildings
- All internal corridors
- All access pathways for access to works areas
- Internal walls, ceilings and floors in all areas
- Existing façade condition the Graythwaite building which is to remain
- External photos of adjoining buildings
- Street frontage
- Kerb and gutter
- Footpaths surrounding the site
- Roads adjoining the site

The dilapidation survey shall consist of an overview and photographic capture of the current facilities condition, capturing building elements in their current state.

The purpose of this survey offers both the Principal and the building contractor a level of comfort to review on completion of the works and identify any potential damage created during the event.

A Dilapidation survey will also be conducted at the completion of the works to ensure that there have been no changes to the existing structural conditions of adjoining buildings as a result of the construction works

The dilapidation survey will be undertaken by an independent company who also carries the structural engineer license in order that they can make independent assessments which is fair for both parties.

12.18 HERITAGE BUILDING MANAGEMENT

Ryde Hospital has two noted heritage listed buildings that are to be retained in the wider development. These buildings are the following: 1. Stables, 2. Denistone House.

These buildings are located outside of HPAC's contracted work zones. Management principals will still be incorporated to ensure ongoing construction activities through Milestone 1, 2 & 3 do not inflict any damage or dilapidation upon these buildings.

1. Dilapidation surveys are to be completed prior to commencement of Milestone 3 works. These are to be sent to the certifier and superintendent for review and record.
2. Prior to any work being undertaken a photographic archival recording should be undertaken of the buildings in accordance with NSW OEH Heritage Division Guidelines.
3. Site Fencing and hoarding to be in place around the perimeter of the HPAC construction / work zones. Refer to site establishment plans provided.
4. Toolbox talks to subcontractors to be conducted regularly to ensure workers and drivers are informed of safe practice if working or driving around the noted buildings.

12.19 SERVICES SURVEYS/SERVICES LOCATIONS

Whilst the initial dilapidation and building surveys are in process HPAC and their nominated subcontractors and services consultants shall liaise and work closely with the applicable maintenance departments (if applicable) to review current services such as electrical, hydraulic, mechanical, communications and security in order to understand the existing provisions and condition of such services. This process allows for a better understanding in relation to the need for isolating and relocating services away from the construction zone.

HPAC are well rehearsed in this process with many successful projects being completed and will hold a number of meetings with the user groups prior to any service being isolated, diverted and or terminated and ensure the timing of the same is carried out to reduce the impact on the relevant facilities operational use as possibly required.

12.20 INFECTION CONTROL AND PREVENTION

11.19.1 CONSTRUCTION AND RENOVATION RISK ASSESSMENT

A Risk Assessment will be undertaken by HPAC for each separate project site. The risk assessments will be updated as required for any unforeseen risks as the project moves forward or for any additional risks identified by HPAC, the Principal's Authorised person or the ambulance service. The risk assessment is to be completed prior to any construction, renovation or maintenance activities being commenced.

The risk identification strategy must address as a minimum:

- The extent of demolition and construction work
- High risk demolition and construction tasks
- Ventilation system types and potential impact
- Traffic and supply routes
- Determination of air filtration requirements, methodology and frequency, including baseline measurements if required
- The identification of possible contamination and their location, as contaminants may be present in the ceiling dust or any hazardous materials that may be identified on site

Once the risk assessment is completed then HPAC will propose and implement a list of infection control measures that all parties deem acceptable to limit the risk of infection control. Such measures include but not limited to the following that would be applicable for this project:

- Isolate HVAC system in area where work is being done to prevent contamination of duct system.
- Complete all construction barriers before construction begins. Where possible utilise building walls / doors close and seal with duct tape to prevent dust and debris escaping. If existing structures are unable to be used the following options must be utilised:
 - o Airtight plastic barrier extending from floor to ceiling with all seams to be sealed to prevent dust and debris from escaping.
 - o Drywall barriers extending from floor to ceiling with all seams to be sealed to prevent dust and debris from escaping.
- Seal holes, pipes, conduits, and punctures to prevent dust migration.
- Contain construction waste before transport in tightly covered containers.
- Place dust-mat at entrance and exit of work area and replace or clean when no longer effective.
- Keep work area broom clean and remove debris daily.
- Direct pedestrian traffic from the construction area away from patient care areas to limit opening and closing of doors / other barriers that may cause dust dispersion, entry of contaminated air, or tracking of dust out of the site
- Do not remove barriers from work area until completed project is thoroughly cleaned.
- Remove barrier materials carefully to minimise spreading of dirt and debris associated with construction.
- Barrier material should be wet wiped, vacuumed or water misted prior to removal.
- Wet mop hard surface areas with disinfectant at completion of project, HEPA vacuum carpeted surfaces at completion of project
- Wipe casework and horizontal surfaces at completion of project
- Waste to be removed to designated area at given times of the day and must be covered or sealed in closed disposal units.
- Any dust or debris MUST be cleaned up immediately by contractor
- Doors MUST be closed at all times
- Doors to work site are to be locked when unattended.
- On completion of works, a builders clean to be carried out followed by a terminal clean and disinfection (NOCO) by designated cleaning company and before hoarding is removed.

