32.00 Standard Forms

- Space Description Form
- Bank Guarantee in lieu of Security Deposit / Retention
- The Deed of Guarantee, Undertaking and Substitution
- Waste Minimisation Plan
- Sustainability Matrix

Griffith UNIVERSITY - Planning, Design & Construction Division

SPACE DESCRIPTION FORM

Building No: **Building Name:** **Date:**

SPACE	**Space No:**	**Name:**		**No. Off:**
	Type:	**Category:**	**No of Occupants:**	**Area (m2):**
USER	**Faculty Code:**		**School Code:**	
			Note: If no School nominated use Faculty code	
FUNCTION	**Description:**		**Code:**	
ASSOCIATED SPACES	**Essential:**		**ACCESS** **Primary:**	
	Desirable:		**Secondary:**	
FINISHES		**Description** **Code**		
	Floor:		**Skirting:**	
	Walls:		min. max.	
	Ceiling:		**Ceiling Height:**	

BUILDING SERVICES (Refer to Design Guidelines for full requirements of systems, materials etc.)

Electrical

Lighting:	to SAA Standard			Y / N
	Special			Y / N
	Controlled			Y / N
Power:	10A	Double	Qty:	
	15A	Double	Qty:	
	20A	Double	Qty:	
	Cleaner	Single 10A	Qty:	
	3 Phase	Amps:	Qty:	
	Special			
Clock:	Analogue		Qty:	
	Digital		Qty:	
Other:				

Mechanical

Air Condit:	Comfort		Y / N
	Special		Y / N
Mechanical:	Ventilation		Y / N
	Exhaust		Y / N
Fume Cupboards:			
	Size	Qty:	
	Size	Qty:	
Scrubbers			Y / N
Fume Exhaust:			Y / N
Dust Extraction:			Y / N
Other:			

Voice Comms & Data; AV; Security

Phone:	Standard	Qty:	
	Secretarial	Qty:	
Fax:		Qty:	
Data outlet:		Qty:	
Printer outlet:		Qty:	
Spare outlet:		Qty:	
Wireless point:		Qty:	
Video/Data projection:			Y / N
MATV outlet:			Y / N
Audio system:			Y / N
Hearing augmentation:			Y / N
Video conferencing:			Y / N
CCTV:			Y / N
Electronic Access control:			Y / N
CCTV:			Y / N
Security phone:			Y / N

Hydraulics (refer to Design Guidelines for descriptions of fixtures & taps)

Fixture	*Type*	*Qty*	*Cold water*	*Hot water*	*RO/Demin.*	*Taps*
Basin:						
Sink:						
WC:						
Urinal:						
Shower:						
Safety shr:						
Eye wash:						
Drinking fountain:						
Bottle filler:						
Floor waste:						
Other:						

Special Services

Compressed air point:		Qty:	
Vacuum point:		Qty:	
Medical air point:		Qty:	
Chilled water point:		Qty:	
Gas point:	LPG	Qty:	
	CO2	Qty:	
	O2	Qty:	
	N2	Qty:	
Dangerous goods cabinet:			
Flammable	litres	Qty:	
Corrosive	litres	Qty:	

FIXTURES,FURNITURE & EQUIPMENT

Note: All loose furniture & equipment is provided by GU unless noted below. Signages included in the Contract unless noted otherwise

Included in Contract:	**Provided by GU:**

SPECIAL REQUIREMENTS	**OTHER REQUIREMENTS**
Natural light: Laboratory Class: Acoustic: Fire rating: Hazards: Compactus Unit: Other:	

Prepared by: **Sheet:** of **Issue No:** Form: OFM - 0925/2

Bank Guarantee in Lieu of Security Deposit/Retention

TO: Griffith University
170 Kessels Road
Nathan Qld 4111

At the request of _____
(hereinafter called "the Design & Construction (D&C) Manager / Contractor") and in consideration of **Griffith University** (hereinafter called "the Principal") accepting this undertaking for Security* / Retention* in respect of the contract for the construction of the

_____

on the Principal's _____campus, _____
(hereinafter called "the Bank") unconditionally undertakes to pay on demand any sum which may from time to time be demanded in writing by the Principal to a maximum sum of
_____ ($)

This undertaking is not revocable by notice but will continue in full force until payment to the Principal by the Bank of the whole of the said maximum amount or until the Principal notifies the Bank in writing that the said contract has been satisfactorily carried out and that the undertaking is no longer required.

