

# GREEN STAR ACCREDITED PROFESSIONAL

## CREDIT 1

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION

PROJECT NAME: 185-189 PIRIE STREET

PROJECT NUMBER: GS- 1882DA

TOTAL POINTS AVAILABLE: 1 POINTS CLAIMED: 1

Paul Davy of dsquared is a Green Star Accredited Professional and has been a key member of the design team from concept stage.

Throughout the design process Paul delivered workshops, provided detailed sustainability advice to the design team and undertook detailed analysis to help integrate the numerous ESD initiatives into the design.

Criteria	Description	Points Available	Points Claimed
1.1 <b>Accredited Professional</b>	1 point is available where a Green Star Accredited Professional – Design & As Built (GSAP), has been contractually engaged to provide advice, support and information related to Green Star principles, structure, timing and processes, at all stages of the project, leading to certification.	1	1

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit.

There are project specific queries for this credit.

All responses received from the GBCA are attached.

## 1.1 ACCREDITED PROFESSIONAL

A GSAP has been contractually engaged for the project from schematic design through to practical completion.	X
The GSAP has current accreditation as a GSAP – Design & As Built	X
The GSAP is enrolled in the GBCA's CPD program.	X
The GSAP has delivered at least one workshop.	X

### Provide GSAP name(s), contact details and dates of appointment.

Name: Paul Davy

Contact Details: [paul@emailsamle.com.au](mailto:paul@emailsamle.com.au) /

Dates of Appointment: Appointed 21st August 2014

### Supporting Documentation:

Document No.	Document name
1	Proof of GSAP Accreditation – <i>01 Green Star Accredited Professional.pdf</i> – p.5
2	Letter of Appointment – <i>01 Green Star Accredited Professional.pdf</i> – p.4
3	Proof of Enrolment in GBCA CPD program– <i>01 Green Star Accredited Professional.pdf</i> – p.6
4	Minutes of Initial ESD Workshop – <i>01 Green Star Accredited Professional.pdf</i> – p.7

### Provide a descriptive summary of the involvement of the GSAP in the project.

Paul Davy of dsquared is a Green Star Accredited Professional and has been a key member of the design team from concept stage.

Throughout the design process Paul delivered workshops, provided detailed sustainability advice to the design team and undertook detailed analysis to help integrate the numerous ESD initiatives into the design, including building computer simulation modelling and option studies, facade design options and advice, engineering services design and option advice, and construction materials and contractor education support.

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

Paul Davy will be the GSAP throughout all phases of the project.

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

Paul Davy

GSAP

Email: [paul@emailsample.com.au](mailto:paul@emailsample.com.au)

1/05/2015

— **Report end** —

# COMMISSIONING AND TUNING

## CREDIT 2

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION

PROJECT NAME: 185-189 PIRIE STREET

PROJECT NUMBER: GS- 1882DA

TOTAL POINTS AVAILABLE: 4 POINTS CLAIMED: 3

The project has utilised the following commissioning, handover and tuning initiatives to ensure all building services operate to their full potential:

	Criteria	Description	Points Available	Points Claimed
2.0	<b>Environmental Performance Targets</b>	Documented targets for the environmental performance of the project must be set.	Conditional Requirement	Yes
2.1	<b>Services and Maintainability Review</b>	A comprehensive services and maintainability review of the project is performed.	1	1
2.2	<b>Building Commissioning</b>	Comprehensive pre-commissioning activities are performed for all nominated building systems.	1	1
2.3	<b>Building Systems Tuning</b>	A tuning process is in place that addresses all nominated building systems.	1	1
2.4	<b>Independent Commissioning Agent</b>	An Independent Commissioning Agent (ICA) has been utilised to advise, monitor, and verify the commissioning and tuning of the nominated building systems throughout the design, tender, construction, commissioning and tuning phases.	1	

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit.

There are project specific queries for this credit.

All responses received from the GBCA are attached.

## 2.0 ENVIRONMENTAL PERFORMANCE TARGETS

The project team has set and documented targets for the environmental performance of the project. The following is included in the design intent report or owner's project requirements (OPR) document:

Document Content	Project Document (refer to section of the document (page no. paragraph no.))
Description of the basic functions, operations, and maintenance of the nominated systems.	Refer to <i>02 Commissioning and Tuning.pdf</i> p. 12+
Detail of the main components.	Refer to <i>02 Commissioning and Tuning.pdf</i> p. 12+
Target for energy consumption and budget for energy.	Refer to <i>02 Commissioning and Tuning.pdf</i> p. 8
Target for water consumption and budget for water.	Refer to <i>02 Commissioning and Tuning.pdf</i> p.8
Indoor environment parameters.	Refer to <i>02 Commissioning and Tuning.pdf</i> p. 8
Description of metering and monitoring systems	Refer to <i>02 Commissioning and Tuning.pdf</i> p. 10

**(Please see Compliance Requirements for further detail on document content requirements.)**

### Supporting Documentation:

1	Design Intent Report - <i>02 Commissioning and Tuning.pdf</i> p. 6-28
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## 2.1 SERVICES AND MAINTAINABILITY REVIEW

A comprehensive services and maintainability review of the project has been performed.

