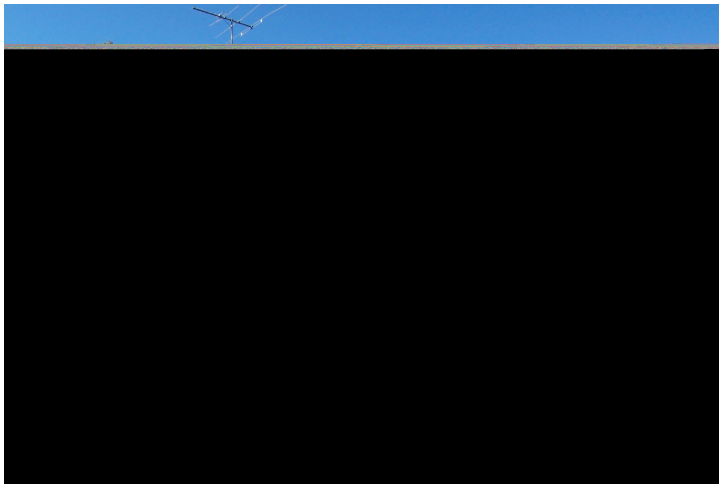
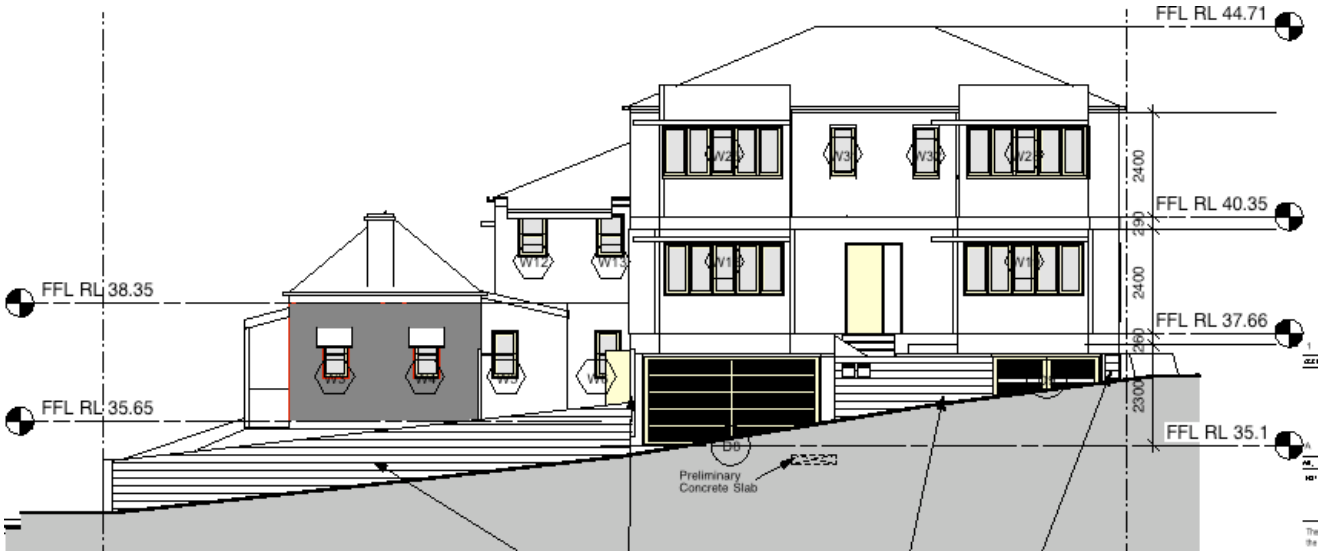
TENDER SPECIFICATION

72 Wellington St Waterloo NSW 2017

For P. Gidding s



Existing Dwelling



Proposed Addition

THE WORK		
The building work described in the building contract dated	Alterations and Additions to existing residence.	
No/street	72 Wellington St	
Suburb/town	Waterloo NSW 2017	
Municipality	Sydney City	
Lot/ DP	10 / DP 1047968	
OWNER / PROPRIETOR		
Name:	P. Giddings	
Address for contract purposes:	C / O Paragrid Pty. Ltd. Architecture	
ARCHITECT		
Name:	Paragrid Pty. Ltd. Architecture	Ph: 9660 4588
Address:	83 Johnston St	F: 9660 8233
	Annandale NSW 2038	E: staff.paragrid@ozemail.com.au

1 TENDER FORM 3
2 TENDER CONDITIONS 3
3 TENDER SPECIFICATION 3
4 GENERAL REQUIREMENTS 3
5 SITE PREPARATION 6
6 CONCRETE CONSTRUCTION 7
7 TIMBER & STEEL CONSTRUCTION 8
8 BRICK & BLOCK CONSTRUCTION 10
9 INSULATION & SARKING 13
10 ROOFING 13
11 CLADDING 14
12 DOORS & WINDOWS 15
13 INTERNAL LINING 17
14 TROWELLED COATINGS 18
15 WALL & FLOOR TILE FINISHES 19
16 FLOOR COATINGS & COVERINGS 20
17 PAINTING 20
18 TIMBER FIXTURES 21
19 PLUMBING INSTALLATIONS 23
20 ELECTRICAL INSTALLATIONS 25
21 DECKS, SCREENS, FENCES & EXTERNAL WALLS 26
22 LANDSCAPING 26
23 REFERENCED DOCUMENTS 26
24 WASTE MANAGEMENT PLAN 29

1 TENDER FORM

Please refer to Tender Form provided.

2 TENDER CONDITIONS

Please refer to Tender Conditions provided.

3 TENDER SPECIFICATION

3.1 INSULATION

Insulation Rating > _____ Ceiling R2.5
> _____ Walls R1.7

3.2 HWS

Hot Water Service >_____ New Solar, gas boosted Hot Water Service s, as detailed on plan. 5 star rated.

3.3 RESTORATION & RENOVATION

Front Veranda >_____ Existing front veranda and front rooms to be r estored to original condition, with new floors, ceilings and plasterboard walls.

3.4 EXTERNAL FINISHES

Brick & Block work >_____ Face brick to new external brickwork and block work
Windows >_____ Paint finish, Brunswick green.

3.5 FIRE PROVISIONS

Smoke Detectors >_____ Hard wire smoke detectors to mains power, as indicated on plan and to AS 3786-1993 and BCA section 3. 7.2.

3.6 SHOWERHEADS

Shower Fittings >_____ All shower head fittings to be 3 star, 9L/minute low flow fittings.

3.7 TOILETS

Toilet Rating >_____ All toilets to be dual flush, 6 x 3, 3 Star rated, water supply connect ed to 3 x 10,000L Rainwater tank s.

3.8 SOLAR PROTECTION

External Shading >_____ All window openings in existing retained cottage to have external shade awning. Ground and First floor openings in new dwellings to have external solar sh ade.

3.9 GLASS

External Glazing >_____ All new windows to be powdercoated aluminium, with ÔclearÕ Viridian Comfort -E glass.

3.10 VENTILATION

Access Doors > _____ All Garbage and Basement access doors to have vent gril l openings.

3.11 BALUSTRADES

Handrails >_____ Aluminium ÔSupaslatÕ balusters, powdercoated metal railings.
Size _____ 75 x 50mm railings, 20 x 20mm balusters, Compliant with BCA requirements

3.12 GARAGE DOOR

Manufactu rer: > _____ B & D Doors
Type: > _____ Roll -A-Door
Prefinish type: > _____ Traditional Wideline
Colour : > _____ Brunswick Green

3.13 LIGHT FITTINGS

Panel Lift Door >_____ 40% of all light fittings will have low energy -use fluorescent bulbs

3.14 STORMWATER TANK

Stormwater Detention >_____ 3 x 10,000L tanks , as shown on plan, connected to stormwater, toilet and laundry. Provi de and install pump and connections, reflux valve, mosquito netting and overflow to stormwater outlet.

4 GENERAL REQUIREMENTS

4.1 GENERAL

Interpretation

Owner: Means the same as ÒprincipalÓ or ÒproprietorÓ.
Builder: Means the same as ÒcontractorÓ.
Metallic-coated: Includes zinc-coated steel, zinc/iron alloy-coated steel, & aluminium/zinc-coated steel.
Supply: Means Òsupply onlyÓdo not install.

Provide: Means Òsupply & installÓ.
Required: Means required by the contract documents or by the local council or statutory authorities.
Proprietary: Means identifiable by naming the manufacturer, supplier, installer, trade name, brand name, catalogue or reference number.

Standards
Use referenced Australian or other Standards (including amendments), which are current one month before the date of the contract except where other editions or amendments are required.

BCA Compliance
All works completed to be in compliance with current BCA standards and definitions.

Manufacturers' or suppliers' recommendations
Select, store, handle & install proprietary products or systems in accordance with the current published recommendations of the manufacturer or supplier.

Bushfire protection
If required, provide protection to AS 3959-1999 (*Construction of buildings in bushfire prone areas*).

Site Handover
- Builder is to accept site as handed over at date of commencement complete with latent conditions. Any discrepancy between the drawings and existing site condition is to be accepted by the builder at no cost to the proprietor. Without prejudice, no claims are to be entered into by the builder for conditions, which are not advised by the builder prior to handover.

4.2 CONTRACTS & FINANCE

Payment & adjustment of contract sum
At commencement of the building work, submit a schedule of anticipated progress claims, which will be made throughout the contract.
Progress claims
With each progress claim, submit a statement of amounts claimed in respect of each work section or trade heading designated in the specification.

4.3 AUTHORITIES & ESTABLISHMENT

Prior applications & appr ovals _____ > South Sydney Council DA U02 -01359. Builder to comply with all DA & CC Conditions.

Existing services
Attend to existing services as follows:
- If the service is to be continued, repair, divert or relocate as required. If such a service crosses the line of a required trench, or will lose support when the trench is excavated, provide permanent support for the existing service.
- If the service is to be abandoned, cut & seal or disconnect, & make safe.

