Engineering and Building Related Services Brief

ISSUED BY:

Department of Housing and Works – Buildings and Contracts

Version 1.1

AMENDMENTS LOG

THIS PAGE IS FOR INFORMATION PURPOSES ONLY

NO.	SECTION	AMENDMENT	EFFECTIVE DATE
1.1	All Sections	Amendments have been made to address: ▪ The WA Government Public Sector Reform 2025; and ▪ The transition to a Cooperative Procurement Arrangement framework.	30 March 2026

1 INTRODUCTION

This Engineering and Building Related Services Brief (the Brief) outlines the scope of services for Engineering and Building Related Services for Western Australian State Government's non-residential buildings.

This Brief is structured into sections and appendices which are written as outline technical briefs. They are general in nature and will need to be developed via reverse brief process for every engagement. Clients should edit a copy of the relevant appendix (Services Brief) to provide to the consultant with the Standing Offer Request for Supply document.

This document contains a general introduction, which is supported by discipline-specific appendices, one for each discipline (service category).

This document will be subject to amendment from time to time. For the latest version, always download the document from the 'Consultant guidance and forms' page on wa.gov.au;

https://www.wa.gov.au/government/document-collections/consultant-guidance-and-forms#technicalguidelines

2 SERVICE CATEGORIES

The table below outlines the Service Categories contained within this Brief. In addition to the technical expertise items listed below, Consultants (all categories) are likely to be approached for Safety Audits of premises, with respect to their area of expertise.

Noting that private sector firms have differing professional offerings (that is, a firm's offerings may differ from the list below), both Client and Consultant entities need to clarify their needs and expectations during the process of finalising the return brief for each and every appointment.

	Service Category	**Technical Expertise**
A	Lead Consultant Services	• Consultants may be engaged to manage sub-consultants.
1	Acoustic Consultancy	• Room Acoustics and acoustic separation
		• Vibration, Noise Reduction/Proofing
2	Civil Engineering	• Earthworks
		• Pavements (roads etc)
		• Hydrology – surface water, drainage, storm water, urban water management theory
		• Hydrogeology
3	Electrical Engineering	• Light and Power
		• Energy audits
		• Communication systems
		• Alarm Systems
		• Solar/Photovoltaic/Battery Power Storage/Renewable Energy
4	Fire Engineering	• Fire Suppression(sprinklers, hydrants, hose reels, curtains, gas suppression etc)
		• Fire Detection, alarms and communications systems
		• Fire safety inspections audits, risk assessments, combustible cladding etc.
		• Fire, smoke and evacuation Modelling
		• Performance Solutions for NCC compliance
		• Smoke hazard management
		• Fire engineering reports and proposals
5	Hydraulic Services	• Waste Water Systems incl. sewerage
		• Water Supply Systems
		• Gas
		• Waste Water Systems incl. sewerage
		• Water Supply Systems
6	Mechanical Engineering	• Heating, Airconditioning and Ventilation
		• Dust Extraction and Collection systems
		• Pumps and Pipework
		• Refrigeration
		• Building Management Automation Systems
		• Pneumatic tubes
		• Compressed Air
		• Passive Climate Design
		• Medical and industrial gasses
7	Structural Engineering	• Building Structures
		• Retaining Structures
		• Façade Engineering, including glass cladding and aluminum cladding

8	Vertical Transportation	• Lifts, escalators, travelators
9	Building Design	• Building Design – minor building works
		• Drafting/Technician Services
10	Environmentally Sustainable Design	• Calculation and Accreditation of building designs; Greenstar, NABERS, etc
		• Energy audits
		• Sustainability, green power, and decarbonisation strategy advice, emission reduction
		• Calculation and Accreditation of building designs; Greenstar, NABERS, etc
		• Energy audits
		• Sustainability, green power, and decarbonisation strategy advice, emission reduction
		• Calculation and Accreditation of building designs; Greenstar, NABERS, etc
		• Energy audits
		• Sustainability, green power, and decarbonisation strategy advice, emission reduction
		• Calculation and Accreditation of building designs; Greenstar, NABERS, etc
11	Land Surveying	• Land Surveying,
		• Feature Surveying,
		• Underground Services
		• Drone surveys
		• 3D imaging of contours
		• Subdivisions and easements
		• Building surveys
12	Environmental Services	• Environmental Surveys Impact Studies
		• Wetland Studies
		• Flora and Fauna Studies
		• Arborist
		• Water Management Plan
		• Waste System management
13	Security Services	• Custodial Facilities
		• Access control, CCTV etc
14	Time Planning	• Project planning and construction planning
15	Traffic Management	• Traffic Management includes traffic studies, impact assessments, audits, modelling
16	Independent Superintendent (Contract Administration)	• Independent superintendent of works contracts
17	Geotechnical Consultancy	• Site inspections, sampling and testing
		• Advice on ground conditions and bearing capacity of founding material
18	Landscape Consultancy	• Soft and hard landscaping, irrigation systems including bores
19	Hazardous Materials Inspections	• Hazardous Materials inspections including survey condition reporting and safety management advice services including assistance with the management of remediation works
20	Building Information Modelling (BIM) Management Consultancy	• BIM Management Services across all aspects of building information modelling and digital engineering

3 RISK MANAGEMENT PLAN & SAFETY

The Client may prepare a Risk Management Plan and may seek support from the Consultant, in which case the Client will specify their requirements.

Consultants must assess the safety impacts of the situation they are engaged to advise on, provide advice on that situation and provide advice on the safety impacts of their recommendations and the implementation of those recommendations. In addition to the Work Health and Safety Act 2020 Code of Practice; safe design of structures will be applicable to many appointments.

4 POLICIES/ GUIDELINES

4.1 Access to Government Sites

Consultants seeking access to Government sites (prisons, hospitals, government buildings etc.) will be subject to the individual Government agency policy on security clearances.

4.2 Department of Housing and Works Technical Guidelines

Technical Guidelines have been developed to describe specific design and technical requirements for all projects, including sustainability. The technical and non-technical guidelines are available on WA.gov.au on the 'Consultant guidance and forms – Department of Housing and Works' page.

The Consultant is to follow the advice and/or direction provided in all technical and non-technical guidelines that may be relevant to the specific project.

Where Consultants find that a Technical Guideline is out of date or otherwise needs improvement, they are requested to advise the Department of Housing and Works via an email to PrincipalArchitect.Mailbox@dohw.wa.gov.au

4.3 Design Standards, Quality of Advice

Beyond compliance with relevant standards and regulatory requirements, the Consultant must manage their works to ensure quality and performance outcomes that provide optimised whole of life efficiency and appropriate containment of risk for Government. In addition to the development of an effective brief, this will require identification and analysis of a number of potentially viable design solutions, both in terms of the project as a whole, and of individual discipline systems and components, to assist in the selection of a concept that best satisfies the operational needs and requirements of the Client (including maintenance) within the budget for the project works.

4.4 Alternate design solutions

Each building project is required to be designed and built to meet the economic life as defined by the client agency.

The Consultant should prepare an analysis for each identified design alternative for the project as a whole and for the individual engineering discipline systems and components.

The analysis is required to quantify the life cycle cost of the combination of the proposed new works, the existing facilities, and any potential future expansion issues/requirements.

The analysis should also include recommendations regarding appropriate design solutions for the Client's approval.

For projects for all Health Service Providers investigation shall include AS/NZS 4536 Life Cycle Costing analysis, AS/NZS 4360 Risk Analysis and Health Service Impact analysis to identify the most appropriate design solution for the works.

A nominated Department of Health officer will be responsible for providing the health care cost inputs and health care impact statements for each analysis.

4.5 Building Durability

A durable building is one that is long lasting, fit for purpose and requires minimal maintenance during its lifespan. Damage to public buildings costs taxpayers millions of dollars each year. The Consultant is required to indicate how minimisation of wilful and accidental damage has been considered in the design.

The Client may assist the Consultant with information on how to incorporate features that are likely to assist durability and minimise damage.

As part of the project deliverables, the Consultant is to include a schedule of maintenance including required maintenance intervals and anticipated costs for major components of the building fabric.

5 SITE INVESTIGATION

The Consultant shall undertake appropriate site investigation and determine the accuracy of available as-constructed documents. This is particularly important in Health sector buildings. Where the available information cannot be relied upon, the consultant must arrange with the Client to survey an existing building, its building services and their condition prior to any design.

Note: Refer to Clause 7 'Documentation' below regarding available documentation.

5.1 Site Visits - Disbursements

Unless specified otherwise in the Contract, no disbursements will be payable for site visits by metropolitan-based consultants to sites within the Perth metropolitan area.

Disbursements related to travel and accommodation may be payable for contracts located in regional Western Australia (as defined in the Buy Local Policy) where the site is located more than 80 kilometres from the Permanent Operational Office from where the Consultant is managing and delivering the contract.

5.2 Work at existing premises

If a project involves work at an existing premise, project participants may be exposed to safety and/or health risks arising from the existing condition of the premise, its surrounds and any works.

Some of these risks can be identified during the design and documentation phases of this contract. To help address these risks, the Consultant is to obtain from the Client a copy of the site safety documents including, hazardous substances survey, risk management report, asbestos register and associated management plans for the premise and its

surrounds. The Consultant must address safety and health risks posed in the project to the extent possible in their role.

6 AGENCY-SPECIFIC REQUIREMENTS

Projects require the development of agreed briefs. Some Client agencies have standard briefs which can form the basis of project specific briefs. The following general information may be of assistance.

6.1 Health Projects

The design of project works for Health Service Providers (Health) shall generally comply with, and/or be consistent with the following policies and guidelines:

i. Australasian Health Facility Guidelines.

ii. WA Health Facility Guidelines for Engineering Services.

These guidelines contain relevant standards for the design and construction of Health projects and technical guidance on minimum performance requirements. Available for viewing at: https://healthfacilityguidelines.com.au/

The Australasian Health Facility Guidelines for Western Australian Public Health Care Facilities, developed through the "Centre for Health Assets Australasia" (CHAA), are also required to be implemented for health facility projects.

Health facilities may require approvals for design and construction from the Therapeutic Goods Administration (TGA) or the WA Radiological Council. In some cases health projects may be required to engage a specialist consultant to undertaken these aspects of the design and/or documentation. This requirement will be advised as part of the specific project brief.

For mental health facilities the Office of the Chief Psychiatrist may be required under the *Mental Health Act 2014* to inspect and approve/sign off on the completed works prior to the handover and occupancy of the facility. This requirement will be advised as part of the specific project brief.

The Consultant is required to clearly identify any departures from the above guidelines for review and approval by the Client.

6.2 Education projects

Department of Education (DoE) projects for new schools and additions or refurbishments of an existing school are required to be designed in accordance with the current version of the Primary School Brief (PSB) or Secondary School Planning Guide (SSPG) together with any additional site specific briefing requirements.

The Consultant is required to clearly identify any deviations from these generic education briefs for approval by the DoE via Building and Technical Services (BaTS)..

Any queries or issues relating to the standard education brief documents should be directed to the Client to ensure issues are addressed consistently.

6.3 Justice projects

Projects for new and additions or refurbishments of existing courthouses and prison/remand facilities for the Department of Justice (DoJ) are required to be designed in accordance with the current version of the Standard Courthouse Architectural and Building Services Brief, the Building Services Briefs for Court Services or Prisons (as appropriate) together with any additional site-specific briefing requirements.

The Consultant is required to clearly identify any deviations from standard briefs for notification and approval of modifications by the DoJ's Asset Management and Contracts.

Any queries or issues relating to the standard courthouse brief documents should be directed to the Client to ensure issues are addressed consistently.

6.4 Police projects

Projects for new police stations and additions or refurbishments of an existing police station for the Western Australia Police are required to be designed in accordance with the current version of the WA Police Accommodation Standards together with any additional site-specific briefing requirements.

The Consultant is required to clearly identify any deviations from this standard brief for notification and approval of modifications by the WA Police Force.

Any queries or issues relating to the WA Police Accommodation Standards documents should be directed to Client to ensure issues are addressed consistently.

6.5 Fire and Emergency Services projects

Projects for new and additions or refurbishments of an existing Career or Volunteer fire station for the DFES are required to be designed in accordance with the current version of the DFES Career Fire Station or Volunteer Fire Station Brief as applicable together with any additional site-specific briefing requirements.

The Consultant is required to clearly identify any deviations from this standard brief for notification and approval of modifications by the Client.

Any queries or issues relating to the standard fire station brief documents should be directed to the Client to ensure issues are addressed consistently.

7 DOCUMENTATION

7.1 Provided by the Client

The Client may have samples of CADD documents and/or manual drawings for previously documented similar projects or documentation for the existing facilities (as-constructed drawings), which may assist the Consultant. Where available and requested, the Client will provide a copy of that documentation to the Consultant.

Disclaimer

The Client accepts no responsibility for the compliance to the Department of Housing and Works CADD Documentation Procedures Manual or the brief for this contract of any drawings, whether they are in electronic or hard copy format, it provides to the Consultant

under this contract. Similarly, the Client accepts no responsibility for the accuracy or completeness of these drawings.

7.2 Documentation format requirements

7.2.1 CADD

The Consultant must:

i. Access a copy of the ('Consultant guidance and forms' page).

ii. Ensure the compliance with Department of Housing and Works' CADD Protocols for Contractual Deliverables from the WA Government website the requirements of this manual and that the drawings for the project are provided in a CADD format compatible with the Department of Housing and Works CADD system.

7.2.2 Drawings

Drawings are required to conform to the Department of Housing and Works CADD protocols for Contractual Deliverables but should also be presented as PDF/A (portable document format) files.

7.3 Building Information Modelling (BIM) requirements

For works specified to be undertaken using 3D models the consultant is required to:

i. Provide native file

ii. Provide IFC2x3

7.4 NATSPEC Requirements

In accordance with Technical Guideline TG001 NATSPEC Specification, the use of NATSPEC is optional for the Department of Housing and Works projects with a construction value less than $3 million excluding GST. Refer to the Technical Guideline for more information

8 SCOPE DEFINITION

Consultants are required to clarify and confirm in writing their scope for each appointment via an iterative Return Brief process. The appendices provide outline technical briefs, general in nature, which may be used to start the iterative return brief development process.

Scopes of consultancy; will vary from advice only (for instance in the solving of a building defect or poor performance of building services) to conventional professional design services. Design services will frequently commence with the development of concepts, progress through design and the preparation of tender documentation, then construction services, the commissioning of the works and monitoring during a Defects Liability Period.

Appointment; Appointments may be as a single discipline or as a lead consultant who needs to brief others as sub-consultants, lead, integrate and coordinate other consultancy expertise, manage all aspects of sub-consultancy appointments and deliver the desired (coordinated) deliverables.

Advisory Projects; The required scope will initially be described by the Client and should be confirmed via return brief iterative process. The deliverables for these projects are usually reports and similar documents. Advisory Projects have in the past included services such as:

- High-level design reviews/professional opinions;
- Peer reviews;
- Options analysis;
- Advice in contractual disputes;
- Preparation of technical guidelines;
- Assessments of defective buildings or building services with recommendations for remediation;
- Post-disaster/emergency advice; and
- Safety assessments

Design Projects; The required scope will initially be described by the Client and should be confirmed via return brief iterative process.

Design projects have in the past included:

- Replacement of buildings or parts of buildings or their building services – on individual buildings or on groups of buildings (programs of works);
- Planned minor capital works;
- Additions and alterations; and
- Post-disaster/recovery works.

The deliverables for these projects are usually more complex and include documents prepared for the tendering of construction works. The following sub-clauses describe in principle the scope for conventional Design Projects.

8.1 Project Definition Plan

Where requested, the Consultant shall assist the Client in preparing a Project Definition Plan (PDP) for capital works projects.

The PDP provides the early-design basis for decision makers to determine whether a project remains one of the select number of contenders with the highest priority for investment, and for which detailed documents should be prepared to proceed to tender.