Please provide a short description of how this credit requirement has been met and details of those responsible for the review.

The building services which will require commissioning and monitoring are as described in the Design Intent Report. They include:

- VRV air conditioning and mechanical ventilation systems
- Toilet and general mechanical exhaust systems
- Power supply, metering and reticulation systems

- Base building lighting and lighting control systems
- Building Management and Control systems

A full services and maintainability review has been undertaken on an ongoing basis by Palumbo Pty Ltd as building owners and facilities managers for the project. Palumbo have attended every design team meeting and provided ongoing maintainability and facilities management input as the design has progressed.

**Supporting Documentation:**

1	Design Intent Report - <i>02 Commissioning and Tuning.pdf</i> p.6-28
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## 2.2 BUILDING COMMISSIONING

Comprehensive pre-commissioning and commissioning activities have been performed for all nominated building systems.

Please provide a summary of the process carried out as part of the building commissioning plan and a short description of how this requirement has been met.

A Building Commissioning plan has been developed for the project following CIBSE Commissioning Code M.

The commissioning is required to follow CIBSE Code M requirements and all referenced codes which include but may not be limited to:

Code L: Lighting

Code W: Water Systems

Code A: Air Systems

Code C: Control Systems

Code R: Refrigerating Systems

In addition, the building services commissioning and tuning will be carried out in accordance with the BSRIA Soft Landings Framework.

This is confirmed by a Building Owner instructions letter at Design Review stage, to demonstrate that the strategies and processes required to achieve this credit have been agreed to.

**Supporting Documentation:**

1	Design Intent Report - <i>02 Commissioning and Tuning.pdf</i> p.6-28
2	Building Owner instructions letter - <i>02 Commissioning and Tuning.pdf</i> p.29-30

## 2.3 BUILDING SYSTEMS TUNING

A tuning process is in place that addresses all nominated building systems.

Please provide a short description of the building tuning commitment that has been agreed.

All building services systems will be monitored in operation for the first 12 months post practical completion, with minimum monthly reviews and reports and minimum quarterly adjustments made to ensure the system performance is optimised.

At the end of the 12 months period the systems shall be fully reviewed and re-commissioned.

In addition, the system commissioning and tuning will be carried out in accordance with the BSRIA Soft Landings Framework.

This is confirmed by a Building Owner instructions letter at Design Review stage, to demonstrate that the strategies and processes required to achieve this credit have been agreed to.

### Supporting Documentation:

1	Design Intent Report - <i>02 Commissioning and Tuning.pdf</i> p.6-28
2	Building Owner instructions letter - <i>02 Commissioning and Tuning.pdf</i> p.29-30

## 2.4 INDEPENDENT COMMISSIONING AGENT

An Independent Commissioning Agent (ICA) has advised, monitored, and verified the commissioning and tuning of the nominated building systems throughout the design, tender, construction, commissioning and tuning phases.

Please provide details of the Independent Commissioning Agent and the services they provided to the project.

An Independent Commissioning Agent (ICA) has not been appointed and so this point is not claimed.

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

### INNOVATION

Both the Innovation point for exceeding *Green Star Benchmarks - Supplementary or Tenancy Fit-out Systems Review* and *Market Transformation - Soft Landings Framework* have been claimed for this credit. The evidence for the innovation claims is provided with separate Innovation credit cover sheets.

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

Paul Davy

GSAP

Email: [paul@emailsample.com.au](mailto:paul@emailsample.com.au)

1/05/2015

— **Report end** —

SAMPLE ONLY



# BUILDING INFORMATION

CREDIT 4

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION

PROJECT NAME: 185-189 PIRIE STREET

PROJECT NUMBER: GS- 1882DA

TOTAL POINTS AVAILABLE: 2 POINTS CLAIMED: 2

The project team has utilised the following criteria to enable optimised performance:

	Criteria	Description	Points Available	Points Claimed
4.1	<b>Building Operations and Maintenance Information</b>	It is demonstrated that comprehensive Operations and Maintenance information is developed and made available to the facilities management team.	1	1
4.2	<b>Building User Information</b>	Relevant and current building user information is developed and made available to all relevant stakeholders.	1	1

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit.	x
There are project specific queries for this credit.	<input type="checkbox"/>
All responses received from the GBCA are attached.	<input type="checkbox"/>

## 4.1 BUILDING OPERATIONS AND MAINTENANCE INFORMATION

### 4.1.1 Operations and Maintenance Information

Operations and Maintenance Information, such as O&M Manuals or alternative equivalent documentation, has been produced and delivered to the building owner and / or facilities management team. X

The Operations and Maintenance Information complies with the following credit requirements:

- appropriate content for all nominated building systems is readily available;
- the appropriate user group has access to the information they require to deliver best practice environmental outcomes; and X
- guidance on keeping information up to date is provided to facilities management in these documents.

Operations and Maintenance Information, such as O&M Manuals or alternative equivalent documentation, will be produced and delivered to the building owner and / or facilities management team.