Temporary services & works
Provide temporary toilet accommodation. Connect to the sewer main if required by the Local Authority. Provide any other services or works as required to conduct or complete the works.

Use of existing services
Existing services may be used as temporary services for the performance of the contract.

Signs
Provide an A3 'Core-flute' signboard displaying the owners name, Architect's name, details and phone number, the lot number & the builders' name, address & licence number.

Occupied premises
For the parts of the site which are occupied premises
- allow occupants to continue in secure possession & occupancy of the premises for the required period;
- make available safe access for occupants;
- arrange work to minimise nuisance to occupants & ensure their safety; &
- protect occupants against weather, dust, dirt, water or other nuisance, by such means as temporary screens.

4.4 EXECUTION & COMPLETION

Survey marks
Preserve & maintain the owners survey marks in their true positions.
Rectification: If the proprietor's survey marks are disturbed or obliterated, immediately give notice & rectify the disturbance or obliteration.

Hours of work > _____ As per DA consent conditions
Order of work > _____ Placement of preliminary slab, d emolition of existing rear dwelling, drilling for new piers construct new ground floor living, bathroom, first floor bedroom, bathroom, study, reinstate front veranda, demolish existing gar age, construct new garage, landscape front and rear yard. Removal of temporary work, services and plant

Removal of temporary work, services & plant
Remove temporary work services & construction plant within 10 working days after practical completion.
Rectification: Clean & repair damage caused by the installation or use of temporary work & services & restore existing facilities used during construction to original condition.

Final cleaning
Remove rubbish & surplus material from the site & clean the work throughout before practical completion.

Warranties
Name the owner as warrantee & give the owner copies of manufacturers' warranties.

Instruction manuals
Give the owner manufacturers' instruction manuals.
Operation
Ensure moving parts operate safely & smoothly.
Surveyor's certificate
Give the owner a certificate, which confirms that the work, including boundary fences, has been correctly located before and after demolition, and at completion of the walls, and as required in DA and CC conditions.
Services layout
Give the owner a plan, which shows the location of underground services.
Authorities' approvals
Give the owner evidence of approval of the local council and statutory authorities whose requirements apply to the work.
Keys
Give the owner two keys for each set of locks keyed alike, and two keys for each lock keyed to differ at Practical Completion.
Practical Completion
Provide the following items with claim for Practical Completion;
Instruction Manuals for all fittings installed including any warranty applications.
Surveyor's Certificate showing building setout, in accordance with any council conditions.
Services Layout drawing, scaled at 1:100.
Keys
Provide Inspection certificates for seven (7) critical stage inspections and certificates, and as per DA condition No. 20

1) Certifier – At the Commencement for the building work, and
2) Accredited Engineer – After excavation for, and prior to the placement of, any footings, and
3) Accredited Engineer – Prior to pouring and in-situ reinforced concrete building elements, and
4) Accredited Engineer – Prior to covering of the framework for any floor, wall, roof or other building element,
5) Certifier – Prior to covering waterproofing in any wet areas, and
6) Certifier – Prior to covering any stormwater drainage connections, and
7) Certifier – After the building work has been completed and prior to any occupation certificate being issued in relation to the building.
Electrician – Showing compliance with BCA and Australian Standards
Electrician – Smoke alarm installation compliant to part 3.7.2 of the BCA
Builder – Termite prevention to AS 3660.1-2000.
Accredited Engineer – Part 4(a) certificate of compliance
Certifier – monthly certificates of compliance with Waste Management

Provide certificates of compliance to Architect upon Practical Completion. PCA required inspection available upon release of Construction Certificate.

4.5 TERMITE PROTECTION

General
Standard: To AS 3660.1-2000 (*Termite management - New buildings*).
Chemical soil barriers - reticulation systems: Submit evidence that the system has been type tested to AS 3660.1-2000 (*Termite management - New buildings*) Appendix E.
Termite barrier notice: Provide a durable notice permanently fixed in a prominent location to BCA Volume 2 clause 3.1.3.2 (b) (*Installation of termite barriers*).
Termite protection schedule

Location	Method
Slab, Under slabs	Kordon Termite Moisture Barrier
Slab penetrations, Slab control joint & footing/slab joints	Termimesh
Building perimeters, Under suspended floors, Timber poles and posts	Galvanised metal with soldered joints

4.6 TIMBER GENERALLY

Unseasoned timber
If unseasoned timber is provided, or variation in moisture content is likely, make allowance for shrinkage, swelling & differential movement.
Durability
General: Provide timbers with natural durability appropriate to the conditions of use or preservative treated timbers of equivalent durability. Minimum requirement: To the **Natural & treated timber durability table.**
- Natural durability class of heartwood: To AS 5604-2003 (*Timber - Natural durability ratings*).
- Preservative treatment: To the AS 1604 series (*Specification for preservative treatment*).

4.7 STEEL GENERALLY

Durability
General: Provide metals with inherent durability appropriate to the conditions of use or proprietary metallic &/or organic coatings of equivalent durability.

5 SITE PREPARATION

5.1 GENERAL

Standard

Groundworks for slabs & footings: To AS 2870-1996 (*Residential slabs & footings – Construction*).

Interpretation

Rock: Monolithic material with volume greater than 0.5m^{3,} which cannot be removed until broken-up by mechanical means such as rippers or percussion tools.

Bad ground: Ground unsuitable for the work, including fill liable to subsidence, ground containing cavities, faults or fissures, ground contaminated by harmful substances & ground which is, or becomes, soft, wet or unstable.

Line of influence: A line extending downward & outward from the bottom edge of a footing, slab or pavement & defining the extent of foundation material having influence on the stability or support of the footings, slab or pavement.

Subgrade: The trimmed or prepared portion of the formation on which the pavement or slab is constructed.

Immediate notice

If rock or bad ground is encountered, advise the owner immediately.

Explosives

Do not use explosives.

5.2 DEMOLITION

Standard

Demolition: To AS 2601-2001 (*The demolition of structures*).

Demolition items

Fences & external walls: _____ > Nil
External buildings: _____ > Nil
Other items for demolition: _____ > Rear ground floor dwelling
Materials to be salvaged: _____ > Stone to front fence, me tal to front fence.

Demolished materials

Except for materials to be salvaged & retained by the owner or re-used, take possession of demolished materials & remove them from the site. Do not burn or bury demolished materials on the site.

Support

Provide temporary support for sections of existing buildings, which are to be altered & which rely for support on work to be demolished.

Weather protection

If walls or roofs are opened for alterations & additions, or the surfaces of adjoining buildings are exposed, provide temporary covers to prevent water penetration.

Security

If walls or roofs are opened for alterations or additions, provide security against unauthorised entry.

5.3 TREES TO BE RETAINED

Existing trees, plants & shrubs

Trees, plants & shrubs to be retained: _____ > Two palms, front yard
Trees, plants & shrubs to be removed: _____ > None

Marking

Mark trees which are required to be retained using suitable non-injurious, easily visible & removable means of identification. Remove the identification on completion.

Protection

Protect from damage trees, which are required to be retained by stakes, hessian and braces. Do not remove topsoil from the area within the dripline of the trees & keep this area free of construction material & debris.

Tree Retention

Check and Comply with the Urban Tree Management Arborist's Report, dated 6th March 2007.

Excavation

If excavating near trees required to be retained, use hand methods to locate, expose & cleanly remove the roots on the line of excavation.

5.4 ENVIRONMENTAL PROTECTION

Erosion control

Avoid erosion, contamination, & sedimentation of the site, surrounding areas, & drainage systems.

Dewatering

Keep the site free of water & prevent water flow over new work.

5.5 SITE CLEARING

Extent

Limit clearing to areas to be occupied by construction, paving or landscaping.

Clearing operations

Remove everything on or above the site surface, including rubbish, scrap, grass, vegetable matter & organic debris, scrub, trees, timber, stumps, boulders & rubble. Remove grass to a depth just sufficient to include the root zone.

Grubbing

Grub out or grind stumps & roots over 75mm diameter to a minimum depth of 500 mm below subgrade under construction, & 300 mm below the finished surface in unpaved areas.

Removal of topsoil
General: Remove the topsoil layer of the natural ground which contains substantial organic matter over the areas to be occupied by construction & paving.
Maximum depth: 100 mm.
Topsoil stockpiles
Stockpile site topsoil required for re-use. Protect stockpiles from contamination by other excavated material, weeds & building debris.
Surplus material
Take possession of surplus material & remove it from the site.

5.6 EXCAVATION

Extent
Excavate to give the levels & profiles required for construction, site services, paving, & landscaping. Allow for compaction or settlement.
Foundations
After excavation, confirm that the bearing capacity is adequate (Check DA Conditions, manual work to excavate around tree in rear lane).
Under-floor access
Provide a minimum clearance to underside of timber bearers of 400 mm.
Bearing surfaces
Provide even plane bearing surfaces for load-bearing elements including footings. Step for level changes. Make the steps to the appropriate courses if supporting masonry.
Reinstatement
If excavation exceeds the required depth, or deteriorates, reinstate with fill to the correct depth, level & bearing value.
Existing footings
If excavation is required below the line of influence of an existing footing, use methods which maintain the support of the footing & ensure that the structure & finishes supported by the footing are not damaged.
Grading
Grade the ground surface externally & under suspended floors to drain ground or surface water away from buildings without ponding.

5.7 SURFACE PREPARATION

General
Before placing fill, ground slabs or load-bearing elements, remove loose material, debris & organic matter & compact the ground to achieve the required density.
Placing fill
Place fill in layers & compact each layer to achieve the required density.
Moisture content
If necessary to achieve the required density or moisture content, adjust the moisture content of the fill before compaction.

5.8 PILING

Bored piers
After excavating bored piers, remove loose material & water from the base & confirm the bearing capacity. Do not allow loose material to fall down the hole before or during concreting; provide a liner if necessary.
Screw-in foundations
Provide a proprietary system designed to AS 2159-1995 (*Piling - Design & installation*).