The PDP is focused on project delivery issues and risks, as well as ensuring the key elements of the business case are valid and the cost estimates accurate. The Consultant will assist with the refinement of the scope, cost, schedule and risk information for the endorsed option within the parameters set by the previously approved business case. To do this inevitably requires preliminary designs of the facility to be agreed; the principles of which define the later design stages.

The means to achieve the business case objectives are continually reviewed and updated during the development of the PDP on the basis of:

i. More detailed definition of the asset and related non-asset initiatives, and whole-of-life implications.

ii. Monthly reports within an agency on whether the original investment parameters can be achieved.

iii. Action to address emerging, material changes from the original parameters.

A PDP should comprise the following sections, prefaced by an Executive Summary:

- Section One: Strategic Justification
  - Strategic Asset Plan Connection
- Section Two: Business Case Objectives
  - Baseline
- Section Three: Material Changes
  - Impacts
- Section Four: Delivery
  - Scope
  - Cost and Schedule
- Section Five: Procurement and Finance
- Section Six: Risk Profile

The Consultant is to liaise with the Client for guidance on the specific information to be included in each section.

8.2 Brief Development/ Return Brief/Brief Finalisation

The objective of this phase is to gather all the information required to complete the project including understanding the project, its requirements, outcomes and the scope of works.

The Consultant is required to visit and inspect the site and prepare a site report, highlighting any matter that may impinge on the project, to include any additional items that are required by the Client or thought necessary. Where appropriate request a survey of the site and existing buildings.

The preliminary Project Brief (provided either as a stand-alone document or as part of Project Definition and provided in the Invitation to Submit Proposal) is to be developed into a comprehensive Project Brief. It should fully document all the information required to complete the project, including understanding the project requirements, outcomes and scope of works.

It is normal to explore the project requirements (and thereby complete this stage) by preparing early concept sketches as that process tests the completeness of the brief and its assumptions.

A preliminary budget encompassing all the requirements of the project and estimate of the cost of the Consultant's fees is to be provided to the Client.

The Consultant develops the Project Brief in two parts:

PART A: Functional Brief and Accommodation Schedules

PART B: Fit-Out Brief (where relevant)

8.3 NOTE: For Education projects, the Consultant must review the relevant Primary School Brief (PSB) or Secondary School Planning Guide (SSPG) and prepare a final Project Brief.

8.4 Schematic Design

In collaboration with other disciplines and following the Project Brief, the Consultant shall:

- Provide preliminary design solutions and advice
- Consider alternatives and make recommendations
- Prepare or assist in the preparation of Project Cost Plans
- Prepare applications for Development Approval where relevant

8.5 Design Development

In collaboration with other disciplines and following the Project Brief, the Consultant shall:

- Review the approved schematic design outputs against the Project Brief, adjust and continue the development of design work.
- Review Codes, Standards, Regulations and Guidelines against the design and amend it as necessary to ensure compliance and the necessary design outcomes.
- Review the Project Cost Plans and provide updated advice

8.6 Contract Documentation

In collaboration with other disciplines and following the Project Brief, the Consultant shall:

- Prepare complete contract documentation for the tendering and construction of the works, including specifications and schedules where relevant.
- Prepare or assist with the preparation of Building Permit applications and the like.
- Prepare or assist in the preparation of a Pre-Tender Estimate
- Provide a written attestation using the Department of Housing and Works template

8.7 Tender and Award

In collaboration with other disciplines and following the Project Brief, the Consultant shall:

- Respond to tender enquiries
- Record all tender enquiries in a tender log
- Assess all tenders submitted
- Recommend the successful party to be awarded the contract
- Provide the certified Building permit application documents to the Client who will then submit the application for a building permit to the relevant Permit Authority, as appropriate.

8.8 Contract Administration

In collaboration with other disciplines and following the Project Brief, the Consultant shall administer the contract in accordance with the terms of the contract

8.9 Completion

In collaboration with other disciplines and following the Project Brief, the Consultant shall:

- Inspect the works and certify their Practical Completion

- Provide the certified Occupancy permit application documents to the Client who will then submit the application for an occupancy permit to the relevant Permit Authority, as appropriate
- Assist the Client with project handover
- Administer the contract during the Defects Liability Period, ensuring the rectification of defects and the Finalisation of the Contract Sum
- Conduct the final inspection and facilitate the granting of the Final Certificate.

9 REPORTING

In preparing a scope of work for each appointment, the Client will determine the nature and extent of reporting required. This may include, but is not limited to, reports such as:

i. Management Reports
ii. Schematic Design Reports
iii. Design Development Reports
iv. Safety in Design Reports
v. Contract Documentation Reports
vi. Contract Administration Reports
vii. Practical Completion (PC) Reports, including Certification Forms at PC
viii. Reporting during Defects Liability Period
ix. Final Completion Reports
x. Building Assessment/Site assessment reports
xi. Report following technical review/peer review
xii. Options analysis and recommendations

10 SCHEDULE OF DELIVERABLES

The Consultant will be provided with a copy of the initial Schedule of Deliverables in electronic format upon Commission.

The Consultant is required to maintain a Schedule of Deliverables throughout the period of the Contract and any amendment to this schedule may only occur after written approval has been obtained from the Client. A template schedule detailing the typical deliverables is contained in the appendices, for tailoring to each specific consultant appointment.

The deliverables for each phase of the project shall be provided by the Consultant to the Client prior to the completion of each phase.

11 RETENTION OF DOCUMENTATION

The Consultant must retain all original documents and contract records (including physical and electronic records) directly or indirectly connected with the Schedule of Deliverables for a period of seven years and if requested by the Client at any time during that period make those original documents and records immediately available to the Client for inspection.

APPENDIX A – LEAD CONSULTANT SERVICES

The following outlines the services to be provided by consultants engaged as Lead Consultants. Consultants are required to clarify and confirm in writing their scope for each appointment via an iterative Return Brief process. This appendix is general in nature and may be used to start the iterative return brief development process.

1. MANAGEMENT

The Consultant is responsible for the full management of the project including reporting, budget control, program, liaison with the Customer, community groups, end users, and relevant city or shire council.

[1]The Consultant will be responsible for directly engaging any subconsultants required to undertake the project. Selection shall be undertaken under the direction of the Client.

1.1. Management Reporting

The Consultant shall take minutes of meetings, write and distribute a monthly progress report to the Client by the 12th of every month providing details of Project Scope, Program Overview, Key Milestones and progress for the period and project cost controls.

2. SERVICES

The Consultant must determine with the Client the detailed scope of services at commencement of the appointment. Refer also Clause 9 Reporting, above. Lead consultancy services are likely to consist of the following services:

a. Taking of a brief, site investigations and/or technical investigations, preparation of a return brief to confirm the scope of the project or problem which needs solving. This process is normally iterative and is likely to require the appointment of other technical specialists to finalise the project brief.

b. Obtain indicative costings and timings for the project scope and any options.

c. Submit the return brief with costings in the form of a formal report for Client agency/Client approval.

d. Appointment of additional specialists to suit the circumstances and enable the above items.

e. Where works are required and upon instruction, proceed to design the required works, coordinating and integrating all specialist inputs. Review the design as it progresses in collaboration with relevant stakeholders and adjust as necessary.

f. Upon further instruction prepare tender documents for the works including the finalisation of all specialist inputs. Obtain a pre-tender estimate for the works and seek Client agency/Client approval to proceed to tender. The Client will tender the works.

---

[1] *PM should strike out this clause if Lead Consultant is not required to appoint subconsultants. Delete this footnote before issuing the document.*

g. Following the closure of the tender process, analyse the offers submitted and make a recommendation to the Client agency /Client.

h. Upon instruction and the appointment of the contractor, administer the works contract as per the terms of the contract, including the clarification of queries, the assessment of variation claims, the receipt of payment claims and certification of payments to be made, certification of Practical and Final Completion and the like.

i. Make applications for and ensure the timely receipt of all required permits and licences.

j. Ensure the proper commissioning of the completed works, the full and proper training of Client agency personnel and the delivery of all necessary warranties, as-constructed drawings, operating manuals and maintenance schedules.

3. CONTRACT ADMINISTRATION

3.1. Contract Administration Services

The Consultant will normally undertake all contract administration functions as required under the Commission.

The contract administration services are to continue until the project reaches 15 days after the issuing of a Final Certificate and no Notice of Dispute has been served in respect of that Final Certificate.

3.2. Contract Administration – including Superintendent's Representative Role

The Consultant will administer the contract as the Superintendent's Representative during the construction period including defects liability period. This includes issuing all instructions, progress claim processing, certificates and variation orders and the preparation of any additional drawings needed to clarify the works.

In the capacity of Superintendent's Representative, the Consultant may be required to but not be limited to:

a. Issuing instructions, directions and orders to appointed Contractors.

b. Reviewing and approving the construction program in native file format as provided by the Building Works Contractor from time to time.

c. Preparing additional drawings, if any, needed to clarify the works that are the subject of the Building Works Contract.

d. Monitoring progress of work on site

e. Ensuring that the Building Works Contractor complies with the Building Works Contract, applicable building standards and any permits or approvals issued by the relevant permit authority pursuant to the Building Act 2011 (WA).

f. Monitoring Contractors compliance with contractual obligations in relation to obligations to subcontractors, imported goods/services, use of local suppliers/subcontractors, materials recycling and Indigenous Economic Development where applicable.

g. Monitoring the Contractors compliance with its (where applicable): Building Act 2011, (WA) Workplace Safety and Health obligations under the Building Works Contract.

h. Issuing instructions, certificates, variation orders and Superintendent's directions authorised by the Client and in accordance with any commission formed under this Panel arrangement.

i. Assessing payment claims and issuing payment certificates.

j. Periodically attending site and inspecting the standard of the works to ensure contractor's compliance with contract documents and direct rectification of defective work.

k. Assisting in the management of disputes or differences arising under the Building Works Contract.

l. In conjunction with applicable sub-consultants, witnessing testing and commissioning of building services by the Contractor and Authorities and verify compliance with the requirements of the Contract.

m. Advising on the receipt and release of securities as required through the Project Manager

n. Issuing certificates of practical completion and such other certificates required to certify completion of the building works.

The person acting as the Superintendent's Representative is required to have working at heights certification to ensure that inspection of the roof and other high-level building fabric is adequately inspected

In addition to the foregoing obligations, where the project lasts more than four (4) weeks, the Consultant/Superintendent's Representative will also be required to provide a monthly report to the Client on critical issues such as time, cost and quality.

3.3. **Approvals from the Client**

When appointed as the Superintendent's Representative for a contract, the Consultant or its employee, as the case may be, shall obtain written approval from the Client prior to issuing any direction, instruction or variation which has the effect or potential for increasing or reducing the scope of work under the contract by more than $5,000 (exclusive of any applicable GST) or extending the Date for Practical Completion, unless doing so is:

i. reasonably necessary for the emergency protection of people or property; or

ii. pursuant to a due and proper claim for costs or time by the contractor under the terms of the works contract for works that;

iii. already previously approved in writing by the Client; or

iv. a due and proper entitlement of the contractor under the terms of the works contract and for which the Client has already received previous written notice as being assessed by the Consultant as a proper claim from the contractor under the terms of the works contract.

3.4. **Certifying of Payments to Building Works Contractors**

The Consultant/Superintendent's Representative will be advised of the appropriate process for payments when they are commissioned.

The Consultant/ Superintendent's Representative is to ensure that all payment claims received from appointed Building Works Contractors contain the relevant project details. The Consultant must check

and verify the percentage of work done against the payment claim and issue a payment certificate to the Client in accordance with the terms of the Contract.

The Client will then arrange payment and advise the Consultant/contractor accordingly.

3.5. **Completion and Project Handover**

The Consultant/Superintendent's Representative will conduct a site inspection with the Client to demonstrate that the building works:

a. Have been undertaken and completed in accordance with:

i. The conditions of contract (including special conditions of contract).

ii. The drawings, specifications and applicable building standards.

iii. Any permits or approvals issued by the relevant permit authority pursuant to the Building Act 2011 (WA).

b. Are free of defects or omissions other than minor defects and omissions.

c. Are otherwise suitable for their intended purpose.

The Consultant/Superintendent's Representative is required to liaise with the electrical, mechanical and hydraulics sub-consultants regarding site visits to be undertaken at agreed intervals, including tuning of the building systems during DLP, full recommissioning prior to issue of final certificate and provision of the building tuning report to the Client.

3.6. **Discretion to Reduce Security**

Where the Client:

a. receives and holds security (whether in the form of bank guarantees, retention money or otherwise) provided by the works contractor pursuant to the building works contract; and

b. the building works contract provides terms under which the Superintendent may exercise a discretion to reduce that security;

then that discretion can only be exercised by the Superintendent and not the Superintendent's Representative. The Consultant agrees to act within the limits of this clause.

Save for the above, nothing in this clause is intended to limit the building works contractor's rights to the return of security that otherwise exist under the building works contract

3.7. **Contract Administration – Excluding Superintendent's Representative role**

Where the Consultant is not appointed to undertake the role of Superintendent's Representative the Consultant will typically continue to have involvement in the project, with their scope to include:

a. Co-ordination of subconsultants including direction of inspection of works throughout the construction period, attendance at any testing, commissioning or handover process and assistance / site visitation during the defects liability period.

b. Provision of advice to the Superintendent's Representative as required to assist in the issue of instructions, directions and orders to appointed Building Works Contractors.

c. Preparation of additional drawings, if any, needed to clarify the works that are the subject of the Building Works Contract.

d. Monitoring of progress of work on site.

e. Providing advice to the Superintendent's Representative as required

   i. to assist in the issue of variation orders

   ii. to assist in the assessment of payment claims, including the issuance of payment certificates.

   iii. to assist with notifications of defective works or works not in compliance with relevant codes and standards, including building and demolition permits.

   iv. to assist in the management of disputes or differences arising under the Building Works Contract

   v. to assist in the issue of certificates of practical completion and such other certificates required to certify completion of the building works.

4. DELIVERABLES

The Client will provide a Schedule of Deliverables for the appointment. An example Schedule is provided in the separate appendix.

The Consultant has responsibility for ensuring that the required deliverables at each of the respective project stages in relation to the architect, building services consultants and engineers are delivered.

The Contractor has responsibility for the provision of 'as constructed' drawings and operations/maintenance manuals and warranties. The Consultant is also responsible for the review and sign-off of these documents by the applicable subconsultants and the co-ordination, collation and submission of these deliverables at Practical Completion to the Client.

APPENDIX 1 – ACOUSTICS CONSULTANCY

The *Acoustics Consultant* is expected to have expertise in the wide range of architectural acoustic issues including room acoustics, acoustic isolation, speech privacy, services noise control, rain noise control, reverberation control, noise and vibration associated with mechanical, electrical, and hydraulic services.

Consultants are required to clarify and confirm in writing their scope for each appointment via an iterative Return Brief process. This appendix is general in nature and may be used to start the iterative return brief development process.

Acoustic Isolation / Speech Privacy

Spaces requiring speech privacy shall be assessed in accordance with Australian Standard 2822 - 1985 'Acoustics - Methods of Assessing and Predicting Speech Privacy and Speech Intelligibility'. Refer to Tables 1 to 4 for the required performance values. Speech privacy assessments for office spaces are to be based on ambient noise levels of 40 dB(A).

Reverberation Control

Reverberation Time (RT) within specified rooms shall not exceed those recommended in Australian Standard AS/NZS 2107 "Acoustics - Recommended Design Sound Levels and Reverberation Times for Building Interiors". Refer to Tables 1 to 4 for the required performance values.

