SPECIFICATION

for the construction of warehouse

for GLENN BRAGANZA

at 2423 - 28 PLATINUM COURT THRUGOONA NSW 2640

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28 PLATINUM

HIGHLIGHTED TITLES INDICATE A CHANGE OF NAME AND A BROADENING OF APPLICATION IN MOST CASES

SCOPE
Scope of work of this specification is the architectural and the services components of the works.
Provide all work as shown on the attached drawings and where scheduled.
The scope and the extent of work are subject to the attached council conditions of approval and to specific requirements of the principal certifying authority.
Ensure full compliance with relevant statutory regulations and the Supply Authorities and to Australian Standards listed in this specification.
Comply with all relevant conditions of the NCC.
Ensure full coordination with all services components and provide works to meet listed performance requirements of the following: Section J of the NCC and the Basix (or similar) and Section J Reports as applicable.
The specification is to be read in conjunction with signed Conditions of Contract, NCC report the Access Report and any other included documentation as applicable.

ASSOCIATED DOCUMENTS
Read the specification in conjunction with the following:
- Listed associated documents and reports as listed with this specification.
- Structural engineer's documents including Soil Investigation Report.
- All services engineers' documents including Soil Percolation Report.
- Conditions of Approval and the associated reports.
- Energy Rating Report.

Note that where the information contained in these reports is incorporated into the design, it remains the responsibly of the builder to certify all items listed for compliance to be fully certified as incorporated.

QUALITY ASSURANCE AND SUBMISSIONS
Provide all materials and components to required level of finish and performance, all subject to submission of samples, control panels and technical data as applicable.
Submit in timely manner for approval and keep protected for ongoing reference during the construction of the works.
Submit samples, control panel installation and technical data and obtain approval prior to commencing work or ordering the components.
Refer to Hold point requirements where listed on the Conditions of Contract and ensure compliance.
Samples
Provide all samples minimum size 200mm x 200mm and paint samples A4 size minimum for approval and to meet the listed performance levels.

Samples schedule

Sample	Requirements	Comments

AUSTRALIAN STANDARDS AND REFERENCES
Read this section with reference to current Australian Standards as applicable to each trade section. Refer to the product manufacturer's specification where no specific Australian Standards exist.
Refer to WorkCover regulations having jurisdiction over the site.
Read this section in conjunction with the council conditions of approval and other regulation and supply authority regulations.
Confirm compliance with Australian Standards and ensure full approval of the principal authority on completion of the works.
Submit to the architect official documentation of such approvals.

DEFINITIONS
Ensure that all definitions listed in signed Conditions of Contract are coordinated with the Preliminaries (where applicable) and are not in conflict with the consultant documentation.
Refer also to definitions within the conditions of approval and coordinate as necessary.
Seek clarification if in doubt.

SITE MANAGEMENT
Provide all necessary site management components such as provision of site facilities and temporary works as listed on the council approved conditions or as required by statutory regulations for the works.
Provide all storage and sanitary provisions during the procurement of the works and all structural and non-structural works such as hoardings and dewatering measures.
Refer to full list of temporary provisions and confirm adequacy of all components at the submission stage of the works.

Materials
NOTE: ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.
Provide all materials necessary for the proper procurement of the works.

Where no specific materials are listed ensure that all are fit for the intended use and provide the necessary information confirming the suitability and chemical compatibility of all components. Refer Document 00800 Item 46.

On site action

Investigate site conditions and evaluate the site with commencement of work meaning total acceptance of site conditions.
Note that reports such as the geotechnical information are given as guides only and the builder is to evaluate site conditions following thorough site investigations and to consult with geo-technical engineer and architect concerning any contrary findings before proceeding further.

Performance

Refer to drawings for listed performance of building components and the items of equipment where listed.
Ensure that all listed components are in full compliance with statutory regulations such as fire, hazardous materials and sound rating levels.
Seek clarification and certify for compliance on completion.

WARRANTIES

Provide warranties for all listed components with the required procedures for maintenance of w condition included as part of the submission.
Refer with specific attention to finishes and equipment items where listed.

Warranty schedule

Item	Warranty duration	Comments

CERTIFICATION

Certify all items listed for certification on the council approved conditions of approval or where specifically listed on the supply authority requirements.
Refer to Basix, or similar and Section J reports as well as the Acoustic Report where items are listed for certification and confirm compliance with the listed performance levels.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to*:
Provide all demolition work on site including but not limited to the following:
- Structures both above and below the ground.
- Services as may be required by the services engineers.

Site investigation
Investigate site conditions and provide all temporary site works prior to commencing demolition. If geotechnical information is attached to the specification, it is provided as information only. Remove all material from site, in as found condition. Similarly investigate presence of toxic materials on site prior to commencing work.
Ensure an asbestos clearance certification is available and copy provided to demolition contractor.
Ensure all underground and overhead services that could be affected by the demolition works are made safe and/or terminated in compliance with service owner. Include all relevant service provider requirements in documentation and control processes and procedures.
Contain and separate all demolition materials etc. within the documented demolition area.
Clearly mark and protect all trees and vegetation identified on the site plan for preservation.
Clean site thoroughly on completion.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Coordinate work with other related trades including the following:
Excavation and site works, concrete, structural and civil engineers 'documentation, services engineer's documentation

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition.*

AS 1418	Cranes, hoists and winches.
AS 2436 2010	Guide to noise and vibration control on construction, demolition and maintenance sites.
AS 2601 2001	The demolition of structures.
AS/NZS 3012 2010	Electrical installations - Construction and demolition sites.
AS 4970 2009	Protection of trees on development sites. *There is 1 Amdmt, 2010*

Public and Property Protection: provide measures required by national, municipal and state ordinances, laws, regulations Codes of Practice, Australian and other relevant standards so as to ensure the protection of surrounding property, footpaths, streets, kerbs, the public, occupants and workmen during demolition operations. Comply with all legal requirements of the location, ordinances, laws etc. Carry out measures including barricades, hoardings, fences, warning lights and signs, rubbish chutes, etc.. No fires on site or blasting for demolition purposes will be permitted. Return to original condition, any damage caused to structures or property during the conduct of the demolition works at the site or to adjacent property. Perform restoration work without expense to the proprietor. Pay fees in connection with this trade.
Comply throughout with the current edition of the NCC.

MATERIALS AND COMPONENTS
Item
Material required to be demolished becomes the property of the builder unless noted otherwise on drawings or listed on conditions of approval. Remove it from the site and dispose of within statutory and other requirements. Exceptions to this clause are as follows:
Supply equipment required to perform the work of sufficient capacity to meet the stated completion date.
Provide disposal containers for disposal required.
Demolition Schedule

Item	Condition	Comment

Temporary works
Provide any temporary works for this trade as may be required for specific site conditions. The provision may include but not limited to the following:
- Temporary structural and non-structural supports and hoardings.
- Temporary walls and partitions including dust and sound rated if and where required.

PREPARATION *Inspect conditions at site before starting work*
Review the demolition plan to make sure it is sufficient to ensure the safe demolition of the building or structure. Locate and identify existing services before excavation commences and comply with Dial before you Dig requirements.
Before demolishing and removing parts of building having electrical wiring, gas and water pipes, conduit or similar items embedded in them, notify the architect and authorities having jurisdiction, obtain existing overhead, underground and in structure services information from service owners and make sure that these items are out of service or made safe by following service owner's requirements so that they can be terminated, capped off or removed without danger.
Dilapidation report
Provide dilapidation report to an agreed format and update at regular intervals. Submit updates at site meetings.

Arrange for a professional quality photographic record of demolition. Produce for the proprietor 250 x 200mm prints of “before and after” demolition of typical work involved in demolition and surfaces of structures, street crossings, pavements, exposed services and works undertaken on them etc.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Demolish all materials in as found condition and remove from site.
Shoring: provide necessary shoring in accordance with structural engineering instructions. Alter, adapt, and maintain temporary works as necessary, and strike or withdraw them progressively as the work proceeds.
Obtain the written consent of the architect/structural engineer/service owner if such works are to be left in position at the completion of the work.
Restore to original condition, without expense to the proprietor, any damage to remaining construction, services etc. resulting from failure to provide adequate protection.

COMPLETION
Complete work in accordance with instructions and written variation orders.

CERTIFICATION
Provide to the proprietor certification of the stability of the remaining structure from a structural engineer.

END OF SECTION

PLEASE NOTE:
It is the client's responsibility to identify asbestos containing material (ACM). This responsibility may be abdicated to the accredited asbestos removalist. If there is no register of ACM, it is the client's responsibility to ensure a register is established before removal commences. The builder must have a copy of the relevant Asbestos Clearance Certificate prior to commencement of work.

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Identification, encapsulation, treatment, removal and safe disposal of materials containing asbestos fibres. Refer to drawings supplied as part of the contract documents. Nominate material to be removed. Examine all relevant statutory and other documents for requirements which will affect the work of this section.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work.*
A. Coordination: coordinate with other trades affecting or affected by the work of this section. Cooperate as necessary to ensure steady and satisfactory progress of the work.
B. Unit prices: submit with tender a schedule of rates for work required to be done not identified at time of tender. The schedule of rates is required to reflect costs on a square metre rate for sheets or panels to be removed and on a metre run basis for other work.
C. NOTE: Asbestos removal can only be carried out by appropriately licensed personnel - http://www.safeworkaustralia.gov.au/sites/swa/whs-information/licensing/asbestos-removal/pages/asbestos-removal

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition*
Perform asbestos removal in accordance with:
A. National Code Practice for the safe removal of asbestos 2nd Edition [NOHSC: 2002 (2005)].
B. Relevant state government department or state statutory authority, which has jurisdiction over the work of this section, and which is in force at the time of tendering.
C. Submit as and when required all of the reports and submissions required by the statutory authorities.
D. Submit the data required in the National Code of Practice.
E. Submit tenders conforming with documents.
F. Provide notices to statutory authority which needs data relating to asbestos removal. Pay fees due to any statutory authority which require, by law, fees to be paid.

PREPARATION *Inspect conditions at site before starting work.*
Review the Asbestos Removal plan to make sure it is sufficient to ensure the safe removal and disposal of asbestos or asbestos product.
Review service owner requirements for working on, near or over services at the location, locate and identify existing services before excavation commences
A. Obtain copy of asbestos register for the workplace or arrange for an asbestos register to be prepared, by a registered practitioner, before commencing asbestos works
B. Prepare and provide an asbestos management and removal plan to statutory requirements, including relevant qualification for managers, supervisors and workers at the site
C. Prepare for asbestos removal in full accordance with the requirements of the National Code of Practice.
D. Install decontamination facilities in a location agreed upon with the architect and other relevant parties.
E. Install required labelling and warning signs.
F. Remove from the work area items which may be damaged by the work of this section.
G. Protect item of furniture, surface, equipment or plant which may be damaged or soiled during the preparation for and action of asbestos removal. Be responsible for damage resulting from asbestos removal actions, processes and other works.

ON-SITE ACTIONS *Start of work means total acceptance of conditions.*
A. Advise the architect in advance of proposed removal methods, and provide copies of management and removal plans.
B. Comply with the requirements of the National Code of Practice and with the instructions of the authorised superintendent of the work.
C. Arrange with relevant local authorities the identification of the place to which asbestos material is to be taken from the demolition site. Comply with requirements of the authorities. Provide evidence of quantities of asbestos containing or affected materials, plant, equipment etc. removed and disposed of in compliance with all statutory or other requirements

CLEANING
Thoroughly clean areas in which work has been performed and those adjacent to the work area.
Remove and dispose of traces of the asbestos removal process, protective materials, etc. Monitor atmosphere to the specialist consultant's recommendations so as to ensure evidence of compliance has been demonstrated and provided.

COMPLETION
Complete contracted work in accordance with contract documents and written variation orders issued by the architect, and/or superintendent. Leave the site in a condition suitable for the work of other trades, in cooperation with architect and builder or contractor.

CERTIFICATION
Provide copies of asbestos clearance certificate to the principal.
Where any asbestos is to remain, ensure the relevant asbestos register is updated and complete.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to*:
Stockpile topsoil for re-use in future landscaping under direction of the architect.
Where appropriate, equalize excavation with fill material as approved by the architect.
Protect all trees and vegetation identified for preservation on the site plan.
Prepare site, excavate for roads, paving, drains, pits, foundations, slabs. Remove trees and other vegetation, including roots, where they prevent building work, paving, trenches etc. Allow for installation of material required for termite management system.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Water distribution, sanitary sewerage, storm drainage, pavements, concrete.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition*.

AS 1289	Methods of testing soils for engineering purposes.
	There are many parts, 1995 - 2016; each refers to a specific application.
	1289.5.1.1 2003 Soil compaction and density tests.
AS 2187	Explosives - Storage, transport and use.
AS 3660	Termite management. *There are 3 parts –2000-2014.*
AS 3798 2007	Guidelines on earthworks for commercial and residential developments. *1 Amdmt 2008*
AS/NZS 4200	Pliable building membranes and underlays. *There are 2 parts.*
	4200.2 2017 Installation.
AS 4678 2002	Earth-retaining structures.
AS 4970 2009	Protection of trees on development sites. . *There is 1 Amdmt, 2010*

Comply with particular specifications in building regulations and/or local council publications.
Definitions:
Rock: natural or artificial material encountered in the excavation which cannot be removed until broken up by mechanical means such as rippers, jack-hammers or percussion drills.
Rippable rock: means rock which can be removed by a single tine heavy bulldozer, e.g. “D9” ripper.
Non-rippable rock: means all other rock. Other than rock: other material encountered in excavation.
Sub-grade: the natural ground below the excavations. Filling: a general term for material spread and compacted over the sub-grade to make up levels to the underside of the base. Sub base: select filling spread and complete over sub-grade to compaction to make up levels to the underside of the base. Base: a selected filling layer spread and compacted to form an acceptable working surface directly under the building.
Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
NOTE: ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	Description	Manufacturer
Termite management system	Select appropriate material	
Rock removal	allow $ pcm **ADD TO MONETARY SCHEDULE**	
Filling	Hardcore: 15 to 40mm, 100 mm thick Fine crushed rock: 5 to 15mm, 50mm thick Sand: clean, salt free, 50mm thick	
Waterproof membrane	0.2mm thick plastic film	
Back filling	Approved clean excavated inorganic material	

PREPARATION *Inspect conditions at site before starting work.*
Review the project OHS&E plan to make sure it is adequate to safely conduct excavation and site works. Obtain and confirm the locations, depths and types of underground and overhead services at the site and develop documentation and procedures to ensure service owner requirements are complied with.
Clear site, for building and paving, of plants, trees and rocks etc. shown on plan.

ON-SITE ACTIONS *Start of work means total acceptance of conditions.*
Below slabs on ground: Hardcore
Below footings, beams and other structural elements: concrete of strength equal to the structural element, minimum 15MPa.
In service trenches: 1:2:4 concrete/approved compacted pipe bedding material.
Excavation for strip footings and edge beams, paving, water and piped supply and drains, pits. Apply termite management system. Provide fill and compact in 150 mm layers, to 95% of maximum density, by vibrating or watering. Protect excavations and existing underground or overhead services from damage. Maintain excavations free of water. Install waterproof membrane over sand. Seal laps. Take underlay in walls to level of top of slab. Seal, terminate, remove or protect and record location, type and services located at the site as work progresses and provided details to the principal before burying any service in ground, structure etc.. Inspect and repair membrane before concrete pour.

COMPLETION
Complete work in accordance with instructions and written variation orders.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to*:
Control and/or management of termites on building sites for both new and existing buildings.
NOTE: TERMITES ARE WIDESPREAD THROUGHOUT AUSTRALIA.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work.*
Cooperate and coordinate with each trade involved in the construction of the building and in particular 02315 Site Preparation and 03100 Concrete.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition*.

AS 3660	Termite management.	
	3660.1 2014	New building work
	3660.2 2000	In and around existing buildings and structures.
AS 4349	Inspection of buildings.	
	4349.3.2010	Timber pest inspections.

Comply throughout with the current edition of the NCC.
Comply with requirements of statutory and local authorities having jurisdiction.

MATERIALS TO BE USED
NOTE: ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.
ALL CHEMICALS USED MUST BE INCLUDED ON THE APPROPRIATE AUTHORITY'S PESTICIDES REGISTER.
Contact the Australian Environmental Pest Managers Association via www.aepma.com.au
Obtain a list of approved members who may quote for the work required.
The materials to be used are determined by the method chosen and adopted.
Require the subcontractor to supply a list of materials to be used.
Provide equipment needed to effect a treatment which complies with the Australian Standards.

PREPARATION *Inspect conditions at site before starting work*
Visit site and inspect conditions, comparing conditions to the drawings before delivery of materials to site. Rectify any discrepancy or unsuitability of substrata.
Start of work means total acceptance of conditions.
Arrange for cooperation of other trades to ensure effective pest control. Take care of materials. Prevent damage before, during and following installation.
Coordinate with and ensure preparatory work by other trades is done prior to commencement of work and arrange for provision and fixing grounds.
Provide certificates, certifications of materials and chemicals used including quantities, and provide the architect with all required documentation.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Review service owner requirements for working on, near or over services at the location. Locate and identify existing services before excavation commences
Comply with appropriate Australian Standard.
Protect persons at or near the site and take care of and protect surrounding work, including other finishes, equipment and components, during installation. Provide protective covering where necessary.
Ensure copies of material safety data sheets and the way the chemicals are delivered, stored, decanted, used and disposed of comply in all respects with manufacturer's recommendations contained in technical bulletins. Call for technical advice where necessary.
Protect finished work.
Clean the site where work of this trade is performed before commencing treatment to architect's approval. Provide photographic evidence that sub-floor areas are clean and free of surface irregularities.
Remove surplus material.
Complete contracted work in accordance with contract documents and written variation orders issued by the architect.

COMPLETION
Complete work in accordance with instructions and written variation orders.

SUBMISSION
Submit to proprietor a statement indicating that the requirements of this trade section have been satisfactorily completed.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Supply and install pipes to distribute water from water main supply to each required outlet.
Supply and install fully thermally insulated pipes and fittings from hot water heater to each required outlet.
Apply for permits and pay required fees and charges to responsible authorities. Provide permits and approval certificates to builder.
Protect pipes from corrosion, or deterioration as a consequence of proximity to harmful natural effects by chemical or other reactions or actions resulting from the installation of, extension to or alterations to existing services.
Lay out service trenches to minimize runs of pipes, drains and cables.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Sanitary sewerage, concrete, carpentry, plumbing fixtures and equipment.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition.*

AS 1056.1 1991	Storage water heaters – General requirements.
AS/NZS 1260 2017	PVC-U pipes and fittings for drain, waste and vent applications.
AS 1432 2004	Copper tubes for plumbing, gasfitting and drainage applications.
AS/NZS 1477 2017	PVC pipes and fittings for pressure applications.
AS/NZS 2032 2006	Installation of PVC pipe systems. *1 Amdmt, 2008*
AS 2118	Automatic fire sprinkler systems. *There are numerous parts covering domestic and commercial buildings*
AS/NZS 2492 2007	Cross-linked polyethylene (PE-X) pipes for pressure applications.
AS/NZS 2712 2007	Solar and heat pump water heaters – Design and construction. *There are 3 Amdmts, 2011-2014*
AS/NZS 3500	Plumbing and drainage. *There are numerous parts, 1996-2015*
AS 3688 2016	Water supply and gas systems- Metallic fittings and end connectors.
AS 4809 2017	Copper pipe and fittings – Installation and commissioning.
AS/NZS 5065 2005	Polyethylene and polypropylene pipes and fittings for drainage and sewerage applications.
AS 5414 2012	Bushfire water spray systems.

Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
NOTE : ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	**Description**			**Manufacturer/Supplier**
Cold water pipes	Galvanised steel	Size from main:		
	Polyethylene	Size of branches:		
	Copper type B minimum			
	Polybutylene			
	PVC			
Hot water pipes	Prelagged copper type B minimum			
Thermal insulation	To all fittings and to pipe runs longer than 2m Thermotec E-flex HT hot water pipe insulation			
	Polybutylene			

PREPARATION *Inspect conditions at site before starting work*
Review services owner requirements for working on, near or over services at the location, locate and identify existing services before excavation commences.
Prepare trenches and paths of pipes through structure.
Builder to form cutouts of minimum size to take pipes. Not to be done by plumber.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Coordinate with others trades, connect supply pipes to fittings. Conceal where possible and discuss concealment with architect. Ensure correct pipe sizes and connect with complete seal. Jointing of pipes: On manufacturer's advice, select from: Capillary, brazed, compression, pushfit, solvent-welded. Chrome plating: all exposed pipes. Provide as built drawings to architects showing actual dimensions and locations of pipes. Cover no pipes until local authority has issued certificate. Maintain records of service types, locations and depths and provide as-built documentation to the principal. Protect installation until completion of project.

COMPLETION

Complete work in accordance with instructions and written variation orders to satisfactory performance

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to*:
Supply and install a complete system of sewer drains to discharge sewage waste to the authority's sewer main, or to on-site septic tank, composting toilet or treatment plant.
Apply for permits and pay required fees and charges to responsible authorities. Provide permits and approval certificates to builder.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Excavation, water distribution, concrete, floor construction, wall construction.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition.*

AS/NZS 1260 2017	PVC-U pipes and fittings for drain, waste and vent applications.
AS/NZS 1546	On-site domestic wastewater treatment units
	1546.2: 2008 Waterless composting toilets
	1546.3 2008 Aerated wastewater treatment systems.
AS/NZS 2032 2006	Installation of PVC pipe systems. *1 Amdmt, 2008*
AS/NZS 3500	Plumbing and drainage. *There are numerous other parts 1996-2015*
	3500.2 2015 Sanitary plumbing and drainage. *1 Amdmt 2017.*
	3500.3 2015 Stormwater drainage
	3500.3.1 1998 Stormwater drainage - Performance requirements.
AS/NZS 4494 1998	Discharge of commercial and industrial liquid waste to sewer - General performance requirements.

Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
NOTE : ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	Description	Manufacturer/Supplier
Sewer drain pipes	UPVC sewer grade with solvent joints	
Concrete for pits etc.	20MPa	
Pit covers	Cast iron or galv. pressed metal	
Septic tanks		

See Schedule of Sanitary Items.

PREPARATION *Inspect conditions at site before starting work*
Review services owner requirements for working on, near or over services at the location, locate and identify existing services before excavation commences. Contain and treat any sewerage overflow to local authority requirements.
Preparation by excavation & fill contractor. Provide a design for installation of sanitary sewerage prior to construction.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Form straight and true trenches, maintain size and keep free of water. Bottoms of trenches to provide constant fall. Lay pipes 600mm clear of walls. Connect sanitary fittings to sewer pipes with permanently secure joints. Comply throughout with requirements of local council and/ or authority. Maintain records of type, depth and location of installed services during installation and provide to principal before backfilling and backfill only after inspection. Observe statutory requirements for excavated trenches to protect workers and others at the workplace from collapse etc.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to*:
Install a simple gravity fed grey-water system with disconnector trap with overflow to sewer or septic system.
Install engineered grey water treatment system to consultant's documentation as detailed on the hydraulic engineer's drawings and specifications.
Supply and install a complete system of greywater collection, treatment, storage and reuse in either sewered or unsewered location. Refer site plan.
Allow for overflow to discharge into sewer mains with local authority approval where applicable.
Apply for permits and pay required fees to responsible authorities. Provide permits and approval certificates to the owner via the builder.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Excavation, site preparation, water distribution, sanitary sewerage, irrigation systems, stormwater drainage, electrical, paving, landscaping.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition.*

AS/NZS 1260 2017	PVC-U pipes and fittings for drain, waste and vent applications.
AS/NZS 1547 2012	On-site domestic wastewater management.
AS/NZS 2032 2006	Installation of PVC pipe systems. *1 Amdmt, 2008*
AS/NZS 3500	Plumbing and drainage. *There are numerous parts, 1996-2015.*
3500.2 2015	Sanitary plumbing and drainage. *1 Amdmt 2017.*
AS/NZS 4494 1998	Discharge of commercial and industrial liquid waste to sewer - General performance requirements.
HB 326 2008	Urban Greywater Installation Handbook for Single Households.

Comply throughout with the current edition of the NCC, the National Guidelines for Water Recycling and the requirements of the local environmental protection authority.

MATERIALS TO BE USED
NOTE: ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	Description	Manufacturer/Supplier
Plan showing location of each system component		
Grit collection chamber		
Treatment tank		
Treatment media		
Filters		
Pumps		
Electrical connection		
Piping from greywater supply fittings		
Piping from treatment tank to storage tank and to fittings serviced with greywater		
Other (required items after consultation with supplier)		

PREPARATION *Inspect conditions at site before starting work*
Review services owner requirements for working on, near or over services at the location, locate and identify existing services before excavation commences. Contain and treat any grey water spill to local authority requirements.
Prepare the site for installation of equipment in cooperation with excavator, drainer and plumber.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Be responsible for the complete installation. Cooperate with other trades.
Provide concrete base where necessary. Provide firm base of crushed rock under submerged tanks.
Installation of piping: by a licensed plumber approved by the relevant authority. Provide as-built documentation detailing location, depth and detailed lay out to principal before backfilling excavations. Refer to relevant confined space requirements before entering any tank or other area with existing conditions identified in relevant confined space definitions etc. Run drains in ground below buildings where crawl space height will be compromised.

COMPLETION
Complete work in accordance with instructions and written variation orders.

TESTING
Test each installation to verify satisfactory performance of each component specified.

MAINTENANCE
Offer a maintenance contract to the owner which details recommended maintenance actions and at what intervals and cost.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Connection to supply main pipe or to onsite gas tank, distribution material, fittings valves and gas-fuelled water and air heaters, cooking equipment etc.
Apply for permits and pay required fees and charges to responsible authorities. Provide permits and approval certificates to builder.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Sanitary sewerage, concrete, carpentry, plumbing fixtures and equipment.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition*.

AS/NZS 1260 2017	PVC-U pipes and fittings for drain, waste and vent applications.
AS 1432 2004	Copper tubes for plumbing, gasfitting and drainage applications.
AS/NZS 4130 2009	Polyethylene (PE) pipes for pressure applications.
AS/NZS 4645	Gas distribution networks
	4645.1 2008 Network management.
	4645.2 2008 Steel pipe systems.
AS 4809 2017	Copper pipe and fittings – Installation and commissioning.
AS/NZS 5601.1 2013	Gas Installations – General installations. *2 Amdmts 2015, 2016.*

Comply with requirements of statutory authorities having jurisdiction.
Comply throughout with the current edition of the NCC.

MATERIALS TO BE USE
NOTE: ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	Description	Manufacturer/Supplier
Gas meter	By gas supply authority	
Pipe from main	Galv. Steel	
Branches to heater	Galv. Steel	
Branches to boilers	Galv. Steel	
Pressure reducing valve		
Water heater		
Air heater		
Water boiler		
Gas cooker		
Gas oven		

PREPARATION *Inspect conditions at site before starting work*
Review services owner requirements for working on, near or over services at the location, locate and identify existing services before excavation commences. Dispose of all distribution services, lines etc. to local authority disposal requirements.
Prepare trenches and paths of pipes through structure. Builder to form cutouts of minimum size to take pipes. Not to be done by plumber.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Coordinate with others trades, connect supply pipes to fittings. Conceal where possible. Ensure correct pipe sizes and connect with complete seal. Provide as-built drawings of the types, location and depths of all to be buried services. Cover no pipes until local authority has issued approval certificate. Protect installation until completion of project.

COMPLETION
Complete work in accordance with instructions and written variation orders.

TESTING
Test each installation to verify satisfactory performance of each component specified.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Supply and lay a complete system of site storm water drainage including agricultural drains, drains below slabs and pavements, retaining wall drains, culverts, pits, frames, manhole covers.
Apply for permits and pay required fees and charges to responsible authorities. Provide permits and approval certificates to builder.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Sanitary sewerage, concrete, concrete pavement, masonry pavers, excavation & fill, bituminous concrete pavement.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition.*

AS 1379 2007	Specification and supply of concrete. *There are 2 Amdmts 2009, 2015 Supplement 2008.*
AS/NZS 1547 2012	On-site domestic wastewater management
AS/NZS 3500	Plumbing and drainage. *There are numerous other parts, 1996-2015.*
	3500.3 2015 Stormwater drainage
	3500.3.1 1998 Stormwater drainage - Performance requirements.
AS 3600 2009	Concrete structures. *2 Amdmts 2010, 2013.*

Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
NOTE: ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	Description SELECT FROM	Manufacturer/Supplier
Stormwater pipes	Reinforced concrete Un-reinforced concrete	
Stormwater pipes other	Untested vitrified clay with rubber joints UPVC stormwater grade pipes Low density	
Steel pipes	Galvanised steel	
Agricultural drains	Aggregate	
Culverts	Concrete, metal or plastic	
Pits	Concrete, plastic	
Storage tank	Aquaplate, Polyethylene UV stable	
Manhole frames and covers	Concrete, metal	

PREPARATION *Inspect conditions at site before starting work*
Review services owner requirements for working on, near or over services at the location, locate and identify existing services before excavation commences. Install temporary collection basins etc. to manage storm water during storm events and contain until the downstream systems can take the additional storm water.
Form straight and true trenches 600mm clear of walls, maintain sides, and free from water. Form trenches and bedding to provide constant falls as approved by the local authorities. Prepare trenches and paths of pipes through structure.
Builder to form cutouts of minimum size to take pipes. Not to be done by plumber.
After inspection (and testing) where required, backfill with material approved by local council engineer and architect.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Ensure correct pipe sizes. Provide upstands to and connect to bottom of downpipes. Provide inspection openings where authority requires (usually at 6 metre intervals), bends and junctions. Provide complete seals at junctions and ends in accordance with manufacturer's written instructions. Comply with statutory requirements for trenches and excavations. Under buildings run pipes below ground where crawl space access would be otherwise compromised
Arrange for inspection by local authority. When issued, prepare as-built drawings detailing types of service, depth and location before backfilling with material approved by authority. Remove debris and clean areas beside excavation for drains.
For water tank(s) provide a level, stable compacted sand base no less than 100mm thick or reinforced concrete slab on compacted base. Refer manufacturer's recommendations for details and drawings for location.

COMPLETION
Complete work in accordance with instructions and written variation orders.

TESTING
Test each installation to verify satisfactory performance of each component specified.

END OF SECTION

SCOPE OF WORK Perform *work described here and shown on drawings including but not limited to:*
Supply and install floor drains recessed into floor surface constructed of concrete, timber **.**
Location for floor drains: bathrooms, shower rooms, balconies .

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Concrete, resilient flooring, ceramic, carpentry, waterproofing, storm drainage.
Perform the entire installation in accordance with the requirements of the statutory authority having jurisdiction.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition.*
AS/NZS 3500 Plumbing and drainage. *There are numerous other parts, 1996- 2015*
3500.3 2015 Stormwater drainage.
3500.3.1 1998 Stormwater drainage - Performance requirements.
Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
Supply only products which bear the required indication of approval of the statutory authority having jurisdiction.
NOTE : ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	Description	Manufacturer

PREPARATION *Inspect conditions at site before starting work*
Consider all OHS&E risks and document selected controls.
Ensure that adequate depth, falls and other conditions exist before ordering and installing floor drains.
Prepare for installation of formwork and pipes through structures.
Cooperate fully with each trade involved with the installation.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Comply fully with manufacturers 'written instructions. Locate accurately the depth and falls required. Install formwork and provide for openings to drain pipes, before pouring concrete or constructing floor. Arrange for inspection by manufacturer and local authority. Ensure that surface level of installed work matches that of finished floor surfacing material.
Connect to stormwater drains or sanitary drains as advised by local authority.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Supply and install water storage materials and equipment for storage of rain and other potable water, including tanks, stands, filters, reticulation.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Concrete, metal work, carpentry, water distribution.
Perform the entire installation in accordance with the requirements of the statutory authority having jurisdiction.

COMPLY WITH APPLICABLE CLAUSES OF BUILDING STANDARDS INCLUDED IN THE NCC. *Current edition*
AS 2304 2011 Water storage tanks for fire protection systems.
HB 230 2008 Rainwater Tank Design and Installation Handbook.

MATERIALS TO BE USED
Supply only products which bear the required indication of approval of the statutory authority having jurisdiction.
NOTE : ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	Description	Manufacturer
Tank stands		
Tanks		
Filters		
Pipes		
Connections		
Insect screening		
OTHER		

PREPARATION *Inspect conditions at site before starting work.*
Ensure all relevant OHS&E risks, including statutory regulation, codes of practice etc. have been considered and selected control systems documented.
Review entry procedures to confined space requirements of the relevant authority requirements.
Ensure that each part of the site or building to which equipment will be connected is secure and will permanently support components. Provide a level and stable concrete or compacted earth and sand pad or stand as detailed in accordance with tank manufacturer's installation instructions.
Ensure that adequate falls will maintain water flows.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Arrange installed components in logical sequence. Form secure connections without causing damage to existing building or structures.
Install reticulation pipes to match where possible the materials described in Water Distribution trade section.
Fit insect screening over the top of any rain water head and any gaps in the pipe to tank connection to prevent mosquitoes breeding in the tank.

COMPLETION
Complete work in accordance with instructions and written variation orders.

WARRANTY
Provide to proprietor a warranty covering satisfactory performance of the complete installation.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Provide a comprehensive layout design to deliver via appropriate emitters – (spray/ drip/ subsurface), filtered, irrigation water in flow rates/quantities as indicated to service individual plants and/or landscaped areas.
System design is to be developed in collaboration with and to the approval of the consultant landscape architect/ designer.
Supply and install pipes to distribute water from water main supply to each required outlet via an approved automatic irrigation control system capable of programming for date/time/duration to all required zones and specified plants where required.
Provide details of all proposed hardware to be used.
Apply for any required permits and pay fees and charges to responsible authorities. Provide copy of permits and approval certificates to builder.
Protect system from corrosion, or deterioration as a consequence of proximity to harmful natural effects by chemical or other reactions or actions resulting from the installation of, extension to or alterations to existing services.
Lay out service trenches to minimize runs of pipes, drains and cables.
Provide detailed as built plan of finished layout and full operational instructions of the installed system.
Maintain system for 90 days following practical completion.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Landscaping and all sub-surface trades likely to be affected by the irrigation works.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition.*

AS/NZS 1260 2017	PVC-U pipes and fittings for drain, waste and vent application.
AS/NZS 1477 2017	PVC pipes and fittings for pressure applications.
AS/NZS 2032 2006	Installation of PVC pipe systems. *1 Amdmt, 2008*
AS/NZS 2492 2007	Cross-linked polyethylene (PE-X) pipes for pressure applications.
AS/NZS 3500	Plumbing and drainage. *There are numerous parts, 1994-2015*
AS 3688 2016	Water supply and gas systems - Metallic fittings and end connectors.
	A Guide to Water Efficient Landscape & Irrigation (www.watercorporation.com.au)

Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
NOTE : ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	**Description**			**Manufacturer/Supplier**
Multi station irrigation controller	Programmable			
Moisture sensor	Rain/ soil/ evapotranspiration			
Filters	Disk			
Irrigation mainline	Polyvinyl chloride	Size from main:		
	Polyethylene	Size of branches:		
Laterals & sub-mains	White polyvinyl chloride (PVC)			
	Black high density polyethylene (HDPE)			
	Black low density polyethylene Pipe (LDPE)			
Backflow prevention device				
Solenoid valves				
Sprinkler heads	Pop up, fixed spray/ rotator/ micro spray/ dripper			
Valve boxes				
Valves	Isolation/ flush/ pressure regulating/ vacuum release			

PREPARATION *Inspect conditions at site before starting work*
Review services owner requirements for working on, near or over services at the location, locate and identify existing services before excavation commences.
Prepare trenches and paths of pipes locations to facilitate maintenance and modification.

Refer to architect and builder to establish suitable and approved locations of equipment.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Coordinate with others trades, lay supply and branch pipes to emitters. Conceal where possible and discuss concealment with landscape designer and architect. Ensure correct pipe sizes and connect with complete seal. **Jointing of pipes**
On manufacturer's advice, provide appropriate jointing as selected permanent solutions. Provide as built drawings to architects showing actual dimensions and locations of pipes. Cover no pipes until architect has issued approval. Maintain records of service types, locations and depths and provide as-built documentation to the principal. Protect installation until completion of project.
Set up, program and test the system irrigation controller to the approval of the landscape designer.

COMPLETION
Complete work in accordance with instructions and written variation orders to achieve and prove satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Scope of work of this trade section is the provision of in situ concrete, including but not limited to the following:
All reinforced concrete work
All precast concrete
Shotcrete as applicable
Steel reinforcing, formwork and waterproofing measures that may be required for this trade.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Read this trade section in conjunction with the following:
Excavation and site management termite management.
Structural engineer's documentation.
Services engineer's documentation.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition*.

AS 1012	Methods of testing concrete. *There are numerous parts, 1991- 2016.*
AS 1379 2007	Specification and supply of concrete. *There are 2 Amdmts 2009, 2015 Supplement 2008.*
AS 1428	Design for access and mobility. 1428.1 2009 General requirements for access – New building work. *2 Amdmts 2010, 2017* *There are 5 other parts. 1992 – 2010.*
AS 2870 2011	Residential slabs and footings..
AS 3600 2009	Concrete structures. *There are 2 Amdmts 2010, 2013..& 1 Supplement 2014*
AS 3610 1995	Formwork for concrete. *There are 2 Supplements.*
3610.1 2010	Documentation and surface finish. AS/NZS 3661 Slip resistance of pedestrian surfaces. 3661.2 1994 Guide to the reduction of slip hazards.
AS 3727.1 2016	Pavements - Residential.
S/NZS 4586 2013	Slip resistance classification of new pedestrian surface materials. *1 Amdmt 2017.*
AS 4654	Waterproofing membranes for external above ground use. 4654.1 2012 Materials 4654.2 2012 Design and installation
AS/NZS 4671 2001	Steel reinforcing materials.
AS/NZS 4858 2004	Wet area membranes.
HB 71 2011	Re-inforced concrete design in accordance with AS 3600 2009.
HB 84 2006	Guide to concrete repair and protection.
HB 197 1999	An introductory guide to the slip resistance of pedestrian surfaces.
CCA* T49 2003	Guide to Residential Floors (*Cement Concrete & Aggregates Australia). http://www.ccaa.com.au/imis_prod/documents/Library%20Documents/CCAA%20Technical%20Publications/CCAA%20Guides/CCAAGUIDE2003-T49-Res%20Floors%20Web-TBR.pdf
CCAA T57	Guide to Off-form Concrete Finishes http://www.ccaa.com.au/imis_prod/documents/Library%20Documents/CCAA%20Technical%20Publications/CCAA%20Guides/CCAAGUIDE2006-T57-finishesguide%20(1).pdf

Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
NOTE: ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.
Read this trade section in conjunction with structural engineer's specification.
For specific requirements to concrete for exposed off concrete components, refer to preparation of control panel, as specified by the architect.
Where off form self-finished concrete is shown, or listed, ensure full compliance with specific requirements for tolerance and colour control measures.
Prepare control panel in an approved location and show all proposed elements for approval prior to commencing work. Once approved control panel is to be incorporated into the works.
Site mixed concrete is not to be used unless approved by the architect for a specific use. Plant mixed concrete is to be of the specified slump and designed to meet the specified MPa strength at 7, 15 and 28 days. Provide plant batch dockets to the architect for each delivered batch.
Formwork
Provide formwork that is required for the intended level of finish and confirm at submission stage of the works.
Obtain approval from the architect.
Where specific levels of finish or control are listed, confirm at control panel construction stage and obtain approval from the architect prior to commencing work.
Joints
Provide construction and expansion joints in approved locations and to specific details listed with the structural engineer's documentation.
Provide to approved submission of samples and shop drawings as applicable.
Coordinate fully with subsequent finishes and other building components.

PREPARATION *Inspect conditions at site before starting work*
Review Material Safety Data Sheets for supplied concrete and consider OHS&E requirements.
Refer to structural engineer's documentation and obtain all approvals for this component of the works, fully coordinated with architectural finishes and setdown as applicable.

Coordinate work with hydraulic engineers for provision of waterproofing and drainage components for below the ground locations or where specific waterproofing measures are shown on the drawings.
Prepare surfaces to receive concrete smooth, clean and stable under concrete load.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Arrange for installation of pipes, cables, conduits etc.. Over prepared surface, install WP membrane. Place reinforcement, secure in place and prevent movement during pour, maintain required concrete cover.
Comply with structural engineer's requirements for joints, splices etc. of reinforcement.
Where critical off-form finishes are scheduled, ensure all details of required finish are discussed with architect and understood prior to installation of formwork materials and release agents.
Finish exposed floor surfaces: broom, steel trowel, other. Provide set downs for concrete screeds.
Provide fall to outlets: See Schedule of Finishes.
Cure finished slabs for 5 days with plastic film secured in place or as required by the structural engineer. Keep damp for 5 days.
Slump Tests: Provide and pay for slump test reports: one on first batch and one for every 15 cubic meters of concrete delivered thereafter. (No site mixed concrete) Tests and rejection criteria in accordance with AS 3600. Vibrate concrete to achieve compaction. Strip formwork in accordance with Table in AS 3610 Minimum stripping times.
Exposed concrete edges to be free from all imperfections, membrane ripples, air pockets, honeycombing etc. Substandard surface: Finishes cement rendered/made good to architect's and/or proprietor's satisfaction at no cost to proprietor.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

BE AWARE OF THERMAL BRIDGING REDUCING EFFICACY OF INSULATION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to*:
Compliance with structural engineer's drawings and instructions and specifications.
Complete installation of tilt-up panel work with cast-in fitments, inserts, panel erection, support, joint sealers and accessories.
Provide related services including construction shop drawings, hoisting and supports,

COOPERATE WITH THESE OTHER TRADES:
Concrete, structural steel, waterproofing and tanking, painting, cladding

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition*

AS 1012	Methods of testing concrete. *There are 27 parts, 1991-2016.*
AS 1379 2007	Specification and supply of concrete. *There are 2 Amdmts 2009, 2015 Supplement 2008.*
AS 1478.1 2000	Chemical admixtures for concrete, mortar and grout – Admixtures for concrete.
AS/NZS 1554	Structural steel welding. *There are 7 parts to this standard, 2003-2014 4 Amdmts 2003, 2015, 2017*
AS 3600 2009	Concrete structures. *2 Amdmts 2010, 2013.*
AS 3610	Formwork for concrete. *There are 2 Supplements.*
	3610.1 2010 Documentation and surface finish.
AS 3799 1998	Liquid membrane–forming curing compounds for concrete.
AS 3850 2015	Prefabricated concrete elements.
	3850.2 2015 Building construction
AS/NZS 4671 2001	Steel reinforcing materials.
. NP002 2006	Precast Industrial Buildings Detailing Manual

Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
Connection devices and inserts:
Refer to structural engineer's details and NP002 2006 Precast Industrial Buildings Detailing Manual.
Concrete: refer structural engineer's details of reinforcing and connective strength.
Jointing material: fire rated material determined by the local council engineer, over closed cell backer rod.
External and internal walls: refer engineer.