Any payment or payments demanded by the Principal will be made forthwith (up to the limit of the maximum amount aforesaid) without further reference to the D&C Manager / Contractor* and notwithstanding any notice given by the D&C Manager / Contractor* to the Bank not to pay the same.

The Principal may, without affecting this undertaking, agree with the D&C Manager / Contractor* to vary or alter the said contract in any respect and may grant time or other indulgence to or compound or compromise with or release the D&C Manager / Contractor* or any person or corporation whatsoever and the liability of the Bank hereunder shall not be impaired or discharged thereby.

Provided also that the Bank may at any time during the subsistence of this guarantee, without being required so to do by the Principal deposit with the Principal the said sum of

_____

($) and the liability of the Bank hereunder shall thereupon immediately cease and determine.

Dated at Brisbane this _____ day of _____ 20_____.

Witness:

** Delete whichever not applicable*

The Deed of Guarantee, Undertaking and Substitution

Is made the _____ day of _____ 20_____.

BETWEEN

(hereinafter called "the Guarantor") of the first part

AND

(hereinafter called the "the Design & Construction (D&C) Manager/Contractor*") of the second part

AND **GRIFFITH UNIVERSITY**

(hereinafter called "the Principal) of the third part.

WHEREAS –

(1) by a formal agreement dated the _____ day of _____ 20_ the D&C Manager/Contractor* entered into an agreement with the Principal (hereinafter called "the Contract") for the execution and performance by the D&C Manager/Contractor* of certain works described in the Contract namely construction of _____ on the _____campus, Griffith University (hereinafter called "the works");

(2) in accordance with the provisions of the Contract the D&C Manager/Contractor* is required, if so requested in writing by the Principal, to lodge with the Principal at the time of execution of the said formal agreement a Deed of Guarantee, Undertaking and Substitution for the performance of the obligations and discharge of the liabilities of the D&C Manager/Contractor* under the Contract in a form approved in writing by the Principal, duly executed by the D&C Manager/Contractor* and the Guarantor;

(3) the Principal has requested that the D&C Manager/Contractor* lodge with him a Deed of Guarantee, Undertaking and Substitution in the form of this present deed;

(4) the Guarantor has fully informed itself of the obligations and liabilities of the D&C Manager/Contractor* under the Contract and, at the request of the D&C Manager/Contractor*, is prepared to give and execute the guarantee, undertakings and agreements herein contained;

NOW THIS DEED WITNESSETH that the Guarantor, in consideration of the premises and with the concurrence of the D&C Manager/Contractor* as testified by its execution hereof, GUARANTEES to the Principal the due and proper performance and observance by the D&C Manager/Contractor* of the obligations of the D&C Manager/Contractor* under the Contract and the discharge of the liabilities of the D&C Manager/Contractor* under the Contract AND in pursuance of this guarantee UNDERTAKES AND AGREES with the Principal as follows:-

(1) In the event of any breach by the D&C Manager/Contractor* the provisions of the Contract, the Guarantor will –

(a) pay to the Principal on demand any and all sums of money being or representing compensation arising from, caused by or connected with the breach, and all costs charges and expenses incurred by the Principal arising out of or occasioned by the breach;

(b) if and to the extent requested by the Principal, will undertake, carry out and complete the execution of the works insofar as the D&C Manager/Contractor* has failed to do so and the works remain to be completed.

(2) For the purposes of paragraph (b) of the last preceding clause the Guarantor shall be substituted for the D&C manager/Contractor* as the party of the Contract to the intent that that the Guarantor shall be subject to the obligations and liabilities and entitled to the rights of the D&C Manager/Contractor* as that party (including liability in respect of any breach of the provisions of the Contract whether occurring before or after the substitution) in all respects as if the Guarantor had been named as the party to the Contract instead of the D&C Manager/Contractor* and that compliance and observance by the Principal with the provisions of the Contract with respect to the Guarantor shall in all relevant respects constitute due performance of the Contract on its part.

(3) This guarantee shall be continuing guarantee to the Principal until the obligations and liabilities of the D&C Manager/Contractor* under the Contract shall in all respects have been performed, observed and discharged.