This is confirmed by a Building Owner instructions letter at Design Review stage, to demonstrate that the strategies and processes required to achieve this credit have been agreed to.

**Supporting Documentation:**

1	Building Owner instructions letter – <i>04 Building Information.pdf</i> – p.6
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### 4.1.2 Building Log Book

A Building Log Book has been developed and delivered to the building owner and / or facilities management team. X

The Building Log Book complies with the following credit requirements:

- it has been developed in line with CIBSE TM31: Building Log Book Toolkit;
- it covers all nominated building systems; and X
- it includes links or references to all relevant O&M information noted in 4.1.1 Operations and Maintenance Information

#### BUILDING LOG BOOK

A Building Log Book will be developed and delivered to the building owner and / or facilities management team.

This is confirmed by a Building Owner instructions letter at Design Review stage, to demonstrate that the strategies and processes required to achieve this credit have been agreed to.

### NOMINATED SYSTEMS

ALL building services engineering systems and all building fabric elements including specialist or secondary FF&E items (e.g. bicycle racks) will be fully documented in the O&M Manuals. The O&M Manuals will document every element of the building and installed services.

This is confirmed by a Building Owner instructions letter at Design Review stage, to demonstrate that the strategies and processes required to achieve this credit have been agreed to.

#### Supporting Documentation:

1	Building Owner instructions letter – <i>04 Building Information.pdf</i> – p.6
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## 4.2 BUILDING USER INFORMATION

Building user information has been provided to all relevant stakeholders in accordance with the requirements of the credit including the following

Building User Information has been developed and provided to all relevant stakeholders.	x
The Building User Information complies with the following credit requirements:	
<ul style="list-style-type: none"> <li>● it has been provided in digital format;</li> <li>● the type of 'Building User Information' has been made relevant to the particular audience and has been tailored to their needs; and</li> <li>● it can be readily updated by the facilities management team.</li> </ul>	x

Please describe the method of delivery for the 'Building User Information'.

Building user information will be provided in an easily editable, digital format and made relevant to all stakeholders.

ALL aspects of the building will be described in the Building User Information resource including but not necessarily limited to the following:

- A description of the building features, initiatives and how to maximise their effectiveness
- A schedule of the building environmental targets and benchmarks and how best to achieve them
- A description of the basic function of the nominated systems and building features and how best to operate them
- A list of all relevant maintenance contact and communications information
- A description of all available transport connections with a focus on maximising alternative sustainable transport options
- A description of the optimal building waste management plan

- Information on how best to maximise the environmental benefits of the building with a focus on maximising workplace health environments (access to daylight, ventilation, views to outside, thermal comfort and so on)
- Information on alterations and making good (in accordance with the green lease requirements)
- Full access to a graphical display of live building energy and water usage data and historical usage trends, accessed via the BMS/energy management system.

The delivery method for building user information will be as follows:

1. Initially building user information will be provided in the form of a Building Users Guide. This document will provide non-technical building users with a guide to the effective management of the building and services. It will be used as a tool to familiarise the users with the features of the building and services, and the environmental targets and potential that the building can achieve.
2. On building completion, this guide, along with all other referenced documentation will be uploaded to a web based portal allowing digital access to all information. The content of the building users guide will also be adapted into a short form, easy to follow digital format, suitable for screen viewing.

This is confirmed by a Building Owner instructions letter at Design Review stage, to demonstrate that the strategies and processes required to achieve this credit have been agreed to.

Please provide a list the user groups identified for the building and briefly describe how the ‘Building User Information’ has been made relevant to each user group.

Facilities Management team. This will comprise technically trained and experienced building management professionals. Most relevant to this team will be the O&M Manuals and Design Intent Report, but access to the Building Users Guide and live BMS/energy management data will also be relevant.

Office Tenants. Access to the Building Users Guide and the live and historical usage data will be made available to all office staff, or a nominated staff representative, or representatives if there are multiple tenants. This information in particular is presented in a non-technical format allowing staff with no technical training to understand how best to manage the building services relating to their occupancy.

**Supporting Documentation:**

1	Building Owner instructions letter – 04 Building Information.pdf –p.6
2	Draft Building Users Guide – 04 Building Information.pdf – p.7-30

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

At Design Review Stage, a letter from the building owner confirming the building owners instructions are provided to illustrate project approach to this credit. As supporting documentation, the draft Building Users Guide made available in advance of building construction for the information of prospective office tenants, and also to inform the Palumbo facilities management team, has been provided.