11.13.2 COVID-19 MANAGEMENT PLAN

HPAC is currently proactively negotiating the challenges that are being presented due to the current COVID-19 pandemic and the Government social isolation restrictions that are being enforced. As such, HPAC has developed a COVID-19 Management Plan as detailed below.

COVID Site Health & Safety Procedures:

- Requesting our subcontractors' management to do their part to screen their own staff for COVID-19 so as not to pose a risk to our workplaces
- A Coronavirus Questionnaire is completed by each worker prior to their Site Safety Induction to screen for the virus. Anyone who answers 'yes' to the questions regarding travelling overseas or coming into close contact with someone who has tested positive to COVID-19 is not permitted on the site for 14 days.
- Ongoing whole site consultation and updates through the Site Safety Induction, Toolbox Talks, pre-start talks.
- Monitoring the daily updates on the www.health.gov.au website and then updating our questionnaire, procedures and daily pre-start talks to reflect the latest advice.
- Providing hand sanitisers and additional, targeted cleaning to disinfect common surfaces.
- Managing and reconfiguring site meetings and use of lunchrooms to support social distancing.
- Displaying signage obtained from the Australian Government around sites to highlight prevention measures and hygiene actions.

On top of these site safety procedures from Hpac, we note that there is site specific requirements of Ryde Hospital that need to be adhered to and will also be incorporated into the Hpac COVID procedures for the site.

These site specific requirements include but are not limited to the following:

- Complete the pre-qualifying information for online
- Proof of double vaccination is required prior to entering site
- Prior to site entry all contractors must undergo a COVID 19 screening protocol form and receive an entry sticker
- All contractors will need to display entry sticker at all times
- Face masks must be worn internally (must cover the nose and mouth at all times).
- Follow the directions of all COVID safety marshalls/screening staff instructions at all times .
- Conduct inductions and toolbox talks in smaller groups, in larger spaces or where practicable online via a teams meeting
- Stagger start, finish and break times to reduce the number of workers on site or in any specific location at any one time
- Reduce unnecessary contact with members of the public / suppliers

12.21 REMOVAL OF KNOWN HAZARDOUS SUBSTANCES

HPAC is aware and acknowledge that there is the following Hazardous substances that need to be removed as part of this project scope of works as detailed in the Hazmat report and Hazmat register issued by JBS&G:

- Lead dust
- Bonded asbestos
- Friable Asbestos
- Friable asbestos in settled dust and soils
- Amosite asbestos
- Chrysotile asbestos
- Crocidolite asbestos

The procedures for the removal of this hazardous material will be documented by Clearsafe (Hygienist) and issued to TSA and HINSW for review and approval prior to any hazardous substances being removed.

Once specific methodology is approved the materials will be removed in a controlled manner and controlled environment as per the methodology and suitably qualified contractors.

Contractors will at a minimum be certified with a Class A License in accordance with the SWNSW 2019a.

At the completion of the removal the Hygienist will complete a final inspection and provide a clearance certificate prior to any other works proceeding.

For full detail about hazardous material removal please refer back to our demolition section of this methodology.

Engage appropriately qualified and experienced persons to carry out and supervise the removal of any asbestos in accordance with the methodology prepared prior, as well as all relevant policies, procedures and requirements of Safework NSW.

12.22 PROCEDURE FOR UNEXPECTED FINDS

If there is any other suspect material HPAC will implement the following procedures.

- The area will be isolated and cordoned off. Notification of the finding will be issued to the Project Manager. Then the Hygienists will be notified.
- The suspected material will be inspected by a Hygienist and tested accordingly to confirm the material is hazardous.
- All testing will be carried out by a Nata registered laboratory and to the applicable Australian Standards.
- All test results will be received within 24hrs so an early determination can be made and action plan implemented.
- The methodology for handling and removal from site of contaminated material will be determined through consultation with the hygienist and HPAC.
- The Hygienist will provide a methodology report to HPAC prior to any material being removed and this will be provided to the PCG for review and comment.
- HPAC will nominate the appropriate time to remove the hazardous materials from the site.
- It is proposed that the Hazardous materials will be removed from prior to other works commencing in the area to ensure site safety during construction.
- The methodology for this works will contain a risk assessment, asbestos classification, license requirements and waste requirements
- Air monitoring will be carried out if required prior to the works commencing to determine a base line and during the removal of the contaminated materials and again once completed to ensure there is no air borne issues associated with the removal of the contaminated materials.
- At the completion of the removal the Hygienist will complete a final inspection and provide a clearance certificate prior to any other works proceeding.

12.23 NOISE, DUST & VIBRATION MANAGEMENT

While noisy work is unavoidable, we will work with the Principal to develop a project specific noise management plan for each project site to identify noisy works within the construction phase and when these works can be carried out and if any restrictions are applicable relevant to each site.