5.9 SERVICE TRENCHES

Excavation
Generally, make trenches straight between manholes, inspection points & junctions, with vertical sides & uniform grades.
Trench widths
Keep trench widths to the minimum consistent with the laying & bedding of the relevant service & construction of manholes & pits.
Backfilling
General: Backfill service trenches as soon as possible after laying the service. Place backfill in layers. Compact each layer to a density sufficient to minimise settlement.
Backfill material: Excavated spoil or well graded inorganic material with maximum particle size of 75 mm.
- Next to services: Do not place any particles greater in size than 25 mm within 150 mm of services.
- Under paved areas: Coarse sand, controlled low strength material or fine crushed rock.
- In reactive clay sites classified M, M-D, H, H-D or E to AS 2870-1996 (*Residential slabs & footings – Construction*): Impervious material.

6 CONCRETE CONSTRUCTION

6.1 GENERAL

Cross reference
Conform to the *General requirements* worksection for termite protection.
Standards
Concrete structures generally: To AS 3600-2000 (*Concrete structures*).
Ground slabs & footings: To AS 2870-1996 (*Residential slabs & footings - Construction*).

6.2 GROUND SLAB VAPOUR BARRIER

Material

General: Provide a proprietary vapour barrier which consists of high impact resistant polyethylene film minimum 0.2 mm thick which has been pigmented & branded by the manufacturer.

Type: >_____ Kordon Termite Control and Moisture Vapour barrier

Base preparation

Blind the surface with sufficient sand to cover any hard projections. Wet the sand just before placing the vapour barrier.

6.3 REINFORCEMENT

Minimum lap

Splice as follows:

- Mesh generally: 225 mm.
- Trench mesh: 500 mm.
- Bars: Greater of either 500 mm or 25 x bar diameter.
- Strip footing intersections & corners: For full width of intersecting reinforcement.

Minimum cover

Unprotected by membrane on ground or external surfaces: 40 mm.
Protected by membrane on ground: 30 mm.
Internal surfaces: 20 mm.
Aggressive soil or salty environment: 65 mm.

6.4 CONCRETE

Ready mixed supply

Standard: To AS 1379-1997 (*Specification & supply of concrete*), and as elsewhere specified by Engineer.
Maximum slump: 100 mm.

Concrete placing

Depth: If concrete is deeper than 350 mm, place it in layers so that each succeeding layer is blended into the preceding one by the compaction process.
Slabs & pavements: Place concrete uniformly over the width of the slab so that the face is generally vertical & normal to the direction of placing.

Compaction

Vibrate concrete to remove entrapped air, but avoid over-vibration that may cause segregation.

Curing

Protection: Protect concrete from premature drying & from excessive hot, cold &/or windy conditions.
Method: Cure concrete by

- using a proprietary curing compound; or
- keeping it covered & moist for the following periods:
  - In-ground footings: 2 days.
  - Exposed footings, beams & slabs: 7 days.

Formwork removal

Remove timber formwork.

Stripping times

Leave formwork for suspended structures in place after pouring concrete for the following periods:

- Vertical surfaces: 2 days.
- Bottom surfaces: 7 days with shoring & backprops left in position for 21 days.

6.5 JOINTS, CORNERS AND DRIP GROOVES

Construction joints and Exposed Edges

Joint preparation: Roughen & clean the hardened concrete joint surface, remove loose or soft material, free water & foreign matter. Dampen the surface before placing the concrete.
Provide 20mm 45¡ bevel on all exposed edges. Provide 20mm 45¡ drip channel, 100mm from leading edge to underside of all exposed edges, or as detailed on drawings.

Slip joints

If concrete slabs are supported on masonry, provide proprietary pre-lubricated slip joints.

7 TIMBER & STEEL CONSTRUCTION

7.1 GENERAL

Cross references

Refer to the following work sections:

- *General requirements*, for termite protection & timber durability.
- *Concrete construction*, for concrete bearer supports.
- *Brick & block construction*, for clearance for timber frame shrinkage & masonry bearer supports.
- *Block & tile finishes*, for waterproofing of wet areas.
- *Painting*, for priming of steel & timber before fixing, & repair of zinc-coated steel after cutting & welding.

Standards

Timber framing & flooring: To AS 1684.4-1999 (*Residential timber-framed construction - Simplified - Non-cyclonic*) or AS 1720.1-1997 (*Timber structures – Design methods*).
Structural steelwork: To AS 4100-1998 (*Steel structures*).

Cold-formed steel framing: Provide a proprietary system designed to AS 3623-1993 (*Domestic metal framing*).
Preparation of metal surfaces: To AS 1627-Various (*Metal finishing - Preparation & pretreatment of surfaces*).

7.2 MATERIALS & COMPONENTS

Cold-formed steel framing
Cold-form sections from metallic-coated steel to AS 1397-2001 (*Steel sheet & strip - Hot-dipped zinc-coated or aluminium/zinc-coated*).
Corrosion protection: To BCA Volume 2 clause 3.4.2.2 (*Acceptable construction - Framing - Steel framing – General*).
Self-drilling screws
Standard: To AS 3566.1-2002 (*Self-drilling screws for the building & construction industries - General requirements & mechanical properties*).
Corrosion resistance: Class 2 to AS 3566.2-2002 (*Self-drilling screws for the building & construction industries -Corrosion resistance requirements)*, Table 1.
Flashings & damp-proof courses
Standard: To AS/NZS 2904-1995 (*Damp-proof courses & flashings*).
Timber fasteners
Metal washers: Provide washers to the heads & nuts of all bolts & coach screws.
Steel straps: Metallic-coated steel to AS 1397-2001 (*Steel sheet & strip - Hot-dipped zinc-coated or aluminium/zinc-coated*), minimum size 25 x 1 mm or 30 x 0.8 mm.
Galvanizing
Galvanize mild steel components (including fasteners) to AS 1214-1983 (Hot-dip galvanized coatings on threaded fasteners (ISO metric coarse thread series)) or AS/NZS 4680-1999 (*Hot-dip galvanized (zinc) coatings on fabricated ferrous articles*), as appropriate, if
- exposed to weather;
- embedded in masonry; or
- in contact with chemically treated timber.

Timber roof trusses
Type: >_____ Roof Structure as per EngineersÕ Specification

7.3 CONSTRUCTION GENERALLY

Welding
Standard: To AS/NZS 1554.1-1995 (*Structural steel welding - Welding of steel structures*).
Grommets
Provide grommets to isolate piping & wiring from cold-formed steel framing.
Swarf
Remove swarf & other debris from cold-formed steel framing immediately after it is deposited.
CCA (copper chrome arsenic)-treated timber
Greasing: Before placing bolts in contact with CCA-treated timber, coat the shank of the bolt in grease or a bituminous coating.
Steel framing: Do not fix CCA-treated timber in contact with cold-formed steel framing.
Priming steel
Before fixing, prime steel, which is not galvanized or metallic-coated.

7.4 FLOORS

General
Standard: To AS 1684.4-1999 (*Residential timber-framed construction – Simplified – Non-cyclonic*).
Strip flooring
To all areas as shown on plan.
Weather: Do not fix strip flooring until the work is weathertight. Timber to be delivered and stored in location 4 weeks before fixing (to stabilise) and be kept covered from sunlight and moisture.
Type: >_____ Proposed Kitchen floor, timber on concrete , carpet on concrete
>_____ Propos ed Garage floor, concrete slab
Fibre cement flooring
Compressed sheets: To AS/NZS 2908.2-2000 (*Cellulose-cement products - Flat sheets*), Type A, Category 5.
As shown on plan.
Plywood flooring
Standard: To AS/NZS 2269-1994 (*Plywood – Structural*), bond type A, tongue & grooved.
Particle Board, to all First floor areas.

7.5 WALL FRAMING

General
Standards
Timber wall framing
Provide gauged timbers for studs, noggings & plates in double-faced walls.
Additional support
General: Provide additional support in the form of noggings, trimmers & studs for fixing lining, cladding, hardware, accessories, fixtures & fittings as necessary.
Maximum spacing of noggings: 1350 mm centres.

Vermin barriers for suspended floors
Masonry veneer barrier: Secure 10 mm galvanized wire mesh to the underside of the bottom plate of external stud walls, extending across the cavity for building into brickwork.
Damp-proof courses
Clad-frame walls: Provide damp-proof courses under the bottom plate of external clad-frame walls built off slabs or masonry dwarf walls.
Flashings
Provide flashings to external openings sufficient to prevent the entry of moisture.

7.6 ROOF & CEILING FRAMING & TRUSSES

Wall plates
Fixing: Fix timber wall plates to masonry, with either straps or bolts, generally fixed with straps into brickwork 1800 below plate.
Nailing strips
Where timber joists, rafters or purlins bear on steel members, provide 50 mm thick nailing strips bolted to the flange of the steel member.
Strutted framing
General: Construct traditional timber pitched roof framing consisting of rafters & ceiling joists supported at intermediated points by a system of underpurlins strutted off walls or strutting beams & braced by collar ties, & ceiling hanging beams.
Beam framing
General: Construct framing for flat or pitched roofs where the ceiling follows the roof line, consisting of rafters or purlins acting as beams to support both ceiling & roof covering, with battens for ceiling and roofing.
Roof trusses
General: Factory-assemble trusses.
Camber: 10 mm upward in bottom chord.
Connections: Connector plates pressed to contact with the truss members. No knots in plate area.
Joints: No gaps greater than 2 mm.
Overhangs: Free from spring or splits.
Installation: To AS 4440-1997 (Installation of nailplated timber trusses).
Support: Support trusses on bottom chord at two points only, unless designed for additional support.
Vertical movement: Over internal walls provide at least 10 mm vertical clearance & use bracing methods which allow for vertical movements.
Supports for water containers
Where a water container or heater is located in the roof space, provide a support platform to AS/NZS 3500.4.2-1997 (*National Plumbing & Drainage - Hot water supply systems - Acceptable solutions*) clause 4.5.
Additional support
Provide a frame member behind every joint in fibre cement sheeting or lining.
Anti-ponding boards
Standard: To AS/NZS 4200.2-1994 (*Pliable building materials & underlays – Installation requirements*).