Services Noise Control

The noise levels associated with the mechanical, electrical, and hydraulic services must comply with the "Design Sound Levels" established within Australian Standard AS/NZS 2107 "Acoustics - Recommended Design Sound Levels and Reverberation Times for Building Interiors". Non-steady state noise sources (e.g toilet cistern flushing) must not exceed 5 dB above the *maximum* Design Sound Levels stipulated in AS/NZS 2107 for the period of time that the noise is present.

Both air-borne and structure-borne noise transmission paths must be considered.

The mechanical system and equipment acoustics (i.e. serviced room noise levels – including induct noise transmission) form part of the mechanical consultant's scope of work, being integral to the system design. "Radiated" noise from mechanical plant that affects other issues such as building acoustics or external noise shall be addressed by the acoustic consultant, with appropriate liaison with the mechanical consultant.

Plumbing noise can be intrusive at low sound levels because of its informational content and ease of propagation via structure-borne paths. For an acceptable work environment, it is essential that all plumbing noise sources are considered. Adequate acoustic design is to be carried out to ensure appropriate measures are provided to prevent unwanted noise intrusion.

Environmental acoustics

Provide advice on environmental acoustic issues including noise intrusion into buildings such as traffic noise, aircraft noise, rail noise, and other external noise sources. Noise emission from a school can also be an issue for attention.

Traffic Noise Intrusion

Traffic Noise Intrusion must not exceed the *Recommended Design Sound Levels* established within Australian Standard 2107. The assessment of traffic noise intrusion is to consider any ventilation paths through the

building envelope including (but not limited to) external open windows/doors, roof ventilators, air conditioning systems including air-relief paths.

Aircraft Noise Intrusion

The noise intrusion from individual aircraft movements must not exceed the L_{max} *Indoor Design Sound Levels* established within Table 3.3 of Australian Standard 2021. The assessment of air-craft noise intrusion is to consider any ventilation paths through the building envelope. The assessment shall be undertaken in accordance with the methodology outlined in AS 2021.

Train Noise Intrusion

Although this Australian Standard relates to aircraft noise, the criteria is relevant given that both aircraft noise and rail noise are generally short term events, rather than being a steady-state noise source.

The long-term indoor noise levels (L_{eq}) must comply with the *Recommended Design Sound Levels* established within Australian Standard 2107.

There are currently no state government regulations, Australian Standards, or Building Codes that establish criteria for rail noise intrusion into education buildings. In the absence of regulatory criteria, noise intrusion from individual train-movements shall not exceed the L_{max} *Indoor Design Sound Levels* established within Table 3.3 of AS 2021.

Rain Noise Intrusion

Rain noise needs to be controlled to practical levels in habitable spaces.

Environmental Protection (Noise) Regulations 1997

The requirements of the Environmental Protection (Noise) Regulations 1997, as amended, shall be met in full. This involves an assessment of proposed external mechanical plant including (but not limited to); evaporative coolers, condensing units, exhaust fans, and fire pump installations, in relation to noise received at adjacent premises.

Site Planning/Schematic Design Report

Consult and report on the site planning / schematic design solutions for issues covered in section one.

Work with the architect and project team to consider planning decisions that integrate environmental design elements into the building design and minimise the cost of potentially expensive acoustic and building envelope solutions.

Contribute to completion of Green Star credits as outlined in this Brief, after consultation with Lead Consultant and team.

Design Development Report

Consult and report on detailed design solutions for issues identified in the Schematic Design stage/report.

Contract Documentation Report

Consult and formalise final advice for all acoustic issues. If requested, at the end of contract documentation, submit a report resulting from a check of the tender documents to assess conformance with BCA Section J and the intent of the design stage reports provided during Schematic Design and Design Development. The report shall list where the contract documents do not meet the requirements.

Update the Green Star Scorecard where applicable.

Practical Completion - Verification Tests

Acoustic verification testing is not generally included in the Acoustics and Building Envelope Scope of Works. However, if required, the testing shall be conducted in accordance with the relevant standards, at additional cost agreed with the Customer.

APPENDIX 2 - CIVIL ENGINEERING

The Civil Engineering Consultant is expected to have expertise in earthworks and retaining structures design, stormwater infrastructure design overground and below ground, sewer and grey water design (beyond buildings), roads and carparks and attendant structures.

Consultants are required to clarify and confirm in writing their scope for each appointment via an iterative Return Brief process. This appendix is general in nature and may be used to start the iterative return brief development process.

Client entities (whether a lead consultant or a Government Agency) will expect the following services from a Civil Engineer, subject to finalisation of brief and scope.

a. Take the initial brief from the Client entity.

b. Visit and inspect the site.

c. Prepare a reverse brief based on an iterative process, questioning and educating the Client entity to maximise the likelihood of meeting the Client needs and expectations and delivering value for money.

d. On agreement of the brief and consultancy scope, prepare schematic designs and design development documentation for all the works described in the project brief including incorporation and integration of all services requirements into the design.

e. Co-ordination of Geotechnical Consultant's work and assessment of results.

f. Co-ordination with the hydraulics consultant for connection/ integration of stormwater from the roof drainage system to the in-ground stormwater system.

g. Design of stormwater drainage system from base of rainwater downpipe, under buildings, over site and under car parking areas to on site or offsite disposal location.

h. Design of roadworks for entries into the site from surrounding road networks, external paved areas and at-grade car parking areas, pad levels to suit buildings and other facilities.

i. Understand and accommodate the civil work design to meet the required urban water management system and maintain co-ordination with respective civil departments from local authorities.

j. Prepare complete civil engineering works contract documentation for the approved civil works including specifications and schedules ensuring completeness, co-ordination with architectural and other building services documentation and sufficiency of documentation.

k. Provide costings advice for the design and alternatives.

l. Review works tenders and recommend which contractor be awarded the contract.

m. Attend site and conduct inspections to monitor contractor performance, quality of construction and compliance of civil works. Identify works requiring rectification, witness any required testing of the civil works including compactions tests and obtaining copies of test results.

n. Supply as constructed drawings to the Department of Housing and Works CADD Manual Requirements and clearly marked "AS CONSTRUCTED DRAWINGS" and operational/ maintenance manuals, in conjunction in electronic copy in PDF and native file format (AutoCAD) and/ or 3D Model. Where the As-constructed information has been prepared by the contractor/s the consultant is expected to have reviewed the information for its factual accuracy and its formatting compliance.

o. Deliverables as scheduled (template in separate appendix).

APPENDIX 3 – ELECTRICAL ENGINEERING

The Electrical Engineering Consultant is expected to have expertise in all electrical services/systems include authority power supply, consumer mains/sub-mains cabling, switchboards, metering, general power distribution, lighting/power, lighting control systems (where applicable), emergency evacuation and exit lighting systems, voice and data communications, public address system, MATV system, fire detection, closed circuit television (CCTV) access control, alternative energy systems (where appropriate), scheduling of equipment, fittings and fixtures and incorporation and integration of all services requirements into the design.

Consultants are required to clarify and confirm in writing their scope for each appointment via an iterative Return Brief process. This appendix is general in nature and may be used to start the iterative return brief development process.

Client entities (whether a lead consultant or a Government Agency) will expect the following services from an Electrical Engineer, subject to finalisation of brief and scope.

a. Take the initial brief from the Client entity.

b. Visit and inspect the site.

c. Prepare a reverse brief based on an iterative process, questioning and educating the Client entity to maximise the likelihood of meeting the Client needs and expectations and delivering value for money.

d. On agreement of the brief and consultancy scope, prepare schematic designs and design development documentation for all the works described in the project brief including incorporation and integration of all requirements into the design. That includes electrical services for specialist equipment and building services plant (pumps, air conditioning plant and the like).

e. Co-ordination with other consultants' work.

f. Prepare complete electrical engineering works contract documentation including specifications and schedules ensuring completeness, co-ordination with architectural and other building services documentation and sufficiency of documentation.

g. Provide costings advice for the design and alternatives.

h. Review works tenders and recommend which contractor be awarded the contract.

i. Attend site and conduct inspections to monitor contractor performance, quality of construction, the compliance of electrical works and the premises safety prior to occupation. Identify works requiring rectification.

j. Witness any required testing of the electrical works including emergency lighting, flood lighting boundary spill testing etc. and attend handover and training sessions with facility managers to ensure their effectiveness.

k. Supply as constructed drawings to the Department of Housing and Works CADD Manual Requirements and clearly marked "AS CONSTRUCTED DRAWINGS" and operational/ maintenance manuals, in conjunction in electronic copy in PDF and native file format (AutoCAD) and/ or 3D Model. Where the As-constructed information has been prepared by the contractor/s the consultant is expected to have reviewed the information for its factual accuracy and its formatting compliance.

l. Deliverables as scheduled (template in separate appendix).

Model and Measure Energy Use During Defects Liability

(i) **Commissioning of services that use energy**

The following energy efficiency systems and equipment must be commissioned to meet the design intent of the systems and to validate their required performance:

(a) The energy efficiency systems of the National Construction Code (NCC) Volume 1 Parts J5 to J7, including the balance of air and water systems, damper settings, thermostat settings and the like.

(b) Adjustable or motorised shading devices.

(c) Relevant tuning of control systems

(ii) **Information to facilitate maintenance**

A manual(s) to facilitate the maintenance of the energy efficiency systems and equipment required by NCC Volume 1 Parts J1 to J7 must be provided, detailing:

(a) The design and operation intent;

(b) The commissioning settings; and

(c) The preventative maintenance for the particular systems and equipment required to comply with NCC Volume 1 Part I2.

(iii) **Energy monitoring**

The building's energy consumption must be monitored between the date of occupation or issue of the occupancy permit, and the issue of Final Certificate at the end of defects liability period. Please refer to Schedule of Deliverables on energy consumption reporting during defects liability period.

APPENDIX 4 – FIRE ENGINEERING

The fire engineering consultant is expected to have expertise in electronic monitoring systems of thermal and smoke detection (fire detection), wet fire protection systems (fire hose reels, fire hydrant and fire sprinkler services), fire modelling, fire curtains and the development of 'Performance Solutions' under the National Construction Code in the design of buildings.

Consultants are required to clarify and confirm in writing their scope for each appointment via an iterative Return Brief process. This appendix is general in nature and may be used to start the iterative return brief development process.

Client entities (whether a lead consultant or a Government Agency) will expect the following services from a Fire Engineer, subject to finalisation of brief and scope.

a. Take the initial brief from the Client entity.

b. Visit and inspect the site.

c. Prepare a reverse brief based on an iterative process, questioning and educating the Client entity to maximise the likelihood of meeting the Client needs and expectations and delivering value for money.

d. On agreement of the brief and consultancy scope, prepare schematic designs, developed and detailed design documentation for all the works described in the project brief related to fire services including fire engineered solutions where required/ appropriate.

e. Design of fire services including fire water supply, fire hydrant systems, fire hose reel systems, fire sprinklers systems, fire detections systems, Emergency Warning and Intercommunication System (EWIS), scheduling of equipment, fittings and fixtures and incorporation and integration of all services requirements into the design

f. Co-ordination with other consultants' work.

g. Prepare complete fire engineering works contract documentation including specifications and schedules ensuring completeness, co-ordination with architectural and other building services documentation and sufficiency of documentation.

h. Provide costings advice for the design and alternatives.

i. Review tenders for works and recommend which contractor be awarded the contract.

j. Attend site and conduct inspections to monitor contractor performance, quality of construction, the compliance of fire services works and the premises safety prior to occupation. Identify works requiring rectification.

k. Witness any required testing of the works including fire service pressure testing and fire integrity tests and attend handover and training sessions with facility managers to ensure their effectiveness.

l. Supply as constructed drawings to the Department of Housing and Works CADD Manual Requirements and clearly marked "AS CONSTRUCTED DRAWINGS" and operational/ maintenance manuals, in conjunction in electronic copy in PDF and native file format (AutoCAD) and/ or 3D Model. Where the As-constructed information has been prepared by the contractor/s the consultant is expected to have reviewed the information for its factual accuracy and its formatting compliance.

m. Deliverables as scheduled (template in separate appendix). Performance Solutions shall be subjected to an independent fire engineer peer review as well as review/approval by the Approval Authority including any independent building certifier. Any Performance Solution shall not unduly affect the future operation of the building, including its flexibility for future fit-outs, renovations and extensions.

APPENDIX 5 – HYDRAULIC SERVICES

The Hydraulic Services Consultant is expected to have expertise in all hydraulic services/systems including hot/cold water supply, wastewater and sewage disposal, stormwater collection and disposal, water tanks and pump sets, gas reticulation including welding gas, fire hydrants and hose reels, compressed air and the scheduling of equipment, fittings and fixtures and their incorporation and integration into the design. Fire sprinkler systems are not always within the expertise of this discipline, but can be.

Consultants are required to clarify and confirm in writing their scope for each appointment via an iterative Return Brief process. This appendix is general in nature and may be used to start the iterative return brief development process.

Client entities (whether a lead consultant or a Government Agency) will expect the following services from an Electrical Engineer, subject to finalisation of brief and scope.

a. Take the initial brief from the Client entity.

b. Visit and inspect the site.

c. Prepare a reverse brief based on an iterative process, questioning and educating the Client entity to maximise the likelihood of meeting the Client needs and expectations and delivering value for money.

d. On agreement of the brief and consultancy scope, prepare schematic designs and design development documentation for all the works described in the project brief including incorporation and integration of all requirements into the design. That includes hydraulic services for specialist equipment and building services plant (refrigerated buildings, air conditioning plant, swimming pools and the like).

e. Co-ordination with other consultants' work.

f. Prepare complete hydraulic engineering works contract documentation including specifications and schedules ensuring completeness, co-ordination with architectural and other building services documentation and sufficiency of documentation.

g. Provide costings advice for the design and alternatives.

h. Review works tenders and recommend which contractor be awarded the contract.

i. Attend site and conduct inspections to monitor contractor performance, quality of construction, the compliance of hydraulic works and the premises safety prior to occupation. Identify works requiring rectification.

j. Witness any required testing of the works and attend handover and training sessions with facility managers to ensure their effectiveness.

k. Supply as constructed drawings to the Department of Housing and Works CADD Manual Requirements and clearly marked "AS CONSTRUCTED DRAWINGS" and operational/ maintenance manuals, in conjunction in electronic copy in PDF and native file format (AutoCAD) and/ or 3D Model. Where the As-constructed information has been prepared by the contractor/s the consultant is expected to have reviewed the information for its factual accuracy and its formatting compliance.

l. In particular, ensure that all in ground services are plotted with regards to position and depth by a licensed surveyor and that those details are incorporated in the As Constructed Drawing

m. Deliverables as scheduled (template in separate appendix).

APPENDIX 6 – MECHANICAL ENGINEERING

The Mechanical Engineering Consultant is expected to have expertise in all mechanical services/systems including extract and supply air ventilation, air conditioning, dust extraction, humidity stripping, in all climate zones of Western Australia and the scheduling of equipment, fittings and fixtures and their incorporation and integration into the design.

Consultants are required to clarify and confirm in writing their scope for each appointment via an iterative Return Brief process. This appendix is general in nature and may be used to start the iterative return brief development process.