Also included will be control measures to be implemented to ensure that noise levels are reduced to safe maximum exposure standards and identify clear protocols and communications channels to ensure minimal disruption to the base operations and construction works.

The development must be constructed to achieve the construction noise management levels detailed in the Interim Construction Noise Guideline (DECC, 2009). All feasible and reasonable noise mitigation measures must be implemented and any activities that could exceed the construction noise management levels must be identified and managed in accordance with the management and mitigation measures identified in the approved Construction Noise and Vibration Management Plan.

Ensure construction vehicles (including concrete agitator trucks) do not arrive at the site or surrounding residential precincts outside of the construction hours of work outlined under condition C4.

Implement, where practicable and without compromising the safety of construction staff or members of the public, the use of 'quackers' to ensure noise impacts on surrounding noise sensitive receivers are minimised.

"Vibration caused by construction at any residence or structure outside the site must be limited to:

(a) for structural damage, the latest version of DIN 4150-3 (1992-02) Structural vibration - Effects of vibration on structures (German Institute for Standardisation, 1999); and

(b) for human exposure, the acceptable vibration values set out in the Environmental Noise Management Assessing Vibration: a technical guideline (DEC, 2006) (as may be updated or replaced from time to time)."

Vibratory compactors must not be used closer than 30 metres from residential buildings unless vibration monitoring confirms compliance with the vibration criteria specified in condition C17.

The limits in conditions C17 and C18 apply unless otherwise outlined in a Construction Noise and Vibration Management sub-plan, approved as part of the CEMP required by this consent.

Noise Mitigation measures:

- Noisy works to be carried out only during approved work hours as applicable to each site and at agreed times with the project control group

- Enclose noisy equipment where possible.
- Provide noise attenuation screens, where appropriate.
- Advise surrounding building occupants when unavoidable noisy works will occur.
- The use of concrete saws and road saws will be used during demolition works to limit the amount of jack hammers equipment required.
- Where jack hammers equipment is required works will be carried out in a 30 min on 30 min off cycle.
- In lieu of saw cutting of penetrations we have allowed to “stitch core” the penetration. (I.e overlap core holes to create the overall penetration size) this will reduce the amount of noise and vibration.
- During breaks in work activity, wind down equipment such as generators, bobcats, cranes and the like to the minimum where possible.
- Use properly maintained mufflers and other proprietary noise reduction devices on equipment, and ensure these devices are installed and operated effectively
- Take due care when loading or unloading materials such as scaffolding to avoid metallic 'clanging' or impulse-type noises.

Vibration Mitigation Measures

- Dilapidation reports to be carried out on each project site on the surrounding buildings and structures prior to commencement on site to identify any existing conditions in these buildings to clearly identify later on if any damage has been caused due to vibration during construction
- Use the most efficient machinery that will emit the least amount of vibrations to complete the works on each site
- Liaise with the project control group to arrange suitable timings when works can be carried out that will have vibrations associated with them.
- Conduct a study on the impact of ground vibration from construction activities on each site. Where those operations occur within 50 metres of a building and take appropriate action

Dust Mitigation measures:

- Erect an impermeable dust barrier from true ceiling (includes are above false ceilings) to the floor made of 6mm polyethylene (if in place for <5 days or plasterboard, compressed cardboard, plywood or plastic panelling (If in place >5 days)
- Ensure windows, doors, plumbing penetrations, electrical outlets, and intake and exhaust vents are properly sealed with plastic and duct taped within the construction/renovation area
- Vacuum air ducts and spaces above ceilings if necessary
- Ensure that construction workers wear protective clothing that is removed each time they leave the construction site before going into patient care areas
- Do not remove the dust barrier until the project is complete the area has been cleaned thoroughly and inspected
- Remove dust barrier carefully to minimise spreading dust and other debris particles associated with the construction project
- Temporarily seal holes in barriers immediately or within 60 minutes of notification and repair within 4hrs
- Ante rooms will be constructed within our hoarded off site areas whereby contractors can clean themselves down prior to exiting the site and proceeding into any area of the hospital
- Place a walk off mat outside the ante room in patient care areas and inside the anteroom to trap dust from workers, shoes, equipment and debris that leaves the construction zone
- Ensure that the construction workers leave the construction zone through the anteroom so they can be vacuumed with a Hepa Filtered vacuum cleaner before leaving the work site or that they wear cloth or paper coveralls that are removed each time they leave the worksite
- Direct all personnel entering the construction zone to wear shoe covers
- Ensure that construction workers change the shoe covers each time they leave the work site
- Execute work using methods to minimise dust during construction
- Immediately replace any ceiling tiles displaced for visual inspection
- Wipe down/mop work area with a clean damp cloth/mop or use vacuum with a Hepa filter
- Bins to be covered with plastic and lids closed
- Take all reasonable steps to minimise dust generated during all works authorised by this consent.
- "During construction, ensure that:
 - (a) activities are carried out in a manner that minimises dust including emission of windblown or traffic generated dust;
 - (b) all trucks entering or leaving the site with loads have their loads covered;
 - (c) trucks associated with the development do not track dirt onto the public road network;
 - (d) public roads used by these trucks are kept clean; and
- (e) land stabilisation works are carried out progressively on site to minimise exposed surfaces."