PREPARATION *Inspect conditions at site before starting work to ensure conditions are satisfactory.*
Review construction safety plan to ensure all risks to OHS&E have been considered and implemented. Review and implement procedures for the casting, lifting, moving and placing of tilt-up units, comply with any relevant regulation, achieve, as a minimum, any Code of Practice, Australian Standard or statutory requirements or advice.
Prepare reinforcement as detailed.
Design formwork and construct to provide off-form surfaces of a standard not lower than class 2 as described in AS 3610 Formwork for concrete.
Obtain engineer's approval for methods and systems, finishes, tolerances.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*.
Before commencing on site review services owner requirements for working on, near or over services documentation on existing services, locate and identify existing services before excavation commences.
Support formwork during pouring of concrete.
Do not stack cast panels without engineer's approval. Steam curing is not permitted.
Prepare for bracing to be connected immediately after panels are lifted.
Install levelling pads.
Maximum variation from plane is not to exceed 3mm under 3 metre straight edge.
Do not lift panels until engineer instructs.
Ensure all cast-in fittings are correctly placed, and that both architect and consulting engineer approve of the completed installation.

REMOVE AND REPLACE
Non-conforming installations are to be removed from the site and replaced correctly at no cost to the proprietor.

JOINT SEALING
Seal joints after completion of installation of panels by an approved specialist subcontractor.
Protect vulnerable surfaces edges and corners until completion of the contract. Clean all visible surfaces.

COMPLETION
Complete work in accordance with instructions and written variation orders.

WARRANTY
Forward to the consulting engineer a statement guaranteeing that the concrete panels are in accordance with the strengths specified before attempt is made to lift the panels.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Structural steel where shown on architectural and structural engineer's drawings
Applied finishes to steel where fire protection or extreme exposure apply. Provide as applicable to specific site conditions.
Encasing of steel in fire protection components where listed on architectural drawings or required under specific provisions for the NCC.
Supply, fabricate apply surface treatment, anchor bolts and other attachments, field welding, permanent grouting.
Submit shop drawings to architect and obtain approval.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Concrete, brickwork, blockwork, metal roofing, insulation thermal and acoustic.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition.*

AS/NZS 1554	Structural steel welding, *There are 7 parts, 2003-2014. 4 Amdmts 2003, 2015, 2017.*
AS 1627	Metal Finishing - Preparation and pre-treatment of surfaces. *There are 7 parts, 1997-2005.*
AS/NZS 2312.1 2014	Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings – Paint coatings.
AS 4100 1998	Steel structures. *There is 1 Amdmt 2012 and a Supplement – Commentary.*
AS/NZS 4680 2006	Hot-dip galvanised (zinc) coatings on fabricated ferrous articles.
AS/NZS 4994.2 2009	Temporary edge protection - Roof edge protection – Installation and dismantling.
AS/NZS 5131 2016	Structural steelwork – Fabrication and erection

Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
NOTE: ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.
All structural steel is to be provided to approved submission of samples and technical data and in full compliance with structural engineer's specification.
Submit shop drawings for checking by the structural engineer and ensure compliance.
Refer to exposure category of site and ensure that steel finishes are in full compliance with the corrosive nature of site when applicable.
Ensure that fire and protective coatings are meeting the exposure category of the site and confirm at submission stage of the works.

Item	Description	Manufacturer/Supplier
Lintels	See engineer's detail	
Beams		
Columns		
Trusses		
Connections		
Bolts etc.		
Finish A	Wire brush, descale. Hot-dip galv. before delivery. Bolts, cleats, brackets etc. treated as for steel	
Finish B	Zinc finish. Sand blast class 2½ then apply coat of inorganic zinc silicate 100 microns thick	

PREPARATION *Inspect conditions at site before starting work*
Before commencing on site review services owner requirements for working on, near or over services, documentation on existing services, locate and identify existing services before working over or near them so as not to damage them.
Ensure OHS&E risks and controls have been considered and documented.
All structural work is subject to approved shop drawings and all visible work is subject to approved submission of samples and technical data.
All calculations are to be signed by a qualified structural engineer for compliance.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Provide holding down bolts to concreter for building in. Comply with structural engineer's instructions.
Erect plumb and secure in place. Erect so that components can be fixed without distortion.
Provide temporary bracing against wind and other stresses. Weld in accordance with AS/NZS 1554. Advise engineer when erected steel is ready for inspection. Adjust as required. Grout under base plates in high strength non-shrink mortar. Touch up

steel with zinc-rich paint after installation. Ensure statutory hazards and risks have been identified and managed in compliance with statutory requirements.

Applied finishes
Where applied finishes are decorative only, provide to the product manufacturer's specifications.
For galvanized and protective coatings applications provide to structural engineer's specifications.
For fire rated protective intumescent coatings ensure full compliance with the required performance levels and show supporting data for this item prior to commencing work.

COMPLETION
Complete work in accordance with instructions and written variation orders.

END OF SECTION

SECTION 05400 COLD FORMED METAL FRAMING (LOAD BEARING)

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Design, engineer, supply and install cold formed metal framing:
Load bearing or non-load bearing wall framing. Load bearing roof framing. Miscellaneous framing.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Floor construction trades, windows and door installation, internal and external finishing trades.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition*.

AS/NZS 1170	Structural design actions. *There are many parts, 1990 – 2011, & Supplements and Amdmts.*
AS 3623 1993	Domestic metal framing.
AS/NZS 4600 2005	Cold-formed steel structures.

Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
NOTE: ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.
Design, engineer and fabricate by an approved fabricator in the workshop before delivery to the site.
TERRAIN CATEGORY (wind speed):
Commission supplier to design the framing member sizes, schedule and supply frame.
Fabrication - Form junctions so that no fixing, such as pins, screws, pressure indentations and the like are visible on exposed faces not to be covered.
Show on shop drawings fixings which will be exposed.
Cut edges, drill holes, rivet joints and clean flat sheets, neat, free from burrs and indentations.
Remove sharp edges without excessive deformation.
Fit mitred joints accurately to a fine hairline.
Preassemble and match mark before delivery.

PREPARATION *Inspect conditions at site before starting work*
Before commencing on site, review services owner requirements for working on, near or over services, documentation on existing services, locate and identify existing services before working over or near them so as not to damage them.
Ensure OHS&E risks and controls have been considered and documented.
Prepare surfaces to receive framing. Install inert isolating material such as from a roll of black flashing strip to isolate metal from mortar, concrete, plaster, masonry or other metals.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Install frame anchorage at spacing required by frame manufacturer. Install metal framing and connect the parts together as indicated by manufacturer. Touch up damage surfaces with zinc rich paint. Prepare frame for installation of other trades.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

NOTE THAT THIS SECTION COVERS BOTH OFF-FORM AND APPLIED FINISHES

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to*:
Provide concrete finishes to concrete surfaces including but not limited to the following:
Formed concrete finishes, off-form concrete finishes, applied concrete finishes, polished concrete finishes
Refer Finishes Schedule. Supply and install materials specified and as listed on the Finishes Schedule.
All work is to be provided to an approved control sample and technical data submitted for approval.
Construct control panel on site and incorporate into the works once approved.
Ensure that experienced, specialized contractors are engaged for polished concrete finishes. Consult with specialist polished concrete contractors before structural concrete floor slabs are poured, to ensure all procedures to be used are correct and fail safe.
COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work:*
Concrete.
Structural engineer's specification.
Services engineer's specifications.
Hydraulic engineer's specification for provision of tanking membranes.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition*

AS 1379 2007	Specification and supply of concrete. *There are 2 Amdmts 2009, 2015 Supplement 2008.*
AS 3600 2009	Concrete structures. *There are 2 Amdmts 2010, 2013*
AS 3610.1-2010	Formwork for concrete – Documentation and surface finish
AS/NZS 4586:2013	Slip resistance classification of new pedestrian surface materials. *1 Amdmt 2017.*
AS 4663 2013	Slip resistance measurement of existing pedestrian surfaces
HB 71 2011	Reinforced concrete design in accordance with AS 3600 2009.
HB 197 1999	An introductory guide to the slip resistance of pedestrian surface materials.

Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
NOTE: ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.
Formed concrete finishes: Provide formed concrete finishes with off form concrete surfaces conforming to control panel installation for tolerance levels and to colour control measures to ensure compliance with Class 2 finish.
Show all visible components of the finished surface on the control panel and carry out all modifications to ensure compliance.
Obtain approval from the architect prior to commencing work.
Off-form concrete finishes: Provide non-slip self-finished floor surfaces meeting the listed R value for non-slip and to finishes listed within the Finishes Schedule.
Coordinate floor finishes with provision of line markings and tactile indicators where required for the Access provisions of the NCC.
Applied concrete finishes: Provide applied finishes such as epoxy coatings to specific locations such as garbage collection rooms in high density residential work, all to approved submission of samples.
Ensure non-slip finish to floors.
Polished concrete finishes: Provide polished concrete floors to locations shown on the drawings to approved submission of technical data and to construction of a control sample.
Read all in conjunction with the Finishes Schedule and provide to approved submission of samples and technical data.

PREPARATION *Inspect conditions at site before starting work*
Review Material Safety Data Sheets for OHS&E advice and selection of products to be used.
Review services owner requirements for working on, near or over services documentation on existing services, locate and identify existing services before excavation commences.
Prepare the substrate for provision of the applied finishes and fully coordinate this work with provision of concrete floor finishes.
Ensure statutory hazards and risks have been identified and managed in compliance with statutory requirements.
Read and comply with the manufacturers 'recommendations for the storage, decanting, use and disposal of chemicals/substances.
Prepare to apply finishing treatment at the agreed-upon time arranged with the architect.
Prepare control panel installation and incorporate into the works once approved.
If not approved provide all necessary modification work to ensure compliance.
Stop. When approved by architect, continue.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*.
Off-form concrete
Provide off form concrete finishes ensuring compliance with an approved control panel installation.
Ensure compliance with listed tolerance levels and level of finish for both the off-form self-finished and with applied finish surfaces.
Refer to Finishes Schedule for self-finished or finished with applied coatings provisions. Carry out repairs if and when required by the architect.
Unformed concrete
Provide unformed concrete finishes to locations shown on the drawings including where application of secondary components such as granolithic toppings, may apply.
Provide grooved, steel trowelled and wood float finishes to locations, all to approved submission of method statements and to approved construction of a control panel for each of the listed types of concrete finish.
Polished and coloured concrete
Where polished or coloured concrete is shown on the drawings provide to approved submission of samples, technical data including non-slip requirements and data on applied finishes to polished concrete surfaces if and when required.
Ensure consistency of finish in both the finish and the colour and carry out all necessary remedial work to ensure consistency.
Obtain approval prior to commencing work

SCHEDULE OF CONCRETE FINISHES

Surface	Finish
Basement car parking	
External driveways	
Exposed kerbs	
Others, where nominated on the drawings	

Protection
Protect the surface of the floor from damage until completion of the building by laying hardboard panels or other suitable material over the entire surface. Carry out remedial work if damaged during the construction period.

Applied Finishes
Provide applied finishes to concrete surface with necessary preparation of the substrate for each of the listed applied finishes.
Where specific detailing is required such as provision of coved skirtings, provide to an approved method statement.
Test the finished concrete for moisture content. Refer to the applied finish supplier for acceptable moisture content before applying paint.
Apply finish to manufacturer's instructions and to architect's approval.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Supply and install concrete screeds on a prepared base with coves, risers, kerbs, margins, pit covers etc. Screeding, curing and protection.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Concrete, sanitary sewerage, drainer, wall construction trades, ceramic tile, wet area membranes.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition.*

AS 1379 2007	Specification and supply of concrete. *There are 2 Amdmts 2009, 2015 Supplement 2008.*
AS 3600 2009	Concrete structures. *There are 2 Amdmts 2010, 2013.*
AS/NZS 3661.2 1994	Slip resistance of pedestrian surfaces – Guide to the reduction of slip hazards.
AS 3740 2010	Waterproofing of domestic wet areas. *1 Amdmt 2012*
AS 3972 2010	General purpose and blended cements.
AS/NZS 4586 2013	Slip resistance classification of new pedestrian surface materials. *1 Amdmt 2017.*
AS 4663 2013	Slip resistance measurement of existing pedestrian surfaces.
HB 71 2011	Reinforced concrete design in accordance with AS 3600 2009.
HB 197 1999	An introductory guide to the slip resistance of pedestrian surface materials.

Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
NOTE: ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	Description	Manufacturer/Supplier
Cement	Portland cement, comply with AS 3972	
Stone (granolithic screeds)	Clean granite screenings of maximum size 6mm	
Stone dust (protective screeds)	Clean bluestone fines of maximum size 4mm	
Sand	Washed, sieved, sharp sand, passing a No.16 (1.19mm) sieve	
Aggregate for screeds	Dense aggregate graded as follows: Passing 4.75mm sieve 80% Passing 6.00mm sieve 90%	
Water	Clean drinking quality	
Mesh	Galvanised welded wire fabric. Minimum 2.5mm diameter wires at 100mm each way	
Pigments	Compatible with other components	
Floor joint sealant	Polyurethane, 2 part, self-levelling. Colour:	

PREPARATION *Inspect conditions at site before starting work*
Before commencing on site review services owner requirements for working on, near or over services, documentation on existing services, locate and identify existing services before excavation commences, and protect them during conduct of works
Review Material Safety Data Sheets of products to be used to ensure OHS&E is considered in application.
Clean so that no mortar, honeycombing cavities, oil, dust, exist. Roughen the surface as necessary to form key for granolithic.

A. Mix screeds with minimum water to produce screed material that is workable and will consolidate uniformly. The proportion will depend on the sand in use and is found by practical trial. Minimise random variations once the proportions are established. Carefully control water quantity.
B. Granolithic finish mix: 1 part cement, 2 parts stone, 1 part sand.
C. Protective screed mix: 20 MPa concrete with maximum aggregate size of 6mm.
D. Batching by shovelful is not allowed. Batch by weight only. Add pigment as instructed by manufacturer to a sample colour approved by the architect.

Install a sample of 3 square metres. Stop. When approved by architect, continue.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
REFER TO WET AREA MEMBRANE TRADE SECTION.
A. Dense screeds: thickness of not less than 35mm, except 25mm at outlets. Reinforce with steel mesh.

B. Protective screeds: 50mm thick parallel to substrate. Reinforce with light galvanised steel mesh. Provide control joints 3 metres apart maximum, each 8mm wide. Dust on and trowel in bluestone fines. Install joint sealant to manufacturer's instructions.
C. Set downs: for screeds to receive other finishes, consult with other subcontractors for those finishes to determine the set down required.
D. Walls and upstands: finish at junction with walls and upstands with galvanised wire mesh and 50mm radius cove.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to*:
Supply and install a complete system of suspended ceilings including suspension systems, plasterboard ceilings, acoustic tile ceilings, bulkheads, ceiling access panels, perimeter trim.
Certify the completed installation for structural adequacy.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Roof framing, partitions and linings, concrete, carpentry, ceramic tiles, mechanical services, electrical installation.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition*.
AS/NZS 2785 2000 Suspended ceilings - Design and installation.
Comply throughout with the current edition of the NCC.
Manufacturer's specifications
Comply with the manufacturer's specifications for the installation and the structural components of this trade.
Performance
Where fire, thermal and sound rating performance levels are indicated on the drawings or listed within the attached reports, ensure full compliance.
Confirm compliance at submission of shop drawings and obtain approval prior to commencing work.

MATERIALS TO BE USED
NOTE: ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.
Note that where concrete slab forms part of the ceiling component, refer to Finishes Schedule and to Concrete trade section for specific requirements.

Ceiling types
For each type list ceiling components as applicable to each of the listed items.

Item	Description	Manufacturer/Supplier
Suspension system	(one way exposed) (two way exposed)	
Plasterboard	10mm,13mm, fire and acoustic rated as applicable	
Acoustic tile	Provide ceiling tile of the following type:	
Ceiling access panels	(NOT SUPPLIED)	
Cornice		
Beads, straps, etc.		
Casing beads, stop-ends		
Other items		

PREPARATION *Inspect conditions at site before starting work*
Consider all OHS&E risks and document selected controls.
Ensure fall prevention strategies are in place and workers follow statutory and manufacturer OHS&E requirements.
Provide the necessary modification work including coordination with all other associated trades to ensure structural adequacy of the proposed system.
Space Enclosure: do not install interior acoustical ceilings until space is enclosed and weatherproof, and until work above ceilings completed.

SUBMISSIONS
Submit samples of all components for approval and submit shop drawings with supporting structural data for approval prior to commencing work.
Submit supporting data that all ceiling penetrations are fully coordinated with penetrations in the ceiling space and make suitable adjustments to the ceiling membrane should this be required.
Submit full data on the suspension system including type and finishes to the exposed and concealed components.
Erect control sample panel of about 10 square metres. Stop. When approved by architect continue.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Comply throughout with applicable portions of AS/NZS 2785 and the data sheets supplied by material manufacturer.
When requested by architect, arrange for manufacturer's representative to visit site and check installation.

Adjust installation to permit installation of such items as light fittings, mechanical vent registers.
Clean surfaces exposed to view. Replace sections or components which cannot be cleaned. Make good damaged sections or panels affected by later work of other trades.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.
CERTIFICATION
Certify on completion for compliance with listed performance levels.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Supply and erect framing both structural and non-structural. .
Note that joinery items for the works are specified in the Joinery trade section.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Concrete, brickwork, structural steel, wall lining, plumbing, electrical, insulation, painting, fibre cement products.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition*.

AS/NZS 1170	Structural design actions. *There are many parts, 1990 - 2011 ,Supplements and Amdmts.*
AS 1428	Design for access and mobility.
	1428.1 2009 General requirements for access – New building work. *2 Amdmts 2010, 2017.*
	There are 5 other parts. 1992 – 2010.
AS 1604	Specification for preservative treatment
	1604.1 2012 Sawn and round timber
	1604.2 2012 Reconstituted wood-based products
	1604.3 2012 Plywood
	1604.4 2012 Laminated veneer lumber (LVL)
	1604.5 2012 Glued laminated timber products
AS 1684	Residential timber-framed construction.
	1684.2 2010 Non-cyclonic areas. *Numerous Supplements 2010 Amdmts 2012, 2013*
	1684.3 2010 Cyclonic areas. *Numerous Supplements 2010. Amdmt 2012*
	1684.4 2010 Simplified - Non-cyclonic areas, *Amdmt 2012*.
	There are many parts, Supplements and Amdmts.
AS 1720	Timber structures. *There are 3 parts, 2006- 2016.*
AS/NZS 1859	Reconstituted wood-based panels – Specifications. *There is 1 other part, 2004.*
	1859.1 2004 Particleboard.
	1859.2 2004 Dry processed fibreboard.
	1859.3 2005 Decorative overlaid wood panels.
AS 1860.2 2006	Particleboard flooring – Installation. *1 Amdmt, 2010*
AS/NZS 2269.0 2012	Plywood – Structural – Specifications. *1 Amdmt 2015*
AS 3959 2009	Construction of buildings in bushfire-prone areas. *3 Amdmts 2009-2011*
AS 4055 2012	Wind loads for housing. *1 Amdmt 2015*
AS 4226 2008	Guidelines for safe housing design.
AS/NZS 4994.2 2009	Temporary edge protection - Roof edge protection – Installation and dismantling
AS 6669 2016	Plywood - Formwork
HB 44 1993 (R 2016)	Understanding the Timber Framing Code – a guide to AS 1684.

Comply with recommendations of the National Assoc. of Forest Industries Technical bulletins.
Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
Use certified recycled rainforest or recycled old growth forest timbers where feasible. Otherwise use only approved certified rain forest or old growth forest timbers. Preference is to be given to timber supplies from certified plantation sources.
Use only low VOC adhesives and ensure that no phenolic compounds are present.
Use dry, well-seasoned timbers for exposed beams and rafters.
Refer Schedule.

Structural timber
Structural timber for the works is to be in strict accordance with structural engineer's design or in accordance with the Timber Structures code.
All structural timber is to be of a treated (to an approved level), timber type. Where specific performance levels are required from specific timber components, confirm at the submission stage of the works.
Non-structural timber
Where non-structural timber components are shown ensure that all timber is suitable for the intended use.
Timber decking
Provide timber decking to locations shown on the drawings and fixed with approved fixing method.
Finish with an applied decorative coating prior to fixing as listed on the Finishes Schedule.
Decking: Unless detailed otherwise, provide timber decking of the approved (by the architect) timber species and fixed to treated timber frame support with stainless steel recessed screw fixings or with galvanized nail fixings as detailed or scheduled. Lay deck over waterproof joist capping.
Confirm finish to both the timber and decorative coatings, spacing between the boards (not greater than 3mm in bushfire prone areas) and thickness of the timber for approval prior to commencing work.
Provide all to approved submission of samples, and control panel installation. Once approved the control panel is to be fully incorporated into the works.