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

Paul Davy

GSAP

Email: [paul@emailsample.com.au](mailto:paul@emailsample.com.au)

1/05/2015

— **Report end** —

# COMMITMENT TO PERFORMANCE

## CREDIT 5

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION

PROJECT NAME: 185-189 PIRIE STREET

PROJECT NUMBER: GS-1882DA

TOTAL POINTS AVAILABLE: 2      POINTS CLAIMED: 2

The project team has committed to set targets, measure and monitor environmental performance in the following ways:

Criteria	Description	Points Available	Points Claimed
5.1 Environmental Building Performance	A commitment to set targets and measure results for environmental performance.	1	1
5.2 End of Life Waste Performance	A commitment to set targets and measure results that minimise construction waste from end of life of interior fitouts or other building attributes.	1	1

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit.	<input checked="" type="checkbox"/>
There are project specific queries for this credit.	<input type="checkbox"/>
All responses received from the GBCA are attached.	<input type="checkbox"/>

## 5.1 ENVIROMENTAL BUILDING PERFORMANCE

The project team has formally committed to set targets and measure results for environmental performance to demonstrate compliance with this requirement. The project team has committed to set targets, measure and monitor environmental building performance in the following ways:

- x 5.1.1 Building Performance Metrics
- 5.1.2 Measurement and reporting: Rating tools

### 5.1.1 BUILDING PERFORMANCE METRICS

The project team has formally committed to the following targets, which are quantified in a Design Intent Report (DIR) or the draft Building Users Guide (BUG) as appropriate:

Issue Addressed	Performance Target	% of GFA	Points Claimed
Energy Consumption	< 221,462 Kwhr/annum	>80%	1
GHG emissions	< 156,278 kg CO2e/annum (5 Star NABERS Energy)	>80%	1
Water Consumption	<724 kL/annum	>80%	1
Operational Waste	> 80% recycling rate	>80%	1

This is confirmed by a Building Owner instructions letter at Design Review stage, to demonstrate that the strategies and processes required to achieve this credit have been agreed to.

#### Supporting Documentation:

Document No.	Document name
1	Building Owner instructions letter -05 Commitment to Performance.pdf – p.7-9

Outline any issues you would like to highlight and clarify with the Assessment Panel.

The project team has formally committed to set targets and measure results for environmental performance to demonstrate compliance with this requirement. The project team has committed to set targets, measure and monitor environmental building performance using pathway 5.1.1 Building Performance Metrics.

Via Green Lease clauses both the building owner and the tenant(s) will enter into a commitment to work together and manage the environmental impact of the building in order to achieve the stated targets. These agreements will include building performance metrics based on the targets set in the Design Intent Report.

The metrics apply to 100% of the Commercial NLA which is in excess of 80% of the total building GFA including the car park area.

The targets themselves have now been documented in the Building Users Guide and Design Intent report, included in the general submission section for reference if required.

### 5.1.2 MEASUREMENT AND REPORTING: RATING TOOLS

The project team has formally committed to measure and report in the following manner:

Issue Addressed	Performance Target	Rating Tool	Points Claimed

[Insert hyperlinks to documents which support these claims]

Outline any issues you would like to highlight and clarify with the Assessment Panel.

### 5.1.3 APPLICATION OF PERFORMANCE TARGETS

The project team has demonstrated that the following ownership structure applies to this project:

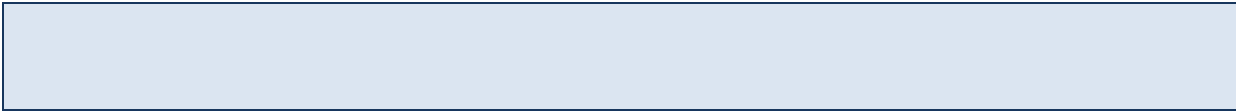
<b>5.1.3A Building Owner and Tenant:</b> building owner and tenants must jointly agree and commit to targets.	x
<b>5.1.3B Building Owner Occupier:</b> building owners shall commit to environmental performance targets through an internal requirement.	<input type="checkbox"/>
<b>5.1.3C Strata (multi-unit residential):</b> strata management shall commit to environmental performance targets for common areas and services through an internal requirement.	<input type="checkbox"/>

**[ Supporting Documentation:**

Document No.	Document name
1	Letter of Commitment -05 Commitment to Performance.pdf – p.10-12

Outline any issues you would like to highlight and clarify with the Assessment Panel.





### 5.1.4 REPORTING OF PERFORMANCE TARGETS

The project team has demonstrated that the following ownership structure applies to this project:

**Measurement and Reporting: Rating Tools:** See 5.1.2.

**Measurement and Reporting: Quarterly Reports:** the project team shall define relevant stakeholders and the most appropriate reporting methods for those stakeholders. x

This is confirmed by a Building Owner instructions letter at Design Review stage, to demonstrate that the strategies and processes required to achieve this credit have been agreed to.

**Supporting Documentation:**

Document No.	Document name
1	Building Owner instructions letter -05 Commitment to Performance.pdf – p.10-12

Outline any issues you would like to highlight and clarify with the Assessment Panel.

The relevant stakeholders are the building owner and the tenant, and as per the green lease clauses required a contractual commitment will be in place for a minimum quarterly and annual report and review.

## 5.2 END OF LIFE WASTE PERFORMANCE

The project team has formally committed to reduce demolition waste at the end of life of an interior fitout or base building components. The project team has committed to set targets, measure and monitor end of life waste performance in the following ways:

<b>5.2A. Building Owner and Occupants Joint Commitment</b>	Greening Make Good, RICS Oceania:	<b>X</b>
	<ul style="list-style-type: none"> <li>• A mutually agreed methodology for building owner AND tenants to follow at the end of life of their fit-out, including clear metrics; and.</li> <li>• Performance measurement procedures for building owner and building tenants, including clear</li> </ul>	

reporting procedures.