11.17 TRAFFIC MANAGEMENT /VEHICLE MANAGEMENT & ACCESS

12.23.1 SITE PARKING RESTRICTIONS

HPAC understand that the road & car park networks within the facility and the surrounds are not to be affected by our works.

This project will not have an impact on the available car parking areas within the work area. HPAC understand the importance of the available car parking spaces and the need that our subcontractors and staff respect the needs of the adjoining properties and the hospital in this regard.

As such HPAC will advise all contractors that there is to be no contractor parking in the hospital carpark or out the front of the main entrance to the public hospital at anytime

No vehicles shall be parked on site, we propose to allow vehicles inside the site to unload and then they will park on the street

It will be advised during tender negotiations that there will be limited parking around the project and that contractors should car pool to the site or they can park across the road on metered parking in accordance with council signage

No traffic will block the main entry roads leading in and out of the facility or adjoining properties

12.23.2 MATERIAL/PLANT DELIVERIES

Material deliveries will be via a specific route coordinated within the Traffic Management Plan to be developed for the site. However the current proposed access route has been highlighted on plan as the area occupied during construction.

All deliveries will be co-ordinated with HPAC to suit the works sequence and other trades.

Deliveries for materials/plant will be scheduled between the following hours Monday – Friday:

- 7:00am – 5:00pm
- 8:00am -1:00pm on Saturdays.

Please note major material/ plant deliveries should occur during the following main stages of construction:

- Demolition
- Modular building delivery & erection
- Internal linings
- Cladding
- Joinery
- Mechanical services
- Site amenities installation and removal
- Scaffold installation and removal

Should any unexpected deliveries turn up at inappropriate times then they will be directed away for alternative times that suit.

12.23.3 TRUCK STANDING/WAITING LOCATIONS

Truck standing and truck waiting areas will be determined for each respective project. In the event that a delivery truck arrives and cannot be accommodated within the site compound, the truck will have to continue on the road and 'circle back' to site when the compound is clear. The truck 'circling route' will be determined within the CTMP.

HPAC staff will communicate with the truck drivers (via mobile phones and two way radios) for the next truck to enter the site.

Due to relatively small size of each respective project, it is not envisaged that any issue will be caused on any project in regards to the requirements for truck standing or truck waiting outside of any site

12.23.4 TRAFFIC MANAGEMENT & PUBLIC SAFETY

A Comprehensive construction pedestrian and traffic management plans, based on the construction sequence, will be produced in consultation with all users. Pedestrian and wheelchair access, emergency egress ways, hydrant and hose reel access, building service and emergency vehicle access requirements will all be included in these plans if HPAC is to be the successful contractor.

If any changes need to be made then Hpac will engage a traffic management company to Produce the revised TMP and issue to council & hospital and seek approval.

No changes will take place unless endorsed and approved by council or the hospital.

Hpac will have a fulltime traffic controller/gateman at the double gate entrances off Derby Street to manage the movement of trucks in and out of the site. They will also be managing pedestrian movement around the site with the public footpaths and walkways maintaining a safe path of travel.

Any construction movements adjacent pedestrian areas will only be conducted under strict supervision of certified traffic controllers.

A strategy of low impact to the adjoining properties operations through construction traffic and delivery traffic will be followed. Materials and plant deliveries will be typically scheduled for the times outlined above. HPAC will plan the vehicle movements in or out of the works areas are minimized during peak times.

Additional traffic controllers will be required to assist with all vehicle movements along the affected road during major construction tasks including but not limited to the following:

- Earthworks
- Demolition of building 11, 17, 18
- Delivery and erection of modular building
- Road works on Ryedale Rd
- Modifications to entry driveway adjacent to ambulance building off Denistone Rd
- Works in the basement level of Graythwaite Building with entry off Fourth Ave
- Major material and supply deliveries
- Service trenching

Traffic Controllers will be in two-way radio communication at all times..

Temporary Signage will also be in place along the walkways approaching the crossings warning all pedestrians that trucks will be present.

Letters will be distributed by the project team to the hospital and surrounding businesses and residents prior to the commencement of any traffic management being put in place. This will be undertaken through the process of a letter box drop.

Please see site establishment plans for locations of traffic controllers for various work fronts as part of the project scope.

13. QUALITY ASSURANCE

HPAC will develop our quality management plan for this project to comply to ISO 9001.

The plan will ensure that all subcontractors comply with the company procedures to ensure that quality standards are met.