PREPARATION *Inspect conditions at site before starting work*
Ensure all OHS&E risks have been considered and controls documented. Store timber on site above ground, flat and horizontal. Protect from rain, damage and other material.
Prepare the substrate and provide timber of the type and size as shown on the drawings. Where design and construct components for completion of design apply, ensure approval of each of the design and construct components for approval of the architect.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Review services owner requirements for working on, near or over services at the location, locate and identify existing services before excavation commences. Ensure statutory hazards and risks have been identified and managed in compliance with statutory requirements.
Comply with AS 1684 and select timber species that are appropriate for the intended location of the component within the works.
Review drawings when erecting framing and provide additional framing at every location where extra loads will be applied to finished walls.
Ensure that all timber and wood products are isolated from dampness and potential dampness.
External timber posts should be kept supported by metal brackets cast into concrete pads or sitting on 'Granite'-Guard ® type small fine aggregate to deter termite access. This should be installed to the supplier's details.
Perform operations including grooving, rebating, framing, housing, beading, mitring, scribing, nailing, screwing and gluing as necessary to carry out the works. Use timber in single lengths whenever possible. If joins are necessary, make them over supports unless otherwise shown or specified.
Arris visible edges in sawn work and in dressed work arris with sandpaper to 1.5mm radius unless otherwise shown or specified.
Back plough boards liable to warping (for example, if exposed on one face). Make the width, depth number and distribution of ploughs appropriate to the dimensions of the board and the degree of its exposure.
Provide necessary templates, linings, blocks, stops, ironwork and hardware, screws, bolts, plugs and fixings generally.
Trim framing where necessary for openings, including those required by other trades.
Supply and install timber decks using dry safe non-CCA treated pine, grooved on the underside to control shrinkage as shown on drawings.
Construct roof space manhole and locate as shown on drawings.
Fix pervious sarking (e.g. Tyvek) to outside face of studs under external cladding.

SUBMISSION
Submit samples and technical data for approval prior to commencing work.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Scope of work of this trade section is the provision of external cladding.
Read in conjunction with the External Finishes Schedule and refer to Basix or similar and Section J requirements for provision of insulation to external walls.
Coordinate this trade section with provision of wall framing and secondary framing components as may be applicable with proprietary wall systems. Provide the following components:
External cladding of the types shown on the drawings fixed to cross battens over sarking. Provide for cavity drainage.
Permeable Sarking to cladding where required by the cladding manufacturer.
Insulation material to R values indicated on the drawings.
All fixings and trim.
Coordinate work with installation of external glazing.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Timber or metal frame doors and windows, floor and wall construction, painting

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition*.

AS/NZS 1170	Structural design actions. *There are many parts, 1990-2007 and Supplements as Commentaries, Amdmts.*
AS 1366	Rigid cellular plastics sheets for thermal insulation. *There are 4 parts, 1989 - 1992.*
AS 1562	Design and installation of sheet roof and wall cladding, *There are 3 parts, 1992-2006*.
AS/NZS 2908	Cellulose – cement products. 2908.2 2000 Flat sheet.
AS 3660	Termite management. *There are 3 parts 2000 - 2014.*
AS 3999 2015	Bulk thermal insulation– Installation.
HB 39 2015	Installation code for metal roof and wall cladding.

Current written instructions issued by manufacturers of specified products. Comply with the requirements of statutory authorities having jurisdiction on this project.
Comply throughout with the current edition of the NCC.
Manufacturer's specifications
Read this trade section in conjunction with the product manufacturer's specifications and install in full accordance with the listed manufacturer's instructions and data.

MATERIALS TO BE USED
NOTE : ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item and reference to the Legend	Description	Manufacturer/Supplier
Fire-retardant reinforced reflective sarking		
Polystyrene foam panel		
Polyurethane foam panel		
Polystyrene hollow blocks		
Fibreglass mesh		
Acrylic render		
Fibre cement panels		
Concrete		

Include accessories provided by selected manufacturer.

CLADDING TYPES
Provide cladding types as shown on the drawings and to the following requirements:
Cladding type: specify here.
Location: refer to the drawings and the External Finishes Schedule.
Components:
Finish: refer to the External Finishes Schedule.

SUBMISSION

Submit samples, technical data from the product manufacturer and shop drawings as applicable to each type of wall cladding. Where conditions of approval from the council require verification, provide prior to commencing work.

PREPARATION *Inspect conditions at site before starting work.*
Ensure OHS&E risks are identified and controls documented.
Only tradesmen with wide experience and knowledgeable in this class of work to undertake the work.
Coordinate with other trades prior to commencement of work and arrange for fixing grounds required for satisfactory execution of the work of this trade including penetrations.
Install a sample of 3 square metres. Stop. When approved by architect, apply specified render. When approved by architect, continue.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Prepare the substrate and install cladding types complete with all fixings and flashings and ensure structural adequacy of wall framing for the proposed installations.
Fully coordinate with provision of insulation material and adjacent building components.
Provide to an approved control panel as directed on site by the architect.
Comply with the manufacturer's detailed installation instructions and drawings. Take care of and protect surrounding work, including other finishes, equipment and components, during installation. Provide protective covering where necessary.
Finish joints and secure fasteners. Remove surface defects to achieve uniform appearance of each type of installation. Make good damage in every respect at no additional cost to the proprietor.
Clean exposed surfaces including trim, edge mouldings, and comply with manufacturer's instructions for cleaning and touch-up of minor finish damage.
Remove spatterings, droppings and surplus material.
Complete each part of the work in accordance with instructions of manufacturer before starting next stage of the work. Comply with written variation orders.

COMPLETION
Complete work in accordance with instructions and written variation orders. Certify that the completed installation meets the product manufacturer’s specifications and that all Basix, or similar and Section J performance levels are met.

WARRANTY
Provide to the proprietor a warranty covering complete installation that it will remain waterproof and weathertight, including integrity of any/all penetrations through the walling and the satisfactory performance and security of the complete installation against weather for a period of years.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Supply and install fibre cement and associated equipment and fixing to:
Wall linings internal, ceiling linings internal, fire-rated walls, external cladding, wet area wall lining, eaves lining, fascias, partitions, wet area flooring, underlays, external decks, lattice, bracing panels, ceramic faced panels, fibre cement pipe columns.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Wall framing, ceiling framing, external decks, plumbing, electrical.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition*.
AS/NZS 2908 Cellulose-cement products.
2908.2 2000 Flat sheet.
Comply with relevant Technical Bulletins and published instructions produced by manufacturer.
Comply with requirements of relevant statutory authorities, and NCC.

MATERIALS TO BE USED
NOTE : ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

JAMES HARDIE AND SCYON PRODUCTS		**CSR BUILDING MATERIALS** (cemintel.com.au**)**	
Hardiflex	Thickness: 4.5,6.0	Cladding sheet	4.5, 6.0
Villaboard	Thickness: 6.0. 9.0, 12.0	Wallboard FC	6.0, 9.0, 12.0
Versilux	Thickness: 6.0	sq. edge	6.0
Hardieplank smooth	230, 300 wide	cladding plank, smooth	230, 300
Hardieplank w/grain	230, 300 wide	“ ” woodgrain	230, 300
Rusticated weatherboard	205 wide	X	
Old style weatherboard	205 wide	X	
PrimeLine weatherboard			
Hardipanel stucco		X	
Hardieglaze swirl		X	
Hardies eaves	4.5mm	Eaves lining	4.5
HardieGroove lining		Barestone external	
ExoTec façade cladding		Barestone internal	
Easylap panel		Surround	
ComTex façade panel		CeminSeal wallboard	
PanelClad sheet		Scarborough weatherboard	
Compressed sheet	6.0, 9.0, 12.0, 15.0, 18.0, 24.0	Compressed sheet decking	6.0, 9.0, 12.0, 15.0, 18.0, 24.0
Pineridge (impact resistant)		X	
Underlay for ceramic tile		CT Underlay	
Underlay for vinyl and cork		X	
Hardilattice, square, diamond		Lattice, square, diamond, Tudor	
Hardietex (external sheet)	7.5	Texture base sheet	7.5

JAMES HARDIE AND SCYON PRODUCTS		**CSR BUILDING MATERIALS** (cemintel.com.au**)**	
Hardiebrace	5.0	X	
Partitions toilet and shower		X	
Scyon Matrix/Linea/Axon/ Stria/Secura/Axent			

Supply all accessories required for each application.

PREPARATION *Inspect conditions at site before starting work*
Ensure Material Safety Data Sheets are reviewed for OHS&E risks and all controls selected are documented.
Tradesmen with wide experience and knowledgeable in this class to undertake the work.
Coordinate with other trades prior to commencement of work and arrange for fixing grounds required for satisfactory execution of the work of this trade including penetrations.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Comply with the manufacturer's installation instructions. Take care of and protect surrounding work, including other finishes, equipment and components, during installation. Provide protective covering where necessary.
Finish joints and secure fasteners. Remove surface defects to achieve uniform appearance of each type of installation. Make good damage in every respect at no additional cost to the proprietor.
Clean exposed surfaces including trim, edge mouldings, and comply with manufacturer's instructions for cleaning and touch-up of minor finish damage.
Remove spatterings, droppings and surplus material. Ensure statutory hazards and risks have been identified and managed in compliance with statutory requirements.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to*:
Supply and install plasterboard, water-resistant plasterboard, flexible plasterboard, lining of masonry walls, ceilings, dropwalls, bulkheads. Fire-rated walls.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Wall, frames, thermal/acoustic insulation, carpentry, brickwork, blockwork, suspended ceiling, electrical.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition.*
AS/NZS 2589 2017 Gypsum linings– Application and finishing.
AS 3740 2010 Waterproofing of domestic wet areas. *1 Amdmt 2012*
HB 161 2005 Guide to plastering
Comply throughout with the current edition of the NCC.
Comply with manufacturer's technical bulletins:

MATERIALS TO BE USED
NOTE : ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	**Description**	**Manufacturer/Supplier**
Plasterboard walls		
Plasterboard ceilings		
Plasterboard wet areas		
Plasterboard for:		
bulkheads		
dropwalls		
Flexible plasterboard		
Fire-rated plasterboard		
Metal sections	IDENTIFY (P Numbers)	Rondo
Cornice		
Type		
Girth		
Name		

PREPARATION *Inspect conditions at site before starting work.*
Consider all OHS&E risks and ensure selected controls are documented.
Ensure fall prevention strategies are in place and workers follow manufacturer OHS&E requirements.
Ensure framing is complete and electrical and other wiring is in place. Ensure thermal/acoustic insulation is correctly installed and is not to be compressed by plasterboard when installed before proceeding.
Install a sample, width of one wall (about 3 metres). Stop. When approved by architect, continue.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Comply with plasterboard manufacturer's current written instructions. Form dropwalls, recesses, manholes as required. Provide all appropriate trim and angle accessories (e.g. Rondo, PTT, Knauf) to protect salient edges etc. from damage, expansion joints, control joints arches etc.
In wet areas ensure compliance with AS 3740 Waterproofing of domestic wet areas. Install cornices.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Metal roofing Proprietary type roofing including skylights
Stormwater roof plumbing
Fall arrest systems and roof access systems as applicable to be in place before work commences.
Note that waterproofing membrane installations are specified in trade section Membrane Roofing & Plumbing.
Roof anchors to be installed before commencement of work.
Statutory provisions
Comply with statutory provisions for installation of fall arrest and access walkways to the roof.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Structural Steel, carpentry, insulation thermal and acoustic
Read this trade section in conjunction with hydraulic engineer's documentation
Manufacturer's printed specifications
Read this trade section in conjunction with printed roofing manufacturer's specifications for installation of roofing components including insulation.
Fully coordinate installation with the fall arrest system with structural components of the roof.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition*.

AS/NZS 1170	Structural design actions. *There are many parts, 1990 - 2011 and Supplements and Amdmts.*
AS 1273 1991	Unplasticized PVC (UPVC) downpipe and fittings for rainwater.
AS 1562	Design and installation of sheet roof and wall cladding, *There are 3 parts, 1992-2006 with Amdmts 2012*.
AS/NZS 3500	Plumbing and drainage. *There are numerous other parts, 1996-2015.* 3500.3 2015 Stormwater drainage 3500.3.1 1998 Stormwater drainage - Performance requirements
AS 3999 2015	Bulk thermal insulation – Installation
AS 4285 2007	Skylights
AS/NZS 4389 2015	Roof safety mesh.
HB 39 2015	Installation code for metal roof and wall cladding.
HB 114 1998	Guidelines for the design of eaves and box gutters.

Comply with state requirements and codes of practice in relation to work on roofs.
Refer Fall Arrest Equipment trade section.
Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
NOTE: ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.
Provide roofing of the type scheduled below and installed to approved submission of samples and shop drawings as applicable to proposed installation.
Ensure compliance with the product manufacturer's specification and for corrosive environment provide suitable materials and finish to ensure warranty. Check with the manufacturer and confirm at submission stage of the works.

Item	Material Supplier	Trade Name	Finish	Base Metal Thickness
Metal roof				
Translucent roofing				
Sarking				
Skylights				
Flashing				
Accessories				
Wire safety mesh				
Insulation				
Box gutter support				
Box gutters and sumps				
Roof access hatch				

Item	Material Supplier	Trade Name	Finish	Base Metal Thickness
Rainwater heads				
Downpipes				
Sealing of penetrations				

Dissimilar metals
Ensure that galvanic action through contact with dissimilar metals is being resolved prior to commencing work and submit technical information from each of the roofing manufacturer's confirming adequacy of the dissimilar metal installations procedures.
Fall arrest and walkways
Provide fall arrest system to meet statutory regulations having jurisdiction over the site. This is a design and construct item and is to be fully coordinated with roof membrane manufacturers for galvanic action as well as the structural provisions.
Hand over design requirements for approval prior to commencing work and coordinate with structural engineer for design adequacy.
Design
Ensure that all roof design is to hydraulic engineer's specifications and confirm adequacy of roof drainage design at submission of shop drawings. Obtain approval from the architect.

PREPARATION *Inspect conditions at site before starting work.*
Ensure OHS&E risks for roofing and roof plumbing, including Material Safety Data Sheet review, has been conducted and controls documented. Ensure fall prevention strategies are in place and workers follow statutory and manufacturer OHS&E requirements.
Provide all installations with all accessories to approved submission of samples and shop drawings and with the product manufacturer's specification confirming adequacy of design and detailing.
Hand over structural engineer's certification for framing design and adequacy of support for the fall arrest and walkways systems.
Ensure framing is in place and secure. Terrain Category:
Ensure safety equipment is in place.
Install safety mesh in accordance with AS/NZS 4389 Roof safety mesh.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Comply with recommendations in HB 39 (see above), Installation code for metal roof and wall cladding. Install each item in accordance with manufacturer's current written instructions. Form penetration flashings neatly with material matching roofing material or install EPDM collars. Provide flashings at all upstands lapped 150mm at junctions. Step flashings evenly. Finish top corners to a line parallel to the roof slope.
Close and seal lower ends of all cut ribs with proprietary closed cell foam profiles or fitted metal closers. Form back gutters not less than 100mm wide with falls towards the sides of the penetration collars. Seal joints with compatible sealant. Secure downpipes through cladding to structure. Seal at stormwater pipe upstands. Remove debris from gutters and downpipes. Test on completion.

COMPLETION
Complete work in accordance with instructions and written variation orders.

WARRANTY
Provide to the proprietor a warranty covering the roof and the penetrations through the roof and the satisfactory performance of the complete installation.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Supply and install fall arrest equipment in accordance with OHS&E legislation.
Equipment to be provided includes:
Anchor points, static lines, harness gear, eaves platforms and fences and safety signs.
Refer to document 00800 Supplementary Conditions of Contract Clause 31, Occupational (Workplace) Health, Safety and Environment and 00819 OHS & Environmental Requirements.
Ensure that every person working above ceiling or eaves level is fully trained in use of the equipment.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Roof framing, roof installation, eaves construction.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition.*

AS 1657 2013	Fixed platforms, walkways, stairways and ladders – Design, construction and installation – Design, construction and installation.. *1 Amdmt 2016*
AS/NZS 1891	Industrial fall-arrest systems and devices. *There are 2 other parts, 1997 –2007 and a Supplement.* 1891.1 2007 Harnesses and ancillary equipment. 1891.4 2009 Selection, use and maintenance.
AS/NZS 4801 2001	Occupational health and safety management systems - Specification with guidance for use.
AS/NZS 4994.2 2009	Temporary edge protection - Roof edge protection – Installation and dismantling

Comply with state requirements and codes of practice in relation to work on roofs.
Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
NOTE : ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Submit relevant drawings to suppliers or manufacturers of suitable equipment.
Obtain suppliers lists of recommended materials and included lists here.

Item	Description	Manufacturer

PREPARATION *Inspect conditions at site before starting work*
Ensure Australian Standard certification of all plant and equipment, including test records, are reviewed and relevant controls documented. Ensure any attachment points on a building or structure are engineered and certified, copies maintained at the workplace. Check roof framing and other items to which safety equipment is to be fixed.
Ensure that structures local to the installed items are secure.
A senior technical representative of the material supplier is required to be present to check each part of the installation.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Secure each item in accordance with Australian Standards.
Arrange with the builder and roofer for penetrations if required through roof materials.
Ensure that penetrations are completely watertight after installation and on completion of the work.
Erect equipment and install eaves platforms and fences.
Check again that each person is fully trained in use of the equipment.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Supply and install windows and, glazed doors, flyscreens, hardware, flashings, sun control material.
Provide aluminium framed, timber framed and steel framed installations types as listed in the Windows and Doors Schedules.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
External cladding, concrete, brickwork and blockwork, insulation, electrical services (where remote operators are required).
Associated documents
Read this trade section in conjunction with the following documents:
Basix, or similar, and Section J report for thermal performance of windows and glazed doors.
Acoustic report as applicable to specific window components.
Structural requirements for window installations including glass type and thickness.
Windows and Doors Schedules.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition.*

AS/NZS 1170	Structural design actions. *There are many parts, 1990 - 2011 and Supplements and Amdmts.*
AS 1288 2006	Glass in buildings – Selection and installation. *3 Amdmts 2008, 2011, 2016.*
AS 2047 2014	Windows and external glazed doors in buildings. *2 Amdmts 2016, 2017.*
AS 3715 2002	Metal finishing - Thermoset powder coatings for architectural applications of aluminium and aluminium alloys.
AS 3959 2009	Construction of buildings in bushfire-prone areas. *3 Amdmts 2009-2011*
AS 4145.2 2008	Locksets and hardware for doors and windows - Mechanical locksets for doors and windows in buildings. *2 Amdmts 2009, 2015*
AS/NZS 4666 2012	Insulating glass units.
AS/NZS 4680 2006	Hot-dip galvanised (zinc) coatings on fabricated ferrous articles.
HB 125 2007	The glass and glazing handbook. (Obsolescent)

Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
NOTE : ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.
Refer to Windows and Door Schedules for project specific requirements including types of installations, thermal and acoustic requirements as well as the configuration of the windows and glazed doors.

SUBMISSION
Submit samples, shop drawings and technical data for approval in conjunction with the door schedule as well as door hardware items as applicable.
For fire rated steel framed installations submit confirming technical data on fire rating.