(4) The liability of the Guarantor under this deed shall not in any way be discharged, affected or impaired for any reason whatsoever whether for variation of any of the provisions of the Contract or the granting of time or indulgence to the D&C Manager/Contractor* or the waiving by or on behalf of the Principal of any breach, failure or default whatsoever on the part of the D&C Manager/Contractor* or otherwise howsoever.

(5) Any demand or request to be made on the Guarantor hereunder shall be deemed to have been duly made if it is in writing by or on behalf of the Principal and delivered by hand or sent by prepaid post addressed to the Guarantor at its address hereinbefore referred to and a demand sent by post shall be deemed to have been made when in due course it would have been delivered at that address.

(6) The Guarantor shall pay all stamp duty payable in respect of this deed.

(7) This deed shall in all respects be governed by and construed in accordance with the laws for the time being of the State of Queensland.

IN WITNESS whereof the Guarantor and the D&C Manager/Contractor* has each executed this deed the day and year first above written

THE COMMON SEAL OF)
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THE COMMON SEAL OF)
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* Delete whichever is inapplicable.

Waste Minimisation Plan

Materials on-site			Reuse and Recycling	
Type of waste materials to be generated	Estimated quantity (m3)	(Tonnes)	ON SITE – Specify proposed reuse or on site recycling method	OFF SITE – Specify contractor and recycling outlet
Soil				
Rock				
Vegetation greenwaste				
Concrete				
Steel reo				

Type of waste to be generated	Estimated quantity (m3)	(Tonnes)	Waste Reduction Technique	Method (On-site or Off site)
Bricks				
Plasterboard				
Timber - ceiling				
Timber - trim				
Timber - wall				
Tiles				
PVC				
Metal - ferrous				
Metal – non ferrous				
Doors and windows				
Glass - other				
Carpet				
Carpet underlay				
Fixtures and Fittings - other				
Paper and Cardboard				
Timber pallets				
Cement bags				

Reuse and Recycling Potential of Construction and Demolition Material

Materials	Process	Use	End Use	Potential
Concrete	Crushed	Recycled	Fill, levelling, road base	100%
	Surplus	Use up	Base for paths, clothes lines	High
Bricks	Cleaned	Reused	Sold, reused in construction	100%
	Crushed	Recycled	Landscaping, driveways, drainage	100%
Roof tiles	Cleaned	Reused	Sold, reused in construction	100%
	Crushed	Recycled	Landscaping, driveways, drainage	100%
Plasterboard	Reprocessed	Recycled	New plaster board	100%
Hardwood beams	Denailed	Reuse	Flooring, furniture, fencing, craft	100%
Other timber	Clean	Reuse	Formwork, bridging, propping	Practices
	Ground	Reuse	Mulch, landscaping, woodflour (Oil Spills)	100%
Doors, windows	Cleaned	Reuse	Second hand market	Market driven
Fittings	Cleaned	Recycled	Second hand market	Market driven
Glass	Crushed	Reused	Aggregate for concrete products	100%
	Unbroken	Reuse	Repairs, glazing, glass houses	100%
Carpet – wool		Reuse	Mulch, landscaping	
Underfelt – natural		Recycled	Compost cover, mulch, landscaping	
Underlay – synthetic rubber	Shredded	Reuse	Safety barriers, speed humps	
Trees	Relocated	Recycled	Landscaping on or off site	100%
Greenwaste	Shredded	Reuse	Compost, mulch, fertiliser	100%
Overburden	Screened	Recycled	Topsoil	100%
Metals – aluminium, copper, lead, zinc, steel	Scrap metals	Recycled	New metal products	100%
Packaging – cardboard, plastic/steel drums	Cleaned	Reused Recycled	New packaging	100%

Source: Environment Design Guide (Aug. 1998. GEN 21, Page5)