**5.2B Building Owner Occupier Commitment**

The building owner must commit to extending the life of the interior fitout or finishes to at least 10 years, barring minor wear and tear or minor repairs.

**5.2C Strata (multi-unit residential)**

The strata management must commit to extending the life of the finishes to all common areas to at least 10 years, barring minor wear and tear or minor repairs.

This is confirmed by a Building Owner instructions letter at Design Review stage, to demonstrate that the strategies and processes required to achieve this credit have been agreed to.

**Supporting Documentation:**

Document No.	Document name
1	Building Owner instructions letter -05 Commitment to Performance.pdf – p.7-9

Outline any issues you would like to highlight and clarify with the Assessment Panel.

The project team has formally committed to reduce demolition waste at the end of life of an interior fit-out or base building components. The project team has committed to set targets, measure and monitor end of life waste performance using Pathway 5.2A Building Owner and Occupants Joint Commitment.

The commitment comprises a series of green lease clauses which have been included as part of the building owner's instructions letter provided.

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

At Design Stage, future project intentions are outlined in letter of instructions from building owner.

Performance targets have been established as part of the design process and are now documented in the Design Intent Report and Building Users Guide. These have been included in the submission general section for reference if required.

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

Paul Davy

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1/05/2015

— **Report end** —

# METERING AND MONITORING

CREDIT 6

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION

PROJECT NAME: 185-189 PIRIE STREET

PROJECT NUMBER: GS- GS-1882DA

TOTAL POINTS AVAILABLE: 1      POINTS CLAIMED: 1

Criteria	Description	Points Available	Points Claimed
<b>6.0 Effective Metering</b>	Accessible metering is provided to monitor building energy and water consumption, including all energy and water common and major uses, and sources.	Conditional Requirement	Yes
<b>6.1 Monitoring Strategy</b>	A monitoring strategy is addressed through a monitoring system, capable of capturing and processing the data produced by the installed energy and water meters, and accurately and clearly presenting data consumption trends.	1	1

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit. x

There are project specific queries for this credit.

All responses received from the GBCA are attached.

## 6.0 EFFECTIVE MONITORING

### 6.0.1 Metering distinct uses or floors

All energy and water major uses have been metered (by area or function).

x

### 6.0.2 Water and energy meters accuracy and accessibility

All utility and non-utility meters must meet recognised metering guidelines. Meters must be located in an area that allows regular monitoring and maintenance by facilities managers and other facilities management personnel.

x

### 6.0.3 Small buildings

If the building is smaller than a Gross Floor Area (excluding car parking areas) of 1000 m<sup>2</sup>, unless specialist equipment is present in the building, a single meter for energy and a single meter for water will comply with this conditional requirement. The utility meter, if accessible to the building manager, is acceptable.

-

This is confirmed by a Building Owner instructions letter at Design Review stage, to demonstrate that the strategies and processes required to achieve this credit have been agreed to.

#### Supporting Documentation:

Document No.	Document name
1	Building Owner instructions letter – <i>06 Metering and Monitoring.pdf</i> – p.5-6

## 6.1 MONITORING STRATEGY

### 6.1.1 Basic Monitoring strategy

A monitoring strategy has been developed in accordance with a recognised standard and provides appropriate information to the building manager. This monitoring strategy complies with all requirements noted in the credit.

x

### 6.1.2 Automatic monitoring system

The project includes an automated monitoring system which captures data from all energy and water meters within the project and provides accurate and easily read reports on consumption trends. This automatic monitoring system complies with all requirements noted in the credit.

x

This is confirmed by a Building Owner instructions letter at Design Review stage, to demonstrate that the strategies and processes required to achieve this credit have been agreed to.

**Supporting Documentation:**

Document No.	Document name
1	Building Owner instructions letter – <i>06 Metering and Monitoring.pdf</i> – p.5-6

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

At Design Stage, project intentions are outlined in Letter of instructions from the building owner.

The following metering will be provided:

- Incoming gas utility metering
- Incoming electricity utility metering
- Separate electricity metering for lighting and separate metering for power, per floor, for tenancies
- Separate electricity power and lighting metering for base building
- Electricity metering for air conditioning
- Electricity metering for lifts
- Electricity and water metering for retail tenancy
- Incoming water utility metering

There are no irrigation or water based heat rejection systems in the building and no electricity loads greater than 20kVA in size unless noted above.

The monitoring strategy will comprise the automated collection of all metered data via an integrated BMS and energy management system. Access to the system via a computer intranet and also on-line via the internet will be provided to the building owner/FM and all tenants. As per the commitment to performance green leases, all data will be reviewed at least on a monthly basis with all consumption compared to the established environmental targets, with any deficiencies reported to all stakeholders for action.