Item	**Description**	**Comments**
Aluminium	Extruded aluminium alloy 6063, temper T5 or T6	
Window frames	Refer to the Window and Glazed Doors Schedule	
Frames		
Sashes		
Doors		
Hardware		
Finish	Polyester powder coat. Minimum 50 microns	
Steel		
Window frames	Refer to the Window and Glazed Doors Schedule	
Sashes		
Doors		
Hardware		

Item	Description	Comments
Finish	Galvanised or powder coat	
Glass: (refer AS 1288 for glass thickness. Do not list thickness here).		
Clear float, laminated, patterned, obscured, wired, spandrel		
Glazing	Refer to the Windows and Doors Schedules	
Insect screens to all openable windows	Refer to the Windows and Doors Schedules	
Mesh	Aluminium, steel, brass, stainless steel, fibreglass	
Hardware Refer to the attached Schedule if not part of the factory items		
Sun control material	Colour:	
Window and Glazed Doors acoustic seals	As listed on the Acoustic Report or shown on architectural drawings	Select from the Raven range of products
Louvre windows: Refer www.breezway.com.au		Refer to the Windows and Doors Schedule

PREPARATION *Inspect conditions at site before starting wok,*
Ensure all OHS&E risks have been considered and relevant controls documented. Comply with statutory and manufacturer OHS&E requirements.
Prepare for installation of aluminium frames. Isolate aluminium from steel wall frames.
Provide necessary anchors for building into masonry openings.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Ensure frame anchors are already built in. Comply with AS 2047. Install glass to manufacturer's instructions with correct sealants. Install flyscreens fixed, hinged, or removable, where directed. Install window seals, winders, connect remote winders, catches locks etc.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

WARRANTIES
Submit warranties for all components and certify each of the items for compliance with the listed performance levels.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Supply and install door frames and doors for external and internal door openings. Refer Schedule following. Timber frames, metal frames, doors, glazed, solid core, waterproof, louvres, flyscreen, security, acoustic, flush panel - hollow core, expressed framed doors.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Carpentry, concrete floor contractor, door hardware, wall construction, glass, painting.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition.*
AS 1288 2006 Glass in buildings - Selection and installation. *3 Amdmts 2008-2016.*
AS 2047 2014 Windows and external glazed doors in buildings.
AS 2688 1984 Timber doors. *(Obsolescent)*
AS 4145 Locksets and hardware for doors and windows. *There are 5parts, 2001 - 2011.*
4145.1 2008 Glossary of terms and rating system.
4145.2 2008 Mechanical locksets for doors and windows in buildings.
AS 4505 2012 Garage doors and other large access doors. *1 Amdmt 2015.*
AS 5007 2007 Powered doors for pedestrian access and egress.
AS 5039 2008 Security screen doors and security window grilles.
AS 5040 2003 (R 2016) Installation of security screen doors and window grilles.
NSW Guide to Standards and Tolerances – Section 9 www.fairtrading.nsw.gov.au/biz
Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
NOTE: ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	Description	Manufacturer
Door Frames:		
Door frames: timber	Thickness: Material: cedar, kiln dried hardwood, engineered timber, other	
Door frames: steel	Pressed steel 1.6mm thick single (or double) rebate fully welded frames with floor spreader. Provide 8 or 10, 3mm wire ties per frame for building into walls and two black stops on closing side. Fully grout back of frames with cement mortar. Supply steel frames with shop applied rust inhibitive paint.	
External doors		
Doors solid core	Thickness: 40mm Core: Particleboard Face: Plywood veneer, hardboard, waterproofing plywood, Edge strips of 10mm hardwood Threshold: durable timber type Sill height above floor level or recessed.	
Acoustic doors		
Glazed timber doors		
Fly screen doors		
Internal doors		
Flush panel hollow core	Core: paper, honeycomb, metal. Face: 4.5mm hardboard. veneer. Edge strips: 10mm thick hardwood to 2,3 or 4 sides of door, Door Thickness: 35mm	

Flush panel solid core	Frame of door: timber with top mid and bottom rails each 50mm deep Core: medium density particleboard or OTHER Face: 4.5mm hardboard. veneer, plywood thickness Edge strips: 10mm thick hardwood to 2,3,4 sides of door, Thickness: 35mm	
Timber louvre doors		
Glazed timber doors		
Perimeter door seals		Raven
Other doors		

PREPARATION *Inspect conditions at site before starting work*
Ensure all OHS&E risks are considered and selected controls documents. Prepare openings in walls. Install fixing grounds to secure frames.
Erect a sample frame and door of each type complete. Stop. When approved by architect, continue.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Erect frames plumb and true. Comply with named standard listed. At head and jambs allow 3mm clearance.
At floor allow 10 mm over floor covering. Install door seals to scheduled doors following painting and installation of furniture. Check all installed doors with direct reference to the *NSW Guide to Standards and Tolerances 2017* Section 9. Replace doors that exceed the acceptable tolerances cited in the guide.

CLEANING
Thoroughly clean areas in which work has been performed and those adjacent to the work area.

COMPLETION
Complete work in accordance with instructions and written variation orders.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Supply, engineer and install roller shutter door(s) including but not limited to:
Drum support, door guides, removable (wicket) gate, manual control devices, electric motors and controls, remote control, locking devices, wind locks, weather-strips, tapered bottom rail, powder coating.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Structural steel, brickwork, blockwork, concrete, electrical, painting.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS. *Current edition*.
AS 1428 Design for access and mobility.
1428.1 2009 General requirements for access – New building work. *2 Amdmts 2010, 2017. There are 5 other parts. 1992 – 2010.*
AS 1905.2 2005 Fire-resistant roller shutters.
Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
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Item	Description	Manufacturer/Supplier
(Select from Scope clause above)		
Finish		

PREPARATION *Inspect conditions at site before starting work*
Ensure all OHS&E risks are considered and selected controls documents. Field measurements: Do not delay job progress. Allow for adjustments and fitting of the work in the field where taking of measurements might cause delay. Ensure sufficient head room is available for the door.
Coordination with work of others. Furnish to each relevant trade foreman anchorages and setting drawings, diagrams, templates and instructions for installation of items having integral anchors which are to be embedded in concrete or masonry construction. coordinate delivery of such items to the project site.
If door is electrically operated, ensure electrical contractor is made aware at time of tender.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Provide anchorage needed in time for building in by other trades.
Fit : during installation and assembly, form tight joints with exposed connections accurately fitted, and reveals uniform. Finish work accurately, plumb, level, square and true in reference to adjacent construction.
Comply with manufacturers' installation instructions throughout.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Supply and install door hardware listed in the Door Hardware Schedule.
Note that door schedule prepared by the architect requires builder to prepare the return schedule based on the items to be provided and is to fully comply with specific NCC and fire and sound rated levels listed.
Where access requirements apply, ensure compliance. Where specified, ensure electrical contractor is informed of required connection to power operated locks, alarms etc.

COOPERATE WITH THESE OTHER TRADE *to resolve possible problems before starting work*
Doors and door frames, windows and glazed doors, electrical services, painting, signage

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition.*
AS 4145 Locksets and hardware for doors and windows.
4145.1 2008 Glossary of terms and rating system.
4145.2 2008 Mechanical locksets for doors and windows in buildings.
4145.3 2001 Mechanical locksets for windows in buildings.
4145.4 2002 Padlocks
4145.5 2011 Controlled door closing devices
Comply throughout with the current edition of the NCC.
Manufacturer's specifications
Refer to the product manufacturers 'specifications for provision of all items including all printed technical data, and coordinate with provision of electronic equipment where applicable to hardware items.
Refer to access provision of the NCC for reference.

MATERIALS TO BE USED

Item	Description	Manufacturer/Supplier
Hinges		
Pivots		
Sliding hardware		
Folding hardware		
Other hanging hardware		
Locks		
Magnetic locks		
Electromagnetic locks		
Card key locks		
Hydraulic locks		
Pneumatic locks		
Latches		
Exit devices		
Cylinders		
Closers		
Holders		
Push plates		
Pull plates		
Kick plates		
Weather stripping		

Item	Description	Manufacturer/Supplier
Acoustic seals		
Master key		
Grand master key		

PREPARATION *Inspect conditions at site before starting work*
Install a complete set of hardware as scheduled.
Install samples of each type. Stop. When approved by architect, continue.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Install with accordance with AS 4145 and written instructions of each manufacturer. Check deliveries on arrival. Lock away until needed and assume responsibility for hardware. Fit accurately at correct heights and protect until completion of project. Ensure all electrical connections are provided where required.
Remove furniture prior to painting – refit when complete and install door seals. Lubricate hinges and locks and provide two keys to each lock.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

CERTIFICATION
Certify all components for compliance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Design, supply and installation of electrical transmission and reticulation materials from mains supply to required electrical power and light outlets, telephone, internal communication system and television antenna, smoke alarms, security.
Use LED lamps and fittings where shown on drawings. If LED bulbs are not available use the equivalent dimmable CFT bulb.
Coordinate with builder to ensure all required connections to power operated window actuators, door hardware, cooking appliances and other hard-wired devices specified elsewhere in this document are provided with power and switching installations.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Floor construction, wall construction, ceiling construction, carpentry, joinery.
Licensed electrical technicians only may perform work, experienced in the requirements of the project. Licences are those issued by the state authority having direct control or interest in the work.
Perform the entire installation in accordance with the requirements of the statutory authority having jurisdiction.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition.*

AS 1680	Interior lighting. *There are numerous parts, 1990 – 2012.*
	1680.5 2012 Outdoor workplace lighting
AS/NZS 2293	Emergency escape lighting and exit signs for buildings. *There are 3 parts, 1995 – 2005 plus 7 Amdmts, 1998-2014.*
	2293.2 1995 Inspection and maintenance.
AS 2560	Sports lighting
AS/NZS 3000 2007	Electrical installations (Australian/New Zealand Wiring Rules), *2 Amdmts 2009, 2012.*
AS/NZS 3012 2010	Electrical installations - Construction and demolition sites.
AS 3786 2014	Smoke alarms using scattered light, transmitted light or ionization. *1 Amdmt 2015*

Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
NOTE : ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Supply only products which bear the required indication of approval of the statutory authority having jurisdiction.

Item	Description	Manufacturer/Supplier
Temporary supply		
Wiring material		
Light outlets		
Power outlet		
Fittings		
Mains connection to building	By supply authority	
Meters	By supply authority	
Switchboards and other control		
Reticulation cable		
Power outlets		
Light fittings		
Emergency evacuation lighting		
Conduits		
Cable tray		
Cable ducts		
Identification materials		
Power factor correction		

Item	Description	Manufacturer/Supplier
Lamps		
Floodlighting		
Site lighting		
Earthing		
Alarm and detection systems		
Clock systems		
Telephone systems		
Inter-communication system		
Television antenna		
Heating cables and units		
Fans, exhaust and heating		
Smoke alarms		

PREPARATION *Inspect conditions at site before starting work.*
Ensure statutory hazards and risks have been identified and managed in compliance with statutory requirements.
Ensure live wiring for construction works comply with AS/NZS 3012 Electrical installations – construction and demolition sites and any installed end user live unprotected services in structure, identified for any construction works to be undertaken in proximity of live wiring or services to prevent inadvertent contact.
Provide necessary safety or security controls where required to ensure safe practices and installations.
The following preparatory actions are to be performed by the builder for the electrician:
A. Slab penetrations for floor-mounted GPO's, telephone outlets etc.
B. Chasing and making good for conduit access for skirting
C. Chasing and wiring duct, GPO's switches etc.
D. Supply and installation for access opening where required.
E. Provision of electrical riser.
F. Provision of signwriting to main switch room or distribution board.
G. Forming, trimming, patching and making good of openings for luminaires to sizes required by the electrician.
H. Provision of concrete.
I. Making good existing roadway etc.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Comply with standards throughout and requirements of supply authority. Install light fittings, switchboard and distribution board, metre board and box. Arrange for inspection by supply authority inspector. Obtain compliance certificate. Connect to main supply.
Cable: secure cable, using materials specified above, at centres recommended by regulations and/or manufacturer.
Locate the meter box in a supplier-approved, secure location with ease of access.
Install an integrated fire alarm system to the building as specified and to the electrical engineer's specifications.
Fit hard-wired smoke alarms to the home as dictated by safety codes and the NCC.
Fit smoke alarms or detectors to the overall control system.

COMPLETION
Complete work in accordance with instructions and written variation orders.

WARRANTY
Provide to proprietor a warranty covering satisfactory performance of the complete installation.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
LED lamps and fittings or equivalent dimmable CFT bulbs, other lamps, LED flood lights, quartz or tungsten halogen lamps with mounting devices and dichroic reflectors, transformers, integral LED drivers, dimming systems, lighting timers, daylight controllers, motion detectors, car parking lighting, etc. See Lighting Schedule **.**

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Electrical installation, ceiling construction, wall construction and finishes.
Licensed electrical technicians only may perform work, experienced in the requirements of the project. Licences are those issued by the state authority having direct control or interest in the work. Perform the entire installation in accordance with the requirements of the statutory authority having jurisdiction.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition*.

AS 1428	Design for access and mobility.
	1428.1 2009 General requirements for access – New building work. *2 Amdmts 2010, 2017. There are 5 other parts. 1992 – 2010.*
AS 1680	Interior lighting. *There are 11parts, 1990- 2012.*
AS/NZS 3000 2007	Electrical installations (Australian/New Zealand Wiring Rules), *2 Amdmts 2009, 2012.*

Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
NOTE: ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	Description	Manufacturer/Supplier

Where light dimmers are used of the thyristor type, provide a tuned inductance between the dimmer and the primary of the isolating transformer.

PREPARATION *Inspect conditions at site before starting work.*
Ensure statutory hazards and risks have been identified and managed in compliance with statutory requirements.
Provide necessary safety or security control where required to ensure safe practices and installations.
Remove material or insulation from within 150mm above or beside lamp reflectors which penetrate the ceiling or wall lining/cladding. Ensure adequate ventilation.
Comply with AS/NZS 3000.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Cable: secure cable, using materials specified above, at centres recommended by regulations and/or manufacturer.
Conceal wiring and cable equipment. Conduit cable where necessary or required in approved material. Install specified lamps at locations indicated on drawings in accordance with authority having jurisdiction.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Supply and installation of communication including ISDN, systems for home and office units in single or multiple unit buildings. Installation of the security system using internal communications cabling as per documents. It also covers telephone and high speed data communication systems with a limit of 4 lines into each unit.
The work includes:
Connection to the carrier's main cable (by carrier)
Cabling routing design
Use of cabling
Distribution devices
Compliance with Australian Standards
Refer to detailed Communications Plan prepared by specialist consultant.

COOPERATE AND COORDINATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Electrical installation, floor construction, wall construction, ceiling construction, finishing trades.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current Edition*.

AS/NZS 2967 2014	Optical fibre communication cabling systems safety.
AS/NZS 3080 2013	Information technology - Generic cabling for customer premises. *1 Amdmt 2014.*
SA/SNZ HB 252 2014	Communications Cabling Manual.
ISO/IEC 15018:2004	Information technology – Generic cabling for homes.AS/ACIF S008 2010 Requirements for customer cabling products. Download at : www.commsalliance.com.au/__data/assets/pdf_file/0008/2420/S008_2010.pdf
AS/ACIF S009 2006	Installation requirements for customer cabling (Wiring Rules). Download at: www.commsalliance.com.au/__data/assets/pdf_file/0009/2421/S009_2006r.pdf

Perform work employing experienced tradespeople familiar with the quality of work required and who are L-licensed in accordance with requirements of AS/ACIF S009.
Arrange for a conference with relevant other trades to decide upon matters which affect them.
Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
NOTE : ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.
Refer to ISO/IEC 15018 2004.
Before ordering materials submit to the carrier a list of components and their descriptions, for carrier's approval.
Provide and install the equipment specified in the Australian Standard and AS/ACIF instructions.

PREPARATION *Inspect conditions at site before starting work.*
Ensure statutory hazards and risks have been identified and managed in compliance with statutory requirements.
Examine carefully the proposed route for cable installation and installation of other components. Obtain architect's approval before executing the work.
Provide necessary safety or security controls where required to ensure safe practices and installations.
Provide needed penetration, openings, chases and structures for safe secure and effective installation of cable.
If installation is required in the electrical riser, cooperate with the electrician.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Comply with codes listed above. Refer also to installation clauses for each item.
Refer to drawings for locations of connections, equipment and outlets.
Provide field quality control.
A. Where requested by supply authority, supply test data obtainable from component manufacturer.
B. Arrange for inspections by component manufacturer's representative to ensure correct application, use and installation.
Adjust installations of components to ensure proper fit and alignment.
Remedy items of inefficient operation or of doubtful performance.
Clean visible items to original condition.
Remove debris from installation in concealed spaces.

COMPLETION
Complete work in accordance with instructions and written variation orders.

WARRANTY
Provide to proprietor a warranty covering the complete installation, and that it will remain intact and operational for .

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Supply, install and commission split-system airconditioning consisting of but not limited to a separate condenser unit and wall or ceiling mounted reverse cycle unit which supply heated or cooled air, ceiling fans.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Wall, floor and ceiling construction, finishing trades, electrical installation.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition.*

AS 1324	Air filters for use in general ventilation and airconditioning. *There are 2 parts, 2001, 2003.*
AS 1668	The use of ventilation and airconditioning in buildings.
	1668.2 2012 Mechanical ventilation in buildings, *2 Amdmts 2013, 2016*
	1668.4 2012 Natural ventilation of buildings.
	There are 3 other parts and 2 Supplements, 1998 - 2012.
AS/NZS 3000 2007	Electrical installations (Australian/New Zealand Wiring Rules), *2 Amdmts 2009, 2012.*
AS 4254	Ductwork for air-handling systems in buildings, *There are 2 parts 2012*
AS 4508 1999	Thermal resistance of insulation for ductwork used in building airconditioning.

Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED

PREPARATION *Inspect conditions at site before starting work.*
Ensure statutory hazards and risks have been identified and managed in compliance with statutory requirements.
Provide necessary safety or security controls where required to ensure safe practices and installations.
Provide needed penetration, openings, chases and structures for safe, secure and effective installation of components. If installation is required in a duct or riser cooperate with the other relevant trades.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Install ceiling fans to all bedrooms and key living areas where shown on the drawings and noted in the schedule. For maximum heating efficiency in winter, install reversible ceiling fans in living areas.
Comply with the written requirements of the manufacturer and those of the relevant Australian Standards.
Ensure that the structure required to support the equipment is adequate for the purpose. Make good any surfaces damaged or marked during the installation. Arrange for inspection of installation by manufacturer's representative to ensure correct installation.

COMPLETION
Complete work in accordance with instructions and written variation orders.

WARRANTY
Provide to proprietor a warranty covering satisfactory performance of the complete installation.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Design, supply and installation of electrical energy generation and reticulation materials necessary for independent/supplementary electric power to mains grid supply to required electrical power and light outlets, telephone, internal communication system and television antenna, integrated fire alarm system, smoke alarms.
Determine metering option: gross metering or import/export metering. Use LED lamps and fittings where shown on drawings. If LED bulbs are not available use the equivalent dimmable CFT bulb.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Floor construction, wall construction, ceiling construction, carpentry, joinery.
Licensed electrical technicians only may perform work, experienced in the requirements of the project. Licences are those issued by the state authority having direct control or interest in the work.
Perform the entire installation in accordance with the requirements of the statutory authority having jurisdiction.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition.*

AS 1680	Interior lighting. *There are numerous parts, 1990 – 2012.*
	1680.5 2012 Outdoor workplace lighting
AS/NZS 2293	Emergency escape lighting and exit signs for buildings. *There are 3 parts, 1995 – 2005 . Also 7Amdmts, 1998-2014.*
	2293.2 1995 Inspection and maintenance.
AS 2560	Sports lighting
AS/NZS 3000 2007	Electrical installations (Australian/New Zealand Wiring Rules), *2 Amdmts 2009, 2012.*
AS/NZS 3012 2010	Electrical installations - Construction and demolition sites.
AS 3786 2014	Smoke alarms using scattered light, transmitted light or ionization. *1 Amdmt 2015*
AS/NZS 4777.1 2016	Grid connection of energy systems via inverters – Installation requirements.
AS/NZS 5033 2014	Installation and safety requirements for photovoltaic (PV) arrays
Australian Government	Your Home *www.yourhome.gov.au/energy/renewable-energy*

Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
NOTE : ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.
Supply only products which bear the required indication of approval of the statutory authority having jurisdiction.

Item	Description	Manufacturer/Supplier
Temporary supply		
Photovoltaic panels		
Wind generator		
Micro hydro turbine		
Inverter		
Generator set		
Wiring material		
Light outlets		
Power outlet		
Fittings		
Mains connection to building	By supply authority	
Meters	By supply authority	
Switchboards and other control		
Reticulation cable		
Power outlets		
Light fittings		
Emergency evacuation lighting		

Item	Description	Manufacturer/Supplier
Conduits		
Cable tray		
Cable ducts		
Identification materials		
Power factor correction		
Lamps		
Floodlighting		
Site lighting		
Earthing		
Alarm and detection systems		
Clock systems		
Telephone systems		
Inter-communication system		
Television antenna		
Heating cables and units		
Fans, exhaust and heating		
Smoke alarms		

PREPARATION *Inspect conditions at site before starting work.*
Consider all OHS&E risks and document selected controls.
Ensure live wiring for construction works comply with AS/NZS 3012 and any installed end user live unprotected services in structure, identified for any construction works to be undertaken in proximity of live wiring or services to prevent inadvertent contact.
Provide necessary safety or security controls where required to ensure safe practices and installations.
The following preparatory actions are to be performed by the builder for the electrician:

J. Slab penetrations for floor-mounted GPO's, telephone outlets etc.
K. Chasing and making good for conduit access for skirting
L. Chasing and wiring duct, GPO's switches etc.
M. Supply and installation for access openings where required.
N. Provision of electrical riser.
O. Provision of signwriting to main switch room and distribution board.
P. Forming, trimming, patching and making good of openings for luminaires to sizes required by the electrician.
Q. Provision of concrete.
R. Making good existing roadway etc.
S. Structural support for equipment accounted for in building design

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Comply with standards throughout and requirements of supply authority. Install light fittings, switchboard and distribution board, metre board and box. Arrange for inspection by supply authority inspector. Obtain compliance certificate. Connect to main supply.
Cable: secure cable, using materials specified above, at centres recommended by regulations and/or manufacturer.
Locate the meter box in a supplier-approved, secure location with ease of access.
Install an integrated fire alarm system to the building as specified and to the electrical engineer's specifications.
Fit hard-wired smoke alarms to the home as dictated by safety codes and the BCA.
Fit smoke alarms or detectors to the overall control system.

COMPLETION
Complete work in accordance with instructions and written variation orders.

WARRANTY
Provide to proprietor a warranty covering satisfactory performance of the complete installation.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
The supply and installation of thermal and acoustic insulation.
Read this trade section in conjunction with the following referenced documents and publications:
Basix, or similar and Section J reports as applicable.
Acoustic requirements as applicable.
Product manufacturers 'publications for provision for specific insulation types.
Certification requirements as listed on the principal certifying authority documents.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Carpentry, wall and roof framing, roofing, wall lining, brickwork, and blockwork, suspended ceilings.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition.*

AS 3999 2015	Bulk thermal insulation–Installation.
AS/NZS 4200	Pliable building membranes and underlays.
	AS 4200.1 2017 Materials.
	4200.2 2017 Installation.
AS/NZS 4859	Materials for the thermal insulation of buildings.
	4859.1 2002 General criteria and technical provisions.

Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED No variations to the selected materials will be accepted without written approval
NOTE: ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.
Note that coordination is required for installation of both the thermal and the acoustic insulation materials and may include use of acoustically rated sealants.
Where fire rating components are included in the works, ensure that fire rating performance is maintained in all sealant installation types.

Item	Description	R-Rating	Location	Manufacturer/ Supplier
Floor insulation				
Wall insulation				
Roof insulation and sarking				
Building paper				
Reflective type				
Flame retardants				
Sarking				
Vapour barriers				
Bulk				
Sealed batts				
Blankets				
Rigid cellular				

Thermal insulation
Provide thermal insulation to locations shown on the drawings and of R value listed or scheduled in the Energy Report
Certify each type of insulation complies with the Energy Report requirements and fully coordinate with all adjacent building components.
Acoustic insulation
Provide acoustic insulation to location shown on the drawings or where listed on the Acoustic Report.

PREPARATION *Inspect conditions at site before starting work*
Consider OHS&E requirements for handling and installation. Ensure manufacturer's OHS&E controls are considered and documented. Prepare surfaces and or framing material and ensure that no obstructions will prevent rapid and effective installation.

Install to the product manufacturer's specifications with specific attention to condensation prevention as listed on each of the insulation product speculations.

Condensation prevention

Confirm condensation issues prevention methods at the submission stage of the works and hand over confirming data to the architect. Obtain approval prior to commencing work.

SUBMISSION

Submit samples and technical data from each of the components for approval prior to ordering and commencing work.
Obtain approval from the architect of all sample submissions.
Provide shop drawings if and where required including provisions for condensation control measures.

ON-SITE ACTIONS *Start of work means total acceptance of conditions.*

Comply with statutory and manufacturer OHS&E recommendations.
Comply with manufacturer's current written instruction. Install insulation to the following areas and structures.

Hold points

Refer to Hold points requirements for necessary inspections and approval of the installations at stages required by the product manufacturer or the principal certifying authority.

COMPLETION

Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Provide and install fire-proofing components, fire sprays, coatings and or systems.
Fit fire shutters to windows in accordance with manufacturer's instructions where indicated on the drawings (Refer BAL Rating in AS 3959 2009).
Refer also to Fireproofing Schedule.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work.*
Concreter, structural steel, roofer, plasterer, electrical, plumbing, services penetrations generally.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current Edition*

AS/NZS 1841	Portable fire extinguishers
AS 1905	Components for the protection of openings in fire-resistant walls.
AS 3959 2009	Construction of buildings in bushfire-prone areas. *3 Amdmts 2009-2011*
AS 4072.1 2005	Components for the protection of openings in fire-resistant separating elements – Service penetrations and control joints. *Plus 1 Amdmt, 2006.*
AS/NZS 4353 1995	Portable fire extinguishers - Aerosol type.
AS 5414 2012	Bushfire water spray systems
AS ISO 7240-3 2014	Fire detection and alarm systems – Audible alarm devices
AS ISO 7240-23 2014	Fire detection and alarm systems – Visual alarm devices
HB 37.4 1994	Handbook of Australian Fire Standards – Building materials, products and construction.

Comply with state requirements and codes of practice in relation to work on roofs.
Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
NOTE: ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	Description	Manufacturer/Supplier
Intumescent coating	Applied paint 1 hour, 2 hour fire rating	
Plasterboard	Fire rated wall/ceiling, encasement systems for 1 hour , 2 hour rating	
Vermiculite coating	Sprayed mineral coating	
Sealant	Water based, low VOC, environmentally friendly fire rated, intumescent based sealant.	E.g.: Trafalgar Fyreflex

PREPARATION *Inspect conditions at site before starting work.*
Ensure all fireproofing products are assessed against Australian Standards and relevant Material Safety Data Sheets used to identify OHS&E risks and document all selected controls. Ensure fall prevention strategies are in place and workers follow statutory and manufacturer OHS&E requirements.
Prepare surfaces affected by the installation in accordance with manufacturer's written instructions. Clean surfaces to receive sealants. Ensure all preceding trades have completed installations (e.g. penetrations).

ON-SITE ACTIONS *Start of work means total acceptance of conditions.* Ensure all surfaces to be fire-proofed have been constructed and prepared correctly to receive the application of specified products. Apply products to surfaces required to be fire-proofed, provide adequate protection of adjacent and/or sensitive treated surfaces for the duration of construction. Repair or replace any damaged or compromised products immediately prior to handover at practical completion.
At junctions with other materials, insert into opening a backing rod, wedged firmly in place. Apply over the backing rod an approved fireproofing sealant, to colour selected by the architect.
Comply with supplier's/manufacturer's installation recommendations.
A representative or system supplier is required to be present during the installation of fireproofing materials in the building.
Provide manufacturer and certified installer's certification that installation has been completed to provide the above specified levels of fire-proofing to the scheduled substrate materials.
Fit fire shutters to windows in accordance with manufacturer's instructions where indicated on the drawings.

CLEANING
Thoroughly clean areas in which work has been performed and those adjacent to the work area.

COMPLETION
Complete work in accordance with instructions and written variation orders in a manner which provides the level of fire-proofing specified.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to*:
Supply and install certified and plated to comply with the required Fire Rating (FRL) steel fabricated door frames, fire doors, doors, hinges, (refer Door Schedule), all required fastening systems, factory prime painting.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work:*
Masonry, finish hardware (except hinges) including supply of hardware templates, concrete, wall construction, doors and door frames.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition*

AS 1530	Methods for fire tests on building materials, components and structures, *There are 10 parts, 1994 – 2007, many revised in 2016*.
AS 1905	Components for the protection of openings in fire-resistant walls. AS/NZS 1905.1 2015 Fire-resistant doorsets. *1 Amdmt 2016* *There is 1 other part, 2005 (R 2016).*

Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
NOTE: ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	Description	Manufacturer
Doors	Fire resistance rating (FRL) [ ] Plywood/metal face, mineral core, identical in construction to tested and approved assembly rated for opening rating required	
Supports and anchors	Fabrication of galvanised sheet steel or wire as required	
Wire ties	Standard, 3mm minimum, eight or ten per frame	
Strap	Minimum 25mm x 3mm low carbon steel	
Door seals	Fire rated compliant to AS	Raven
Insets, bolts and fasteners	Manufacturer's standard units, including hot-dip galvanised items to be built into exterior walls	

Steel door frames: Fabricate steel frame units to be rigid, neat in appearance and free from defects, warp or buckle. Electrically weld corners and grind welds flush in accordance with AS 1905.
Provide each frame with mortar-proof universal strike mortice blockout.
Provide each frame with provision for recessed hinges, with hinge reinforcement of not less than 3mm steel sheet, drilled and tapped to receive hinge screws.
Provide each frame to receive a closer with appropriate head stiffeners.
Frames with surface closers: 3mm steel stiffener.
Stiffen the head of each frame of doors in masonry with a welded steel section to accept the weight of masonry above.
Supply each frame with required fire rated hinges, welded to frame or loose, as specified on the Door Schedule at the end of this specification.

PREPARATION *Inspect conditions at site before starting work*
Ensure all OHS&E risks are considered and selected controls documents. Number doors and frames to match Door Schedule.
Check and confirm dimensions at the site before starting fabrication. Ensure that installation conditions will permit the specified requirements.
Fit each frame with two (2) black rubber stops on the closing side .of each opening leaf.
Supply frames fitted with 1 galvanised 35mm x 12mm x 1.2mm sheet steel channel floor spreader.
Shop applied paint: Rust inhibitive primer to steel ready to receive finish coats on site. Refer Door Schedule.

ON-SITE ACTIONS *Start of work means total acceptance of conditions.*
Installation of Frames
In masonry walls: erect and secure frames plumb and true, providing bracing as required to maintain frames in positions until permanent anchors are set. Do not remove spreaders until frames are secure.
In off-form concrete openings: erect frames plumb and true within openings in accordance with one of the methods shown in AS 1905.
Clearance between concrete face and door frames (top and sides) : nominal 20mm; maximum 25mm.
Clean frames thoroughly after assembly. Touch up with rust-inhibitive primer.

Installation of Doors
Make good surface imperfection of doors or replace door if rejected by the architect.
Hang doors in strict compliance with manufacturer's recommendations and the applicable provisions of AS 1905.
Adjust doors to frames to obtain precise clearances. Adjust fire rated door hardware to complete and proper operating conditions.
Properly clean work of this section and protect as necessary under various working conditions to avoid damage of any nature. Test emergency fire or smoke alarm release and correct self-closing of door(s). Obtain supplier's release of correct installation and operation of doors in compliance with certification requirements.
Repair or replace damaged parts, including repairs to adjacent work damaged in connection with work in this section.
Install scheduled Fire Rated Door Seals to perimeter of all external doors and to internal doors between zones.

Grouting of Frames
Grout frames mounted in masonry openings with 1-part Portland cement and three parts sand, with sufficient water for pressure grouting. Provide bracing as required during grouting to maintain frame in true position.
Form face of grout to a nominal 5mm back from the face of the frame. Other wall opening construction: grout frames in accordance with the manufacturer's installation details to ensure integrity of the complete FRL installation is maintained.

Installation of Hardware
Finish hardware preparation : prepare doors and frames to receive fire rated finish hardware in accordance with final Schedule of Finishes and templates provided by hardware supplier. Comply with requirements of AS 1905 for door and frame preparation for hardware. Provide tapped holes for fittings.

COMPLETION
Complete work in accordance with instructions and written variation orders.

WARRANTY
Provide to proprietor a warranty covering satisfactory performance of the complete installation.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Design, fabricate supply and install security items as shown on drawings and in Window Schedule and Door Schedule. Grilles, internal or external, roller screens, ventilating security doors, hinged and sliding screens, microwave detection, remote control.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work.*
Brickwork, blockwork, windows, door frames, roof construction, carpentry, cement render, painting, electrical.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition*

AS/NZS 1554	Structural steel welding, *There are 7 parts, 2003-2014. 4 Amdmts 2003, 2015, 2017.*
AS 1627	Metal finishing – Preparation and pretreatment of surfaces. *There are 6 other parts, 1997 - 2005.* 1627.6 2003 Chemical conversion treatment of metals.
AS 1796 2001	Certification of welders and welding supervisors.
AS 3715 2002	Metal finishing - Thermoset powder coatings for architectural applications of aluminium and aluminium alloys.
AS 4100 1998	Steel structures. *There is a Supplement., Amdmt 2012 and a Supplement – Commentary.*
AS/NZS 4680 2006	Hot-dip galvanized (zinc) coatings on fabricated ferrous articles.
AS 5039 2008	Security screen doors and security window grilles.

Comply throughout with the current edition of the NCC.

MATERIALS AND METHODS
NOTE : ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	Description	Manufacturer
Material	Size:	
	Model No.:	
	Finish:	
	Colour:	

PREPARATION *Inspect conditions at site before starting work.*
Ensure all OHS&E risks have been considered and selected controls documented.
Visit site and accurately measure openings etc. before fabrication.
Before delivery to site, pre assemble where possible all items to ensure proper fit and dimension of each item. Disassemble and pack carefully for shipping to the site. On delivery and unloading, inspect for damage and arrange immediate replacement if necessary.

A. Field measurements: Do not delay job progress. Allow for adjustments and fitting of the work in the field where taking of measurements might cause delay.
B. Coordination with work of others: Furnish to each relevant trade foreman anchorages and setting drawings, diagrams, templates and instructions for installation of items having integral anchors which are to be embedded in concrete or masonry construction. Coordinate delivery of such items to the project site.

ON-SITE ACTIONS *Start of work means total acceptance of conditions.*

A. Anchorage: Except for anchorages furnished herein but placed by other trades, set and secure necessary anchorages, including concrete and masonry inserts, bolts, wood screws and other connectors as needed. Perform cutting, drilling and fitting as needed, locating anchorages and holes to ensure proper positioning of completed work.
B. Fit: During installation and assembly, form tight joints with exposed connections accurately fitted, and reveals uniform. Finish work accurately, plumb, level, square and true in reference to adjacent construction. Make tolerances conform to Australian Standards.

Where considered necessary by the architect, arrange for the manufacturer of products to instruct installers regarding correct installation and check completed installations.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to*:
Supply and install surveillance equipment with associated cable installation. Equipment may include CCTV, video, door answering, intrusion detection, movement detection and monitoring.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work:*
Floor construction, electrical installation, wall construction, communications cabling, ceiling construction, finishing trades.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition*

AS 4806.2 2006 (R2015)	Closed circuit television (CCTV) – Application guidelines.
ISO/IEC 15018 2005	Information technology – Generic cabling for homes.
AS/CA S008 2010	Requirements for customer cabling products. Can be printed from www.commsalliance.com.au/__data/assets/pdf_file/0008/2420/S008_2010.pdf
AS/ACIF S009 2006	Installation requirements for customer cabling (Wiring Rules). Can be printed from www.commsalliance.com.au/__data/assets/pdf_file/0009/2421/S009_2006r.pdf

MATERIALS TO BE USED
NOTE : ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	Description	Manufacturer
Video equipment		
Door answering		
Intrusion detection		
Movement detection		
Cable		

PREPARATION *Inspect conditions at site before starting work*
Consider all OHS&E risks and ensure selected controls, including public, are documented.
Examine carefully the proposed route for cable installation and installation of other components. Obtain architect's approval before executing the work.
Provide necessary safety or security controls where required to ensure safe practices and installations.
Provide needed penetration, openings, chases and structures for safe secure and effective installation of cable.
If installation is required in the electrical riser, Cooperate with the electrician.

ON-SITE ACTIONS *Start of work means total acceptance of conditions.*
Comply with codes listed above. Refer also to installation clauses for each item.
Mark and identify as required.
Complete all administration as required.
Where requested by supply authority supply test data obtainable from component manufacturer.
Arrange for inspections by component manufacturer's representative to ensure correct application, use and installation, where applicable.
Adjust installations of components to ensure proper fit and alignment. Remedy items of inefficient operation or of doubtful performance. Clean visible items to original condition. Remove debris from installation in concealed spaces.
Protect installed items from damage from any source until Practical Completion.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Supply and install tanking and waterproofing membranes to areas shown on drawings fully coordinated with drainage installations behind the retaining walls and basement areas.
Provision of secondary components to tanking installations such as filter fabrics and drainage cells.
Waterproofing of roof top and balconies, decks and slabs where over the internal living areas.
Waterproofing of landscape components where shown on landscape type documentation, fully integrated with drainage from these locations.
Waterproofing of services pits such as the lift pits fully coordinated with services section. Note that provision of waterproofing membranes to wet areas is specified in trade section Wet Area Membrane and is to be fully integrated with trade section for tiling.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Blockwork, brickwork, concrete
Associated documents
Read this trade section in conjunction with the following:
Hydraulic engineer's documentation .
Structural and civil engineer's documentation.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition.*

AS 3740 2010	Waterproofing of domestic wet areas. *1 Amdmt 2012*
AS 4654	Waterproof membranes for external above ground use.
	4654.1 2012 Materials
	4654.2 2012 Design and installation
AS/NZS 4858 2004	Wet area membranes.

Current written instructions provided by tanking material manufacturer.
Comply throughout with the current edition of the NCC.
Industry standards
Refer to industry standards including selected product manufacturer's specifications and technical data,
Ensure that material compatibility is taken into consideration when choosing tanking and waterproofing installation components.
Design and Construct
Design of all components including specific detailing for each type of installation is required as part of the submission, all with the approval of the product manufacturer.

MATERIALS TO BE USED

NOTE : ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	Description	Manufacturer/Supplier
Tanking membrane		
Waterproofing membranes		

Tanking membrane installations
Provide tanking membranes complete with all components such as drainage cells and approved type of fill behind the wall installations all fully coordinated with discharge of water from behind the wall. Submit confirming data for approval and obtain manufacturer's 'specifications for the complete system.
Waterproofing systems
Submit confirming data for approval showing all components and samples of each of the items to be provided.

PREPARATION *Inspect conditions at site before starting work*
Review Material Safety Data Sheets and ensure all OHS&E risks are considered and appropriate controls documented.
Prepare the substrate as listed by the product manufacturer and provide falls to substrate to suit product specification,
Fully coordinate work with outlets for drainage and provide shop drawings and technical data for approval and supported by the product manufacturer's technical data.
Employ subcontractors licensed by materials manufacturer.

SUBMISSION
Submit samples, shop drawings and technical specifications from the manufacturers for each of the installation types.
Submit confirming data that all proposed installations are chemically compatible with adjacent building components and are suitable for the intended use.

ON-SITE ACTIONS *Start of work means total acceptance of conditions.*
Comply with statutory and manufacturer OHS&E recommendations.

Method A: Install tanking membrane or other material strictly in accordance with written instructions of manufacturer. Make no variation without the manufacturer's written order, but then, only after the architect has given his approval. Execute seals around penetrations, upstands, etc. as instructed by the manufacturer. Install the complete sheet membrane tanking in compliance with the manufacturer's instructions. Apply protective board over membrane on outside of tanked walls.

Method B: Apply three coats of natural asphalt in accordance with the manufacturer's instructions. Finish with protective board.

Method C: Apply two coats of aqueous bitumen in accordance with the manufacturer's instructions. Protect with scratch coat and finishing coat of cement render.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

WARRANTY
Provided warranty for the installation for the duration of ten years including materials and workmanship.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Location: Refer Waterproofing Schedule and drawings.
Provide waterproofing membranes to all wet area locations, fully coordinated with all adjacent floor and wall finishes.
Note that in Access Requirements of the NCC a level floor finish is required between wet areas and adjacent floor finishes. Ensure that flush floor finishes are coordinated with installation of waterproofing membranes and all associated components.
Typically to floors and walls of wet areas: Including bathrooms, ensuites, laundries and garbage rooms, and to walls areas immediately adjacent and behind a bath, sink or similar fixture.
Carry the membrane under fixtures, baths, shower bases, toilets, vanities and the like and extend into the full area of shower recess.
Install membrane to a minimum height of 2100mm to walls of shower recess extending 300mm beyond the horizontal extent of the designated tiled wall area or as required by specific provisions of the NCC for the building type.
Install membrane to a height and width not less than 450mm to wall areas immediately adjacent and behind a bath, sink or similar fixture.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work.*
Blockwork and brickwork, concrete, cement render, fibre cement, plasterboard, ceramic tile.
Insulation for provision of sound insulation to locations where tiles are installed over living areas in the floor below, refer to specific provisions of the NCC for this requirement.
Metalwork for selection of gratings to wet areas
Associated documents
Read this trade section in conjunction with the following:
Hydraulic engineer's documentation for provision of surface gratings to wet areas.
Access report requirements for provision of access listed components.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition*
AS 3740 2010 Waterproofing of domestic wet areas. *1 Amdmt 2012.*
AS/NZS 4858 2004 Wet area membranes.
Current written instructions provided by the selected product manufacturer,
Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
NOTE : ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.
Provide waterproofing membrane to wet areas that meets the listed requirements of the NCC and that is chemically compatible with adjacent building components including the tile adhesive and the insulating material to floor finishes,
Install waterproofing membrane to approved submission of samples and technical data, all confirmed by a written certification from the product manufacturer.
Any proposed alternatives to the system specified below: provide a proprietary liquid applied or sheet membrane system which complies with AS/NZS 4858 and is suitable for use as a waterproofing system in wet areas, shower recess bases and associated floors and wall/floor junctions which are to be tiled.
Ensure that both the sheet membrane and the applied liquid membrane are installed to the product manufacturer's specifications.

PREPARATION *Inspect conditions at site before starting work.*
Review Material Safety Data Sheets and ensure all OHS&E risks are considered and appropriate controls documented.
Prepare the substrate as required by the membrane manufacturer and ensure that all falls where required are to the required project specific levels.
Provide sample installations where listed by the architect.
Curing: allow concrete to cure for a minimum of 28 days prior to the application of the membrane or as required by the selected membrane manufacturer.
Cleaning: clean down the substrate surface to remove all curing agents, wax, grease, oil, dirt, dust and other foreign material and leave it clean, dry, dust free, smooth and free of undulations.
Voids: patch with a non-shrinking quick setting grout and allow to cure for a minimum of 7 days prior to applying the membrane.

ON-SITE ACTIONS *Start of work means total acceptance of conditions.*
Fillet: wherever a vertical penetration or upstand occurs install a 12mm x 12mm fillet of Tremflex PU1 at the intersection of the vertical and horizontal surfaces. or similar approved method.
Primer: prime porous substrate (concrete/cement) typically with Vulkem 171.or similar approved system.
Prime non-porous materials (metals/plastics) typically with Tremco Primer No 181 or similar approved system..
Joints and penetrations: on the same day of priming, seal joints and penetrations with Vulkem 931 sealant.
First coat: on the same day as priming, apply a coat of Tremco Vulkem Non-exposed to a minimum wet film thickness of 1.5mm to floors and walls in a single operation. If delayed beyond that day reprime-prime in accordance with manufacturer's instructions.

SUBMISSION
Submit detailing and samples for approval as well as confirmation that the proposed preparation work is completed and is in accordance with the product manufacturer's specifications.
Submit shop drawing showing the proposed detailing for approval, all confirmed by the product manufacturer.

Detailing:
Detail the membrane in accordance with the manufacturer's recommendations, as shown on the drawings and as follows:
Turn the membrane down into the puddle flange of outlets.