HPAC will achieve this through the implementation of the following:

- On commencement of a project, subcontractors are briefed by the CA/PM as to the standard for quality that will be accepted for work in progress and for completed works. Any work that does not comply with specified standards is rectified by the subcontractor immediately.
- Materials and goods are inspected, and tested if required, for compliance with specification/acceptance criteria as part of the site supervision process, on delivery to site/prior to installation in the works. Where testing to specification is required an inspection and test plan ITP shall be provided/developed. Any quality issues identified are to be rectified immediately.
- Where the rejected work or systems, or inappropriate actions, impact upon other trade works, the rectification of the trade works affected is identified as soon as practicable and agreed actions/rectifications shall take place. In such circumstances a non-conformance shall be raised against the contractor.
- The ITP's will be implemented in areas of work identified ensuring that the critical elements are checked and signed off by the relevant trade or consultant.
- For these items inspection and Test Plans (ITP's) will be developed identifying requirement to comply with Drawings, Specification and Codes.
- ITPS will be developed for the following trades on this project:
 - Hydraulic Services
 - Electrical services
 - Mechanical services
 - Medical gases
 - Fire services
 - Concrete works
 - Formwork
 - Floor finishes
 - Painting

- Signage
- Internal linings and partitions
- Metalworks
- Waterproofing
- Joinery
- Defective works or materials will be identified as soon as practicable. A non-conformance shall be raised, and an action plan agreed for rectification.
- Samples are to be provided in accordance with the contract documentation for review and signed off by the architect. All samples are to be provided in a timely manner as to not delay the ordering of long lead time items and subsequently affect the program. No materials are to be ordered until samples are approved in accordance with the contract documentation
- Where required, workshop inspection of critical items will be arranged with the architect and the relevant consultants.
- Non-conformities and incomplete works are recorded on defects/outstanding works lists and traceable to project /contractor works.

14. ENVIRONMENTAL MANAGEMENT

HPAC will develop our environmental management plan for this project for each project site to comply with ISO14001.

Each respective sites Environmental Management Plan will establish the impacts and the reduction measures to minimise the environmental impact of each project site of the proposed project.

HPAC initial review of impacts and preliminary reduction measures are general for each site and are listed below:

- Dust control
 - Erect an impermeable dust barrier from true ceiling (includes are above false ceilings) to the floor made of 6mm polyethylene (if in place for <5 days or plasterboard, compressed cardboard, plywood or plastic panelling (If in place >5 days)
 - Ensure windows, doors, plumbing penetrations, electrical outlets, and intake and exhaust vents are properly sealed with plastic and duct taped within the construction/renovation area
 - Vacuum air ducts and spaces above ceilings if necessary
 - Ensure that construction workers wear protective clothing that is removed each time they leave the construction site before going into patient care areas
 - Do not remove the dust barrier until the project is complete the area has been cleaned thoroughly and inspected
 - Remove dust barrier carefully to minimise spreading dust and other debris particles associated with the construction project
 - Temporarily seal holes in barriers immediately or within 60 minutes of notification and repair within 4hrs
 - Ante rooms will be constructed within our hoarded off site areas whereby contractors can clean themselves down prior to exiting the site and proceeding into any area of the hospital
 - Place a walk off mat outside the ante room in patient care areas and inside the anteroom to trap dust from workers, shoes, equipment and debris that leaves the construction zone
 - Ensure that the construction workers leave the construction zone through the anteroom so the can be vacuumed with a Hepa Filtered vacuum cleaner before leaving the work site or that they wear cloth or paper coveralls that are removed each time they leave the worksite
 - Direct all personnel entering the construction zone to wear shoe covers
 - Ensure that construction workers change the shoe covers each time they leave the work site
 - Execute work using methods to minimise dust during construction
 - Immediately replace any ceiling tiles displaced for visual inspection
 - Wipe down/mop work area with a clean damp cloth/mop or use vacuum with a Hepa filter
 - Bins to be covered with plastic and lids closed
 - All smoke detectors will be isolated for the duration of the works on each floor to prevent activation by dust. (This is to be co-ordinated with the hospital maintenance department and advised prior to services being isolated so hospital can advise their insurance company.
 - Stock piles to be covered at all times
 - Hard stand areas to be cleaned down daily
 - Driveways and roads used by construction equipment to be cleaned down daily to limit any dust/debris from spreading
 - Install wind fences wherever appropriate.
- Noise
 - Noisy works to be carried out between 7am - 5pm and at agreed times with the project control group
 - Fit and maintain appropriate noise suppression on equipment where possible on the site.