7.7 TIMBER ROOF TRIM

Priming timber
Prime exposed timber all round before fixing & re-prime cut edges if trimmed in-situ.
Fascia, valley gutter & barge boards
Minimum thickness:
- Fixed at up to 600 mm centres: 300mm to selected profile.
- Fixed at 600 - 900 mm centres: 300mm to selected profile.

8 BRICK & BLOCK CONSTRUCTION

8.1 GENERAL

Cross references
Refer to the following worksections:
- *General requirements*, for termite protection.
- *Timber & steel construction*, for structural steelwork.

Standard
Masonry generally: To AS 3700-2001 (*Masonry structures*).
Masonry units: To AS/NZS 4455-1997 (*Masonry units & segmental pavers*).

8.2 MATERIALS & COMPONENTS

Steel components
Galvanizing: Galvanize mild steel components (including fasteners) to AS 1214-1983 (*Hot-dip galvanized coatings on threaded fasteners (ISO metric coarse thread series)*), or AS/NZS 4680-(*Hot-dip galvanized (zinc) coatings on fabricated ferrous articles*), as appropriate.
Durability requirements: To AS/NZS 2699.2-2000 (*Built-in components for masonry construction – Connectors & accessories*)
Masonry units
External Brickwork: > _____ CSR Deep Terracotta, 230 x 76mm Stretcher bond
Internal and Rendered work _____ > CSR Boral Common.
Masonry durability
Requirement: Conform to AS 3700, Table 5.1.

Wall ties
Standard: To AS/NZS 2699.1-2000 (*Built-in components for masonry construction – Wall ties*)
Non-seismic areas: Type A.
Seismic areas: Type B.
Flashings & damp-proof courses
Standard: To AS/NZS 2904-1995 (*Damp-proof courses & flashings*).
Mortar materials
SAND: Fine aggregate with a low clay content & free from efflorescing salts, selected for grading & colour for facework.

Mortar colour:
Internal >_____ Grey Cement
External Facework >_____ Off White Cement

8.3 CONSTRUCTION GENERALLY

Joints & cutting
Set out masonry with joints of uniform width & the minimum cutting of masonry units. Where requested by the Architect, build a typical 1sqm sample of brickwork before continuing construction.
Joints
Externally: Tool to give a dense water-shedding finish.
Internally: Rake to give a key if wall is to be plastered.
Type: >_____ Rendered and Bagged work to be ÒStruck flushÓ (See Render for scribing)
_____ Exposed External Joints to be ÒEnglish StruckÓ
Exposed Internal Joints to be ÒRaked 5mmÓ
Rod
76 mm high bricks: 7 courses to 600 mm.
90 mm high bricks: 6 courses to 600 mm.
190 mm high blocks: 3 courses to 600 mm.
Bond
Single leaf construction: Stretcher bond.
Perpends
Keep perpends in alternate courses vertically aligned & fill them completely with mortar.
Colour mixing
In face work, distribute the colour range of units evenly to prevent colour concentrations.
Sills & thresholds
Solidly bed masonry sills & thresholds & lay them so that the top surfaces drain away from the building.
Appearance
Leave facework clear of mortar smears, stains & discolouration. Do not clean using an acid solution & do not erode joints if using pressure spraying.
Chimneys & fireplaces
Follow the guidelines given in SAA HB33-1992 (*Domestic open fire places*).

8.4 BEARER SUPPORTS

Bearer piers table
Provide engaged or freestanding unreinforced masonry piers as follows to support bearers at 1800 mm maximum centres:

Type	Minimum size (mm)
Engaged	230 x 110 bonded or tied to walls
Freestanding up to 1500 mm high	230 x 230
Freestanding 1500 mm to 2700 mm high	350 x 350

Access openings
In internal walls below suspended ground floors, leave door-width openings beneath doorways to give access to underfloor areas.
Air vents
General: Provide air vents to give adequate cross ventilation to the space under suspended ground floors. In cavity walls, provide an equal number of matching vents in the internal leaves located as near as practicable to the air vents in the external leaves.
Minimum provision: 7300mm^2 net ventilation area per linear metre of wall.

8.5 DAMP-PROOF COURSES

Location
Provide damp-proof courses in the following locations:
- Walls adjoining infill floor slabs on membranes: In the course above the underside of the slab in internal walls & inner leaves of cavity walls. Project 40 mm & dress down over the membrane turned up against the wall.
- Cavity walls built off slabs on ground: In the bottom course of the outer leaf, continuous horizontally across the cavity & up the inner face bedded in mortar, turned 30 mm into the inner leaf one course above; or, in masonry veneer construction, fastened to the inner frame 75 mm above floor level.
- At timber floors: In the first course below the level of the underside of ground floor timbers in internal walls & inner leaves of cavity walls.

Installation
Lay in long lengths. Lap the full width of angles & intersections & 150 mm at joints. Step as necessary, but not more than two courses per step. Preserve continuity of damp proofing at junctions of damp-proof courses & waterproof membranes. Install at least 150mm above adjacent finished ground. Sandwich damp-proof courses between mortar.

8.6 CAVITY MASONRY WALLS

Minimum cavity width
Masonry walls: 50 mm ± 10 mm.
Masonry veneer walls: 25 mm between the masonry leaf & the load-bearing frame & 40 mm between the masonry leaf & sheet bracing, insulation or other element in the cavity.
Openings
Do not close the cavity at the jambs of external openings.
Cavity flashings
Location: Provide flashings in the following locations:
- Floors: Full width of outer leaf immediately above slab, continuous across cavity & up the inner face bedded in mortar, turned 30 mm into the inner leaf two courses above.
- Under sills: 30 mm into the outer leaf bed joint one course below the sill, extending up across the cavity & under the sill in the inner leaf or the frame. Extend at least 150 mm beyond the reveals on each side of the opening.
- Over lintels to openings: Full width of outer leaf immediately above the lintel, continuous across cavity, 30 mm into the inner leaf two courses above or turned up against the frame & fastened to it. Extend at least 150 mm beyond the ends of the lintels.
- At abutments with structural frames or supports: Vertical flashing in the cavity from 150 mm wide material, wedged & grouted into a groove in the frame opposite the cavity.
- At roof abutments with cavity walls: Cavity flashing immediately above the roof & over-flash the roof apron flashing.

Installation: Sandwich flashings between mortar except where on lintels.
Pointing: Point up joints around flashings to fill voids.
Weepholes
General: At ground floors, provide weepholes in the form of open perpends to external leaves of cavity walls in the course above cavity flashings.
Maximum spacing: Every third perpend, or as shown on drawings.
Clearance for timber frame shrinkage
In seasoned timber frame brick veneer construction, leave the following clearances between window frames & brick sill & between roof frames & the brick veneer:
- Single storey frames & ground floor windows (not for slab on ground): 10 mm.
- Two storey frames & upper floor windows: 20 mm.
- Additional clearance: Accommodate additional shrinkage of unseasoned floor timbers.

8.7 WALL TIES

Wall tie application
Classification: To AS/NZS 2699.1.
Type: To BCA Volume 2 clause 3.3.3.2 (*Acceptable construction – Masonry – Masonry accessories - Wall ties*). Provide evidence of BCA compliance before installin brick ties.
Spacing: To BCA Volume 2 Figure 3.3.3.1 (*Typical brick ties spacings in cavity & veneer construction*).
Corrosion protection: To BCA Volume 2 Table 3.3.3.1 (*Corrosion protection for wall ties*).

8.8 CONTROL OF MOVEMENT

Ageing of bricks & concrete
Minimum age of clay bricks: 7 days.
Minimum age of concrete supports to clay bricks: 28 days.
Control joints for clay brickwork
Maximum length of continuous wall: 12 m.
Minimum width of control joint: 15 mm.
Control joints for calcium silicate & concrete masonry
Maximum length of continuous wall: 8 m.
Minimum width of control joint: 10 mm.
Flexible ties & anchors
If ties or anchors extend across control joints, provide ties or anchors, which maintain the stability of the masonry without impairing the effectiveness of the joint.
Joint material
Installation: Clean the joints thoroughly & insert an easily compressible backing material before sealing.
Sealant depth: Fill the joints with a gun-applied flexible sealant for a depth of at least two-thirds the joint width.

8.9 STEEL LINTELS

Cold-formed lintels
General: Proprietary cold-formed flat-based type designed to AS/NZS 4600-1996 (*Cold-formed steel structures*).
Material: Mild steel galvanized to AS/NZS 4680-1989 ((*Hot-dip galvanized (zinc) coatings on fabricated ferrous articles*). Do not cut after galvanizing.
Corrosion protection: To AS/NZS 2699.3-2002 (Built-*in components for masonry construction – Connectors & accessories*).
Steel flats & angles
Sizes: To BCA Volume 2, Figure 3.3.3.5 (*Lintels supporting roofs & masonry walls).*

Material: Mild steel galvanized to AS/NZS 4680. Do not cut after galvanizing.
Corrosion protection: To AS/NZS 2699.3 (Built-in components for masonry construction - Lintels & shelf angles (durability requirements)).

Installation

General: Install with the longest leg vertical. Keep lintels 5 mm clear of heads & frames. Pack mortar between the angle upstand & supported masonry units.
Propping: To prevent deflection or excessive rotation, temporarily prop proprietary cold-formed lintels until the masonry reaches its required strength.
Minimum propping period: 3 days.

8.10 BAGGING

Joints

Cut joints flush before bagging.

Dry bagging

Apply laying mortar to the surface using a hessian bag or similar to a consistent thickness. Flush up irregularities, but leave the minimum possible amount of mortar on the masonry surface.

9 INSULATION & SARKING

9.1 GENERAL

Interpretation

Sarking-type material: Flexible membrane material normally used for waterproofing, vapour retarding or thermal reflective insulation.