Sustainability Matrix

Sustainability Category	Sustainability Issue	Impact / Benefit	Design Consideration (Objective / Target)	Included / Not Included in proposed Design Solution	Comments
Note: If a sustainability issue is not included in the proposed design solution, reasons for its exclusion are to be provided in 'Comments' column.					
Site use (including land use and ecology					
Land Clearing	Clearing of flora	Weed infestation, loss of flora habitat, loss of cultural heritage	Weed management plan – Weed eradication programme		
	Pest management	Displacement of existing pests; Removal of natural predators	Identify and quantify		
	Native species conservation	Identify native species	Re-establish native species – flora and fauna		
	Revegetation plan	Pest habitat created	Re-establish native species, Eliminate possible pest habitats		
Construction / Earthworks	Earthworks, modification of landforms	Soil erosion, surface water pollution, hydrology/stormwater paths, flooding. Contaminated soil exposure – health impact	Eliminate soil erosion Minimise impact on water table Decontaminate site as required		
	Landscaping, irrigation, fertilisation, pesticides, herbicides, plant selection (re climate)	Soil salinity, water table height and quality	Reinstate native species Low water reliant plants CPTED design of landscaping Drip feed irrigation or other appropriate irrigation method specific to site and plant species		
	Fencing	Fauna disturbance	Minimise disturbance, protect fauna		
Birds	Bird nuisance control	Eliminate roosting or nesting of birds	Keep known problematic birds off the building face and roof, design accordingly		

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Stormwater	Stormwater management	Pollution and erosion	Use biologically based stormwater management features such as swales, sediment control ponds, pools and wetlands along drainage courses, and infiltration basins to retain and treat stormwater onsite		
	Stormwater management	Erosion	Design pavements and locate them in such a manner as to reduce stormwater velocity		
	Stormwater management	Runoff	Minimise landscapes and use permeable paving and surface materials to maximise site water absorption Develop and design strategies that minimise disturbances to watershed		
	Stormwater management	Contamination of stormwater	Stormwater filters and debris separators Use of silt control barriers to prevent contamination of stormwater drains and streams		

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Energy					
Thermal control	Orientation	Energy minimisation	Position building to minimise solar load		
	Thermal losses and gains	Energy minimisation	Optimise through use of materials with thermal mass appropriate to situation Roof insulation Wall insulation		
	Solar penetration/shading	UV, heat	Reduce capital costs and energy by selection of solar efficient glazing and by introduction of sun blades/ shading		
	Thermal efficiency of envelope	Energy minimisation, mechanical plant capacity	Carry out review of glazing options (in conjunction with shading options) to establish an optimum shading/glazing/mechanical plant combination. A 'base' design shall be established on which all options shall be referenced against. A Life Cycle Cost analysis (LCC) shall be undertaken to establish the best option		
	Thermal efficiency of envelope	Energy minimisation, mechanical plant capacity	Carry out review of shading options (in conjunction with shading options) to establish an optimum shading/glazing/mechanical plant combination. A 'base' design shall be established on which all options shall be referenced against. A LCC analysis shall be undertaken to establish the best option		

Sustainability Category	Sustainability Issue	Impact / Benefit	Design Consideration (Objective / Target)	Included / Not Included in proposed Design Solution	Comments
Note: If a sustainability issue is not included in the proposed design solution, reasons for its exclusion are to be provided in 'Comments' column.					
Thermal control	Thermal efficiency of envelope	Energy minimisation, mechanical plant capacity	Target thermal resistance (R-values) of the building envelope as follows: • Walls and windows <0.4m^2 K/W (average values of walls and glazing) • Floors >1.0m^2 K/W • Roof >3.0m^2 K/W		
Air Supply	Central chiller versus distributed plant	Energy minimisation	Capital and operating costs Space savings of central plant Location of plant		
	Air handling and pumping	Energy, capital and operating cost minimisation	Consideration of HVAC systems shall include the following: • Minimising plant capacity and plant area • Efficiency when operating at peak capacity • Efficiency when operating at part load • Minimise losses associated with fume exhausts in air conditioned space • Consider sequenced steps or modulation of pumping capacity • Efficiency when operating part of the building out of hours • Variable air volume systems • Distributed local HVAC units are preferred		

Sustainability Category	Sustainability Issue	Impact / Benefit	Design Consideration (Objective / Target)	Included / Not Included in proposed Design Solution	Comments
Note: If a sustainability issue is not included in the proposed design solution, reasons for its exclusion are to be provided in 'Comments' column.					
	Cont…..Air handling and pumping	Cont……Energy, capital and operating cost minimisation	Cont…..Consideration of HVAC systems shall include the following: • High efficiency motors, fans, and pumps • Insulation of pipe work and ductwork to AS4508 or better • Using the ground as a heat source/sink for water source heat pumps • Zone grouping based on similar loads • Different uses should have separate HVAC units • CO^2 sensing control for the modulation of car parking and ventilation systems • A modulating economy cycle operation for all air-handling units. Use of CO^2 or air quality sensing equipment to control outside air intake and the addition of high quality air filtration to reduce the outdoor air quality and hence reduce the plant capacity (refer to AS 1668.2, Clause 2.3.4 and 2.6.2) • Back draft dampers to be fitted to all exhaust systems to minimise air infiltration out of hours • Capacity to vary set points of hot and chilled water on a seasonal basis • Displacement ventilation		