Turn the membrane up at and seal to all penetrations, pipes, waste outlets, etc.
Turn the membrane up for 100mm at all walls, plinths, and other upstands.
Dress the membrane over the horizontal leg of angle tile trims at doorways and turn up the vertical face of the angle to terminate level with the bottom of the floor tiles.
Similarly dress the membrane up the face of door jambs to terminate at the underside of the floor tiles.
The membrane turn up is to create a complete waterproof envelope to the floor area of the space being treated.
Detail the membrane at movement joints in the substrate as detailed on the drawings.
Membrane curing: Allow 72 hrs for the membrane to cure prior to carrying out water tests or applying finishes, toppings etc.

COMPLETION
Complete work in accordance with instructions and written variation orders.

WARRANTY
Provide a warranty for materials and application of the membrane for a period of 10 years from the date of Practical Completion.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
The supply and installation of membranes and sealants to eliminate all gaps in the building envelope including pipe and cable wall penetrations, floor/wall/ceiling junctions, windows and external doors.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Wall, floor and roof framing, roofing, ceiling/wall lining, brickwork, blockwork, suspended ceiling to attain to an airtightness level of < 1 air change/hour at 50 Pascal internal pressure.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition.*

AS 3999 2015	Bulk thermal insulation of dwellings - Installation requirements.
AS/NZS 4200	Pliable building membranes and underlays.
	4200.1 2017 Materials.
	4200.2 2017 Installation.
AS/NZS 4859	Materials for the thermal insulation of buildings.
	4859.1 2002 General criteria and technical provisions.

Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED ***No variations to the selected materials will be accepted without written approval***
NOTE: ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	Description:	Location	Product Name:	Manufacturer/ Supplier
Airtight membrane	Vapour & airtightness membrane for all diffusion open construction.	Internal face external envelope		
Connection strip	Connects airtightness membranes at junctions.	Junctions between walls and wall/ceiling		
Floor joint adhesive	Joins wall membrane to floor.	External wall perimeter		
Wall membrane joint tape	Tapes the overlaps of wall and ceiling tapes.	All overlaps		
Installation box	Airtight box for power outlets etc.	Walls and ceilings as required		
Roof & wall sarking	3 layer nonporous diffusion-open polypropylene membrane.	Below roof cladding		
Wall protection membrane	Monolithic nonporous membrane high water resistance low vapour resistance.	Behind wall cladding system materials		
Sealing tape	Multi-purpose adhesive tape for wind and weathertight sealing.	Roof underlays, wall sarking etc		
Sill tape	Stretchable sill tape	Sealing around windows, doors		
Double sided butyl rubber tape		To seal nail and screw penetrations		
Cable grommets	EPDM sealing grommet	Cable & pipe penetrations		
Blower door	For airtightness verification	External door		

PREPARATION *Inspect conditions at site before starting work*
Consider OHS&E requirements for handling and installation. Ensure manufacturer's OHS&E controls are considered and documented. Prepare airtight envelope sealing and ensure that no obstructions or corrupted or contaminated surfaces will prevent rapid and effective installation.

ON-SITE ACTIONS *Start of work means total acceptance of conditions.*
Consider OHS&E requirements for handling and installation. Comply with manufacturer OHS&E recommendations.
Comply with product manufacturer's current written instructions. Install membrane and seals to the entire designated envelope.
Verify installation employing a blower door capable of pressurisation to 50 Pascal. Record result, identify air leaks, rectify leaks and retest until envelope integrity is proven to be less than 1 air change/hour.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to*:
The work of this section covers the supply and installation of casework joinery items. It includes:
Kitchen and wet area built in joinery items.
Wardrobes, coat cupboards, benches, shelves, any other joinery items built off or on site as applicable.
Refer to specific architectural details for components of joinery and read in conjunction with the associated Joinery Items Schedule where part of the architectural drawings. Refer also to associated schedule that lists white goods associated with provision of casework joinery items.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Coordinate work with all adjacent building components and services as applicable to each type of installation. It is the contractor's responsibility to check and evaluate site conditions and to provide the necessary coordination with building components and services.
The building components are to include the following:
Floor, wall and ceiling construction, window and door installations, finishing trades.
Services components are to include the electrical and hydraulic services as well as providing the necessary work for exhaust fans etc.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition*.

AS/NZS 1859	Reconstituted wood-based panels - Specifications *There are 2 additional parts*.	
	1859.1 2004	Particleboard
	1859.2 2004	Dry-processed fibreboard.
AS/NZS 2754 1991	Adhesives for timber and timber products	
AS 2796	Timber - Hardwood - Sawn and milled products. *There are 3 parts, 1999-2006.*	
AS/NZS 4364 2010	Timber-bond performance of structural adhesives.	
AS 4785	Timber – Softwood - Sawn & milled products	
	4785.1 2002	Product specification
	4785.2 2002	Grade description
	4785.3 2002	Timber for furniture components

Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
NOTE : ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.
Read this trade section with reference to the following:
Architectural drawings for specific reference to detailed drawings for joinery items
Trim items such as skirtings etc. are specified in the Carpentry trade section. Note that list of items below is a suggested check list only and needs to be fully coordinated with the project documentation.

Item	Description	Comments
Kitchen cupboards		All items in this group need to be constructed from high moisture resistant materials
Built in wardrobes etc.		Refer to architectural details for finishes to this item and read in conjunction with relevant Schedules as applicable.
Shelving and storage units		
Laundry built in units		
Specific items where listed on Joinery Items schedule		

Use only low VOC finishes on all timber surfaces.

SCHEDULES
Read this trade in conjunction with the following schedules:
Joinery Items Schedule
Hardware Items Schedule
Items Schedule for items of equipment to be provided where part of the Casework Joinery Items.

PREPARATION *Inspect conditions at site before starting work*
Consider all OHS&E risks and ensure controls are documented.
Submit samples, shop drawings and schedules for approval of the architect for all items of casework joinery and obtain approval prior to commencing work.
Note that coordination with all dimensions especially services components, remain the responsibility of the contractor. Construct a control sample of components listed on architectural documentation for evaluating and necessary approvals and carry out the modification component of work if and where required. Stop. When approved by architect, complete remaining work.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Provide and install all items to approved locations and insure once delivered on site. Install to approved tolerance levels complete with all sealing of joints to adjacent surfaces.
Ensure correct location of services outlets and provide exhaust fans where listed or required for correct operation of each item of casework joinery.
Ensure full compliance with statutory regulations including provision of fire blankets and fire extinguishers if required by statutory provisions.
Provide necessary anchoring devices. Use concealed shims to install work plumb, level, straight and distortion free within the following tolerances:
- 1mm in 800mm for plumb and level.
- 0.5mm maximum offsets in flush adjoining surfaces.
- 0 2mm maximum offsets in revealed adjoining surfaces.

Scribe and cut to fit adjoining work; refinish cut surfaces or repair damaged finishes at cuts.
Secure joinery with anchors or blocking builtin or directly attached to substrates. Secure to grounds, stripping and blocking with countersunk, concealed fasteners and blind nailing as required to complete the installation. Except where prefinished matching fastener heads are required, use fine finishing nails, countersunk and filled flush. Use a matching filler where a transparent finish is required. Install without distortion.
Ensure that all surface floor drainage and condensation is isolated from timber surfaces to reduce likelihood of fungal and insect infestation.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.
Hand over all warranties to the architect on completion.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Supply and install glass splashback, including but not limited to glass panels, installation materials and preparation of surfaces of adjacent installations.

COOPERATE WITH THESE OTHER TRADE *to resolve possible problems before starting work*
Joinery, wall construction, wall finishes, bench tops, overhead cupboards, rangehoods.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition.*
AS 1288 2006 Glass in buildings – Selection and installation. *3 Amdmts 2008, 2011, 2016.*
Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
NOTE: ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	Description	Manufacturer
Glass	6mm toughened Clear or Starphire	Viridian
Paint	2 pack polyurethane	
Silicone	Waterproof neutral curing	E.g. Dulux

PREPARATION *Inspect conditions at site before starting work*
Make accurate measurements of area to be covered including cutouts for power outlets etc. Ensure substrate adjacent to cook top is non-combustible 300mm either side and 600mm above. Thoroughly clean the wall surface and leave as smooth as plasterboard. Prepare also surfaces of adjacent installations. Ensure that recommended heat and moisture resistant paint applied to back of glass is thoroughly dried. Seal around glass perimeter with similar colour, paintable, silicone. Remove surface blemishes and clean thoroughly.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Apply paint compatible neutral curing silicone rubber. Install splashback. Press glass and maintain pressure until fully set.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Supply and install mirrors with metal frames as detailed herein.
Supply and install unframed mirrors as detailed.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work.*
Wall framing, wall lining, drywall partitions, plasterboard, fibre cement, ceramic tile, painting.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition*

AS 1231 2000	Aluminium and aluminium alloys – Anodic oxidation coatings.
AS 1288 2006	Glass in buildings – Selection and installation. *3 Amdmts 2008, 2011, 2016.*
AS 1627	Metal finishing – Preparation and pretreatment of surfaces. *There are 6 other parts, 1997-2005.*
	1627.6 2003 Chemical conversion treatment of metals.
AS/NZS 2208 1996	Safety glazing materials in buildings.

MATERIALS TO BE USED
NOTE: ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	Description	Manufacturer/Supplier
Metal surround	12.70 x 9.53 x 1.57 H9660 or similar clear, anodised aluminium angle.	Alcan
Screws	Aluminium or stainless steel at 150mm centres, securing angle to wall lining or masonry.	
Fixing tape	Double-sided foam adhesive tape 24mm wide.	
Glass mirror	SELECT FROM: 4, 5 or 6mm thick silver quality twin coated glass mirror. Fully toughened silver quality as above. Colour SELECT FROM: clear, bronze, gold, green, OTHER. Clear acrylic mirror, 3mm thick. Backboard: 8mm waterproof plywood.	
Mirror clips	Chrome-plated solid brass clips. Flannelette pads between mirror and clip. Brass fixing screws with domed brass heads (chrome-plated) screwed onto fixing screws.	
Sliding glass	SELECT FROM glass as above. Grind edges smooth, arrised and polished. Grind finger recesses 75mm long, 20mm wide, 3mm deep to each slider. Aluminium anodised sliding door track.	
Sealants	Silicone rubber to selected colour.	

PREPARATION *Inspect conditions at site before starting work.*
Consider all OHS&E risks and document selected controls.
Prepare surfaces affected by the installation in accordance with manufacturer's written instructions. Clean surfaces to receive silicone sealants.
Clear backing boards or wall surfaces to remove dust and dirt. Seal new plasterboard or fibre cement with 1 coat of pigmented sealer.

ON-SITE ACTIONS *Start of work means total acceptance of conditions.*
Before wall finishes are installed around mirrors, install anodised angle with the 12.70mm flange at right angles to the backing with countersunk head screws at 150mm centres. Apply 2 pack epoxy glue to the back of the angle before screwing. Ensure that the angles are installed truly horizontal and/or vertical.
Face fixing of mirrors
Fasten mirrors to the backing with two-part brass screws through pre-drilled holes in the mirror. Provide CD dome caps screwed onto the threaded outer ends of the fixing screws.
Concealed Fixing
Fix mirror to a water resistant backing board using 50mm wide double-sided mirror fixing tape. Seal perimeter of mirror with neutral curing paintable silicon.

CLEANING
Thoroughly clean areas in which work has been performed and those adjacent to the work area.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Supply and installation of manufactured casework items, including but not limited to:
kitchen cabinets and cupboards, shelving, display units, bathroom cabinets, laundry cabinets, counters, tearoom cupboards, wardrobes.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Carpentry, wall finishes, floor finishes, ceiling finishes, water distribution, electrical installation.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition*.

AS/NZS 1859	Reconstituted wood-based panels – Specifications. *There are 2 other parts.*
	1859.1 2004 Particleboard
	1859.2 2004 Dry-processed fibreboard.
AS/NZS 2754	Adhesives for timber and timber products.
AS/NZS 2924 1998	High pressure decorative laminates - Sheets made from thermosetting resins. *There are 2 parts, 1998*.
AS/NZS 4386 1996	Domestic kitchen assemblies. *There are 2 parts, 1996.*

Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED ***No variations to the selected materials will be accepted without written approval***

Item	**Description**	**Manufacturer/Supplier**
Carcass units (Melamine faced):	MDF thickness	
Vertical components	18mm	
Floors	18mm	
Shelves	18mm	
Doors	18mm	
Base (below floor)	32mm	
Bulkheads	16mm	
Back	3mm	
Edge strips	32mm	
Laminates:		
Bench tops	1mm thick	
Doors, carcass drawers	0.8mm thick	
Bench tops	Stone, ceramic/plastic	
Fasteners		
Hardware		Blum, Hettich, Hafele
Hinges		
Catches		
Drawer handles		
Sliding door tracks		
Pot drawer runners		
Adjustable shelf brackets		
Glazed shelves		

PREPARATION *Inspect conditions at site before starting work*
Consider all OHS&E risks and document selected controls.
Construct by screwing and gluing or other approved method. A dry stapled assembly will not be approved. Fabricate bench tops as recommended by the materials 'manufacturer. Locate openings accurately using templates or roughing-in diagrams for proper size and shape. Where located in bench tops, seal edges of cut-outs with a water resistant coating. Back prime concealed solid timber surfaces prior to installation. Install fasteners hinges etc. in accordance with manufacturer's instructions.

ON-SITE ACTIONS *Start of work means total acceptance of condition*
Use concealed shims as required to install the work plumb, level, straight and distortion free within the following tolerances: 1mm in 800mm for plumb and level (including bench tops), 0.5mm maximum offsets in flush adjoining surfaces, 2mm maximum offsets in revealed adjoining surfaces. Scribe and cut to fit adjoining work; refinish cut surfaces or repair damaged finishes at cuts. Secure joinery with anchors to substrates, or secure to grounds, stripping and blocking with countersunk, concealed fasteners and blind nailing. Install casework without distortion so that doors will fit openings properly and be accurately aligned. Install door and joinery hardware as scheduled.
Adjust joinery to achieve a uniform appearance. Lubricate and clean hardware making final adjustments needed for proper operation. Remove handling marks from visible joinery surfaces.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Supply and install a complete installation of workstations where shown on drawings:
Frames, panels, solid, glazed, laminated, metal, veneered, acoustic, fabric faced, cable ducts, power poles, work benches, shelves, hampers, drawer pedestals, cupboards, pin boards, whiteboards, power, telephone and computer data outlets.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Carpet, electrical installation, telephone and data cable installation.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition*.
AS/NZS 4443 1997 Office panel systems - Workstations.
Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
NOTE : ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	Description	Manufacturer/Supplier
Cable duct	INDICATE (duct as skirting or at working surface level).	
Structural components of workstations	Extruded aluminium sections forming vertical and horizontal members and duct channels.	
Trim	Aluminium sections, extrusions and cappings.	
Fixings	Concealed extruded clips connecting frames to each other.	
Panels Refer drawings for each panel size and configuration of each workstation	SELECT FROM Medium density fibreboard (MDF) or metal or glass or marviplate.	
Fabric	DESCRIBE	
Hamper (over cupboard)	MDF carcase, timber veneer or melamine, with/without lock on hinged or tambour door.	
Storage shelf	MDF particleboard, surface to match cupboards or hampers, with end brackets.	
Storage cupboard	MDF particleboard, surface to match cupboards or hampers, with end brackets.	
Credenza	Finish as for storage cupboard.	
Worktops	32mm thick MDF, laminate or timber veneer surfaces and edges.	
Support for free ends	Chrome plated steel with single foot or five way foot.	
Pinboards/whiteboards	Top hung, aluminium frame, powder coated.	
Power, telephone data duct	Separate compartment or tray for each cable system. Outlets by system supplier for power and telephone. Outlet for data cable supplier. Duct cover: “snap on/off” metal panel powder coated to match adjacent metal. The entire power duct system is required to be capable of being earthed.	
Power pole	Compatible metal and finish extending from top of screen junction to ceiling.	
Glazed panels	Float glass, single or double glazed.	

PREPARATION *Inspect conditions at site before starting work*
Consider all OHS&E risks and document selected controls.

Allow for and provide facilities for inspection of fabrication procedures by architect during preparation. Provide polythene or building paper to surfaces which may be damaged by the installation. Protect other installation, equipment and finishes.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Install components of the workstations in accordance with agreed layout, design, installation technique and schedule. Ensure that horizontal surfaces are truly level throughout. Remove protection membranes. Clean surfaces. Remove and replace damaged materials. Touch up scratched or discoloured finishes as directed

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Preparation of substrate, application of cement render.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Concrete, brickwork, blockwork, services, painting, door and window installation.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition.*

AS 1672	Limes and limestones.
	1672.1 1997 Limes for building.
AS/NZS 2312	Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings.
AS 3972 2010	General purpose and blended cements.
CIA Z39 2008	Render finishes. (https://infostore.saiglobal.com)

Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
NOTE: ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	**Description**		**Manufacturer/Supplier**
Lathing (over framed walls and construction joints)	Galvanised expanded metal colour, PL25. Or other approved.		Lysaght
Materials: sand	Clean sharp river sand		
	Sieve size	% Retain on sieve	
	4	0	
	8	5	
	16	30	
	30	65	
	50	95	
	100	100	
Cement	Grey Portland. Conform to AS 3972 Type GP		
Lime (if required)	Hydrated lime		
Plaster accessories	External cover bead R01, 03, 04 Bullnose external corner, R06 Expansion joints R45 Stopping bead: R11, R12 or R13		Rondo
Mixes	Generally 3 parts sand:1 part cement. For render over masonry and concrete substrates, not greater than 6 parts sand, 1 part lime, 1 part cement by volume. Machine mix materials.		
Pigment			

PREPARATION *Inspect conditions at site before starting work.*
Consider all OHS&E risks and ensure selected controls documented.
Ensure dirt, grease, and other material which could reduce bonding of render to the surface, are removed. Provide cement based key to smooth surfaces. Check substrate for suitability. Prevent damage to adjacent surfaces.
Apply bonding agent in locations where adhesion is inadequate.
Install sample area of 3 square metres. Stop. When approved by architect, continue.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Fix fibreglass or metal lath over junctions of dissimilar substrates, using impregnated paper backed lath over open timber framing.. Apply material within 30 minutes of the addition of water. Do not retemper temper. Finish external corners with a 4mm radius round. Extend rendering into recesses, jambs, returns etc. Form V-joints in render at junctions with other materials. Apply base coat 13 - 15 mm thick, screed to a smooth level and even surface. Allow to dry. Finish with wood trowel to smooth even surface.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Provide external and internal wall and floor tiling.
Provide waterproofing to wet areas.
Prepare surfaces to be tiled. Supply and install bedding as required. Wall tile, floor tiles, paving tiles. Cleaning of finished work.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Concrete and concrete screeds for provision of falls where required, carpentry, plasterboard, hydraulic service for provision of surface gratings.

Chemical compatibility
Ensure that all components are fully compatible and this includes but is not limited to waterproofing membrane, adhesive and the grout.
Efflorescence control
Ensure that the efflorescence controls are in place as required by the tile manufacturer and confirm this at the submission stage of the works.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition*.

AS 1428	Design for access and mobility.
	1428.1 2009 General requirements for access – New building work. *2 Amdmts 2010, 2017. There are 5 other parts. 1992 – 2010.*
AS/NZS 3661.2 1994	Slip resistance of pedestrian surface – Guide to the reduction of slip hazards.
AS 3740 2010	Waterproofing of domestic wet areas. *1 Amdmt 2012*
AS 3958	Ceramic Tiles. *There are 2 parts, 1992 - 2007.*
AS/NZS 4586 2013	Slip resistance classification of new pedestrian surface materials. *1 Amdmt 2017.*
AS 4663 2013	Slip resistance measurement of existing pedestrian surfaces.
AS/NZS 4858 2004	Wet area membranes.
HB 197 1999	An introductory guide to the slip resistance of pedestrian surfaces.

Comply throughout with the current edition of the NCC.
Comply with material manufacturer's current written instructions.
Industry standards
Comply with industry standards for provision of all tiling components. Where manufacturers or suppliers require registered tradesmen to provide specific work, ensure compliance with warranty conditions.
Confirm full compliance at the submissions stage.

MATERIALS AND COMPONENTS TO BE USED
NOTE : ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	Name	Colour	Size	Texture	Manufacturer/ Supplier
Floor tiles					
Underlay					
Wet area					
Kitchen					
Laundry					
External					
Quarry					
Wall tiles					
Underlay					
Bathroom					
Shower room					
Kitchen					
Laundry					

Item	Name	Colour	Size	Texture	Manufacturer/ Supplier
Other					

Tiles
Bond and seal all tiles with low or zero VOC sealants.
Provide tiles of the type listed on the Finishes Schedule and install to approved submission of samples. For floor tiles include information on the non-slip data.
Spare tiles
Supply matching spare tiles equivalent to ….% of the total area of ceramic tiles laid.
Waterproofing
Provide waterproofing membrane to floor and wall surfaces to extent required by the NCC or as shown on the drawings and fully compatible with all adjacent building components
Adhesive and grout
Provide adhesive and grout of the type listed on the Finishes Schedule and selected for suitability for the purpose and compatible with all adjacent components.

SUBMISSIONS
Submit for approval by the architect the following samples of all tiles showing the proposed range in colour variation. Provide also details in writing of the approved installation instructions from the tile manufacturer.
Technical data from the waterproofing and the adhesive manufacturers' confirming chemical compatibility and the efflorescent control.
Obtain approval prior to commencing work.