9.2 MATERIALS & COMPONENTS

Bulk insulation

Cellulosic fibre (loose fill): To AS/NZS 4859.1-2002 (*Materials for the thermal insulation of buildings - General criteria & technical provisions*), Section 5.
Mineral wool blankets & cut pieces: To AS/NZS 4859.1, Section 8.
Polystyrene (extruded rigid cellular sheets): To AS 1366.4-1992 (*Rigid cellular plastics sheets for thermal insulation - Rigid cellular polystyrene - Extruded (RC/PS-E)*).
Polystyrene (moulded rigid cellular sheets): To AS 1366.3-1992 (*Rigid cellular plastics sheets for thermal insulation - Rigid cellular polystyrene - Moulded (RC/PS – M)*).
Reflective insulation: To AS/NZS 4859.1, Section 9.
Type: >_____ Aircell Glareshield
Wool: To AS/NZS 4859.1, Section 6.

Sarking material

Standard: To AS/NZS 4200.1-1994 (*Pliable building materials & underlays – Materials*).
Floor insulation: Provide perforated material.

Insulation types & ratings

Wall:	>_____	Bradford Fibertex batts		R 1.7
Roof:	>_____	Bradford Anticon Blanket & Sarking	R 1.0	
Ceiling:	>_____	Bradford Fibertex Rockwool	R 2.5	
Pipes:	>_____	Bradford Noise Control		50mm Taped Joints

9.3 INSTALLATION

Bulk insulation

Standard: To AS 3999-1992 (*Thermal insulation of dwellings – Bulk insulation - Installation requirements*).
Batts: Fit tightly between framing members. If support is not otherwise provided, secure nylon twine to the framing & stretch tight.
Loose fill: Provide boxing to retain loose fill on external edges, cavities & penetrations, & to prevent spilling.

Sarking material

Standard: To AS/NZS 4200.2-1994 (*Pliable building materials & underlays – Installation requirements*).

Wall sarking

General: Provide vapour-permeable sarking under cladding which does not provide a permanent weatherproof seal, including
- Boards fixed vertically or diagonally;
- Boards or planks fixed in exposed locations where wind-driven rain can penetrate the joints; &
- Unpainted or unsealed cladding.

Installation: Apply to the outer face of external stud walls from the top plate down over the bottom plate & flashing. Run across the studs & lap at least 150 mm at joints.

Roof sarking

Location: Provide sarking under tile & shingle roofs.
Anti-ponding boards: Provide 4.5 mm fibre-cement anti-ponding boards to eaves of tile roofs below 20^{o} pitch.
Ridge ventilation: Finish sarking at least 50 mm clear of ridges.

10 ROOFING

10.1 GENERAL

Existing Roofing

Remove old existing roofing and replace with new Colourbond roofing, as shown on plan.

Cross reference
Refer to the *Insulation & sarking* work section for roof sarking requirements.

10.2 MATERIALS & COMPONENTS

Flashing material
Standard: To AS/NZS 2904-1995 (*Damp-proof courses & flashings*).
Tiled roofs: 20 kg/m^2 lead.
Fasteners
Self-drilling screws: To AS 3566.1-2002 (*Self-drilling screws for the building & construction industries – General requirements & mechanical properties*).
Corrosion resistance: Class 3 to AS 3566.2-2002 (*Self-drilling screws for the building & construction industries – Corrosion resistance requirements*), Table 1.
Exposed fasteners: Provide fasteners, which are prefinished with a coating to match the roofing material, or provide matching purpose-made plastic caps.
Roof lights
Type: To all Areas >_____ None

10.3 METAL ROOFING

Design & installation
Standard: To AS 1562.1-1992 (*Design & installation of sheet roof & wall cladding – Metal*).
Roof material: >_____ Zincalume Colorbond Steel
_____ Lysaght Trimdek Steel as shown on plan
Manufacturer: >_____ Bluescope
Roof colour: >_____ Slate Grey
Visible accessories
Provide material with the same finish as roofing sheets.
Eaves
Treat ends of sheets as follows:
- Generally: Close off ribs at tops & bottoms of sheets by mechanical means or with purpose-made fillers or end caps.
- At gutters: Project sheets 50 mm into gutters.

Swarf
Remove swarf & other debris as soon as it is deposited.

10.4 ROOF PLUMBING

Selection & installation of rainwater goods
Standard: To AS/NZS 3500.3.2 (*National Plumbing & Drainage – Stormwater drainage – Acceptable solutions*).
PVC rainwater goods & accessories: To AS/NZS 2179.2 (Int) -1998 (*Specifications for rainwater goods, accessories & fasteners – PVC rainwater goods & accessories*)
Sealing: Seal fasteners & mechanically fastened joints with silicone sealant.
Flashings & cappings
General: Flash projections above or through the roof with two part flashings consisting of an apron flashing & an over-flashing, with at least 100 mm vertical overlap. Provide for independent movement between the roof & the projection.
Wall abutments: Where a roof abuts a wall, provide overflashings as follows:
- Masonry: Stepped & built into the full width of the leaf.
- Planked cladding: Stepped.
- Other: Raking.

Gutters
Minimum slope of eaves gutters: 1:200.
Minimum width overall of valley gutters: 400 mm.
Gutter Type: >_____ Fielders Halfline Gutter with internal straps, Nylex leaf guard, silicone to one edge of gutter.
Gutter Size: >_____ 53 x 136 x 98mm
Guttering & downpipe prefinish colour: _____ > Fielders 90mm diameter, round downpipes. Brunswick Green
Rain Head Type: >_____ Fielders Conical Rainhead Type 1
Rain Head Size: >_____ 400 x 200 x 400 mm
Box Gutter Type: >_____ To be detailed
Box Gutter Size >_____ To be detailed

11 CLADDING

11.1 GENERAL

Cross references
Refer to the following worksections:
- *General requirements*, for timber durability.
- *Insulation & sarking*, for wall sarking requirements.

11.2 MATERIALS & COMPONENTS

Flashing material
Standard: To AS/NZS 2904-1995 (*Damp-proof courses & flashings*).

Fasteners
Steel nails: Hot-dip galvanized to AS 4680-(*Hot-dip galvanized (zinc) coatings on fabricated ferrous articles*).
Self-drilling screws: To AS 3566.1-2002 (*Self-drilling screws for the building & construction industries – General requirements & mechanical properties*).
Corrosion resistance: Class 3 to AS 3566.2-2002 (*Self-drilling screws for the building & construction industries – Corrosion resistance requirements*), Table 1.

11.3 FIBRE CEMENT CLADDING

Standard
General: To AS/NZS 2908.2-2000 (*Cellulose-cement products – Flat sheets)* Type A Category 3.
Wall Cladding (as shown on drawings)
Manufacturer: >_____ CSR Blueboard 13mm, recessed edge
Prefinish colour: >_____ Blue. Finish with sealer a nd paint finish similar to Dulux Acratex render finish
Tape and set joints.
Plank cladding
Type: Provide a proprietary system of single-faced fibre cement planks 7.5 mm thick.
Joints & edges: UPVC extrusions.
Corners: Preformed metal joining pieces.
Sheet cladding
Type: Provide single-faced fibre cement sheets 6 mm thick.
Joints, corners & edges: UPVC extrusions.
Eaves lining
Type: Provide a proprietary system of single-faced fibre cement sheets 4.5 mm thick nailed at minimum 200 mm centres to battens at maximum 600 mm centres.
Minimum batten size: For rafter overhang:
- 300 Ð 600 mm: 50 x 38 mm.
- 600 Ð 1500 mm: 75 x 38 mm.

11.4 BOUNDARY WALL CLADDING (WITHIN 900MM OF BOUNDARY)

Standard
Standard
General: To AS/NZS 2908.2-2000 (*Cellulose-cement products – Flat sheets)* Type A Category 3.
Cladding
Manufacturer: >_____ CSR
Type: >_____ Fyrchek 16mm
Prefinish colour: >_____ Pink
Wall lining
Type: Provide a proprietary system typically of, but not limited to, 16mm 60/60/60 FRL paper faced board and 50 x 25mm battens with single-faced fibre cement sheets 16mm thick, James Hardie ÒLinea BoardÓ, or 13mm rendered Blueboard. Nailed sheets with vapour barriers, at minimum 600 mm centres.
Joints: UPVC extrusions.

12 DOORS & WINDOWS

12.1 GENERAL

Cross references
Refer to the following worksections
- *Lining*, for architraves.
- *Painting*, for priming of frames & doors before installation.

12.2 MATERIALS & COMPONENTS

Flashings
Standard: To AS/NZS 2904-1995 (*Damp-proof courses & flashings*).
Metal finishes
Zinc plating: To AS 1789-2003 (*Electroplated zinc (electrogalvanized) coatings on ferrous articles (batch process)*), at least service condition number 2.
Anodising: To AS 1231-2000 (*Aluminium & aluminium alloys – Anodic oxidation coatings*), at least class AA10.
Thermoset powder coating: To AS 3715-2002 (*Metal finishing – Thermoset powder coatings for architectural applications of aluminium & aluminium alloys*).
Glass
Selection & installation: To AS 1288-1994 (*Glass in buildings – Selection & installation*).
Doors
Doorset: An assembly comprising a door or doors & supporting frame, guides & tracks including the hardware & accessories necessary for satisfactory operation.
Security screen doors: To AS 5039-2003 (*Security screen doors & security window grilles*).
Garbage bin and Basement access doors to have ventilated grille openings.
Windows
Selection: To AS 2047-1999 (*Windows in buildings – Selection & installation*).
Security window grilles: To AS 5039.