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

Paul Davy

GSAP

Email: [paul@emailsamle.com.au](mailto:paul@emailsamle.com.au)

1/05/2015

— **Report end** —

SAMPLE ONLY

# CONSTRUCTION ENVIRONMENTAL MANAGEMENT

CREDIT 7

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION

PROJECT NAME: 185-189 PIRIE STREET

PROJECT NUMBER: GS- 1882DA

TOTAL POINTS AVAILABLE: 1      POINTS CLAIMED: 1

Criteria	Description	Points Available	Points Claimed
7.0 Environmental Management Plan	A comprehensive project-specific Environmental Management Plan (EMP) is in place for construction.	Conditional Requirement	Yes
7.1 Formalised Management System	A formalised systematic and methodical approach to planning, implementing and auditing is in place during construction, to ensure conformance with the EMP.	1	1

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit. x

There are project specific queries for this credit.

All responses received from the GBCA are attached.



## 7.0 ENVIRONMENTAL MANAGEMENT PLAN (EMP)

The Principal Contractor has prepared a comprehensive, project-specific Environmental Management Plan (EMP) for the excavation, demolition and construction works. The EMP has been prepared in accordance with the latest version of the NSW Environmental Management System Guidelines. x

Sub-contractors adhere to the provisions within the EMP. x

The following table summarises compliance with this criterion.

Best Practice EMP Requirements	Project’s EMP (refer to section of the document - page no. paragraph no.)
Item a: Commitment and policy.	For Design Review refer to <i>07 Construction Environmental Management</i> – p.5
Item b: Planning.	
Item c: Implementation.	
Item d: Contract Information.	
Item e: Monitoring, evaluation and review.	
<b>Projects with a contract value equal to or greater than \$10 Million only</b>	
Item c: Implementation additional requirements.	

**Supporting Documentation:**

Document No.	Document name
1	Building Owner letter of instructions <i>07 Construction Environmental Management.pdf</i> – p.5

## 7.1 FORMALISED MANAGEMENT SYSTEM

The project’s contractor has implemented a formalised environmental management system (EMS) for the project to identify, manage, audit and reduce environmental impacts, and report on environmental performance progress. x

The components of the EMS are in alignment with best practice guidelines as outlined below:

The latest NSW Environmental Management Systems Guidelines -

**OR**

AS/NZS ISO 14001 x

The EMS contains each of the key components of a formalised management system:

Best Practice EMS Requirements	Project’s EMS(refer to section of the document - page no. paragraph no.)
Item a: Commitment and policy	For Design Review refer to <i>07 Construction Environmental Management – p.5</i>
Item b: Planning	
Item c: Implementation	
Item d: Measurement, evaluation and response.	
Item e: Review	
Item f: Communication	

### 7.1.A For projects with a contract value less than \$10 Million

An auditor report, confirming evidence of effective use of the formalised environmental management system, must be provided to demonstrate compliance with these requirements. -

### 7.1.B For projects with a contract value equal to or greater than \$10 Million

The EMS has been certified by a third party organisation against the noted standard.	AS/NZS ISO 14001	x
	BS7750	<input type="checkbox"/>
	European Community EMAS	<input type="checkbox"/>

**Supporting Documentation:**

Document No.	Document name
1	Building Owner letter of instructions - <i>07 Construction Environmental Management.pdf</i> – p.5
2	Head Contractor ISO 14001 Certification - <i>07 Construction Environmental Management.pdf</i> – p.6

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

At Design Stage, future project intentions are outlined in a letter of instructions from the building owner.

The project team has committed to the use of best practice formal environmental management procedures during construction with the head contractor holding ISO 14001 EMP and EMS Accreditation throughout the entire design and construction period.

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

Paul Davy

GSAP

Email: [paul@emailsample.com.au](mailto:paul@emailsample.com.au)

1/05/2015

— **Report end** —

# OPERATIONAL WASTE

## CREDIT 8

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION

PROJECT NAME: 185-189 PIRIE STREET

PROJECT NUMBER: GS- 1882DA

TOTAL POINTS AVAILABLE: 1      POINTS CLAIMED: 1

Criteria	Description	Points Available	Points Claimed
8.1A Waste Management Plan	A Waste Management Plan has been developed, by a qualified waste auditor that addresses best practices.	1	-
OR			
8.1B Prescriptive Waste Management	<p>All of the following criteria have been met:</p> <p>8.1B.1 Bins or containers are provided for general public use that allow for separation of the applicable waste streams;</p> <p>8.1B.2A dedicated, sufficiently sized storage area for the separation and collection of various waste streams is provided; and</p> <p>8.1B.3 Best practice access requirements for waste collection are met, as described in the credit.</p>	1	1

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit.	<input checked="" type="checkbox"/>
There are project specific queries for this credit.	<input type="checkbox"/>
All responses received from the GBCA are attached.	<input type="checkbox"/>

## 8.1A WASTE MANAGEMENT PLAN

A Waste Management Plan (WMP) has been developed by a waste specialist, which meets the best practice criteria as specified in the credit. -

## 8.1B PRESCRIPTIVE WASTE MANAGEMENT

Best practice waste management has been achieved by satisfying all of the following criteria:

**8.1B.1 Separation of Waste Streams:** Bins or containers have been provided for general public use that allow for separation of the applicable waste streams. X

**8.1B.2 Dedicated Waste Storage Area:** A dedicated, sufficiently sized storage area for the separation and collection of various waste streams is provided. X

**8.1B.3 Access to Waste Storage Area:** Access to waste storage follows best practice guidelines for collection as stipulated within the credit. X

### Supporting Documentation:

Document No.	Document name
1	Waste Management Report -08 Operational Waste.pdf – p.3
2	Design Plans -08 Operational Waste.pdf – p.5-6

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

All aspects of prescriptive waste management criteria have been incorporated into the design as described in the attached waste management report.