Client entities (whether a lead consultant or a Government Agency) will expect the following services from a Mechanical Engineer, subject to finalisation of brief and scope.

a. Take the initial brief from the Client entity.

b. Visit and inspect the site.

c. Prepare a reverse brief based on an iterative process, questioning and educating the Client entity to maximise the likelihood of meeting the Client needs and expectations and delivering value for money.

d. On agreement of the brief and consultancy scope, prepare schematic designs and design development documentation for all the works described in the project brief including incorporation and integration of all requirements into the design (including electrical and hydraulic services to the mechanical equipment) and consideration of availability/ access for maintenance contractors. That includes mechanical services for specialist equipment and buildings including hospitals, laboratories and the like.

e. Co-ordination with other consultants' work.

f. Prepare complete mechanical engineering works contract documentation including specifications and schedules ensuring completeness, co-ordination with architectural and other building services documentation and sufficiency of documentation.

g. Provide costings advice for the design and alternatives.

h. Review works tenders and recommend which contractor to award the contract.

i. Attend site and conduct inspections to monitor contractor performance, quality of construction, the compliance of mechanical works and the premises safety prior to occupation. Identify works requiring rectification.

j. Witness any required testing of the works and attend handover and training sessions with facility managers to ensure their effectiveness.

k. Supply as constructed drawings to the Department of Housing and Works CADD Manual Requirements and clearly marked "AS CONSTRUCTED DRAWINGS" and operational/ maintenance manuals, in conjunction in electronic copy in PDF and native file format (AutoCAD) and/ or 3D Model. Where the As-constructed information has been prepared by the contractor/s the consultant is expected to have reviewed the information for its factual accuracy and its formatting compliance..

l. Deliverables as scheduled (template in separate appendix).

MODEL AND MEASURE ENERGY USE DURING DEFECTS LIABILITY

(i) **Commissioning of services that use energy**

The following energy efficiency systems and equipment must be commissioned to meet the design intent of the systems and to validate their required performance:

(a) The energy efficiency systems of the National Construction Code (NCC) Volume 1 Parts J5 to J7, including the balance of air and water systems, damper settings, thermostat settings and the like.

(b) Adjustable or motorised shading devices.

(c) Relevant tuning of control systems as required in Schedule of Deliverables.

(ii) **Information to facilitate maintenance**

A manual(s) to facilitate the maintenance of the energy efficiency systems and equipment required by NCC Volume 1 Parts J1 to J7 must be provided, detailing:

(a) The design and operation intent;

(b) The commissioning settings; and

(c) The preventative maintenance for the particular systems and equipment required to comply with NCC Volume 1 Part I2.

(iii) **Energy monitoring**

The building's energy consumption must be monitored between the date of occupation or issue of the occupancy permit, and the issue of Final Certificate at the end of defects liability period. Please refer to Schedule of Deliverables on energy consumption reporting during defects liability period.

APPENDIX 7 – STRUCTURAL ENGINEERING

The Structural Engineering Consultant is expected to have expertise in the design of all conventional structural services/systems including load-bearing brickwork, timber and steel framed buildings, in-situ and pre-cast concrete, footing designs (but not necessarily specialist piling), retaining structures and their water-proofing and façade engineering (noting that this can be a specialist consultancy).

Consultants are required to clarify and confirm in writing their scope for each appointment via an iterative Return Brief process. This appendix is general in nature and may be used to start the iterative return brief development process.

Client entities (whether a lead consultant or a Government Agency) will expect the following services from a Structural Engineer, subject to finalisation of brief and scope.

a. Take the initial brief from the Client entity.

b. Visit and inspect the site.

c. Prepare a reverse brief based on an iterative process, questioning and educating the Client entity to maximise the likelihood of meeting the Client needs and expectations and delivering value for money.

d. On agreement of the brief and consultancy scope, prepare schematic designs and design development documentation for all the works described in the project brief including incorporation and integration of all requirements into the design (including coordination with building services) and market considerations like the availability of materials and human resources.

e. Co-ordination with other consultants' work in particular the Geotechnical Consultant.

f. The Structural engineer will frequently be responsible for the procurement and engagement of the Geotechnical Consultant.

g. Prepare complete structural engineering contract documentation including specifications and schedules ensuring completeness, co-ordination with architectural and other building services documentation and sufficiency of documentation. This will include

a. Detailed design of all structures including footings, structure, roof systems, facades and internal wall support work, tanking and retaining walls, plant and equipment structures/platforms, loading docks, ramps and building entries, balustrades, handrail supports and all architectural metal works such as sunscreens, handrails, balustrade supports, all structures required for landscape elements such as external stairs, retaining walls, planter boxes, and fitout works requiring additional structural support.

b. For projects 2 storeys or over with complex facades, the preparation of schematic, developed and detailed designs and construction documentation for facades including window/door framing/glazing, determining wind pressures, structural analysis for window sections/fixing, balustrades, louvres, screens etc., and necessary support requirements.

h. Provide costings advice for the design and alternatives.

i. Review works tenders and recommend which contractor to award the contract.

j. Attend site and conduct inspections to monitor contractor performance, quality of construction, the compliance of structural works and the premises safety prior to occupation. Identify works requiring rectification.

k. Review of shop drawings including but not limited to steel, precast concrete etc

l. Witness any required testing of the structural works prior to any covering up or enclosure and obtaining copies of test results including concrete slump/compression.

m. Supply as constructed drawings to the Department of Housing and Works CADD Manual Requirements and clearly marked “AS CONSTRUCTED DRAWINGS” and operational/ maintenance manuals, in conjunction with an electronic copy in PDF and native file format (AutoCAD) and/ or 3D Model. Where the As-constructed information has been prepared by the contractor/s the consultant is expected to have reviewed the information for its factual accuracy and its formatting compliance..

n. Deliverables as scheduled (template in separate appendix).

Minimum Requirements for Structural Design and Checking

The Consultant is to ensure that all structural design and documentation is independently checked. The firms and the personnel involved in the design and checking process are required to meet the minimum requirements identified below.

a. Design Engineer

- Is to have practical design experience in building structures commensurate with the value and complexity of the project.
- Is to be eligible for membership of the Institution of Engineers, Australia as either; a Corporate Member, or a Graduate Member.

b. Checking Engineer

- Is not to have been directly involved in the design or planning of the work to be checked.
- May be a member of the design firm or a member of an independent firm.
- Is to be eligible for membership of the Institute of Engineers, Australia (or equivalent).
- Must have a minimum of 10 years practical experience in structural engineering for major or complex projects or 5 years practical experience for minor projects not more than 2 storeys in height.
- Must have a minimum of 10 years practical experience in structural engineering for projects of a complexity and scale similar to the project being checked.
- Must have been actively engaged in structural engineering design of buildings during the preceding 3 years.
- Must have worked with the relevant Australian design codes and regulations, current at the time, for the preceding 12 months.

c. Separation of design and checking functions

A basic principle of the checking process is that it will be as independent of the design process as possible. It is a requirement that the Checking Engineer shall not have been directly involved in the design phase of the work. For a design firm with limited staff, this may necessitate the checking phase being undertaken by another firm.

d. Certification

Design drawings are required to be signed as approved by the Design Engineer and the Checking Engineer.

The Client of the design firm must sign and submit to the Client, advice of the Design and Checking Engineers to be engaged in the work and listing against their names, or by other acceptable means, the qualifications and experience they possess relative to the requirements listed in paragraphs above.

e. Recording of Design Loads

Structural loading codes relevant to a project are to be listed on at least one sheet of the structural drawings (see example below). The Australian Standard Code number, year of Code issue and Code amendment number (if applicable) must be recorded for all LOADING CODES used in the design.

If an Australian Standard loading code has not been issued for a particular type of loading and an alternative standard (such as a British or New Zealand Standard) is not mandatory the design and checking engineers are to agree an appropriate load value.

Where design loads are used which are not sourced from Australian Standards, in addition to listing the loading codes, the following specific design information shall be recorded on the structural drawings:

i. Live Loads

DESIGN LIVE LOADS for all suspended floors (including walkways and mezzanines) AND for roof structures and canopies, which, because of their accessibility or materials of construction, could be expected to carry higher live loads than normal roofs.

ii. Wind Loads

WIND REGION

TERRAIN CATEGORY

SHIELDING MULTIPLIER

TOPOGRAPHIC MULTIPLIER

STRUCTURE IMPORTANCE MULTIPLIER

Where different terrain categories or multipliers have been assumed in the design, depending on wind direction, each of the different combinations of terrain category and multipliers used shall be noted together with the wind direction(s) to which they apply.

iii. Earthquake Loads

STRUCTURE TYPE (or types where more than one exists in the project).

ACCELERATION COEFFICIENT

SITE FACTOR

iv. Soil Bearing Pressures

The maximum safe working or ultimate soil bearing pressures (state which) used in footing design. If different footings have been designed using different bearing pressures, the design bearing pressure for each footing type or size shall be recorded.

v. Site Classification

The SITE CLASSIFICATION is to be in accordance with AS 2870 “Residential Slabs and Footings”.

If the classification varies across the site, the extent of each soil class shall be shown or noted on an appropriate structural drawing.

RECORDING OF STRUCTURAL DESIGN LOADS

The following is an example of the structural loading codes to be recorded on the structural drawings

(Say information included on drawing S1, General Notes, in this example).

DESIGN INFORMATION

Dead and Live loads AS 1170.1 (or latest version if amended)

Live load - Block A, mezzanine	*5* kPa
Live load - Block B concrete roof (non trafficable)	1.5 kPa.

Wind loads AS 1170.2 (or latest version if amended)

Wind region	A
Wind from north-east and south-east	Terrain category 2 Shielding multiplier 1 Topographic multiplier 1 Importance multiplier 1
Wind from north-west and south-west	Terrain category 3 Shielding multiplier 0.9 Topographic multiplier 1 Importance multiplier 1

Earthquake loads AS 1170.4 (or latest version if amended)

Structure type	II
Acceleration coefficient	0.14
Site factor	1.25

Soil bearing pressures

All footings (safe working bearing pressure).	3 kPa

Site classification

APPENDIX 8 – VERTICAL TRANSPORTATION

The *Vertical Transport Consultant* is expected to have expertise in the wide range of lifts, escalators and travelators in non-residential buildings, including their certification and registration under relevant regulations.

Consultants are required to clarify and confirm in writing their scope for each appointment via an iterative Return Brief process. This appendix is general in nature and may be used to start the iterative return brief development process.

Client entities (whether a lead consultant or a Government Agency) will expect the following services from a Vertical Transport Consultant, subject to finalisation of brief and scope.

a. Take the initial brief from the Client entity.

b. Visit and inspect the site.

c. Prepare a reverse brief based on an iterative process, questioning and educating the Client entity to maximise the likelihood of meeting the Client needs and expectations and delivering value for money. It is expected that the vertical transport would ensure as a minimum the following are discussed:

   - Ascertaining building use by staff and building users
   - Proposed level of maintenance and whether a BSO/facilities manager will be engaged
   - Redundancy and maintainability
   - Capabilities and capacity of local contractors
   - Remote access
   - Consideration for low level interface to BMS
   - Communications system.

d. On agreement of the brief and consultancy scope, prepare schematic designs and design development documentation for all the works described in the project brief including incorporation and integration of all requirements into the design.

e. Co-ordination with other consultants' work for power supplies and other building services.

f. Prepare complete works contract documentation including specifications and schedules ensuring completeness, co-ordination with architectural and other building services documentation and sufficiency of documentation.

g. Provide costings advice for the design and alternatives.

h. Review works tenders and recommend which contractor be awarded the contract.

i. Attend site and conduct inspections to monitor contractor performance, quality of construction, the compliance of the works and the premises safety prior to occupation. Identify works requiring rectification.

j. Witness any required testing of the works.

k. Supply as constructed drawings to the Department of Housing and Works CADD Manual Requirements and clearly marked "AS CONSTRUCTED DRAWINGS" and operational/ maintenance manuals, in conjunction in electronic copy in PDF and native file format (AutoCAD) and/ or 3D Model. Where the As-constructed information has been prepared by the contractor/s the consultant is expected to have reviewed the information for its factual accuracy and its formatting compliance.

l. Ensure appropriate training and handover processes are undertaken prior to end of DLP with the Client entity and maintenance service provider.

m. Deliverables as scheduled (template in separate appendix).

APPENDIX 9 – BUILDING DESIGN

The Building Design service category is typically for minor works contracts involving an addition or alteration to an existing building, or external works like fences.

Building Designers will frequently be appointed as Lead Consultants, responsible for the design of buildings/building works and the appointment and consultancy input of other disciplines such as structural engineers and building services engineers.

The scope of service can be broad. The Consultant must determine with the Client the detailed scope of services and deliverables via an iterative Return Brief process at commencement of the appointment. This appendix is general in nature and may be used to start the iterative return brief development process. The Schedule of Deliverables (see separate appendix) should be utilised.

Typically a building designer can provide some or all of the following services.

Pre-Design, Design and Documentation

a. Taking of a brief, site investigations and/or technical investigations, preparation of a return brief to confirm the scope of the project or problem which needs solving. This process is normally iterative and is likely to require the appointment of other technical specialists to finalise the project brief.

b. Obtain indicative costings and timings for the project scope and any options.

c. Submit the return brief with costings in the form of a formal report for Client agency/Client approval.

d. Appointment of additional specialists to suit the circumstances and enable the above items.

e. Where works are required and upon instruction, proceed to design the required works, coordinating and integrating all specialist inputs. Review the design as it progresses in collaboration with relevant stakeholders and adjust as necessary.

f. Upon further instruction prepare tender documents for the works including the finalisation of all specialist inputs. Obtain a pre-tender estimate for the works and seek Client agency/Client approval to proceed to tender. The Client will tender the works.

g. Following the closure of the tender process, analyse the offers submitted and make a recommendation to the Client agency /Client.

h. Upon instruction and the appointment of the contractor, administer the works contract as per the terms of the contract, including the clarification of queries, the assessment of variation claims, the receipt of payment claims and certification of payments to be made, certification of Practical and Final Completion and the like.

i. Make applications for and ensure the timely receipt of all required permits and licences.

j. Ensure the proper commissioning of the completed works, the full and proper training of Client agency personnel and the delivery of all necessary warranties, as-constructed drawings, operating manuals and maintenance schedules.

Tendering

Provide the tender documents to the Client entity for them to arrange tenders.

Construction

Where the appointment includes the administration of a construction contract

a. Report regularly to the Client regarding time, cost and progress of the project.

b. Visit the site periodically to observe the general conformance of the construction works with the building contract documents and instruct the building contractor regarding design quality control, materials selections and performance in regard to the building contract documents.

c. Arrange and attend site meetings at regular intervals, and record proceedings.

d. Review shop drawings and submissions by the building contractor.

e. Provide the building contractor with instructions, supplementary details and clarification of the contract documents.

f. Co-ordinate the construction services provided by other specialist consultants.

g. Assess and determine variations and obtain the Client's approvals where required.

h. Assess and determine the Building Contractor's progress claims and issue progress certificates.

i. Assess the Building Contractor's claims for extensions of time.

j. Adjust prime cost and provisional sums and other monetary sums.

k. Instruct the building contractor in regard to incomplete work and rectification of any defects.

l. Assess and determine practical completion and issue the notice of practical completion

m. During the defects liability period, instruct the building contractor in regard to incomplete work and rectification of defects.

n. If required, advise the customer and coordinate the procedure for the rectification of any defective work by others.

o. Assess and determine final completion and issue the final certificate.

Building Act requirements - Compliance

The Department of Housing and Works acts as the permit authority for the buildings it procures and manages. All other permit applications must be submitted to the relevant Local Authority.

Development Approvals

i. Development Approval

Public works by State Government agencies are not subject to local planning schemes and are therefore exempt from local planning scheme development approval requirements.

Public works projects in the geographic location governed by the Metropolitan Region Scheme (MRS), the Peel Region Scheme (PRS), the Greater Bunbury Region Scheme (GBRS) and any other applicable regional schemes, may require development approval (DA) from the Western Australian Planning Commission (WAPC). Public works projects outside of a region scheme area do not require a development approval.

Approval Authorities

i. Where projects involve development of –
   - non-residential public works with an estimated development cost between $15 million and $100 million; or
   - non-residential public works with an estimated development cost of less than $15 million and where the development is an intensification of the site or will have a significant adverse impact on the local amenity of the area.

   development approvals are determined pursuant to a delegation to the General Manager or Assistant Director, Statutory Planning and Asset Policy (SPAP) of the Department of Housing and Works, under section 16 of the Planning and Development Act 2005 (Western Australia).

ii. Where the development is considered to be of State or Regional Significance (generally over $100 million), as advised in writing by the WAPC, the development approval is to be determined by the WAPC.