- Enclose noisy equipment where possible.
 - Provide noise attenuation screens, where appropriate.
 - Advise surrounding building occupants when unavoidable noisy works will occur.
 - The use of stitched core holes for penetrations will also be used to limit the amount of demo saws etc to be used.
 - The use of concrete saws and road saws will be used during demolition works to limit the amount of jack hammers
 - Where jack hammers are required, works will be carried out in a 30 min on 30 min off cycle after disruption notices have been submitted and approved by the hospital facility manager.
- Rubbish removal and disposal
 - All debris to be removed at end of the work day
 - Erect an external chute if the construction works is not taking place on ground level
 - Vacuum work area with Hepa filtered vacuums daily or more frequently if needed
 - All rubbish is to be removed from site in bins or trucks and waste management reports to be provided as well as any tipping dockets that are required as detailed in section 3 of the methodology.
 - All rubbish to be disposed of at a licensed tip with evidence to be provided as required
- Ventilation
 - Maintain negative pressure within the construction zone by using portable Hepa equipped air filtration units
 - Ensure air is exhausted directly outside and away from intake vents or filtered through a Hepa Filter before being reticulated
 - Ensure ventilation system is functioning properly and is cleaned if contaminated by soil or dust after works completed
- Vibration
 - Dilapidation report to be carried out on surrounding buildings and structures prior to commencement on site to identify any existing conditions in these buildings to clearly identify later on if any damage has been caused due to vibration during construction
 - Use the most efficient machinery that will emit the least vibration to complete the works
 - Liaise with the project control group to arrange suitable timings when works can be carried out that will have vibrations associated with them.
 - Conduct a study on the impact of ground vibration from construction activities, where those operations occur within 50 metres of a building and take appropriate action
- Traffic Control
 - In collaboration with the facility project manager designate a traffic pattern for construction workers that avoids patient care areas and a traffic patterns for clean sterile supplies and equipment that avoids the construction area
- Patient Risk Reduction
 - Move high risk patients who are in or adjacent to construction areas
 - Ensure that patients do not go near the construction zones
 - In collaboration with the facility project manager and infection control person ensure that the construction zone is thoroughly cleaned when work is complete.
- Dewatering of site
 - Dewatering of site conditions will be through hay bales to clean the water and pumped into an enclosed holding tank and then removed from site via tanker or other means. At no stage will water be pumped into the council stormwater system.
- Stock piles & batters
 - Stock piles and batters will be limited to materials that are required at that immediate stage of works.
 - Topsoil and under burden stockpiles are to be kept separate.
 - Stockpiles are to be located away from drainage lines, at least 10 metres away from natural waterways and where they will be least susceptible to wind erosion.

- Stockpiles and batters are designed with slopes no greater than 2:1 (horizontal/Vertical)
- Stock piles will be covered at all times and wet down
- Stock piles will have sediment control installed around the perimeter base to prevent any runoff during inclement weather
- Sediment control and runoff from the site (refer to our site plan showing location of sediment control)
 - The site will have silt fence installed around the perimeter of the site fencing dug into the ground fencing to prevent any sediment runoff.
 - A cattle grid is to be installed at the entrance to site
 - All surrounding stormwater pits to be covered with geo textile fabric and locally banded to prevent any runoff entering into the stormwater system
 - Weekly site inspections will be carried out on all sediment controls around the site and cleaned and made good at time of inspection by Site manager.
 - The completed checklist and report will form part of the environmental report.
- Stormwater management:
 - Surrounding Stormwater pits to the site to be checked weekly and cleaned as required to prevent blockages
 - All surrounding stormwater pits to be covered with geo textile fabric and locally banded to prevent any runoff entering into the stormwater system
 - Weekly site inspections will be carried out on all stormwater management controls around the site and cleaned and made good at time of inspection by Site manager. The completed checklist and report will form part of the environmental report.
- Contaminated materials and soils
 - Contaminated soils to be removed from site ASAP once discovered and appropriate disposal method identified by HPAC hygienist and certification to be provided.
- Protection of flora and fauna.
 - Tree protection zones will be installed around all trees to be retained within the site compound.
 - Ensure areas are appropriately sign posted
 - Do not disturb animals found on site
 - Contact the Systems Compliance Manager if/when a native animal is found on site so that the relevant authorities can be notified and an action plan put in place.
 - Arrange for specialist consultants as required.
 - Ensure legislation and regulations are adhered to at all times.
 - Vehicles and plant are not to park on the root zones of trees as leaking oil can be detrimental to tree health.

(a) street trees or trees on open space land must not be trimmed or removed unless it forms a part of this development consent or prior written approval from Council is obtained or is required in an emergency to avoid the loss of life or damage to property;

(b) all adjacent trees immediately adjacent to the property boundaries must be protected at all times during construction in accordance with Council's tree protection requirements. Any tree, which is damaged or removed during construction due to an emergency, must be replaced, to the satisfaction of Council; - This is only for trees within or close to the Milestone 1 & 3 area of works

(c) all trees on the site, within and adjoining the Stage 1 works area, that are not approved for removal as part of Stage 1 must be suitably protected during construction in accordance with the recommendations of the Arboricultural Impact Assessment Version 4 Ryde Hospital dated 28 February 2023 prepared by ArborViews. Trees identified for removal as part of Stage 2 are not approved for removal and are subject to further assessment as part of future applications and must be protected during Stage 1; - This is only for trees within or close to the HPAC's Milestone 1 & 3 area of works