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

Paul Davy

GSAP

Email: [paul@emailsamle.com.au](mailto:paul@emailsamle.com.au)

1/05/2015

— Report end —

# INDOOR AIR QUALITY

## CREDIT 9

DESIGN REVIEW SUBMISSION X AS BUILT SUBMISSION

PROJECT NAME: 185-189 PIRIE STREET

PROJECT NUMBER: GS- 1882DA

TOTAL POINTS AVAILABLE: 4 POINTS CLAIMED: 3

Criterion Name	Criterion Description	Points Available	Points Claimed
9.1 Ventilation System Attributes	The project has mitigated the entry of outdoor pollutants, the systems are designed for ease of maintenance and cleaning and the system has been cleaned prior to occupation and use.	1	1
9.2 Provision of Outside Air	The nominated area is provided with sufficient outdoor air to ensure levels of indoor pollutants are maintained at acceptable levels.	2	1
9.3 Exhaust or Elimination of Pollutants	The project has limited the effects of indoor pollutants by either eliminating or exhausting the pollutants.	1	1

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit.

There are project specific queries for this credit.

All responses received from the GBCA are attached.

## 9. GENERAL INFORMATION

Provide a description of the project's ventilation systems.

The ventilation systems are as follows:

1. Mechanical exhaust ventilation to ground floor car park with natural air make-up.
2. Mechanical exhaust ventilation to ground floor bin store with natural air make-up.
3. Mechanical exhaust ventilation to toilet and shower areas via a ducted system.
4. Mechanical exhaust ventilation system comprising roof fan, riser duct and branch sub-ducts for future tenant use.
5. Ducted outdoor air supply system to office VRV air conditioning system.

Refer also to *02 Commissioning and Tunding.pdf* – p.6

### 9.1 VENTILATION SYSTEM ATTRIBUTES

9.1.1 The entry of outdoor pollutants is mitigated in accordance with credit requirements	x
9.1.2 The system is designed for ease of maintenance and cleaning in accordance with credit requirements;	x
9.1.3 The system has been cleaned prior to occupation and use in accordance with credit requirements.	x

Provide a description of how air intakes are located away from specific potential outdoor contaminants and are designed to minimise the entry of pollutants to occupied spaces in accordance with a recognised standard.

Air intakes are located in excess of 30m from all air exhaust locations which is significantly in excess of the ASHRAE Standard 62.1:2013 Table 5.5.1 requirements.

The air intake to the car park and bin store ventilation system is at street level via external louvres and perforated roller doors, with the exhaust points being at roof level.

The air intakes to the office ventilation systems are located in the side walls of the on floor balconies, at each floor level, with the air exhaust points located at roof level.

Provide a description of how the system was designed for ease of maintenance and cleaning.

All fans and condensing units requiring access to moving parts for cleaning are located at roof level, with roof access provided by a full access staircase.

All ductwork at ground floor level is exposed with ready access to access panels adjacent to all fans and filters for cleaning.

All ductwork in the office floor levels is readily accessible via a false ceiling system with removable tiles in office areas and plasterboard hinged access panels in toilet areas. Duct access panels are provided to facilitate access and cleaning of all ductwork including filters, dampers, and other devices.

Provide confirmation if the space is naturally ventilated.

The space is mechanically ventilated.

## 9.2 PROVISION OF OUTDOOR AIR

Select the compliance pathway that has been demonstrated,

### 9.2A Comparison to Australian Standard

Outdoor air is provided to the nominated area at a rate 50% greater than the minimum required by AS 1668.2:2012 or ASHRAE 62.1:2003.

Outdoor air is provided to the nominated area at a rate 100% greater than the minimum required by AS 1668.2:2012 or ASHRAE 62.1:2003.

### 9.2B Performance based approach

Outdoor air is provided to the nominated area at a rate so that CO<sub>2</sub> concentrations are maintained below 800ppm controlled by CO<sub>2</sub> sensors.

Outdoor air is provided to the nominated area at a rate so that CO<sub>2</sub> concentrations are maintained below 700ppm controlled by CO<sub>2</sub> sensors.

### 9.2C Natural Ventilation

The project is naturally ventilated and the nominated area meets the requirements of AS 1668.4:2012.

Provide a description of the system in place, occupancy rates, and how each space is provided with sufficient outdoor air

Dedicated ducted outdoor air supply systems are provided to all office floors, sized to provide outside air 50% higher than AS 1668.2:2012 requirements. Each system is sized based upon an occupancy rate of 1 person/10sqm NLA.