When a development approval is required, consultants must:

a. Allow in the time plan for the project, the time needed to obtain the development approval (67 calendar day statutory period, plus some additional administrative processing allowance) as well as any other conditioned or subject approvals, such as licences or permits;
b. Consult with SPAP to confirm development approval requirements.
c. Allow in the time plan for the project for the potential requirement for design review by the Government Architect of Western Australia (to be confirmed as part of (ii) above).
d. Lodge the development approval, with the following agencies;

- for projects to be considered under delegation by the Department of Housing and Works, the development application is to be lodged with the Statutory Planning and Asset Policy (SPAP) section of the Department of Housing and Works;
- for projects identified as having State or Regional Significance, the development application is to be lodged with the relevant local government (who forward the application to the WAPC).

Approval is to be received from the Client on the schematic design and project estimate prior to the submission of the development application. The Consultant must confirm with SPAP the submission requirements, including the acceptable form of submission prior to lodgement.
Consultants must ensure the submitted documentation includes:

a. An MRS, PRS or GBRS Form 1 signed by the appropriately authorised person. For example, from within the Department of Education for school projects;
b. A cover letter/report outlining the details of the project, site and planning context, description of development, and consideration of site issues; and
c. All drawings, reports, photographs and the like necessary for the expedient processing of the application.

Upon submission, consultants must:

a. Obtain from SPAP the reference number for the application.
b. For projects of State or Regional Significance, follow up with the local government after the expiration of seven days from the date of lodgement, to ascertain if the application has been forwarded to WAPC.
c. Monitor the progress of the application by reference to the WAPC website, or email consultation with SPAP, and immediately advise the Client if any delays arise.

Development approvals under the MRS, PRS or GBRS for public works by State Government agencies are not subject to application fees charged by Local Governments for making recommendations to SPAP or the WAPC. Accordingly, the Consultant shall not allow for any such fees in its fee proposal.

ii. Development Approval not required

For projects where development approval is not required, the Consultant shall consult with SPAP within the Department of Housing and Works to confirm development approval exemptions/requirements. Where a development application is not required, consultation with the local authority about the public work is required to resolve any local planning concerns where possible. The Consultant is required to provide plans and reports detailing the proposed public works to local authority for their information.

APPENDIX 10 – ENVIRONMENTALLY SUSTAINABLE DESIGN

The Environmentally Sustainable Design (ESD) Consultant is expected to have expertise in all aspects of engineering design of the built environment for non-residential Government buildings with particular experience in the implementation of the rating tools for the Green Star Building Council of Australia, the NABERS rating system and related areas of expertise. The Department of Housing and Works' technical guide document TG040 is a critical guideline for sustainable design of non-residential buildings in the Government portfolio. ESD consultants might also be expected to provide advice on renewable power generation, storage and distribution, decarbonisation strategy, emissions audits and reductions.

Consultants are required to clarify and confirm in writing their scope for each appointment via an iterative Return Brief process. This appendix is general in nature and may be used to start the iterative return brief development process.

Client entities (whether a lead consultant or a Government Agency) will expect the following services from an ESD Engineer, subject to finalisation of brief and scope.

a. Take the initial brief from the Client entity.

b. Visit and inspect the site.

c. Prepare a reverse brief based on an iterative process, questioning and educating the Client entity to maximise the likelihood of meeting the Client needs and expectations and delivering value for money.

d. On agreement of the brief and consultancy scope, prepare guidance for all consultant disciplines to ensure the ESD goals of a project brief can be met by the detailed building design and its specifications.

e. Co-ordination with other consultants' work.

f. Prepare complete engineering calculations and reports for submission to the ratings/certifying bodies (such as GBCA) whether or not the Client entity decides to seek certification. Ensure completeness, co-ordination with architectural and other building services documentation and sufficiency of documentation.

g. Provide costings advice for the design and alternatives.

h. Review works tenders and recommend which contractor be awarded the contract.

i. Attend site and conduct inspections to monitor contractor performance, quality of construction, the compliance of the works and the premises prior to occupation. Identify works requiring rectification.

j. Witness any required testing of the works and attend handover and training sessions with facility managers to ensure their effectiveness.

k. Supply as constructed drawings to the Department of Housing and Works CADD Manual Requirements and clearly marked "AS CONSTRUCTED DRAWINGS" and operational/ maintenance manuals, in conjunction in electronic copy in PDF and native file format (AutoCAD) and/ or 3D Model. Where the As-constructed information has been prepared by the contractor/s the consultant is expected to have reviewed the information for its factual accuracy and its formatting compliance.

l. Deliverables as scheduled (template in separate appendix).

Model and Measure Energy Use During Defects Liability

(i) **Commissioning of services that use energy**

The following energy efficiency systems and equipment must be commissioned to meet the design intent of the systems and to validate their required performance:

(a) The energy efficiency systems of the National Construction Code (NCC) Volume 1 Parts J5 to J7, including the balance of air and water systems, damper settings, thermostat settings and the like.

(b) Adjustable or motorised shading devices.

(c) Relevant tuning of control systems

(ii) **Information to facilitate maintenance**

A manual(s) to facilitate the maintenance of the energy efficiency systems and equipment required by NCC Volume 1 Parts J1 to J7 must be provided, detailing:

(a) The design and operation intent;

(b) The commissioning settings; and

(c) The preventative maintenance for the particular systems and equipment required to comply with NCC Volume 1 Part I2.

(iii) **Energy monitoring**

The building's energy consumption must be monitored between the date of occupation or issue of the occupancy permit, and the issue of Final Certificate at the end of defects liability period. Please refer to Schedule of Deliverables on energy consumption reporting during defects liability period.

APPENDIX 11 – LAND SURVEYING

The *Land Surveying* (Surveying) consultant is expected to have expertise in the range of conventional surveying techniques including site identification (cadastral boundaries), topographic surveys (contours and surface features), underground services and connection points to utilities adjacent to the site, measured drawings of existing buildings, point cloud surveys, setting out for building works and the like.

Consultants are required to clarify and confirm in writing their scope for each appointment via an iterative Return Brief process. This appendix is general in nature and may be used to start the iterative return brief development process.

Client entities (whether a lead consultant or a Government Agency) will expect the following services from a Surveyor, subject to finalisation of brief and scope.

a. Take the initial brief from the Client entity.

b. Visit and inspect the site.

c. Prepare a reverse brief based on an iterative process, questioning and educating the Client entity to maximise the likelihood of meeting the Client needs and expectations and delivering value for money.

d. Carry out the survey works according to the agreed scope.

Survey Scope – Existing/Brownfields Sites:
Feature surveys must

- pick up all visible features and sufficient spot heights within the surveyed area to produce an accurate contour plan of the site
- Location and description of all buildings (eg Brick, timber, transportable etc)
- Floor levels of all buildings
- All free standing signage
- All footpaths and driveways with notation of materials
- Retaining and freestanding walls with description (eg Brick, Limestone etc) including Top of Wall heights for all levels if flat or stepped, or top and bottom of rakes if sloped
- Stairs with description (eg Brick, Limestone etc) including height at top and bottom of stairs
- Playing courts and ovals (eg: tennis, basketball, football etc)
- Location of all visible services with inverts where accessible, including location of any existing bores and lighting
- Location of underground services using ground penetrating radar
- All significant stands of vegetation and trees with a diameter of 300 mm or greater, unless otherwise specified, noting type, diameter & spread
- Location of any existing furniture (seating, bins, bollards, tree grates etc)
- Extent of any existing water bodies, including water level at time of measurement (this requires time and date information to be provided)
- Any other specific information as requested by project manager/lead consultant.

Features within adjacent Road reserves to be surveyed:

- Road centreline
- Kerb lines top and bottom, both sides of road
- Parking, including location of disabled bays if applicable
- Extent of any bike lanes if applicable
- Crossovers type and condition
- Drainage structures with inverts where possible, including swales
- Light and power poles
- Footpaths & crosswalks
- All signage with description
- Location of any existing furniture (seating, bins, bollards, tree grates etc)
- Bus Stops and parking bays
- All visible services
- Obtain Dial Before You Dig (DBYD) service information adjacent to the site.

Survey Scope – Green Field Site

Feature surveys must

- pick up all visible features and sufficient spot heights within the surveyed area to produce an accurate contour plan of the site
- Location of all visible services with inverts where accessible.
- All significant stands of vegetation, and trees with a diameter of 300 mm or greater, unless otherwise specified, noting type, diameter & spread.
- Any adjacent Public Open Spaces where there are proposed shared facilities. Survey over shared facility areas to include oval, car-parking, buildings and other services associated with the shared facility.
- Extent of any existing water bodies, including water level at time of measurement (this requires time and date information to be provided).
- Any other specific information as requested by project manager/lead consultant.

Features within adjacent Road reserves to be surveyed:

- Road centreline
- Kerb lines top and bottom, both sides of road
- Extent of any bike lanes if applicable
- Crossovers type and condition
- Drainage structures with inverts where possible, including swales
- Light and power poles
- Footpaths & crosswalks
- All signage with description

- Location of any existing furniture (seating, bins, bollards, tree grates etc)
- Bus Stops and parking bays
- All visible services
- Obtain Dial Before You Dig (DBYD) service information adjacent to the site

Survey Datums:
Horizontal: Survey to be related to MGA94 and transformed to local plane coordinate system.

Vertical: Survey to be related to Australian Height Datum (AHD)

Sufficient permanent control to be established on site, as datums for future development.

Cadastral: Obtain digital cadastral boundaries from Landgate, overlay on feature survey.

Deliverables:
Information to be supplied in digital form as a 2D & 3D DWG file.

Hard copy plot at suitable scale to fit an A1 plot sheet.

Contours to be plotted at 200mm intervals.

APPENDIX 12 – ENVIRONMENTAL SERVICES

Environmental Services includes the following sub-disciplines:

Consultants must develop a specific scope of consultancy for each appointment and obtain Client approval of that scope prior to commencement. Environmental Consultants will most frequently be expected to provide reports on their findings with recommendations for consideration by a Client.

Consultants are required to clarify and confirm in writing their scope for each appointment via an iterative Return Brief process. This appendix is general in nature and may be used to start the iterative return brief development process.

Environmental Surveys and Impact Studies

The *Environmental Consultant* is expected to have expertise in the wide range of surveys of both greenfield and brownfield sites and the preparation of Impact studies prior to Works projects being commenced. Studies are necessarily wide-ranging and normally span several seasons (12 months or more) to enable complete and accurate data to be gathered prior to the analysis of that data. Initial assessments will include desk-top investigations and literature reviews to help develop a framework for the necessary field work.

Environmental Consultants must determine whether the subject site is subject to legislative protection mechanisms as well as whether it is of particular significance to the community and why.

Wetland Studies

The *Environmental Consultant's* fieldwork will include water quality, soil and sub-soil testing in addition to flora and fauna studies of the local ecosystem. The studies will include assessments of adjacent lands to understand the relevance of the wetland in its context, where its water sources are derived and the nature of any out-flows.

Flora and Fauna Studies

The *Environmental Consultant*'s fieldwork will include assessments of adjacent lands and others in close proximity to understand the relevance of the subject site in its context. Where sites have relevance to migratory birds (or other animals) instance the studies will need to be tailored to suit the species identified and their dependencies. Fieldwork would be expected to be diurnal and nocturnal so as to capture data on all species.

Arborist

The *Arborist* is expected to have expertise in the assessment of tree health and viability with respect to exotic species as well as natives. Their advice will include advice on pruning, the treatment of pests and rehabilitation (nutrition, adequacy of water supply etc) where weakened specimens or groups of specimens need to be retained.

Water Management Plan

Water Management Planning is usually conducted at a landscape level or at a suburb level within metropolitan areas. It seeks to provide plans at the valley scale and at the basin scale and considers

- how much water is expected to be available
- the seasonal rainfall outlook
- plant, animal, river and wetland health.

Water Management Plans consider both greenfield and brownfield land and should be regularly reviewed and updated, ideally annually.

For large non-residential Government sites such as primary schools and secondary schools, storm-water management consultancy and design is frequently provided by Civil Engineers but they may well need to consult with hydrogeologists and others where schools are located near or within wetland systems or other sites with high water tables.

Waste system management

The *Waste System Consultant* is expected to have relevant expertise and experience to provide advice on all aspects of waste management (including regulatory controls and incentives) including waste sorting, collecting, recycling and disposal for Government's non-residential buildings.

APPENDIX 13 – SECURITY SERVICES

The *Security Consultant* is expected to have expertise in physical security (strategic design of buildings and precincts, the hardening of their perimeters etc) and electronic security systems (including CCTV, detection, deterrence, surveillance and alarms systems) for the broad range of non-residential Government buildings. The building types range from simple single-storey school buildings to multi-storey high-security custodial facilities subject to both internal and external threats.

Specific Client agencies have specific technical requirements including specific monitoring arrangements.

Consultants are required to clarify and confirm in writing their scope for each appointment via an iterative Return Brief process. This appendix is general in nature and may be used to start the iterative return brief development process.

Client entities (whether a lead consultant or a Government Agency) will expect the following services from a Security Consultant, subject to finalisation of brief and scope.

a. The Security Services, including design and specification will be undertaken by a Security Consultant licensed in accordance with the Security and Related Activities (Control) Act 1996.

b. Take the initial brief from the Client entity.

c. Visit and inspect the site where appropriate. Obtain all relevant available documentation about the project

d. Prepare a reverse brief based on an iterative process, questioning and educating the Client entity to maximise the likelihood of meeting the Client needs and expectations and delivering value for money.

e. On agreement of the brief and consultancy scope, prepare schematic designs and design development documentation for all the works described in the project brief including incorporation and integration of all requirements into the design. That includes specialist equipment and their connections to other building services such as power and lighting).

f. Co-ordination with other consultants' work.

g. Prepare complete security services works contract documentation including specifications and schedules ensuring completeness, co-ordination with architectural and other building services documentation and sufficiency of documentation.

h. Liaise with the Client Agency and the building occupant, to determine the partitioning requirements of the Security System into Areas and locations for Remote Arming Stations (keypads).

i. Provide costings advice for the design and alternatives.

j. Review works tenders and recommend which contractor be awarded the contract.

k. Attend site and conduct inspections to monitor contractor performance, quality of construction, the compliance of security works and the premises safety prior to occupation. Identify works requiring rectification.

l. Ensure all work associated with the Security System installation is performed by Security Contractors who are employed by licensed security agents in accordance with the Security and Related Activities (Control) Act 1996.

m. Review and approve the Security Contractor's Monitoring Centre Information (alarm zone lists and drawings) prior to the Security Contractor submitting the documentation to the Client Agency.

n. Witness any required testing of the works and attend handover and training sessions with facility managers to ensure their effectiveness.

o. Supply as constructed drawings to the Department of Housing and Works CADD Manual Requirements and clearly marked “AS CONSTRUCTED DRAWINGS” and operational/ maintenance manuals, in conjunction in electronic copy in PDF and native file format (AutoCAD) and/ or 3D Model. Where the As-constructed information has been prepared by the contractor/s the consultant is expected to have reviewed the information for its factual accuracy and its formatting compliance..

p. In particular, ensure that all in ground services are plotted with regards to position and depth by a licensed surveyor and that those details are incorporated in the As Constructed Drawing

q. Deliverables as scheduled (template in separate appendix).

APPENDIX 14 – TIME PLANNING

The *Time Planner* is expected to have expertise in the planning and programming of construction projects. Large projects that have a tight schedule should have the services of a professional Project Time Planner.

Consultants are required to clarify and confirm in writing their scope for each appointment via an iterative Return Brief process. This appendix is general in nature and may be used to start the iterative return brief development process.