Sustainability Category	Sustainability Issue	Impact / Benefit	Design Consideration (Objective / Target)	Included / Not Included in proposed Design Solution	Comments
Note: If a sustainability issue is not included in the proposed design solution, reasons for its exclusion are to be provided in 'Comments' column.					
	Air quality (influences)	Air quality	Provide quality outside air in response to diesel/ other emissions		
Air Supply	Gas emissions (vehicles, generator sets etc.)	Air quality	Reduce or eliminate possibility of contamination of air intake		
	BMS control	Energy minimisation	Consideration of the design of the central control system shall include the following: • Central lighting control system and integrated BMS • Optimised start up • Optimised temperature set point • Economy cycle/enthalpy control • Plant scheduling and set back • Proportioning Integral Derivate (PID) control algorithm to minimise hunting • Dead band control to minimise simultaneous heating and cooling • Remote control • Data acquisition Consideration shall be given to the following HVAC control system characteristics: • Direct Digital Controls (DDC) shall be provided • Local timer controls linked back to a central time controller • Run on timers to minimise out of hours use • Time scheduling of A/C and ventilation plant operation to prevent the unnecessary use of equipment in intermittently used areas		

Sustainability Category	Sustainability Issue	Impact / Benefit	Design Consideration (Objective / Target)	Included / Not Included in proposed Design Solution	Comments
Note: If a sustainability issue is not included in the proposed design solution, reasons for its exclusion are to be provided in 'Comments' column.					
Air supply			• Variation of comfort criteria (deadband widening) and temperature set point for different space usages or when space is unoccupied • Optimisation strategies for staging on/off and operating central plant with multiple heating/cooling modules		
	A/C zoning	Energy minimisation/worker productivity	Consideration will be given to zoning for the following circumstances: • Delivery of conditioned air to occupied spaces • Low occupancy areas • Variable occupancy areas • Out of hours use • Minimising reheat • Areas exposed to high solar radiation when compared to the remainder of the building • Use of individual units to serve each solar zone • Allow mixed mode air conditioning in staff offices wherever possible		
	Appropriate system selection for type and usage of building	Energy minimisation	Best fit for project		
	CFC's/ HFC's	Reduced or no damage to the ozone layer	Use of refrigerants with zero ozone depleting potential (eg. R134a). Consider hydrocarbon refrigerants the also have a very low global warming potential. Note that ozone-depleting refrigerants will not be acceptable.		

Sustainability Category	Sustainability Issue	Impact / Benefit	Design Consideration (Objective / Target)	Included / Not Included in proposed Design Solution	Comments
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Water heating/cooling	Solar Heating	Energy minimisation	Hot water generation by self tracking parabolic solar panels		
	Gas or electric water heating	Energy minimisation	If solar heating is not viable, install heat pumps or review use of gas or electric		
	Insulation of circulation pumps	Energy minimisation	Minimise pipe losses		
	Control circulating pumps if fitted to operate only when required	Energy minimisation	Minimise pipe losses		
	Minimise dead legs	Energy minimisation	Minimise pipe losses		
	Low energy boiling water units with time control	Energy minimisation	Review central or distributed water heating system		
	DX versus chilled water plant	Energy minimisation	Selection of plant		
	Ice storage Chilled water storage	Energy minimisation	Consideration of the chilled water storage or ice storage to reduce electricity demand charges and cooling plant size shall include the following • Out of hours operation and other periods of part load operation • Peak electrical load 'trimming' using storage		