Preglazing
If possible, preglaze doors & windows.
Security screens to all windows and doors.
All new windows to be powdercoated aluminium, with 'clear' Pilkington Comfort-E glass.
Windows & sliding external doors

Manufacturer:	>_____	Architect to select
Material:	> _____	Aluminium
Type:	> _____	Face sliding
Prefini sh type:	> _____	Architect to select
Prefinish colour:	> _____	Architect to select
Glass:	> _____	Architect to select
Insect screen:	> _____	None

Main entrance door

Manufacturer:	> _____	Architect to select
Type:	> _____	Architect to select
Glass:	> _____	Architect to select

Security screen doors

Manufacturer:	> _____	Architect to select
Type:	> _____	Architect to select
Prefinish colour:	> _____	Architect to select

Security window grilles

Manufacturer:	> _____	Architect to select
Type:	> _____	Architect to select
Prefinish colour:	> _____	Architect to select

Basement Access Doors

Manufacturer:	> _____	Architect to select
Type:	> _____	Ventilated Grille door
Prefinish colour:	> _____	Architect to select

12.3 CONSTRUCTION GENERALLY

Standards
Window installation: To AS 2047-1999 (*Windows in buildings – Selection & installation*).
Security screen doors & window grilles installation: To AS 5040-2003 (*Installation of security screen doors & window grilles*).
Flashings & weatherings
Install flashings, weather bars, drips, storm moulds, caulking & pointing so that water is prevented from penetrating the building between frames & the building structure.
Fixing
Packing: Pack behind fixing points with durable full width packing.
Prepared masonry openings: If fixing of timber windows to prepared anchorages is by fastening from the frame face, conceal the fasteners by sinking the heads below the surface & filling the sinking flush with a material compatible with the surface finish.
Linings
Provide reveal & jamb linings as necessary.

12.4 TIMBER DOORS

Door thickness
Generally: 35 mm.
External doors & doors over 900 mm wide: 40 mm.
Door construction
External doors: Solid Timber construction.
Internal doors: Flush panel cellular core, unless otherwise noted elsewhere.
Medium density fibreboard doors: Board designated by the manufacturer as having a moisture resistance which is suitable for the exposure of the door, fitted with additional hinges to suit.
Timber internal doors

Manufacturer:	>_____	Architect to select
Type:	>_____	Architect to select

Priming
Prime timber doors on top & bottom edges before installation.
Door stops
Install door stops to prevent door furniture striking the wall or other surface.
Hinge table
Provide 3 hinges for external doors & door leafs over 2040 mm in height or 820 mm in width & as follows:

Thickness of door (max)	Weight of door (max)	Number of hinges (per door leaf)	Size of hinges (steel)
35 mm	35 kg	2	85 x 60 x 1.6 mm
40 mm	68 kg	3	100 x 75 x 1.6 mm

12.5 SLIDING INTERNAL DOORS

Accessories

General: Provide overhead track supports & head & jamb linings appropriate to the arrangement of the door, & removable pelmets at the head to allow access to the wheel carriages for adjustment.
Wheel carriages: Fully adjustable precision ball race type providing smooth, quiet operation.

12.6 WARDROBES

Wardrobe doors & frames

Frame material: >_____ Architect to select
Frame prefinish colour: _____ > Architect to select
Door typ e >_____ Sliding, floor mounted track and bottom rollers

Wardrobe door panels

Mirrors > _____ Architect to select
Panel prefinish type: > _____ Architect to select
Panel prefinish colour: >_____ Architect to select

12.7 GARAGE DOORS

General

Standard: To AS/NZS 4505:1998 (*Domestic garage doors*).

Garage doors

Manufacturer: > _____ B & D Doors
Type: > _____ Roll-A-Door
Prefinish type: > _____ Traditional Wideline
Prefinish colour: > _____ Brunswick Green
Provide Remote control motor
Provide 2x Remote controllers and batteries
For gates, see Landscape Plan

13 INTERNAL LINING

13.1 GENERAL

Cross reference

Refer to the *Block & tile finishes* worksection for waterproofing of wet areas.

13.2 MATERIALS & COMPONENTS

Plasterboard

Standard: To AS/NZS 2588-1998 (*Gypsum plasterboard*).
Sheet thickness: >_____ 13mm

Fibre cement

Standard: To AS/NZS 2908.2-2000 (*Cellulose-cement products – Flat sheets*), Type B Category 2.
Sheet thickness: >_____ 6mm

Fibrous plaster products

Standard: To AS 2185-1978 (*Fibrous plaster products*).
Sheet thickness: >_____ 13mm

13.3 SHEET LINING

Supports

Install timber battens or proprietary cold-formed galvanized steel furring channels
- if framing member spacing exceeds the recommended spacing;
- if direct fixing of the sheeting is not possible due to the arrangement or alignment of the framing or substrate; &
- to support fixtures.

Installation

Plasterboard: To AS/NZS 2589.1-1997 (*Gypsum linings in residential & light commercial construction – Application & finishing – Gypsum plasterboard*) Level 4 finish.
Wet areas: Do not use adhesive. Fix from FFL to FCL in all areas unless otherwise noted.

Joints

General: Provide recessed edge sheets & finish flush with perforated reinforcing tape.
External corner joints: Make over metallic-coated steel corner beads.
Wet areas: Provide the flashings, trim & sealants necessary to ensure wet areas are waterproofed.
Joints in tiled areas: Do not apply a topping coat after bedding perforated paper tape in bedding compound.
Control joints: Install purpose-made metallic-coated control joint beads to coincide with structural movement joints.

13.4 TONGUE & GROOVE LINING

Installation

Stained or clear finished boards: Select board to give a random pattern. At corners, return the same board to give a continuous grain pattern.
Fixing: Nail twice to each crossing except for secret nailed profiles.
Nailheads: Treat visible nailheads as follows:
- In stained or clear finishes: Drive flush.
- In opaque finishes: Punch below surface & fill flush with putty after the surface has been primed.

Joints
End grain joints: Install boards so that butt joints are in compression.

13.5 TRIM

General
Provide timber or medium density fibreboard trim, such as beads, skirtings, architraves, mouldings & stops, where necessary to make neat junctions between components & finishes. Sand and prepare for painting.
Cornice
New Dwellings: **> Rondo P50 Shadow Mould to all new work**
Existing Cottage: **> Paddington traditional cornice to existing cottage**
Skirtings
New Dwellings : **> 150 x 20 pre primed front & back, MDF 'splay' to all new work**
Existing Cottage: **> 220 x 18 Traditional Mould, model no. F15, Australian Moulding Company.**
Architraves
New Dwellings: **> 90 x 20 pre primed front & back MDF 'splay'**
Existing Cottage: **> Retain existing mouldings**

14 TROWELLED COATINGS

14.1 GENERAL

Cross references
Refer to the following worksections:
- *Block & tile finishes*, for waterproofing of wet areas.
- *Painting*, for priming of embedded steel.

14.2 MATERIALS & COMPONENTS

Plaster materials
Cement: To AS 3972-1997 (*Portland & blended cements*), type GP.
Lime: To AS 1672.1-1997 (*Limes & limestones – Limes for building*).
SAND: Fine aggregate with a low clay content, selected for grading.
Gypsum plaster: To AS 2592-1983 (*Gypsum plaster for building purposes*).
Metal lath: Expanded metal to AS 1397-1993 (*Steel sheet & strip – Hot-dipped zinc-coated or aluminium/zinc-coated*)/Z275.
Lime putty mixes
Make a coarse mix of lime putty & sand 16 hours before use & do not allow to dry out.
Gauged mixes
To improve workability, mixes required to contain only cement & sand may be gauged by the addition of lime up to 25% of the cement content (i.e. not as a substitute for the cement).
Autoclaved aerated concrete walls
Provide a proprietary render or premixed plaster recommended by the wall system manufacturer.

14.3 SUBSTRATE

Correction of substrate
Before plastering, make good defects in the substrate. Hack off excessive projections. Fill voids & hollows with a mix not stronger than the substrate nor weaker than the first coat.
Untrue substrate
If one-coat application is required, but the substrate is not sufficiently true to comply with the thickness limits for one coat, or has excessively uneven suction resulting from variations in the composition of the substrate, apply 2 coats.
Cleaning
Remove loose material & leave the surface clean & dust-free.
Embedded items
Sheath water pipes & other embedded items to permit thermal movement. If ungalvanized steel items are to be embedded in plaster, prime before fixing.
Chases
If chases or recesses are more than 50 mm wide, cover with metal lath extending at least 75 mm beyond each side of the recess.
Metal backgrounds
Fix metal lath to provide a key for plaster.
Concrete
Apply a proprietary bonding agent before plastering.

14.4 CEMENT BASED FLOOR TOPPINGS (GRANO)

Preparing hardened surfaces
For toppings are to be applied to hardened concrete surfaces, scabble the surface to expose the aggregate. Thoroughly dampen & leave free of standing water. Immediately before placing, scrub a coat of neat cement grout into the surface, or apply a suitable adhesive.
Placing
General: Spread the topping mix, compact & float.
Thickness: 20 ± 5 mm.
Monolithic placing: Spread the topping mix as soon as surface water has disappeared from the base.

Curing
Use a method which prevents cracking or crazing resulting from drying shrinkage without impairing the adhesion of subsequent finishes.
Granolithic topping
Mix proportions: 1:1:1.5 (cement : fine aggregate : 5 mm coarse aggregate).
Water:cement ratio: 0.5 maximum.
Slump: 50 mm maximum.
Margins to toppings
Integral margins: Form margins to cementitious toppings integrally in the topping material.
Coved skirtings: Form the cove in topping material, & finish the top to a neatly struck line. Mitre internal & external angles.

15 WALL & FLOOR TILE FINISHES

15.1 GENERAL

Standards
Follow the guidance given in AS 3958.1-1991 (*Ceramic tiles - Guide to the installation of ceramic tiles*) & AS 3958.2-1992 (*Ceramic tiles - Guide to the selection of a ceramic tiling system*).