Note: For all Education projects it is critical that new schools and school buildings open in time for the start of the school year or specified term. Other Government projects are likely to have different critical dates.

Generally, the Time Planner will be engaged for the early project planning, identifying the critical path and staging of the project as a whole. Expert advice might also be sought for the detailed assessment of claims in construction contracts where sequencing of trades and sub-trades is required together with identifying the critical path and critical dependencies in the project.

Client entities (whether a lead consultant or a Government Agency) will expect the following services from a Time Planner, subject to finalisation of brief and scope.

a. Take the initial brief from the Client entity.

b. Visit and inspect the site where appropriate. Obtain all relevant available documentation about the project

c. Prepare a reverse brief based on an iterative process, questioning and educating the Client entity to maximise the likelihood of meeting the Client needs and expectations and delivering value for money.

d. On agreement of the brief and consultancy scope, prepare the requested project programme or other advice (eg report) as appropriate.

Capital Works projects:
The Time Planner will advise the Client Representative on a programme that will comfortably complete the project on time and ready for occupation.

That Time Planner will most likely be called upon to update the programme during different stages of the design and documentation of the project or where there is a change in scope of the works.

Requirements:

- Establish realistic periods for project activities such as Site Investigation, Design, Documentation, Tendering, Tender Acceptance, Construction and Fit Out for inclusion in the Programme timeline.
- For non-residential Government projects to be tendered through TendersWA, eight (8) weeks should be allowed between putting the project out to tender and awarding the tender.
- Allow four (4) calendar weeks from contract award for Building Act 2011 Compliance processes - issue of BCTIF payments & building permit.
- A period of 20 % of the construction time frame is generally required as “Float time” contingency for inclement weather, variations, unforeseen site difficulties etc.
- Where a project runs through a Christmas shut down period, time programmer should allow a *minimum* of 2 weeks additional time to programme.
- In some cases the project may require two (2) or more stages of completion, which are to be shown as separable portions within the project programme.

The time programmer should take into consideration all major time impacts to critical path activities including, but not limited to:

- site conditions, remediation, rectification works - especially when investigations and remediation action reports are only undertaken after the builder has taken site possessions.
- complicated building structure design or construction methodology,
- complicated paving patterns and materials mix,
- precast and tilt-up construction structures
- other pre-fabrication
- long lead-time issues (imported passenger lifts, escalators, etc)
- separable portions and other staging constraints
- hold points in construction

Deliverables

Project programme/s and reports as agreed (including formats) with Client entity. Programmes might be required in many different formats, including native file format (e.g. Microsoft Project), PDF, hard copy.

APPENDIX 15 – TRAFFIC MANAGEMENT

The *traffic management consultant* is expected to have expertise in traffic surveys and the design of traffic management systems on local roads adjacent to a site as well as traffic management within a site. They have experience and expertise in road and highway engineering, traffic management design, transport planning and modelling.

Consultants are required to clarify and confirm in writing their scope for each appointment via an iterative Return Brief process. This appendix is general in nature and may be used to start the iterative return brief development process.

Client entities (whether a lead consultant or a Government Agency) will expect the following services from a Time Planner, subject to finalisation of brief and scope.

a. Take the initial brief from the Client entity.

b. Visit and inspect the site where appropriate. Obtain all relevant available documentation about the project

c. Prepare a reverse brief based on an iterative process, questioning and educating the Client entity to maximise the likelihood of meeting the Client needs and expectations and delivering value for money.

d. On agreement of the brief and consultancy scope, commence the requested consultancy.

The scope of services for the traffic management consultant will commonly include:

- Provision of a traffic and transport survey report and recommendations suitable to accompany the submission for Development Application approval;
- Assisting in the design of a facility that has the least vehicular impact on the neighbouring community;
- Facilitating safe vehicular and pedestrian access to and from the facility and surroundings;
- Preparing the traffic management plan in consultation with the local government.

The traffic and road safety assessment report for the project will include appropriate consideration of the following matters:

- The Site and Surrounding Road Network
- Traffic Generation characteristics
- Traffic distribution assessment and network assignment
- Parking assessment and management
- Road Safety assessment
- Pedestrian and Cyclist demand and facilities assessment
- Public Transport accessibility
- On-street and off-street parking
- Liaison with the lead consultant in Master planning
- Liaison with local authority

- Liaison with Main Roads WA
- Liaison with Department of Planning, Lands and Heritage (DPLH), Western Australian Planning Commission (WAPC) and their agents in order to satisfy development application requirements and related planning policy
- Liaison with Department of Transport (DoT) regarding any applicable initiatives.

The requirements for each section of the traffic and transport planning report are outlined below. The requirements are not an exhaustive list and provide for the minimum level of detail required.

Site and Surrounding Traffic Network

The Consultant shall prepare an overview of the local road network at least within the 800 metre walkable catchment of the site and include a plan showing the location of the site with regard to the local and district road network.

All local roads shall be considered with regards to:

- Classification in the road hierarchy
- Carriageway width and road cross section (at minimum, this is to be completed for perimeter roads abutting the building(s)
- Daily and peak hour traffic flows
- Existing and proposed footpaths, dual use paths and Client shared paths, including linkages to proposed building entrances and internal paths.

A photographic record of the context of the existing roads is to be provided and should extend to any road that may be materially affected by the proposed building(s), or any key issues identified during the study.

Where the building(s) is located within a new subdivision, the predicted traffic flows from the approved structure plan shall be used. Flows should be checked to determine whether the facility traffic is included. Where no structure plan flow is available, the Consultant shall undertake a generation and distribution exercise to determine the likely traffic flows on roads adjacent to the site, to be shown diagrammatically in the report.

The Consultant is to liaise with the Lead consultant about the design of the building(s) and/or site layout. The Lead Consultant's plan is to be included in the report.

Peak hour traffic

The consultant shall take locational and design factors into account in order to determine the peak hour traffic movements adjacent to the site. A plan indicating the turning movements at key intersections and/or access points is to be provided.

Based on the forecast peak period movements, the Consultant shall provide an assessment of local intersection and access operation. The peak 15 or 30 minute period is to be used to determine any queue lengths and the expected Level of Service. A maximum Level of Service D shall be used in determining acceptable operation of local intersections and access points. A sensitivity test of the most critical intersection is recommended to determine acceptable tolerances.

Vehicle access

All vehicle accesses to building(s) should be checked to maximise visibility and achieve compliance to AustRoads standards.

Reference to AustRoads table Intersection Capacity – Uninterrupted Flow Conditions is expected to be generally be acceptable to achieve satisfactory operation of local intersections. The Consultant should review the peak attraction to ensure that uninterrupted flow conditions can be reasonably expected at peak times.

Should flows be higher, then SIDRA analysis of the peak 30 minute period is to be provided to demonstrate adequacy and to support recommendations.

Public Transport

A review of current and proposed public transport services is to be undertaken of the locality. The assessment should indicate bus routes and assess their likelihood to attract commuter trips for facility users. Proactive recommendations to increase public transport ridership by the facility user are to be included in the report.

Report:

Typical Appendices are expected to include:

- Local structure plan;
- Traffic generation spreadsheet / flow profile;
- Austroads references;
- Road Safety Audit Report as required; and
- Other relevant information, as appropriate.

Deliverables:

Consultants should allow for the provision of copies of the draft report for Client review, and for one round of final comments from the Client and other stakeholders if appropriate to be incorporated and included:

- 3 printed copies of the report for Development Application submission; and
- electronic copies of the report for the Client Agency.

APPENDIX 16 – INDEPENDENT SUPERINTENDENT

The Independent Superintendent or Independent Superintendent's Representative (or Contract Administrator) is expected to administer building works contracts in accordance with the terms of the specific contract, noting that a number of standard forms of contract are used by Government. The Consultant will not have prepared the Contract Documents but will need to study them and obtain a thorough understanding of the tendered scope of works prior to the commencement of the works. Contract Documents are most likely to have been developed by a Lead Consultant appointed through the Common User Arrangement, in which case that Lead Consultant is likely to be available in a supporting role. In other cases there might not be access to, nor support from, the Consultant who has authored the Contract Documents.

Consultants are required to clarify and confirm in writing their scope for each appointment via an iterative Return Brief process. This appendix is general in nature and may be used to start the iterative return brief development process.

Administration of the Contract will normally be for the entire construction period including the defects liability period. This includes issuing all instructions, progress claim processing, issuing certificates and variation orders authorised by the Client and working in liaison with the project's Lead Consultant.

Amongst other things, the Independent Superintendent's Representative may be required to:

a. Issue instructions, directions, variation orders and certificates as required to appointed Contractors.

b. Review and approve the construction program in native file format as provided by the Building Works Contractor from time to time.

c. Request that the Lead Consultant prepare additional drawings, if any, needed to clarify the works that are the subject of the Building Works Contract.

d. Monitor progress of work on site with assistance of the Lead Consultant as required.

e. Ensure that the Building Works Contractor complies with the Building Works Contract, applicable building standards and any permits or approvals issued by the relevant permit authority pursuant to the Building Act 2011 (WA).

f. Monitor Contractors compliance with contractual obligations in relation to obligations to subcontractors, imported goods/services, use of local suppliers/subcontractors, materials recycling and Indigenous Economic Development where applicable.

g. Monitor the Contractors compliance with its (where applicable): Building Act 2011, (WA) Workplace Safety and Health obligations under the Building Works Contract.

h. Assess and process payment claims including the issuance of payment certificates.

i. Periodically attend site and inspect the standard of the works to ensure contractor's compliance with contract documents and direct rectification of defective work.

j. Assist in the management of disputes or differences arising under the Building Works Contract with assistance from the Lead Consultant as required.

k. In conjunction with applicable sub-consultants, witness testing and commissioning of building services by the Contractor and Authorities and verify compliance with the requirements of the Contract.

l. Advise on the receipt and release of securities as required through the Client.

m. Issue certificates of practical completion and such other certificates required to certify completion of the building works with assistance from the Lead Consultant as required.

In addition to the foregoing obligations, where the project lasts more than four (4) weeks, the Independent Superintendent's Representative will also be required to provide a monthly report to the Client on critical issues such as time, cost and quality.

Site Visits

The Independent Superintendent's Representative will conduct site visits on a weekly basis or as required and agreed with the Client in conjunction with the Lead Consultant, for the purposes of ensuring that the work is:

i. being performed according to the conditions of contract (including special conditions of contract), drawings, specifications, applicable building standards and any permits or approvals issued by the relevant permit authority pursuant to the Building Act 2011 (WA).

ii. progressing in accordance with the approved construction program.

iii. being adequately supervised by the Building Works Contractor to achieve the required level of work quality.

The Independent Superintendent's Representative must allow in their fee proposal for the adequate amount of time and level of supervision required to ensure that a project is satisfactorily completed and that minimum levels of site visits in accordance with this clause are undertaken.

The minimum number of site visits required for a project of greater than two months duration will be as follows:

i. Construction contract administration on a weekly basis or as otherwise directed by the Client and with assistance from the Consultant as required.

ii. Construction contract handover (at least one site visit).

iii. DLP – minimum 4 site visits.

The person acting as the Superintendent's Representative, the Lead Consultant's Representative and any subconsultants undertaking site inspections are required to have Working at Heights certification and Working in Confined Spaces certification where appropriate, to ensure that inspection of the roof and other high level building fabric is adequately inspected

Approvals from the Client

The Independent Superintendent's Representative or its employee, must obtain written approval from the Client prior to issuing any direction, instruction or variation which has the effect or potential for increasing or reducing the scope of work under the contract by more than $5,000 (exclusive of any applicable GST) or extending the Date for Practical Completion, unless doing so is:

i. reasonably necessary for the emergency protection of people or property; or

ii. pursuant to a due and proper claim for costs or time under the terms of the works contract for works that;

a. the Client has already previously approved in writing; or

b. the contractor is duly and properly entitled to under the terms of the works contract and for which the Client has received previous written notice as being assessed by the Consultant as a proper claim from the contractor under the terms of the works contract.

Certifying of Payments to Building Works Contractors

The Independent Superintendent's Representative is to ensure that all payment claims received from appointed Building Works Contractors contain the relevant project details. The Independent Superintendent's Representative must check and verify the percentage of work done against the payment claim and issue a payment certificate to the Client in accordance with the terms of the Contract.

The Client will then arrange payment and advise the Independent Superintendent's Representative/Contractor accordingly.

Completion and Project Handover

The Independent Superintendent's Representative in conjunction with relevant parties including the Client will conduct a site inspection to determine that the building works:

i. have been undertaken and completed in accordance with:
   - The conditions of contract (including special conditions of contract).
   - The drawings, specifications and applicable building standards.
   - Any permits or approvals issued by the relevant permit authority pursuant to the *Building Act 2011 (WA)*.

ii. Are free of defects or omissions other than minor defects and omissions.

iii. Are otherwise suitable for their intended purpose.

The Independent Superintendent's Representative is required to liaise with the Client regarding site visits at agreed intervals by the building services sub-consultants including tuning of the building systems during DLP, full recommissioning prior to issue of final certificate and provision of the building tuning report to the Client.

In addition to the practical completion and project handover inspection required under this clause, the Independent Superintendent's Representative must undertake a final completion inspection and site visit 28 days prior to the expiration of the defects liability period (if any) and is to ensure that all relevant subconsultants are in attendance.

Where the Contract comprises separable portions, this requirement applies to each separable portion.

APPENDIX 17 – GEOTECHNICAL CONSULTANCY

The *Geotechnical Consultant* is expected to have expertise in the assessment of ground bearing capacity (including field investigations and the testing of samples), ground water and soil conditions in all regions of Western Australia and the provision of advice to civil and structural engineers (in particular) in projects.

Consultants are required to clarify and confirm in writing their scope for each appointment via an iterative Return Brief process. This appendix is general in nature and may be used to start the iterative return brief development process.

Client entities (whether a lead consultant or a Government Agency) will expect the following services from a Geotechnical Consultant, subject to finalisation of brief and scope.

a. Take the initial brief from the Client entity.

b. Visit and inspect the site.

c. Prepare a reverse brief based on an iterative process, questioning and educating the Client entity to maximise the likelihood of meeting the Client needs and expectations and delivering value for money.

d. On agreement of the brief and consultancy scope conduct the appropriate literature reviews, field investigations, sample testing and the preparation of recommendations.

APPENDIX 18 – LANDSCAPE CONSULTANCY

The *Landscape* Consultant is expected to have expertise in all hard landscaping (paving, garden walling and screens, water features, gazebos, play structures and the like) and soft landscaping (planted beds, mass plantings, grassed ovals and lawns) and irrigation systems in all climate zones of Western Australia. Where consultants do not have in-house technical expertise (e.g. horticultural or bore and reticulation) they are normally expected to provide that expertise via sub-consultant agreement.

Consultants are required to clarify and confirm in writing their scope for each appointment via an iterative Return Brief process. This appendix is general in nature and may be used to start the iterative return brief development process.

Client entities (whether a lead consultant or a Government Agency) will expect the following services from a Landscape Consultant, subject to finalisation of brief and scope.

a. Take the initial brief from the Client entity.

b. Visit and inspect the site.

c. Prepare a reverse brief based on an iterative process, questioning and educating the Client entity to maximise the likelihood of meeting the Client needs and expectations and delivering value for money.

d. On agreement of the brief and consultancy scope, prepare schematic designs and design development documentation for all the works described in the project brief including incorporation and integration of all requirements into the and consideration of availability/ access for maintenance contractors.

e. Co-ordination with other consultants' work.

f. Prepare complete landscaping works contract documentation including specifications and schedules ensuring completeness, co-ordination with architectural and other building services documentation and sufficiency of documentation.

g. Provide costings advice for the design and alternatives.

h. Review works tenders and recommend which contractor to award the contract.

i. Attend site and conduct inspections to monitor contractor performance, quality of construction, the compliance of the works and the premises safety prior to occupation. Identify works requiring rectification.

j. Witness any required testing of the works and attend handover and training sessions with facility managers to ensure their effectiveness.

k. Supply as constructed drawings to the Department of Housing and Works CADD Manual Requirements and clearly marked "AS CONSTRUCTED DRAWINGS" and operational/ maintenance manuals, in conjunction in electronic copy in PDF and native file format (AutoCAD) and/ or 3D Model. Where the As-constructed information has been prepared by the contractor/s the consultant is expected to have reviewed the information for its factual accuracy and its formatting compliance.

l. Deliverables as scheduled (template in separate appendix).