Sustainability Category	Sustainability Issue	Impact / Benefit	Design Consideration (Objective / Target)	Included / Not Included in proposed Design Solution	Comments
Note: If a sustainability issue is not included in the proposed design solution, reasons for its exclusion are to be provided in 'Comments' column.					
Lighting	Light flicker and energy efficiency	Energy conservation, occupant comfort	Electronic ballasts to light fittings to eliminate light flicker and provide greater energy efficiency		
	Layout and switching	Energy conservation, occupant comfort	Consideration will be given to the most effective layout and switching patterns		
	Light levels, auto dimming, day lighting	Energy conservation, occupant comfort	Use of Dali system, daylighting, reduction of glare		
	Photo voltaic cells	Energy minimisation	For external garden lighting		
	Solar energy source for external lighting and emergency fire systems	Energy minimisation	Solar collectors to supply energy, battery charging for external lighting and emergency systems		
	Low energy lighting	Energy minimisation	Consideration on the selection of lamps and luminaries shall include the following: • Tri-phosphor lamps • Luminaries with high reflectance, photometrically efficient profiles to maximise light output • Luminaries with an output ratio >70% • High efficiency discharge lamps (i.e. metal halide or similar) for large internal spaces • High efficiency external lighting (i.e. high pressure sodium or similar)		

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Note: If a sustainability issue is not included in the proposed design solution, reasons for its exclusion are to be provided in 'Comments' column.					
Lighting	Movement detector lighting to corridors	Energy minimisation Reduce energy costs when areas are unoccupied	Switching via a Dali compatible system		
	Lighting controls, dimmers, sensors	Energy conservation Reduce energy costs when areas are unoccupied	Switching via a Dali compatible system		
	Minimise use of artificial lighting as much as practicable	Energy minimisation/occupant comfort	Light coloured internal finishings shall be utilised in order to minimise lighting power densities. Ceiling/wall/floor reflectances shall be at least 70%/50%/15% respectively, unless special circumstances such as screen based equipment require lower levels.		
Power	Wind (alternative energy sources)	Energy conservation	Generate wind power		
	Transformer oil reduction in HV supply	Minimise or eliminate	Recycling of oil or oil free systems		
	Utilise otherwise wasted energy	Energy conservation	Consideration of the use of heat/recovery/exchange/storage/pre-cooling shall include the following: investigate recovering thermal energy from conditioned air being spilled from the facility, especially in heavily populated areas such as courts, lecture theatres, where outdoor air requirements are high		

Sustainability Category	Sustainability Issue	Impact / Benefit	Design Consideration (Objective / Target)	Included / Not Included in proposed Design Solution	Comments
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Power	Combined use of electrical and thermal energy	Energy minimisation	Consideration of co-generation shall include the following: • Assessment of capital cost and potential savings of on-site electricity generation, both in terms of consumption and demand savings. For co-generation, careful assessment of heating loads needs to be made • Potential to export electrical/thermal energy • The cost of backup power system that will rarely be required versus it's use for co-generation		
	Energy management strategies with neighbours	Energy conservation	Consider cogeneration, load sharing, alternative energy development		
	Power factor correction	Energy conservation	Equipment selection Design to minimise loss		
Building layout	Maximise use of stairs	Energy minimisation	The design and placement of stairs maximises their use and minimises the use of lifts		

Sustainability Category	Sustainability Issue	Impact / Benefit	Design Consideration (Objective / Target)	Included / Not Included in proposed Design Solution	Comments
Note: **If a sustainability issue is not included in the proposed design solution, reasons for its exclusion are to be provided in 'Comments' column.**					
Water					
Toilets	Electronic flushing to toilets	Resource conservation	Controlled flushing		
	Flushers in lieu of cisterns	Resource conservation Reduced maintenance, lower lifecycle costs	Appliance selection Controlled flushing Lower life cycle costs		
Toilets	Waterless urinals	Resource conservation	Appliance selection		
Appliances	Flow restrictors	Resource conservation	Consider the use of flow restrictors to fixtures where appropriate		
	Water pressure	Resource conservation	Use minimum water pressure required to satisfy requirements		
	Low water use appliances	Resource conservation	Appliance selection		
Reuse and monitoring applications	Grey water usage	Resource conservation	Recycling grey water in lieu of dispensing to sewer		
	Rainwater usage for irrigation	Resource conservation	Utilise rainwater for on-site benefit		
	Rainwater usage for flushing	Resource conservation	Utilise rainwater for on-site benefit		
	Water conservation/monitoring	Resource monitoring	Installation of water meters		
Indoor Environment Quality					
Lighting	Light levels, auto dimming, daylighting	Energy conservation/occupant comfort	Use of Dali system, daylighting, reduction of glare		
Ergonomics	Equipment	Pollution, health, energy minimisation	Purchase of LCD flat screens and 5 star energy efficient equipment		