15.2 MATERIALS & COMPONENTS

Exposed edges
Provide purpose-made border tiles with the exposed edge (whether round, square or cushion) glazed to match the tile face.
Accessories
Provide coloured plastic trim to all exposed edges of tiles where shown. Provide tile accessories such as round edge tiles, cove tiles, step treads & nosings to stairs, landings, & thresholds, skirtings, sills, copings & bath vents, which match the surrounding tiles, composition, colour & finish.
Adhesives
Standard: To AS 2358-1990 (*Adhesives – For fixing ceramic tiles*).
PVA (polyvinyl acetate)-based adhesives: Do not use in wet areas or externally.
Mortar materials
Cement: To AS 3972-1997 (*Portland & blended cements*), type GP.
SAND: Fine aggregate with a low clay content selected for grading.
Bedding mortar
Proportioning: Select proportions from the range 1:3 to 1:4 cement:sand to obtain satisfactory adhesion. Provide minimum water.
Grout
Cement-based proprietary grout: Mix with water. Fine sand may be added as a filler in wider joints.
Preparation
Prepare the substrates, including the following:
- Remove deleterious & loose material & leave the surface dust-free & clean.
- For mortar bedding, wet the substrate as necessary to achieve suitable suction. Alternatively, apply a proprietary bonding agent to the substrate to improve adhesion.

15.3 WATERPROOFING WET AREAS

Standard
General: To AS 3740-2004 (*Waterproofing of wet areas within residential buildings*).
Membrane
Provide a proprietary liquid applied or sheet membrane system which
- has a current Australian Building Products & Systems Certification Scheme certificate; or
- has a current appraisal report issued by the CSIRO Building Products & Systems Appraisals stating that the system is suitable for use as a waterproofing system for use in wet areas, shower recess bases & associated floors & wall/floor junctions which are to be tiled.

Installation
Floor wastes: Turn membrane down onto the floor waste puddle flanges, & adhere.
Hobs: Extend membrane over the hob & into the room at least 50 mm. For hobless showers extend 1800 mm into the room.
External tiling: Provide a waterproof membrane under external floor tiling, to balconies & over habitable rooms, which forms a drained tank suitable for continuous immersion. Do not run under bounding walls.
Curing: Allow membrane to cure fully before tiling.

15.4 TILING

Cutting & laying
Cut tiles neatly to fit around fixtures & fittings, & at margins where necessary. Drill holes without damaging tile faces. Rub edges smooth without chipping. Return tiles into sills, reveals & openings. Butt up to returns, frames, fittings, & other finishes.
Variations
Distribute variations in hue, colour, or pattern uniformly, by mixing tiles or tile batches before laying.
Protection
Keep traffic off floors until the bedding has set & attained its working strength.
Setting out
General: Set out tiles to give uniform joint widths within the following limits:
- Internal ceramic tiling: 1.5 - 3 mm.

- Mosaic tiling: As dictated by pattern.
- Quarry tiles: 6 - 12 mm.
- Vitrified floor tiles: 3 - 5 mm.

Joint alignment: Set out tiling with joints accurately aligned in both directions & wall tiling joints level & plumb.
Joint position: Set out tiles from the centre of the floor or wall to be tiled &, if possible, ensure cut tiles are a half tile or larger, or as indicated on drawings.
Fixtures: If possible, position tiles so that holes for fixtures & other penetrations occur at the intersection of horizontal & vertical joints or in the centre of tiles.

Falls & levels

General: Grade floor tiling to even & correct falls generally, & to floor wastes & elsewhere as required. Make level junctions with walls. If falls are not required, lay level.
Minimum fall generally: 1:100.
Minimum fall in shower areas: 1:60.
Change of finish: Maintain finished floor level across changes of floor finish including carpet.

Preparation of tiles

Adhesive bedding: Fix tiles dry.
Mortar bedding: Soak porous tiles in water for half an hour & then drain until the surface water has disappeared.

Floor finish dividers

Finish tiled floors at junctions with differing floor finishes with a corrosion-resistant metal dividing strip fixed to the substrate. If changes of floor finish occur at doorways, make the junction directly below the closed door.

Bath ventilation

Ventilate the space below fully enclosed baths with at least 2 ventilating tiles.

Sealed joints

Fill joints with silicone sealant & finish flush with the tile surface where tiling joins sanitary fixtures & at corners of walls in showers.
Builder to keep onsite AS3740 Ð 2004 (Waterproofing wet areas in residential buildings) and to provide Certificate for waterproofing with claim for Practical Completion.

16 FLOOR COATINGS & COVERINGS

16.1 GENERAL

Cross reference

Refer to the *Painting* worksection for finishing of sanded timber floors & cork tiles.

16.2 SUBSTRATE

Substrate preparation

Prepare the Particle Board flooring including the following:

- Stripping & cleaning: Remove deleterious & loose material, including existing floor coverings & any surface treatment which could adversely affect adhesion.
- Repairs: Make good to the surface finish as necessary. Fill depressions with a suitable filler, & remove high spots & projections. If necessary lay a steel-trowelled underlay to concrete substrate.
- Fixtures & fittings: Remove door stops & other fixtures, & refix in position undamaged on completion of the installation.
- Basic sanding: Produce an even plane sanded surface on strip flooring to be covered with carpet or resilient sheet or tile. Lightly sand the junctions of sheet flooring.
- Fine sanding: If flooring is to be clear finished, stop with matching filler & produce a smooth sanded surface free from irregularities & suitable to receive the finish.

17 PAINTING

17.1 GENERAL

Standards

Follow the guidance given in AS/NZS 2311-2000 (*Guide to the painting of buildings*) & AS/NZS 2312-2002 (*Guide to the protection of structural steel against atmospheric corrosion by the use of protective coatings*).

17.2 MATERIALS & COMPONENTS

Combinations

Do not combine paints from different manufacturers in a paint system.

Delivery

Deliver paints to the site in the manufacturers' labelled containers. Ensure containers are marked with the APAS (Australian Paint Approvals Scheme) specification number.

Autoclaved aerated concrete walls

Do not apply oil-based paints.

17.3 PAINTING

Order of work

Complete clear timber finishes before commencing opaque paint finishes in the same area.

Protection

Remove door furniture, switch plates, light fittings & other fixtures before starting to paint, & refix in position on completion of painting.

Restoration
Clean off marks, paint spots & stains progressively. Touch up damaged decorative paintwork or misses with the paint batch used in the original application.
Substrate preparation
Provide a filler tinted to match the substrate if the finish is transparent.
Paint application
Apply the first coat immediately after substrate preparation & before contamination of the substrate can occur. Ensure each coat of paint or clear finish is uniform in colour, gloss, thickness & texture, & free of runs, sags, blisters, or other discontinuities.
Priming before fixing
Timber: Apply a first coat (two coats to end grain) to exposed roof trim, timber doors & window frames, tops & bottoms of doors, associated trims & glazing beads before fixing in position.
Steel: Apply a priming coat of zinc-rich organic binder to APAS 2916-2001 (*Organic zinc rich coating for protection of steel*).
Repair of galvanizing
If galvanized or zinc-coated surfaces have been cut or welded after galvanizing, prime the affected area with a zinc-rich organic binder to APAS 2916-2001 (*Organic zinc rich coating for protection of steel*).

17.4 SANDING

Finishing timber & cork floors
Sand floor, clean, coat with Tung Oil floor seal, resand and recoat twice (Total 3 coats). Protect floor after application in accordance with product specs. Make good any damage.
After coating, finish with 3 coats of clear floor sealer, Gemini Floor Polish Peerless brand in accordance with manufacturers specification. to APAS-0205-2003 (*One pack clear moisture cured finish for timber*).
Paint system description
If a system is referred to only by its final coat (for example by the manufacturer's brand name, the APAS specification code or the generic name) provide stains, primers, sealers & undercoats which are suitable for the substrate & are compatible with the finish coat & each other.

18 TIMBER FIXTURES

18.1 GENERAL

Cross references
Refer to the following worksections:
- *General requirements*, for timber durability.
- *Doors & windows*, for timber doors & reveal & jamb linings.

18.2 MATERIALS & COMPONENTS

Moisture content
Make milled products from timbers seasoned
- to within 3% of the equilibrium moisture content appropriate to the timber & its intended conditions of use; &
- with no more than 3% difference between any 2 pieces in any one group.

Finished sizes
Provide milled timbers with actual dimensions which are at least the required dimensions, except for dimensions qualified by a term such as ÒnominalÓ or Òout ofÓ to which industry Standards for finished sizes apply.
Hardboard
Standard: To AS/NZS 1859.4 (Int)-2001 (*Reconstituted wood-based panels – Specifications - Wet-processed fibreboard*).
Particleboard
Standard: To AS/NZS 1859.1 (Int)-2001 (*Reconstituted wood-based panels – Specifications - Particleboard*).
Medium density fibreboard
Standard: To AS/NZS 1859.2 (Int)-2001(*Reconstituted wood-based panels – Specifications - Dry-processed fibreboard*).
Decorative overlaid wood panels
Standard: To AS/NZS 1859.3-1996 (*Reconstituted wood-based panels - Decorative overlaid wood panels*).
High pressure decorative laminate sheets
Standard: To AS/NZS 2924.1-1987 (*High pressure decorative laminates - Sheets made from thermosetting resins - Classification & specifications*).
High pressure decorative laminate sheet application table
Provide classes as follows:

Class to AS/NZS 2924-1987 (High pressure decorative laminates - Sheets made from thermosetting resins)	Application
HGS or HGP	Kitchen work-tops
VGS or VGP	Kitchen front panels
VLS	Other locations

Hardware
Handles: > _____ Architect to specify
Locks: > _____ Architect to specify

FORM 4 -
CONSTRUCTION

MATERIALS ON-SITE		REUSE AND RECYCLING	DESTINATION	DISPOSAL
TYPE OF MATERIAL	ESTIMATED Vol. (m3) or Wt.(t) see key reference 2 see p13 for suggestions	ON-SITE specify proposed reuse or on- site recyling methods	OFF-SITE specify contractor and recycling outlet	specify contractor and landfill site see key reference 3 for suggestions`
Excavation material	20 m3	see info sheet 4 & Key reference 2, p21 for suggestions Covered in section 1 as part of demolition	see key reference 3 for suggestions	
Green waste	15 m3	Covered in section 1 as part of demolition		