PREPARATION *Inspect conditions at site before starting work*
Consider all OHS&E risks and document selected controls.
Ensure surfaces are clean and dry and no variation on walls greater than 5mm under a 2000 long straight edge. Tile a sample panel of each type, 3 square metres. Stop. When approved by architect, continue.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Install floor backing boards as required for floor tile on timber or compressed fibre cement substrates (e.g. Scyon Secura). Form expansion joints no more than 2500mm apart. Comply with adhesive manufacturer's instructions. Install wall tiles with expansions joints not more than 2500mm apart and at floor level and at corners of walls, and at change of background material. Alternatively, apply cement render to masonry wall to smooth even surface for wall tiling. Install grout of selected type (cementitious or epoxy) and colour to manufacturer's instructions. Clean each surface on completion.
Form junctions of different materials (e.g. tiles to carpet) so that they occur under the centre line of doors.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.
Provide certification that all non-slip performance requirements are met.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Supply and apply paints and other finish coatings. Refer to Finishes Schedule.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Each trade as listed to be painted.
Refer Finishes Schedule.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition.*
AS/NZS 2311 2009 Guide to the painting of buildings.
AS/NZS 2312.1 2014 Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings – Paint coatings.
Comply throughout with the current edition of the NCC.
Industry standards
Comply with industry standards as applicable to proposed installations and refer to manufacturer's specifications for list of Australian Standards as applicable to specific project requirements.
Manufacturer's specifications
Comply with the manufacturer's specifications for preparation of the substrate and application of paint finishes. Note that specialist coatings such as intumescent fire resistant coatings and corrosive environment coatings are specified in separate trade sections of this specification.
Only decorative coatings are listed in this trade section.

MATERIALS TO BE USED.
NOTE: ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Surface or Item	Catalogue/Product No.	Manufacturer/Supplier
Internal		
Walls: dry areas		
Walls: wet/other areas		
Ceilings: dry areas		
Ceilings: wet areas		
Joinery: trim		
Block/brickwork		
Concrete		
Steel		
Timber		
External		
Block/brickwork		
Concrete		
Fibre cement		
Timber		
Steel		

All internal paints are to be low VOC or environmental paints.
Add clear, washable sealant on surfaces indicated on drawings.

PREPARATION *Inspect conditions at site before starting work.*
Consider all OHS&E risks and ensure all selected controls are documented.
Ensure fall prevention strategies are in place and workers follow statutory and manufacturer OHS&E requirements.
Prepare each surface to be painted in accordance with AS/NZS 2311 and the paint manufacturer's instructions.
Control panel

Prepare a control panel of 2 square metres of each paint type. Stop. When approved by architect, continue.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Architect will check each prepared surface. Do not proceed with painting until check completed. Apply scheduled coats and paint types to manufacturer's instructions, and AS/NZS 2311.
Delivery storage and handling:

A. Store materials in designated spaces in a manner which meets the requirements of applicable codes and fire regulations. When not in use, keep such spaces locked and inaccessible to those not employed under this section.
B. Provide each space with a fire extinguisher of carbon dioxide or dry chemical type bearing a tag of recent inspection.
C. Bring materials to the building and store in manufacturer's original sealed containers, bearing the manufacturer's standard label, indicating type and colour. Deliver materials in sufficient quantities in advance of the time needed in order that work will not be delayed in any way.
D. Contractor to leave adequate left over paint in marked containers for touching up and maintenance.

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COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Supply and installation of underlay, carpet and accessories. Provide spare carpet.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Concrete, carpentry.
Installation of floors, joinery, preparation of surfaces under and adjacent to floors to receive carpet.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition.*

AS/NZS 1385 2007	Textile floor coverings - Metric units and commercial tolerances for measurement.
AS/NZS 2270 2006	Plywood and blockboard for interior use.
AS/NZS 2455	Textile floor coverings - Installation practice.
	2455.1 2007 General.
	This standard provides full instructions of pre-installation requirements and installation methods.
	2455.2 2007 Carpet tiles.
AS 4288 2003	Soft underlays for textile floor coverings.
VBA	Guide to Standards and Tolerances 2015, page 68

Comply throughout with the current edition of the NCC.
Industry standards
Comply with industry standards as applicable to the proposed installation and refer to manufacturers 'specifications for Australian Standards as applicable to project requirements.
Coordinate fully with access requirements as may be applicable to this trade section.
Manufacturer's specifications
Comply with the manufacturer's specifications for the installation and the structural components of this trade.

MATERIALS TO BE USED
NOTE : ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	**Description**				**Manufacturer/Supplier**
Underlay	Type:		Name		
Carpet fixings	Name				
Metal finishing bar	Heavy duty hammer finish aluminium bar				
Adhesives	Direct stick or dual fix. Non solvent type				
	Carpet Type	Name	Colour	Pile Height	
Carpet Type A					
Carpet Type B					

Associated documents
Read this trade section in conjunction with the following:
Finishes Schedule
NCC requirements for materials as applicable to the project type.
Spare carpet tiles
Provide spare carpet of each type laid, % of area laid. Store where instructed.

PREPARATION *Inspect conditions at site before starting work*
Consider all OHS&E risks and document selected controls.
Refer to manufacturer's specifications for preparation of the substrate and provide the necessary remedial action for the substrate as may be necessary to ensure full compliance.
Ensure floors are dry, clean with no hills or valleys. Apply self-levelling compounds to achieve a flat surface where surface level tolerances (10mm in any room or area or 4mm in any 2m length) are exceeded. Comply with AS/NZS 2455.1.
Comply with Appendix B to ensure moisture content of concrete does not exceed the stated limit. Repair imperfection of the floor surface which might impair the finished carpeted surfaces. Broom clean or vacuum clean surfaces upon which carpet is to be laid.
Install carpet in one room. Stop. When approved by architect, continue.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Test concrete for moisture content to AS/NZS 2455. Secure carpet fixings to manufacturer's instructions.
Lay underlay. Stretch carpet and secure to fixings. Install carpet in one room. Stop. When approved by architect, continue.
On completion of laying each section of carpet, vacuum the surface clean.
Form junctions of different materials (e.g. tiles to carpet) so that they occur under the centre line of doors.

COMPLETION

Complete work in accordance with instructions and written variation orders satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Supply and install floor mat and frame recessed into concrete floor slab at each entry to building.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Concrete, floor coverings.

COMPLY WITH APPLICABLE CLAUSES OF THE NCC *Current edition*.

MATERIALS TO BE USED *No variations to the selected materials will be accepted without written approval*
NOTE : ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	**Description**		**Manufacturer/Supplier**
Mat frame	Size 20 x 30 x 3mm thick EDIT TO SUIT Brass angle Anchors, brass or galvanised steel		
Mat	Size		
	Type		
	Colour		
	Location		
Screed	Sand, cement, water to match screed in wet areas		
Mesh	Galvanised welded wire fabric		

PREPARATION *Inspect conditions at site before starting work*
Consider all OHS&E risks and document selected controls, including public.
Inspect conditions at site before starting work. Provide plywood or solid timber slab to concreter for placement in position of future floor mat before concrete is poured.
Allow for depth of screed and timber slab.

ON-SITE ACTIONS *Start of work means total acceptance of condition*
Secure the brass angle frame to concrete with galvanised masonry anchors. Place concrete screed so that top of screed is level with top of horizontal leg of the brass angle.
When screed is dry, clean the material in the recess and place mat in recess.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Supply and install metalwork items shown on the Architectural Metalgoods and Whitegoods Schedule.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Electrical installation, gas installation.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition*.

AS/NZS 1554	Structural steel welding, *There are 7 parts, 2003-2014. 4 Amdmts 2003, 2015, 2017*
AS 1627	Metal finishing – Preparation and pretreatment of surfaces. *There are 6 other parts, 1997-2005.*
	1627.5 2003 Pickling
AS/NZS 1664	Aluminium structures. *There are 2 parts and 2 Supplements., 1997*
AS/NZS 1665 2004	Welding of aluminium structures.
AS/NZS 1841	Portable fire extinguishers *There are 8 parts referring to different fire extinguishers.*
AS/NZS 4353 1995	Portable fire extinguishers - Aerosol type.
AS/NZS 4680 2006	Hot-dip galvanised (zinc) coatings on fabricated ferrous articles.

Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
Refer Architectural, Metalwork & Whitegoods Schedule.

PREPARATION *Inspect conditions at site before starting work*
Ensure OHS&E risks have been considered and documented.
Field measurements: do not delay job progress. Allow for adjustments and fitting of the work in the field where taking of measurements might cause delay. Ensure statutory hazards and risks have been identified and managed in compliance with statutory requirements.
Provide smooth finishes to exposed surfaces with sharp well-defined lines and arrises. Mill to a close fit machined joints. Design necessary lugs, brackets and similar items so that work can be assembled and installed in a neat, substantial manner.
Provide holes and connections as required to accommodate the work of other trades and for site assembly of metalwork. Drill or punch and ream in the shop.
Fasteners : provide required bolts, screws, inserts, fasteners, templates and other accessories required for a complete installation. Coordinate with other trades as to the proper fastening systems suitable for the substrates to which the item is to be secured. Refer to architect if in doubt.
Fasten galvanised items with galvanised fasteners.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Inspect fabrication on arrival at site. Do not repair on site. Replace damaged items. Install each item by bolting or screwing to structural elements of building. Locate anchorages accurately and ensure secure installation. Do not cut metal on site. Remove weld spatter and touch up with zinc rich paint immediately. Protect work until project completion.
Install whitegoods and similar items in accordance with manufacturer's instructions.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Supply and install compartment assemblies for toilets, showers, dressing, constructed of metal, fibre cement, plastic, laminate, particle board, stone, including hardware and accessories.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Floor construction, wall construction, ceiling construction, ceramic tile.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition.*
AS 1428 Design for access and mobility.
1428.1 2009 General requirements for access – New building work. *2 Amdmts 2010, 2017. There are 5 other parts. 1992 – 2010.*
AS/NZS 1546 On-site domestic wastewater treatment units.
1546.1 2008 Septic tanks.
1546.2 2008 Waterless composting toilets.
Comply with current printed instructions supplied by manufacturer.
Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
NOTE : ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	Description	Model No.	Manufacturer/Supplier
Panel material	Metal Fibre cement Plastic laminate Stone		
Doors			
Upstands (pedestals)			
Suspension system			
Hardware			
Other			

PREPARATION *Inspect conditions at site before starting work*
Consider all OHS&E risks and document selected controls.
Obtain approval to disturb floor and wall tiles before securing pedestals and wall fixings. Install one compartment. Stop. When approved by architect, continue.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Secure or hang components straight and plumb according to manufacturer's instructions. Install hardware and accessories. Ensure all components work as manufacturer intends. Clean all surfaces on completion.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Design, supply and install required items including but not limited to: directory panel, bulletin boards, panels, metal frames, dimensional letters, exterior/interior signs, illuminated, non-illuminated, plaques, door signs, signs for the disabled. Other.
Fibre cement

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work.*
Wall framing, wall cladding, masonry, external doors, fibre cement, floor construction, finishes.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current Edition*
Comply with applicable portions of the following Australian Standards:

AS 1319 1994	Safety signs for the occupational environment.
AS 1742.1 2014	Manual of uniform control traffic devices – General introduction and index of signs
AS 2293	Emergency escape lighting and exit signs for buildings.
	2293.1 2005 System design, installation and operation. *2 Amdmts 2008, 2014*

Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
Fabricate components in accordance with manufacturers 'instructions and approved drawings.
Form junctions so that fixings are concealed.
Cut edges, drill holes free from burrs and indentations. Fit joints to a fine hairline.
Pre-assemble where possible or practical and mark each item for intended location before delivery.

PREPARATION *Inspect conditions at site before starting work. .*
Consider all OHS&E risks and document selected controls.
Ensure fall prevention strategies are in place.
Prepare areas and surfaces affected by the installation in accordance with manufacturers and/or architect's written instructions so that best conditions exist. Clean surfaces to receive installations and ensure substrates are suitable for connection and support of attached devices.
Clean surfaces to receive silicone sealants.
Where necessary, ensure that lighting cable is in place and concealed ready for connection to light fittings within illuminated items.

ON-SITE ACTIONS *Start of work means total acceptance of conditions.*
Visit site and inspect conditions, comparing conditions to drawings before delivery of materials to site.
Rectify discrepancy or unsuitability of substrate.
Space enclosure: do not install materials until space is enclosed and weatherproof, and until wet-work in space is completed and nominally dry.
Prepare areas and surfaces before installation, so that best conditions exist. Where necessary, ensure that lighting cable is in place and concealed ready for connection to light fittings within illuminated items.
Comply with manufacturers 'written instructions. Provide appropriate anchoring devices, concrete pads for external signs. Fit: finish work accurately, plumb, level, square and true in reference to adjacent construction.
Protection of work:
Take care of and protect adjacent surfaces and materials. Provide protective cover to adjacent finishes where necessary.
Cover work immediately following installation, wrap or cover signage to avoid wear and tear of finish during subsequent construction. Replace or make good work found damaged at the time of Practical Completion.

CLEANING
Clean materials installed and surrounding areas to the satisfaction of the architect. Thoroughly clean areas in which work has been performed and those adjacent to the work area.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to*:
Excavation, preparation of sub-grade, base courses, laying and compaction, bituminous concrete surfacing, lane marking.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work:*
Excavation & fill, sanitary sewerage, storm drainage, concrete pavement, kerbs and gutters.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition*

AS 2150 2005	Hot mix asphalt – A guide to good practice.
AS 2758	Aggregates and rock for engineering purposes. *There are 7 parts, 2000-2015*
AS 4049	Paints and related materials - Pavement marking materials. *There are 5 parts, 2005 - 2007.*

AUSTROADS www.onlinepublications.austroads.com.au/?override=1 supplies a range of technical bulletins. Where relevant, comply with standards of pavement construction as available from state road construction authority.
Comply throughout with the current edition of the NCC.

MATERIALSTO BE USED
Comply with the material specification of the appropriate state road construction authority, Spec No. . Such specifications define materials required for various classes of load capacity.

Item	Description	Manufacturer/Supplier
Crushed rock		
Base course		
Aggregate		
Bitumen		
Cut back bitumen		
Bitumen emulsion		
Tack coat		
Asphalt		

Lane Marking
Local council will provide specification.
Equipment
Provide and employ equipment required for satisfactory completion of the work.

PREPARATION *Inspect conditions at site before starting the work.*
Review services owner requirements for working on, near or over services at the location, locate and identify existing services before excavation commences. Review controls on site to contain and manage spills.
Ensure that suitable conditions exist at the time of start of work. Prevent delay in job schedule. Remove surface material to required depth. Test compaction capacity of natural material. Fill soft spots with crushed rock to required compaction. Shape to specified falls. Allow for installation by other trades of drainage and other items.
Comply with civil engineer's instructions.

ON SITE ACTIONS *Start of work means total acceptance of conditions.*
Installation of Base Course
Comply with state road construction authority, Spec No. . See above or spread base course material in layers between 100 and 150mm thick. Compact to 100% of standard maximum dry density with minimum 10 tonne roller. Employ a vibrating roller as necessary. Maintain damp condition of material until seal is applied. Employ 15 tonne roller for final compaction.
Testing
Allow for 3 separate compaction density tests to be conducted in random locations by a NATA approved testing organisation. Should tests prove unsatisfactory, repair the work and repeat tests to a satisfactory result without cost to the proprietor.
Pavement Courses
Finish pavement courses consisting of layers of wet-mix crushed rock to smooth and uniform surfaces and conform to the lines, grades and cross sections shown on the drawings, within the following limits:

A. Level: the top of each pavement course: within 10 mm of level shown on drawing.
B. Thickness: of the top course of the Wet Mix pavement: within the tolerance of +5, -10mm.
C. Shape: finished surface of the pavement course: within 10mm either way from a 3 metre straight-edge laid parallel to the centre line of the pavement or from a template placed at right angles to the centre-line.

Prime Coat
Prime with cut back bitumen suitable for the surface of base material and prevailing weather conditions. Apply in compliance with state authority specification.

Tack Coat
If required, apply tack coat to clean dry surface. Consulting engineer will determine necessity for this item. Apply in compliance with state authority specification.

Bituminous Concrete
Prepare adjacent surfaces such as longitudinal joints, kerbs, channels, headers, manholes, etc. with a thin uniform tack coat. Install bituminous concrete with approved equipment in suitable climatic conditions. Form straight and waterproof joints with even texture and density.
Compact without delay, and finish smooth and true to established grades.
Thoroughly compact areas around kerbs, channels, manholes to same density as other surfaces.
Thickness of bituminous concrete is not to vary more than 7mm from that indicated on drawings.
Replace low or defective areas immediately by cutting out and replacing with fresh hot mix and compacting to conform to surrounding areas. Entire area is to be free draining on completion.
The finished work is not to be less than 97% of laboratory tested specified density.

Lane Marking
Comply with local authority requirements regarding sizes of parking bays and traffic control.
Mark pavement surface as instructed. Comply with AS 4049.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Supply and installation of boundary, site and swimming pool fences and gates all of timber or metal.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Carpentry, metalwork, concrete, painting.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition*.

AS 1379 2007	Specification and supply of concrete. *There are 2 Amdmts 2009, 2015 Supplement 2008.*
AS 1725 2010	Chain-link fabric security fencing and gates.
AS 1926	Swimming pool safety. *There are 3 more parts.*
	1926.1 2012 Safety barriers for swimming pools.
	1926.2 2007 Location of safety barriers for swimming pools.
AS 2423 2002	Coated steel wire fencing products for terrestrial, aquatic and general use.
AS 2820 1993	Gate units for private swimming pools. *1 Amdmt 2000*

Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED
NOTE: ENSURE THAT IMPORTED PRODUCTS HAVE WRITTEN EVIDENCE OF COMPLIANCE WITH THE REQUIREMENTS OF RELEVANT AUSTRALIAN STANDARDS AND NCC PERFORMANCE GUIDELINES.

Item	**Description**		**Manufacturer/Supplier**
Gates			
Swimming pool fence	Metal OTHER		
Boundary fence type	Timber type:		
	Posts:	Medium/ight/extra light	
	Rails:	Medium/light/extra light	
	Boards:		
	Chain link	50mmx3.15mm/2.50mm	
	Wire coating	Metallic/PVC/FBP/plastic/polymer	
Plinth:	Timber type:		
	Posts:	Medium/light/extra light	
	Rails:	Medium/light/extra light	
	Boards:		
	Plinth:		

PREPARATION *Inspect conditions at site before starting work*
Prepare footings for posts of concrete or timber. Consider adjoining property owners, tenants and public during installation of fences and gates.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Place concrete or timber bracing for footings. Construct fence vertical, straight and brace at corners. Construct to manufacturer's instructions, and according to manufacturer's detail drawing. Protect public and other persons when installing on site boundaries.

COMPLETION
Complete work in accordance with instructions and written variation orders to satisfactory performance.

END OF SECTION

SCOPE OF WORK *Perform work described here and shown on drawings including but not limited to:*
Supply and installation of landscape works including as required, surface formation, retention structures, drainage systems, irrigation systems, soil sourcing and placement, procurement and planting of plants, mulching, modular/concrete/bituminous pavement construction and plant material maintenance for required periods.

COOPERATE WITH THESE OTHER TRADES *to resolve possible problems before starting work*
Site preparation, drainage, water reticulation, electrical installation, masonry construction.

COMPLY WITH APPLICABLE CLAUSES OF THESE BUILDING STANDARDS *Current edition*.

AS 2698	Plastic pipes & fittings for irrigation and rural application.
AS 3600 2009	Concrete structures. *Plus 2 Amdmts, 2010, 2013*
AS/NZS 3660 2014	Termite Management Set
AS 3735 2001	Concrete structures retaining liquids.
ASTM D1241-07	Standard Specification for Materials for soil-aggregate subbase, base and surface courses.
ASTM D5268-13	Standard Specification for Topsoil for Landscaping Purposes.
ICC 802 – 2014	Landscape Irrigation Sprinkler and Emitter Standard.

Comply throughout with the current edition of the NCC.

MATERIALS TO BE USED

Item	Description		Manufacturer/Supplier
Retaining (wall) systems			
Irrigation system inc. timers & fittings			
Drainage system			
Soil type(s) and chemical characteristics			
Mulching materials			
Pavers			
Gravel			
Grasses			
Planting material			
Fertiliser/soil improvement products			
Other			

PREPARATION *Inspect conditions at site before starting work*
(If in Queensland, ensure fire ant requirements are complied with, https://www.daf.qld.gov.au/plants/weeds-pest-animals-ants/invasive-ants/fire-ants)
Order materials and/or services, clear and isolate from site traffic the relevant site areas.

ON-SITE ACTIONS *Start of work means total acceptance of conditions*
Install all systems according to the landscape drawings and details, planting plans, construct retention structures to architect's approval, install reticulation in accordance with Irrigation Schedule . Protect public and other persons when installing on site boundaries.

COMPLETION
Complete work in accordance with instructions and written variation orders.

POST COMPLETION MAINTENANCE
Provide maintenance, at no further cost to the owner, of the installed systems, regular plant watering, replacement of failed plants, pavement defects and mow grassed areas as they occur for a period of six months, all to the architect's satisfaction.

END OF SECTION