(d) if access to the area within any protective barrier is required during the works, it must be carried out under the supervision of a diploma qualified arborist (AQF5). Alternative tree protection measures must be installed, as required. The removal of tree protection measures, following completion of the works, must be carried out under the supervision of a diploma qualified arborist and must avoid both direct mechanical injury to the structure of the tree and soil compaction within the canopy or the limit of the former protective fencing, whichever is the greater. - This is only for trees within or close to the HPAC's Milestone 1 & 3 area of works

Trees approved for removal must be lopped to minimise the risk of injury or mortality to fauna, such as top-down lopping, with lopped sections gently lowered to the ground, and/or by lowering whole trees to the ground with the 'grab' attachment of a machine. During tree removal and vegetation clearing (including removal of exotic weeds), an experienced wildlife handler is to be present to re-locate any displaced fauna that may be disturbed during this

activity. Any injured fauna is to be appropriately cared for and released on site or an appropriate nearby location when re-habilitated.

- Neighbourhood Notification.
 - Provide the “community” with prior notification and/or presentation where particular disturbances are expected to occur as a result of a particular event planned at the site or associated with the site works (I.e. Traffic congestion due to bulk earthworks spoil removal, carnage, concrete truck movement, demolition removal of materials or noisy work etc)
 - Provide the project control group with relevant project representative contact details (including a 24hr emergency telephone number)
 - project representative contact details (including a 24hr emergency telephone number)

15. COMMISSIONING, DEFECTS AND CLIENT HANDOVER

15.1 BUILDING COMPLETION MANAGEMENT PLAN

The project manager will develop and issue a Building Completion Management Plan, including a Commissioning Management Plan (CMP) prior to any commissioning activities commencing, with the purpose of planning the commissioning and handover of the services and building works. The CMP shall be reviewed and accepted by the Principal.

The scope of commissioning and project handover addressed within the Commissioning Management Plan shall include, but is not limited to:

- Commissioning management methodologies (including independent commissioning agent obligations)
- Early access for LHD ICT commissioning
- Early access for FF&E Group 3 delivery and installation e.g. pedestals, chairs, bins, trolley’s, etc.
- Building commissioning requirements and program
- Testing requirements and program
- Hand-over to Clinical users
- Submission of As-built and Operating & Maintenance documentation
- Submission of a maintenance schedule (including frequency of maintenance for all items)
- User Training

The Building Completion Management Plan, as a minimum, will include the following sections:

- Strategy to achieve Completion
- Management structure – Completion Control Group
- Methodology to achieve Substantial Completion, Validation Period, and Completion
- Completion tests
- Verification of Construction Works
- Project documentation
- Completion Report.

15.2 COMMISSIONING & VALIDATION

HPAC’s project manager shall prepare the scope of the commissioning relevant to each project site in conjunction with the design consultant’s requirements and subcontractors. Comprehensive checklists will be prepared for each site including all systems and any necessary information will be obtained from the designers and the equipment manufacturers. An essential phase of the project is going from the static installations to fully functional operating systems. HPAC, the Services Consultants and the Services Subcontractors shall develop a detailed commissioning network early in the installation program. Items identified shall including:

- Pre-commissioning checks and cleaning
- Permanent power on to site via new feed
- System commissioning and balancing
- Controls commissioning
- System interfaces and operation
- System proving/performance tests
- Certification of systems
- Client demonstrations and training
- Operating and maintenance manuals

In terms of trade specific testing and commissioning required to be completed as part of the testing and commissioning plan prior to handover and MOH inspection include but are not limited to the following:

Mechanical Services:

- Air-balancing,
- Pipework pressures
- temperature zones,
- positive and negative pressure zones,
- flow rates,
- pre-filters, HEPA and final filters,
- smoke/fire exhausts,
- Fire and smoke dampers
- smoke pressurization fans,
- BMS Systems and protocols.

Electrical Services:

- Body Protection,
- Cardiac Protection
- RCD,
- Light and power, emergency power, emergency lighting,
- Security
- MSB & DB,
- PFCU,
- Time clocks,
- Fire detection systems,
- Fire interface with mechanical systems,

Hydraulic Services:

- Potable water
- Non-potable water,
- Trade waste,
- RPZD,
- Hot, cold and tempered water systems,
- TMV valves,
- Pumps.

Hpac has allowed 2 weeks at the completion of the project in our program for commissioning, testing and training of end users for all the stages.