APPENDIX 19 – HAZARDOUS MATERIALS INSPECTIONS

Different scenarios will require the services of different consultants. This appendix describes two scenarios with the appropriate different consultants.

1. **Workplace health scenarios** - Hazardous materials in the built environment and worker exposure risks – where Occupational hygienists and asbestos consultants (most often) are required.
2. **Environmental scenarios** - Hazardous materials in the external environment and contaminated land, water, air – environmental consultants are generally required.

1. Workplace health Scenarios

Occupational Hygiene Services

Client entities (whether a lead consultant or a Government Agency) must ensure that any services relating to occupational hygiene are obtained only from a competent WHS service provider. To find a competent occupational hygienist, consider the following:

- Are they a member of the Australian Institute of Occupational Hygienists (AIOH)
- Do they hold a certification such as Certified Occupational Hygienist (COH or CIH)
- Can they provide references from similar projects
- What is their experience in addressing the specific issue (eg. Asbestos, mould, hazardous chemicals)

Under the WHS laws in Western Australia, occupational hygienists play a crucial role in managing health and safety risks in the workplace. Occupational Hygienist responsibilities involve anticipating, recognising, evaluating, and controlling risks related to exposures to chemical, physical, biological, and ergonomic hazards.

Occupational Hygiene assessments involve monitoring exposure to contaminants, noise, vibration, temperature extremes and ergonomic risks. Occupational hygiene assessments are guided by the WA workplace health and safety laws and regulations, which set standards for managing workplace health risks, for example workplace exposure standards for airborne contaminants.

Client entities will expect consultants to work within their areas of expertise, especially when addressing high-risk activities.

Client entities must be clear and understand what is needed to ensure they are seeking quotations and engaging the right consultant. When looking for occupational hygiene specialist help, the following questions should be considered:

- What is the challenge that I am seeking to address?
- If I engage specialist help, what do I need it to do for me?
- Will the specialist help be good enough to solve my problem?

Client entities (whether a lead consultant or a Government Agency) will expect the WHS service provider to:

i. Take the initial brief and collect relevant information from the Client entity
ii. Visit and inspect the site if possible, to fully understand the issue or problem to be addressed.
iii. Prepare a scope of work and quotation that includes a clear understanding of the issue or problem to addressed and proposed deliverables.
iv. Provide details of consultants who would be involved in the assessment to demonstrate they are competent to provide the advice. A competent person will have adequate knowledge, training and expertise specifically in relation to the issue to be addressed.
v. Provide and uphold high standard of technical knowledge, ethical integrity and practical skills to address the specific challenge they have been engaged to undertake.
vi. Provide an occupational hygiene report that includes the minimum recommended contents outlined in the AIOH Guidelines for Writing Occupational Hygiene Reports.
vii. Be available to clarify any inconsistencies or misunderstandings about the report where necessary.
viii. Conduct undertakings in accordance with the Australian Institute of Occupational Hygienist Code of Ethics.

Client entities must ensure that the assistance provided by the WHS service provider, and final report has provided them with a practical, sensible solution to the issue. If necessary, ask the consultant to explain recommendations that seem 'over the top' or seek alternative options if recommendations are unsuitable.

Hazardous Materials Survey

Client entities (whether a lead consultant or a Government Agency) must ensure that hazardous materials surveys are undertaken by a competent WHS service provider or environmental consultant.

HazMat inspection will identify potential health risks and monetary risks upfront and provide a means of managing the hazardous products at the workplace

Hazardous materials in buildings could include:

- Asbestos containing materials (ACM)
- Lead paint and lead dust
- Synthetic mineral fibre (SMF)
- Polychlorinated biphenyls (PCBs)
- Ozone depleting substances

Asbestos audit surveys

Client entities (whether a lead consultant or a Government Agency) must ensure that asbestos surveys are undertaken by a competent WHS service provider.

The purpose of an asbestos survey is to:

- Provide accurate information on the location, type and condition of asbestos containing materials (ACM) and materials that are assumed to be asbestos.
- Assess the risk of ACMs releasing asbestos fibres and whether remedial action is required.
- Meet WA WHS legislation requirements including the need for asbestos registers and asbestos management plans.
- Identify all ACMs that must be removed before demolition or refurbishment work.

Every survey must be thorough, accurate, and compliant with the latest industry guidelines and legal requirements.

The type of asbestos survey that is commissioned will depend on its purpose.

Management survey – (Identification or Review Survey) conducted mainly to inform asbestos registers and management plans and consists of either an identification survey carried out to assess ACMs for the first time or when there is insufficient information available on the presence of absence of ACMs. Review surveys are carried out at regular intervals to monitor the condition of previously identified or assumed ACMs.

Demolition or refurbishment survey – (Intrusive) required when the premises, structure or plant is to be upgraded, refurbished or demolished.

Client entities (whether a lead consultant or a Government Agency) will expect the following from the provider:

i. That all regulatory requirements are followed, including health monitoring and training in asbestos identification, safe handling, and control measures, refer “How to manage and control asbestos in the workplace: Code of Practice”. Asbestos surveying and sampling are classified as ‘asbestos-related work’ under the WA WHS regulations.
ii. Asbestos surveys must be carried out by individuals who are competent to perform the required work. According to the WA WHS Regulations, a ‘competent person’ is defined as someone with the necessary knowledge and skills acquired through training, qualifications, or experience and can demonstrate independence, impartiality and integrity.
iii. Asbestos surveys carried out in accordance with the National Guide for Asbestos Surveys (currently a draft).
iv. Undertaken in accordance with Client requirements, e.g. Department of Housing and Works requirements.

Service providers carrying out asbestos surveys are expected to:

i. Discuss with the Client entity the initial brief and agree on the type of survey to be undertaken (management or demolition).
ii. Discuss with the Client entity the report format to ensure the survey is presented in a way that is comprehensible and easy to use.
iii. Provide a quote, and scope of work that includes details of health monitoring, training and safe work methods in accordance with WHS laws.

iv. Collect all relevant information to plan the survey.
v. Consider the site information and prepare a survey plan and risk assessment.
vi. Undertake Asbestos Survey methodically, systematically and diligently to ensure ACMs are not missed and all areas of the premises are inspected.
vii. Include visual inspection, sample collection, risk assessment and recording of findings.
viii. Inform the Client as soon as possible where areas cannot be accessed so arrangements can be made to provide access, otherwise the survey report must clearly identify these areas not accessed.
ix. Collect a sample using safe work method when a material that is suspected to contain asbestos and its composition cannot be confirmed by visual inspection alone.
x. Samples must be analysed by a NATA accredited laboratory and certificates provided when samples are undertaken as part of the survey.
xi. Deliverables as per the contracted specifications.

References:

Australian Standard AS5370:2024 – Sampling and qualitative identification of asbestos in bulk materials.

Work Health and Safety Commission, How to manage and control asbestos in the workplace: Code of practice, Department of Mines, Industry Regulation and Safety 80pp.

Asbestos and Silica Safety and Eradication Agency, National Guide for Asbestos Surveys

Asbestos sampling and air monitoring

Client entities (whether a lead consultant or a Government Agency) must ensure that sampling asbestos materials are carried out by a suitably trained and competent WHS service provider.

Under WHS laws, a competent person who can collect samples could be:

- Any person who has been trained to handle and take asbestos samples.
- Occupational Hygienist
- Licensed asbestos assessor

The only way to confirm if a material contains asbestos fibres is to obtain and analyse a sample of the material. A NATA accredited laboratory must be used to analyse the sample.

When sampling for asbestos is undertaken, the consultant must provide a report that provides clear and detailed summary of the laboratory findings and interpretation of results. Recommendations must also be provided that allows informed decisions on managing or mitigating risk of hazardous exposure.

Service providers carrying out asbestos sampling and identification are expected to:

i. Receive the initial brief and collect relevant information from the Client entity to fully understand the requirements of the project.

ii. Discuss with the Client entity the initial brief and agree on the purpose of the sampling and expected level of reporting that will be necessary to make informed decisions about managing and mitigating risk of hazardous exposure.
iii. Ensure asbestos sampling is undertaken in a way that ensures the testing result is accurate, representative and repeatable, including surveyor information, sample identification, location (room number, floor, or area in the building), photographs and diagrams where possible.
iv. Use safe work procedures based on the risk assessment of the site.
v. Ensure asbestos samples are analysed by a NATA-accredited facility*.
vi. Provide a report consistent with the agreed brief that provides a detailed analysis of the collected samples to determine whether they contain asbestos and, if so, the type of asbestos present, its condition and recommendations that allow informed decisions on managing or mitigating risk of hazardous exposure.

* Check that the NATA accredited facility's scope of accreditation covers the analysis of the specific type of asbestos samples being collected and a certificate of analysis must be provided.

* Sampling and analysis of asbestos in settled surface dust using adhesive tape is not recommended, except in specific circumstances and an occupational hygienist or licensed asbestos assessor must be consulted.

References:

Australian Standard AS5370:2024 – Sampling and qualitative identification of asbestos in bulk materials.

Asbestos and Silica Safety and Eradication Agency, National Guide for Asbestos Surveys (currently in draft)

Asbestos Risk Assessment and Management Plan

Client entities (whether a lead consultant or a Government Agency) must ensure that asbestos risk assessments and management plans are undertaken by a competent WHS service provider.

Under WHS laws, a competent person who can undertake an asbestos risk assessment and management plan could be:

- Occupational Hygienist
- Licensed asbestos assessor

A written asbestos management plan is required under WA WHS laws and must be documented for the workplace if asbestos or ACM has been identified or assumed present or is likely to be present from time to time at the workplace.

A sites asbestos management plan outlines how the organisation will manage the identified health and safety risks relating to asbestos, responsibilities, procedures for maintenance, and emergency measures in case of accidental disturbance.

The asbestos management plan must be maintained to ensure the information is up to date.

The purpose of an asbestos risk assessment and management plan is to evaluate the potential exposure risk associated with asbestos containing materials (ACMs) and devise appropriate methods of management and control relevant to work to be undertaken, and would often be required to help make informed decisions regarding:

i. Where the risk of hazardous exposure to ACM is unknown.
ii. Determine whether a contamination of asbestos containing dust (ACD) is a minor contamination and whether a Class A licensed asbestos contractor is required, refer Safe Work Australia 'Minor contamination' of asbestos-containing dust or debris, Fact Sheet.
iii. Provide a basis for an asbestos management plan.
iv. Prevent accidental disturbance during maintenance or repair work by identifying ACM risks and help formulate safe work procedures and controls to prevent exposure.
v. Help prioritise actions based on level of risk, such as immediate removal, encapsulation, or ongoing monitoring of materials.
vi. Avoid unnecessary and costly removal work and plan for future asbestos management activities such as removal or encapsulation.
vii. Provide essential information for decision makers to allocate resources effectively and implement the most appropriate risk management strategies.
viii. Emergency preparedness if accidental disturbance occurs so that plans can be formulated for managing asbestos in unexpected situations such as fire, flood or structural issues.

WHS service provider carrying out an asbestos risk assessment are expected to:

i. be competent to do the risk assessment.
ii. receive the initial brief and collect relevant information from the Client entity to fully understand the requirements of the project.
iii. discuss with the Client entity the initial brief and agree on the purpose of the risk assessment and expected outcomes that will allow the Client entity to make an informed decision.
iv. use safe work procedures based on the risk assessment of the site.
v. ensure any asbestos sampling is undertaken in a way that ensures the testing result is accurate, representative and repeatable, including surveyor information, sample identification, location (room number, floor, or area in the building), including photographs and/or diagrams
vi. ensure any asbestos samples collected are analysed by a NATA-accredited facility*.
vii. provide a report consistent with the agreed brief that provides a comprehensive evaluation of the presence, condition, and associated risks of asbestos-containing materials (ACMs) within a building or structure. It documents findings, assesses risks, and offers recommendations for managing asbestos and mitigating hazardous exposure.

Reference:

Safe Work Australia 'Minor contamination' of asbestos-containing dust or debris, Fact Sheet.

Asbestos removal clearance certificate

Client entities (whether a lead consultant or a Government Agency) must ensure that asbestos clearance and air monitoring processes are undertaken by a competent WHS service provider.

Asbestos clearance inspections are undertaken when asbestos removal work is carried out in accordance with WA WHS laws. Clearance inspections must be carried out by an independent competent person, or a licensed asbestos assessor if associated with a Class A asbestos removal. Refer to Code of Practice – How to safely remove asbestos for guidance.

Air monitoring involves collecting air samples to assist in assessing the levels of airborne asbestos fibres present in either:

- the asbestos removal area to assess the effectiveness of controls (control monitoring), or
- the worker's breathing zone to assess exposures to asbestos (exposure monitoring).

Air monitoring must be conducted in accordance with the National Occupational Health and Safety Committee's Guidance note of the membrane filler method for estimating airborne asbestos fibres.

Expectations (minimum) from the WHS service provider undertaking a clearance inspection and/or asbestos air monitoring would be:

i. Receive the initial brief and collect relevant information from the Client entity to fully understand the requirements of the project.
ii. Visit and inspect the site if possible.
iii. Discuss with the Client entity the initial brief and agree on the purpose of the clearance inspection, any requirements for air monitoring and expected level of reporting that will be necessary to make informed decisions about asbestos management.
iv. Prepare a scope of work that includes a clear understanding of asbestos clearance requirements and air monitoring in accordance with WHS laws.
v. Provide details of consultants who would be involved to demonstrate they are competent to provide the service. A competent person will have adequate knowledge, training and expertise specifically in relation to the issue to be addressed or will hold a current licensed asbestos assessor if the work involves Class A licensed asbestos removal.
vi. When air monitoring for asbestos is to be conducted, it must be carried out by:
    a. an occupational hygienist, or
    b. a licensed asbestos assessor (mandatory for Class A removals).
vii. When air monitoring for asbestos is to be conducted, it must be carried in accordance with the National Occupational Health and Safety Committee's Guidance note of the membrane filler method for estimating airborne asbestos fibres.
viii. Provide a report consistent with the agreed brief and a Clearance Certificate that contains, at a minimum, the detail outlined in the Code of Practice: How to safely remove asbestos, Appendix 4.

ix. A NATA accredited laboratory certificate where air monitoring is undertaken.

References:

Work Health and Safety Commission, How to safely remove asbestos: Code of practice, Department of Mines, Industry Regulation and Safety 94pp.

Asbestos and Silica Safety and Eradication Agency, National Guide for Asbestos Surveys (currently in draft)

2. Environmental Scenarios

Environmental Monitoring and Assessment

Client entities (whether a lead consultant or a Government Agency) must ensure that any services relating to environmental monitoring and assessment are undertaken by competent environmental consultants.

To find a competent environmental consultant that specialises in the specific issue, consider the following:

- Do they have degree or formal training in fields such as Environmental Science, Engineering or Geology?
- Can they demonstrate knowledge and understanding of WA environmental protection laws and regulations.
- Do they hold a relevant certification and memberships with professional organisations such as CASANZ*, or EIANZ* that indicate that have the necessary skills, qualifications and maintain high levels of professional conduct.
- Can they provide references demonstrating practical experience in conducting the assessment, management and remediation of a broad range of contaminants across land, air and water use scenarios. Common contaminants include, but not limited to - asbestos, PFAS, heavy metals, hydrocarbons and acid sulphate.