FORM 3 -
DEMOLITION

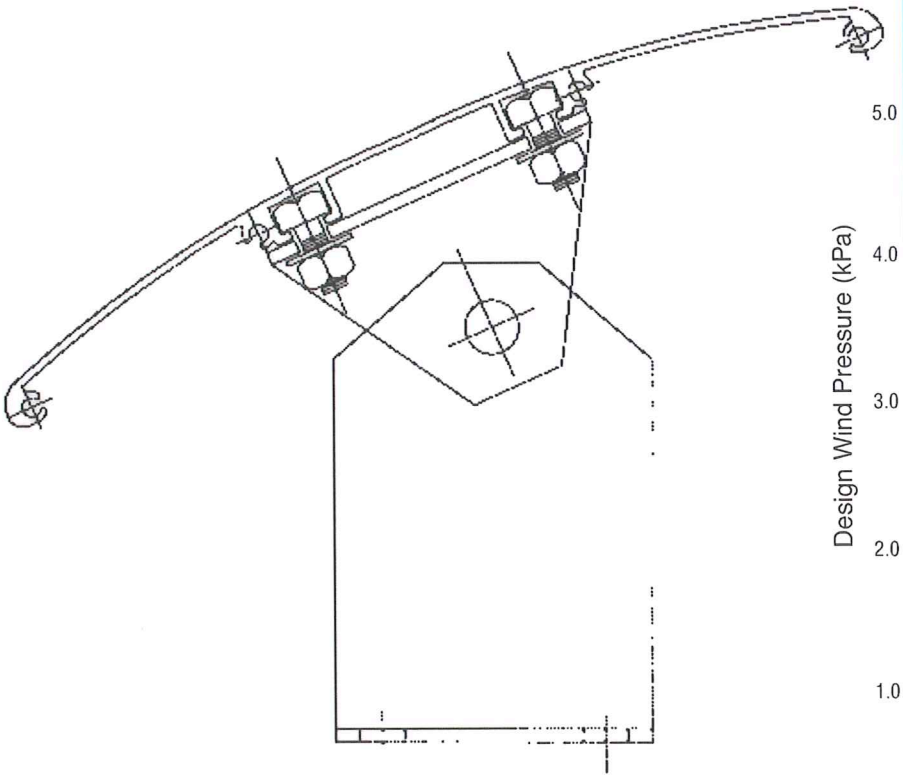
MATERIALS ON-SITE		DESTINATION		
		REUSE AND RECYCLING		DISPOSAL
TYPE OF MATERIAL	ESTIMATED Vol. (m3) or Wt.(t) m3	ON-SITE specify proposed reuse or on- site recyling methods	OFF-SITE specify contractor and recycling outlet see key reference 3 for suggestions	specify contractor and landfill site see key reference 3 for suggestions
Excavation material	30 m3	Keep/ re-use topsoil for landscape		Excess to private contractor and landfill site
Green waste	15 m3			Nil
Bricks	Nil		Nil	
Concrete	50 m3		Slab to be demolished to crushing & recycling company	Nil
Timber - Please specify	45 m3		Existing timber roof ground floor/ attic to Landscape suppliers	Nil
Timber wall framing	30 m3			
Plasterboard	15 m3		to Landscape suppliers	Nil
Metal	10 m3		Old metal existing - roof To metal recyclers for reuse	
Asbestos	15 m3		Some to metal recyclers for reuse	
Metals- Please specify				Nil

Bricks	35 m3		Remainder to Crushing & Recycling	Nil
Concrete	30 m3		Remainder to Crushing & Recycling	Nil
Timber - Please specify	45 m3		Remainder to Landscape Suppliers	Nil
Plasterboard	15 m3		Remainder to Landscape Suppliers	Nil
Metals- Please specify	10 m3		Some to metal recyclers for reuse	Nil

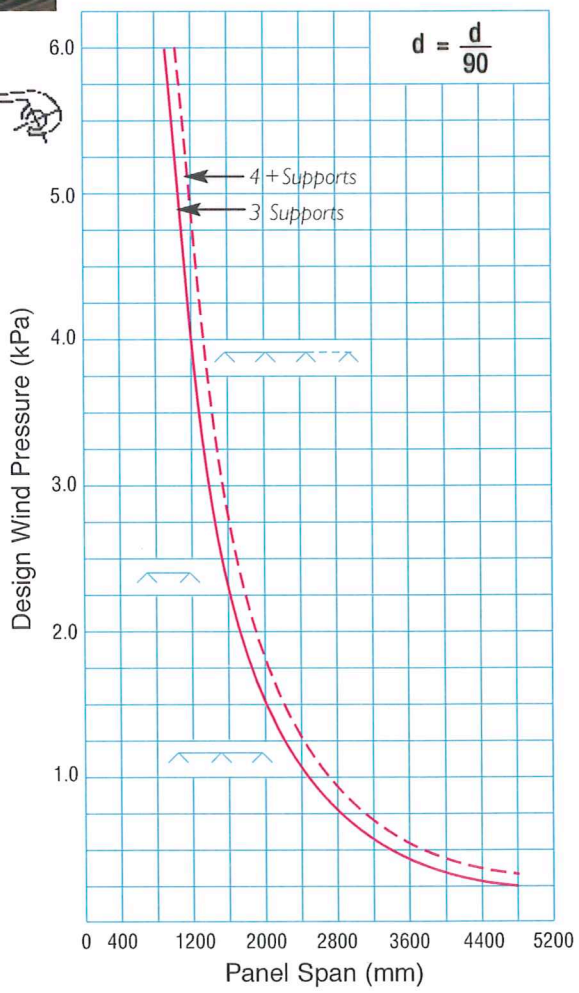
300RX

Short Form Specification - 300RX

.....m2 LUXALON® 300RX aluminium louvre consisting of:
Panels made of extruded aluminium, 300mm wide x .....mm long.
Finish to be selected powdercoat. ..... or anodised ..... finish.
Fix the louvre with 4mm aluminium brackets at the required spacing, with stainless steel bolts. Brackets to match louvre finish.
Supply and fix according to the fixing instructions of Hunter Douglas Architectural Products, a division of Hunter Douglas Limited.



Type 300RX Extruded Sun Louvre Panel



Note: Span Charts are based on Limit State Design

HUNTER DOUGLAS ARCHITECTURAL PRODUCTS
A Division of Hunter Douglas Limited. ABN 98 009 675 709

HEAD OFFICE
338 Victoria Road, Rydalmere NSW 2116
Phone: (02) 9638 8824 Fax: (02) 9638 8826
E-mail: enquiries@luxalon.com.au

LUXALON®

Contact us for more information and product samples.

Visit our website: www.luxalon.com.au

Copyright Hunter Douglas Limited May 2001. ® Registered trade mark of Hunter Douglas Limited. Technical data subject to change without notice.

SHORT FORM SPECIFICATION - EXTRUDED LOUVRES - 300RX

14m^2 Aluminium Extruded 300RX Sun Louvre System, supplied by Hunter Douglas Commercial, is a fixed system consisting of louvres made of extruded aluminium, 300mm wide, fixed to a supporting framework that is typically a Hunter Douglas Commercial Framing System, all in Bright Anodised Finish.

Fix the louvre with 4mm aluminium brackets at the required spacing, with stainless steel bolts. Brackets to match louvre finish. Fix mounting brackets and louvres at 150mm centres to achieve a 20° horizontal sun angle. The louvre support structure is made of extruded aluminium with extruded aluminium louvre mounting brackets mechanically fixed to the support members as specified.

Supply and install according to the fixing instructions of Hunter Douglas Commercial, a division of Hunter Douglas Limited.

Products

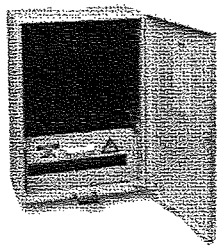
Dommestic Commercials

Homepage
Products
Industrial Enclosures
Electronic Packaging
System Climate Control
Power Distribution
IT-Solutions
Communication Systems
Domestic Commercial
Sloped Roof

Product Search

ME Metering Enclosure

ME Metering Enclosures



The domestic range of metering enclosures sets new standards in design, quality and aesthetics. Packed full of features including cable entry glands, side vents for cross flow ventilation, an internal and external powder coat finish as well as extension lead entry and brackets on most models for AS3012 compliance.

This range is available in powdercoated galvanised steel or 316 stainless steel for coastal or other corrosive environments.

Dimensions (mm)			Steel (Z275)	316 Stainless		Panel Size		
W	H	D	Model No.	Model No.	Din Modules	W	H	Meter Positions
Queensland								
475	695	275	MEQ223		23	455	480	2
475	695	275	MEQ223TP*	MEQ223TPSS*	23	455	480	2
475	525	275	MEQ2FP		-	455	480	2
620	775	275	MEQ424TP*	MEQ424TPSS*	24	600	565	4
620	600	275	MEQ4FP			600	565	4
New South Wales								
580	580	275	MEN312	MEN312SS	12	550	550	3
475	695	275	MEN323	MEN323SS	23	455	480	3
580	580	275	MEN330FL**	MEN330FLSS**	30	350	550	3
475	525	275	MEN3FP		-	455	480	3
620	775	275	MEN624	MEN624SS**	24	600	565	6
620	600	275	MEN6FP		-	600	565	6
Victoria								
470	675	275	MEV223FL**	MEV223FLSS**	23	400	380	2
470	440	275	MEV2FPFL**		-	400	380	2
South Australia								
503	605	260	MESA124	MESA124SS	24	305	305	1
503	805	275	MESA224	MESA224SS	24	305	505	2
580	580	275	MESA330	MESA330SS	30	350	550	3
503	605	275	MESA1FP		-	305	505	1

* TP indicates Temporary Power Enclosure

** FL indicates Service Fuse Holder and Link supplied

Full panel versions without DIN section do not include E+N Bars accessories

© 2007, Rittal
Disclaimer

FRIEDHELM LOH GROUP