Sustainability Category	Sustainability Issue	Impact / Benefit	Design Consideration (Objective / Target)	Included / Not Included in proposed Design Solution	Comments
Note: If a sustainability issue is not included in the proposed design solution, reasons for its exclusion are to be provided in 'Comments' column.					
Air Supply	Fresh air cycle	Health, energy minimisation	Utilise outside air cycle		
Air Supply	Outside air quality	Air quality	Reduce energy costs by installation of a carbon dioxide sensor that finely regulates the need for outside air		
	Legionnaires disease etc.	Health/death of occupants	Avoid water cooled systems		
	Natural ventilation possibilities	Energy minimisation, Mechanical plant capacity	Consideration shall be given to reduce the need for HVAC by maximising the use of natural ventilation. Consideration shall include the following: • Night time purging to cool thermal mass • Specialised inlet ventilation openings and solar chimney/ventilation shafts for outlet ventilation • The use of winter gardens etc. to create increased air flow • Dust and noise control • Security • Weatherproofing • Air speed • Consideration of fresh air and delivery of cooling • Allow emergency ventilation of the building by having a portion of glazing as openable (through lockable windows) as required by AS2982 and GU Guidelines. • Carpark ventilation		
Air Supply	Toxic emissions	Pollution, health	Provide air conditioning and exhaust to areas where indoor air pollution build-up could be a problem eg. Photocopying and printing rooms		

Sustainability Category	Sustainability Issue	Impact / Benefit	Design Consideration (Objective / Target)	Included / Not Included in proposed Design Solution	Comments
Note: If a sustainability issue is not included in the proposed design solution, reasons for its exclusion are to be provided in 'Comments' column.					
Materials and Waste					
Emissions and toxic waste	Indoor pollutant materials such as formaldehyde – eg. MDF board, carpet etc.	Poor indoor air quality, reduced tenant health	Avoid toxic materials and utilise finish materials that have no or low levels of volatile organic compound off gassing. Do not exceed the recommended limits as stated in GU Guidelines		
	Low emission paints	Improved health and productivity of tenants. Less chance of allergies indoors	Use low or no VOC paints		
	PVC products	Fewer harmful chemicals generated (fabrication, life and disposal)	Consider use of environmentally preferable material wherever possible		
Products	Rainforest timbers	Resource conservation	Do not use		
	Use of products made from recycled materials	Resource conservation	Consider use of appropriate materials wherever possible		
	Use of renewable materials (eg. Plantation timbers)	Resource conservation; protection of old growth forests	Consider use of appropriate materials wherever possible		
Products	Locally manufactured products	Stimulate local economy and reduce transportation load	Give preference to locally manufactured products wherever feasible		
	Modular materials/products	Resource conservation	Consider use of appropriate materials wherever possible		

	Prefabricated materials	Resource conservation	Consider use of appropriate materials wherever possible		

Sustainability Category	Sustainability Issue	Impact / Benefit	Design Consideration (Objective / Target)	Included / Not Included in proposed Design Solution	Comments
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Waste	Construction waste	Minimise generation of waste as much as possible	Reduce and recycle construction waste		
	Packaging waste	Minimise generation of packaging waste	Reduce and recycle packaging waste, use suppliers with take back schemes		
	Waste from refurbishments, additions to buildings	Waste minimisation	Design buildings to accommodate modifications and upgrades. Interior or exterior design options that should be considered include: • Design of cladding to accommodate future shading devices, more efficient glazing and lighting controls • Design cladding systems that are fixed by snap release connectors, friction or other joint connections that facilitate adaptability including bolts, screws and clips		

Sustainability Category	Sustainability Issue	Impact / Benefit	Design Consideration (Objective / Target)	Included / Not Included in proposed Design Solution	Comments
Note: If a sustainability issue is not included in the proposed design solution, reasons for its exclusion are to be provided in 'Comments' column.					
Waste			• Use a sandwich space between the ceiling to floor level for structure, sprinklers, supply and return ductwork, etc. • Use raised floor system for power and telecommunications wiring to accommodate reconfiguration of spaces and information technology support • Use modular space planning, partitions and furnishings •		
	Recycling opportunities	Waste minimisation and resource conservation	Provision of recycling/waste collection areas within the building that are easily accessible by the occupants, and accommodate collection needs specific to the project area		
	Recycling opportunities	Recovery of resources	Installation of recycling bin enclosures outside the building		