An environmental assessment evaluates the impact of activities or operations on the environment. This includes assessing potential effects on air, water, soil, wildlife and ecosystem such as:

- Contaminated site assessment (asbestos, PFAS, hydrocarbons)
- Groundwater and surface water quality assessments, including surface water and groundwater sampling and monitoring investigations.
- Air quality monitoring, assessment and investigations of ambient and occupational air quality.

i. expertise in

Client entity must understand the scope of work that will be required and what information is required from the environmental consultant to assist in evaluating their proposals.

The Brief might include some or all the following components:

i. Project overview that includes a description of the type of project, location details including maps or coordinates, key features or activities involved, and why a consultant is being sought.

ii. Objectives of the engagement, including potential environmental impacts, baseline study, risk assessment and mitigation strategies, regulatory submission.

iii. Scope of work and tasks to be performed by the consultant.

iv. Specific outputs and deliverables expected from the consultant.

v. Timelines

vi. Budget

vii. Key personnel

viii. Regulatory and technical requirements

Asbestos contaminated soil assessment

Client entities (whether a lead consultant or a Government Agency) must ensure that the assessment of asbestos contaminated soil or land is undertaken by a competent person..

To find a competent WHS service provider or an environmental consultant that specialises in asbestos contaminated sites, consider the following:

- Do they have degree or formal training in fields such as Environmental Science, Occupational Hygiene, Engineering or Geology?
- Do they hold a relevant certification with professional organisations such as AIOH*, CASANZ*, or EIANZ*?

Can they provide references demonstrating practical experience in conducting asbestos-contaminated soil assessments.Asbestos may be present in a range of forms, sizes and degrees of deterioration. Bonded ACM as asbestos cement in soil is the most common form of asbestos site contamination because of widespread use and inadequate removal and disposal of products during building demolitions. Use of uncharacterised landfill material for site landscaping and fly-tipping on vacant land are also common causes of soil contamination.

Specialist technical advice is often required to assist with a simple site assessment and management process. The general sequence of steps might be to:

- halt potential contaminating or contamination disturbing activities at a site;
- identify the presence of asbestos;
- provide notice of what is required;
- provide recommendations for treatment such as emu-pick, rack and pick, or removal of top layer;
- monitoring and validate the clean-up.

Expectations (minimum) from the WHS service provider or environmental consultant undertaking an assessment and validation inspection for land or soil which has small scale soil asbestos contamination would be:

i. Receive the initial brief and collect relevant information from the Client entity to fully understand the requirements of project.
ii. Visit and inspect the site if possible and determine requirements.
iii. Prepare a scope of work and quotation that includes methodology of assessment proposed and a clear understanding of regulatory requirements.
iv. Provide details of consultants who would be involved to demonstrate they are competent to provide the service. A competent person will have adequate knowledge, training and expertise specifically in relation to asbestos contamination of soil.
v. Provide a report of the site investigation and work undertaken in accordance with Guidelines for the Assessment, Remediation and Management of Asbestos Contaminated Sites in Western Australia (joint publication DWER and DoH).
vi. Report must include recommendations for remediation and/or treatment options consistent with the outcomes of the site assessment and in line with the relevant guidelines.

Notes:

*Australian Institute of Occupational Hygienists (AIOH)

*Clean Air Society of Australia and New Zealand (CASANZ)

*Environment Institute of Australia and New Zealand (EIANZ)

APPENDIX 20 – BUILDING INFORMATION MODELLING (BIM) MANAGEMENT CONSULTANCY

Consultants are required to clarify and confirm in writing their scope for each appointment via an iterative Return Brief process. This appendix is general in nature and may be used to start the iterative return brief development process.

The *BIM Management Consultant* is to be independent of any design consultant/team and is expected to provide advice and guidance based on relevant experience for all aspects of BIM and Digital Engineering for non-residential Government buildings including:

- Digital Engineering Management Plan creation and/or review.
- Undertaking the duties of Project Digital Engineering Project Manager.
- Providing advice, specification and/or facilitation of the selection, setup and maintenance of a common data environment (CDE), electronic document management system (eDMS) and change management/issue tracking software.
- Recognising opportunities for digital process improvement and automation. Undertake these processes as required.
- Providing advice and support on alignment with ISO19650 and NATSPEC and other BIM and digital engineering documentation.
- Undertaking BIM and Digital Engineering process and software education, familiarisation, upskilling and training.
- Providing advice on suitability for design consultant, sub-consultants, contractors and sub-contractors ability to comply with specified BIM requirements.
- 3D model review, manipulation, coordination, federation, clash detection, clash/issue management and use facilitation.
- Data and model specification, review, auditing, reporting, database integration and dashboarding from feasibility to operations and demolition project phases.
- Data and model interoperability advice, specification and/or facilitation.
- Undertaking digital engineering current state/future state and advisory discovery, consultation, facilitation and execution.

Client entities (whether a lead consultant or a Government Agency) will expect the following services from a consultant, subject to finalisation of brief and scope

i. Take the initial brief from the Client entity.

ii. Prepare a reverse brief based on an iterative process, questioning and educating the Client entity to maximise the likelihood of meeting the Client needs and expectations and delivering value for money.

iii. Deliverables as per the reverse brief.

APPENDIX 21 – ATTESTATION

Download the latest version of this document from
https://www.wa.gov.au/government/document-collections/consultant-guidance-and-forms#technicalguidelines

REGARDING TENDER DOCUMENTS PREPARED BY CONSULTANT

Pursuant to contract number ……..…. *(insert consultant contract number here)* for ……..…… *(insert consultant contract description here)* between the Minister for Works (**"Principal**") and …… *(insert consultant legal entity)* (**"Consultant"**) dated …… *(insert date of 6consultant's contract)*;

I, ……*(insert name)*, for the Consultant, hereby attest and declare that in relation to all tender documents prepared by the Consultant in relation to Tender Number …… *(insert construction Tender Number)* for …… *(insert construction tender description)*:

1. The tender documents comply with the Department of Housing and Works *"Open and Effective Competition Policy"* (works) and *"Guide Notes to Assist in the Preparation of the Specification Preliminaries And the Specification Generally for Works Contracts Tendered by the Department of Housing and Works in the Name of the Minister for Works"* with respect to specification by example of any materials, products or components of the Works;

2. Except for any required shop drawings detailing design development, the tender documents do not include any requirements for the contractor to provide any design performance requirements for any materials, products or components of the Works that the Principal's Representative has not been expressly approved in writing;

3. The Consultant and any secondary or subconsultant(s) has not received any financial incentive to specify any materials, products or components of the Works;

4. The tender documents do not include any nominated subcontractors that that the Principal's Representative has not expressly approved in writing; and

5. The Consultant has checked all documents prepared by any secondary or subconsultant(s) engaged in the preparation of the tender documents and confirms those documents also comply with all subclauses above, are coordinated and consistent with the architectural drawings and that there are no conflicts or clashes detected.

Name: ……

Firm: ……

Signature: ……

Date: ……..

APPENDIX 22 – Schedule of Deliverables

Project Title: …… Project No: ……

Consultant's Name: ……Schedule Update No: …… Attached to Progress Fee Claim No: …

Notes:

1. This is a template not an exhaustive list. Additional items may need to be provided to reflect the nature of the specific project and other items may need to be deleted where not required.
2. The Consultant is responsible for maintaining and completing Columns 1 to 6 of this schedule.
3. Column 7 is for use by the Client only.
4. Quantities and method of transmission to be confirmed by the Client.
5. Where Schematic design and Design development is combined into a single stage, the Consultant is to combine the deliverables.

Brief preparation

1 Phase	2 Consultant Deliverables	3 To Be Submitted To:	4 Comments	5 Date Submitted	6 Status Complete (%)	7 Client's Confirmation
Brief Preparation	Evidence of Consultant Insurances	Client				
	Signed off brief.	Client				
	Signed off brief report including: - ESD Targets - Cost estimate - Program - Cash flow	Client				
	Site selection report	Client				
	Geotechnical report	Client				
	Site survey plan	Client				
	BIM management plan (where applicable)	Client				

Schematic Design

1 Phase	2 Consultant Deliverables	3 To Be Submitted To:	4 Comments	5 Date Submitted	6 Status Complete (%)		7 Client's Confirmation
Schematic Design	Schematic plans.	Client					
	Schematic design report	Client					
	Monthly progress report (Consultant reporting datasheet)	Client					
	Completed Sustainability reporting documents	Client	Refer to Technical Guideline TG040				
	Complete package for BTS design review.	Client					
	Completed BTS design review response form	Client					
	Schematic design 3D BIM model	Client	Where BIM is required				
	Confirmation that schematic plans have been signed off by the Client	Client					
	Copy of Client written approval to proceed to the next phase	Client					

Design Development

1 Phase	2 Consultant Deliverables	3 To Be Submitted To:	4 Comments	5 Date Submitted	6 Status Complete (%)	7 Principal's Rep.'s Confirmation
Design Development	Design Development Report	Client				
	Monthly progress report (Consultant reporting datasheet)	Client				
	Completed Sustainability reporting documents	Client	Refer to Technical Guideline TG040			
	Complete package for BTS design review.	Client				
	Completed BTS design review response form	Client				
	Plans to Planning Authority	Authority	Copy of letter to Client.			
	Confirmation that design development plans signed off by the Client	Client				
	Copy of Client written approval to proceed to the next phase	Client				
	Perspective (Optional, delete if not required)	Client	If required fee to be negotiated with the Client and Customer Agency			
	Design Development 3D BIM model	Client	Where BIM is required			
	Whole of life cost plan	Client				

Contract Documentation

1 Phase	2 Consultant Deliverables	3 To Be Submitted To:	4 Comments	5 Date Submitted	6 Status Complete (%)	7 Principal's Rep.'s Confirmation
Contract Documentation	Tender estimate report	Client				
	Monthly progress report (Consultant Reporting Datasheet)	Client				
	Completed Sustainability reporting documents and specification,	Client	Refer to Technical Guideline TG040			
	Complete package for BTS design review.	Client				
	Completed BTS design review response form	Client				
	Written confirmation that independent structural design check completed	Client				
	Written confirmation that plans meet all relevant Housing and Works Technical Guidelines	Client	The Department of Housing and Works Technical Guidelines are available at Consultant guidance and forms			
	Building permit documentation, including all drawings, specification, Certificate of Design Compliance, associated technical certification etc.	Client	All design documentation and certification required to apply for building permit in accordance with the *Building Act 2011*, Permit Authority and Building Commission requirements.			
	Contractor's prequalification	Client				
	Hard copy of tender documents- specifications & drawings	Tenders office, Client	Including requirements for site sign board and or plaque. Refer Capital Works Signage Guideline			

1 Phase	2 Consultant Deliverables	3 To Be Submitted To:	4 Comments	5 Date Submitted	6 Status Complete (%)	7 Principal's Rep.'s Confirmation
	Electronic copy of tender documents – specifications and drawings	Tenders Office				
	Colour scheme	Client				
	Tender issue 3D BIM model	Client	Where BIM is required			
	Computer CADD documentation including a copy of the specification and Bill of Quantities where included	Building Records Manager	Refer to the Department of Housing and Works CADD Documentation Procedures Manual and submit copy of transmittal to Client			
	Drawing List (all disciplines)	Building Records				
	Certificate of Design Compliance from independent building surveyor for the purposes of the *Building Act 2011 (WA)*	Client	Must be provided by date required by the Client to allow building permit or demolition permit application.			

Tender

1 Phase	2 Consultant Deliverables	3 To Be Submitted To:	4 Comments	5 Date Submitted	6 Status Complete (%)	7 Principal's Rep.'s Confirmation
Tender	Tender Enquiries Log	Client				
	Tender Recommendation & Reconciliation	Client				
	Principal Identified Hazards	Client				

Contract Administration / DLP

1 Phase	2 Consultant Deliverables	3 To Be Submitted To:	4 Comments	5 Date Submitted	6 Status Complete (%)	7 Principal's Rep.'s Confirmation
Contract Administration	Hard copy of Drawings, Schedules and Specification for construction	Client	To be distributed to Contractor (on request). Number of sets to be in accordance with requirements of the applicable contract.			
	Electronic copy of Tender Documents – Specifications and Drawings	Client	1 set to be retained by Client 1 set to be distributed to Contract.			
	Site meeting minutes	Client				
	The digital image to be used on the site signboard	Client	In Encapsulated Post Script (EPS) or high resolution Joint Photographic Experts group (JPG) format.			
	Safety in Design report	Client and Contractor	Prior to the Contractor commencing work on site.			
	Completed Sustainability Reporting documents,	Client	Refer to Technical Guideline TG040			
	Contract administration report	Client.				
	AS2124 requirements, including: • Construction Program/s • Progress Payment Certificates with Schedule of variations • Original statutory Declarations • Variations • Authorisations relating to retention/security. • Practical Completion Certificate/s • Final Certificate	Client				

1 Phase	2 Consultant Deliverables	3 To Be Submitted To:	4 Comments	5 Date Submitted	6 Status Complete (%)	7 Principal's Rep.'s Confirmation
	Security Management Plan Pro-forma	Client				
	Approval of record relating to the testing of all services by the Contractor	Client	Before a Certificate of Practical Completion is issued			
	Handover meeting (with Client) minutes	Client				
	Handover meeting (with FM contractor/Regional Manager) minutes	Client.				
	Computer CADD "As Constructed" documents plus BIM model if applicable	Building Records	Submit copy of transmittal to Client.			
	Handover/Operational manuals	Occupiers and Client	All projects require 2 handover manuals in PDF format on disk to Client Provide hard copy to Customer Agency's Representative. Provision of digital copies to be confirmed by Client.			
	Post Occupancy Training Session	Occupiers and Client	Within three months of issue of a Certificate of Practical Completion. Possible performance upgrades to be provided in writing.			
Defects Liability Period (DLP)	Subconsultant's quarterly report.	Occupiers and Client	Data for the energy use is only required for a period of one year.			
	Building tuning report showing the outcomes of the tuning process.	Occupiers and Design Team and Client	Any discrepancies detailed and remediation measures recommended.			
	Maintenance manual for the energy efficiency systems required by NCC.	Occupiers: 2 sets Client:1 set	Manual to detail design and operational intent, commissioning settings and preventative maintenance for the systems			
	Final Report showing actual monthly energy use (Energy Use Report)	Occupiers and Client	Any discrepancies detailed and remediation measures recommended. A copy of this should be sent to energy.reporting@dohw.wa.gov.au			

1 Phase	2 Consultant Deliverables	3 To Be Submitted To:	4 Comments	5 Date Submitted	6 Status Complete (%)	7 Principal's Rep.'s Confirmation
	Final Completion Report	Client				
Post commissioning optimisation	Post commissioning optimisation report	Occupiers and Client				
General	Project control group meeting minutes					
	All documents and contract management records required as a deliverable and itemised confirmation of transmittal of those documents and records from the Consultant	Client	To be provided with the Final Certificate			
	Confirmation in writing that all documents and contract records not provided to the Client as a deliverable, has been retained by the Consultant as required by the Contract.	Client	To be provided with the Final Certificate			

Building equipment maintenance / replacement schedule

1. Schedule of mechanical, electrical, electronic and security equipment incorporated in this project.

Item of Equipment	Capital Value ($)	Practical Completion Date	Projected Life (Years)	Recommended Replacement Date
1.				
2.				
3.				
4.				
5.				
6.				

2. Preventative maintenance schedule.

Item of Equipment	Recommended Preventative Maintenance							
	Weekly Action	Cost ($)	Monthly Action	Cost ($)	Quarterly Action	Cost ($)	Annual Action	Cost ($)
1.								
2.								
3.								
4.								
5.								
6.								

Name of Contractor:..... Signature of Authorised Officer:.....

(IN BLOCK LETTERS)