Following completion of commissioning of services and building works a commissioning report will be prepared and issued to the superintendent covering the following items:

- Commissioning report identifying commissioning dates of the system in accordance with agreed commissioning method statements. The report will include (if any) changes made to the commissioning methods of the systems.
- Commissioning data and certification where relevant to the development including mechanical, lighting, hydraulic, electrical and BMS systems
- Commissioning data and certificate where relevant to the development of all related newly installed plant and equipment
- Log / Register documenting all identified defects including close out date for all items
- Demonstrate full operational functionality and performance of all services, equipment in accordance with the BCA and relevant Australian standards to achieve Occupation
- Provide all necessary commissioning data, design and construction certifications, to satisfy the PCA

- Provide all As Built drawings
- Provide all operation and maintenance manuals

15.3 END USER TRAINING

The final aspect of the commissioning is the training and hand-over to the building operators. HPAC will agree a handover and training program with the Principal to be implemented at the completion of the project. Hpac will provide training on the following elements so the end user is fully aware of the operation and how the building works prior to opening of the facility. Training is to include but not limited to the following:

- Security system
- Card reader operation
- Intercom and access system operation
- Lighting control system
- MSB & DB Locations and breakers etc
- WAP locations and trouble shooting
- Comms rack location and trouble shooting
- ICT integration into the new data system
- AV System operation
- BMS System operation
- Mechanical services operation
- Mechanical switchboard locations and breakers for isolation etc
- Control pad and temp sensor locations (and operation)
- Pumps and control panels for same
- Location and operation of all internal TMV's and water temp presets
- Shutoff valve locations for water services
- Inspection and rodding point outlets for sewer services located within the building
- Location of fire hydrants, hose reels, fire blankets, fire extinguishers (Including ongoing testing and certification requirements)
- Fire alarm system and location of FIP (Including isolation and reactivation etc)
- Location of tactile fire plans and emergency procedures
- Ongoing maintenance and testing requirement for all fire services within the building
- Master keying system in place for the building
- Façade cleaning maintenance equipment use
- Façade cleaning program
- Roof safety system, access and use and annual certification requirements

15.4 OPERATION AND MAINTENANCE

Operation & Maintenance Manuals: HPAC only engages proven subcontractors that have systems and adequate staffing to be able to provide the O&M Manuals immediately and along with HPAC's internal systems and experienced staff we are able to complete this item without delay and at the completion of the construction works. Critical to being able to do this is the on going subcontractor management particularly of services trades to ensure that As-Built drawings are being developed throughout the construction process to ensure accurate and timely development of these drawings

O&M documentation will be issued to the building operators prior to completion of the construction works.

A series of one to one training sessions will be conducted prior to hand-over to ensure the building operators are trained and prepared appropriately to run and manage the facility allowing project completion.

15.5 WARRANTIES AND CERTIFICATION

Subcontractor Warranties and Certifications: HPAC only engages proven subcontractors that have systems and adequate staffing to be able to provide the warranties immediately and along with HPAC's internal systems and experienced staff we are able to complete this item without delay and at the completion of the construction works

15.6 DEFECT MANAGEMENT

The strategy of the HPAC defects management system is to achieve nil defects at practical completion. The elimination of defects arising during the course of construction, or at the very least a reliable process for their timely resolution prior to completion requires the application of processes that are designed to identify and resolve defects as they arise through construction.

The system HPAC applies to the management and control of quality issues and defects is designed to:

- Ensure that tradesmen and their direct line supervisors see quality as their responsibility to enable quality issues to be resolved at the lowest possible level
- Ensure defects and quality issues are not allowed to accumulate
- Ensure inspections are carried out at the workplace and that links are established with the company's existing Quality Assurance systems
- Motivate and facilitate a cultural change in attitude in accepting quality issues and defects not as being the 'norm'.

To reduce the occurrence of defects and to ensure their appropriate and timely management and rectification, HPAC have adopted a system, which complements our Quality Management System.

At HPAC our experience indicates that lack of care as opposed to lack of skill is the main contributing factor to the quality and defects problems.

The HPAC QMS is designed to eliminate defects at source through the application of the following principles and techniques:

- Pre-commencement induction of the subcontractor's supervisors and employees to communicate HPAC's standards and expectations prior to commencement of on-site
- A system of inspections administered by the tradesmen and direct-line supervisors backed up with check-sheets to ensure checking is carried out by the tradesmen performing the work in order to identify and resolve problems at the earliest possible level and thereby focus on getting things right first time.
- A system of inspections carried out by HPAC supervisors to serve as a 'safety net' is a secondary
- The quality inspections and sign off are undertaken by direct line supervisors and tradesmen.
- The use of external specialist building consultants to monitor quality workmanship and finishes during the course of construction provides a third level of inspection and
- The use of completed tradesmen check-sheets and HPAC check-sheets as a means of rating and scoring subcontractor's quality performance and identifying impediments to achieving the required quality

On this project these strategies will be rigorously applied.

Integral in the installation, commissioning and handover processes mentioned in the previous sections we will implement quality inspections by the Design Consultants and Project Manager.

GC21 requires a defect free handover, which HPAC has a proven track record of being able to achieve through the development and implementation of our quality management systems on each project site

At the completion of the 52 weeks DLP period HPAC will notify the Principal's Authorised person and seek a joint inspection of the project to determine if any items require rectification and if so, these will be completed with 7 business days.