Provide a description of any modelling (if relevant) to ensure the CO<sub>2</sub> level threshold is maintained.

N/A



### SUMMARY OF MECHANICALLY VENTILATED SPACES

Air Handling Unit	Space/Floor	Area (m <sup>2</sup> )	AS1668.2 Requirements			Project Rates	% Improvement	Points claimed [1, 2]
			Net Floor Area per person	Quantity (L/S/ Person)	Min OA per Space (L/s)	Min OA per Space (L/s)		
All	All	All	[10m <sup>2</sup> ]	AS	AS	50% in excess of AS	50%	1

### SUMMARY OF NATURALLY VENTILATED SPACES

Space/Floor	Nominated Area (m <sup>2</sup> )	Required Opening Size	Opening Provided	Compliant? (Y/N)
		m <sup>2</sup> open area	m <sup>2</sup> open area	
N/A	N/A	N/A	N/A	N/A

### SUMMARY OF MIXED MODE SPACES

Space/Floor	Nominated Area (m <sup>2</sup> )	Compliant with Mechanical Ventilation Requirements (Y/N)	Compliant with Natural Ventilation Requirements (Y/N)
N/A	N/A	N/A	N/A

**Total Nominated Area** All

**Total Compliance Area** All

**% Area Compliant** 100%

**Points Claimed** 1

## 9.3 EXHAUST OR ELIMINATION OF POLLUTANTS

The project has limited pollutants from the nominated area by either removing the source of pollutants or exhausting the pollutants to the outside as detailed below. x

9.3.1 Nominated spaces within the project contain no pollutants.

9.3.2 Nominated spaces within the project contain other pollutant sources and the pollutant source is either exhausted directly to the outside, or occupants are physically separated from the pollutant source. x

Provide a description of the pollutant sources included in the project

1. Vehicle exhaust.
2. Bin store odours.
3. Future tenant photocopy/printing equipment.

Provide a description of how indoor pollutants are either exhausted, eliminated or physically separated from building occupants.

1. Vehicle exhaust. A dedicated mechanical exhaust system is provided, discharging all exhaust fumes at roof level.
2. Bin store odours. A dedicated mechanical exhaust system is provided, discharging all exhaust fumes at roof level.
3. Future tenant photocopy/printing equipment. A dedicated mechanical exhaust system is provided, discharging all exhaust fumes at roof level. Branch ducts are provided at each floor level for future tenant use.

Refer also to the Design Intent Report provided for Credit 2.0.

### SUMMARY OF POLLUTANT EXHAUST

Floor	Area (m <sup>2</sup> )	Required Exhaust rate (L/s/m <sup>2</sup> )	Required Air Flow Rate (L/s)	Air Flow Rate Provided (L/s)	Floor take off size capacity (L/s)	Floor take off size capacity as air floor rate (L/s/m <sup>2</sup> )
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System design is in accordance with AS 1668.2:2012

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

The description of the design outlined in this Submission Template, and supported by the Design Intent Report, demonstrate compliance with the credit requirement at the Design Review stage. The Design Intent Report is provided with 'Commissioning and Tuning' (credit 2).

Mechanical Services Drawings and an Engineering Services Return Brief specification are included in the General Section which document the design stated in this template. Refer to General Section *Mechanical and Engineering Services.pdf*

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

Paul Davy

GSAP

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[5/05/2015](#)

— **Report end** —

# ACOUSTIC COMFORT

CREDIT 10

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION

PROJECT NAME: 185 – 189 PIRIE ST

PROJECT NUMBER: GS- 1882DA

TOTAL POINTS AVAILABLE: 3 POINTS CLAIMED: 2

Credit Element	Description	Points Available	Points Claimed
10.1 Internal Noise Levels	Internal ambient noise levels are suitable and relevant to the activity type in the room.	1	X
10.2 Reverberation	The nominated area has been built to reduce the persistence of sound to a level suitable to the activities in the space.	1	X
10.3 Acoustic Separation	The nominated enclosed spaces have been built to minimise crosstalk between rooms.	1	<input type="checkbox"/>

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit.	X
There are project specific queries for this credit.	<input type="checkbox"/>
All responses received from the GBCA are attached.	<input type="checkbox"/>

## 10. GENERAL INFORMATION

Provide a description of all relevant internal and external noise sources.

External noise sources – traffic along Pirie St and roof mounted engineering services plant

Internal noise sources – noise associated with operation of engineering plant – mechanical , electrical and hydraulic.

Provide a description of the design features that insure the credit criteria have been met.

Control of external noise intrusion – a traffic noise survey was conducted and glazing providing sufficient sound transmission loss was nominated (either 10.38mm laminated glass or double glazing to provide the required level of thermal insulation), to ensure the background noise levels within the building are achieved. The building façade is proposed to be constructed of precast concrete and will provide sufficient sound transmission loss for the internal background noise levels to be achieved.

Engineering plant noise – a preliminary acoustic review of the engineering plant noise emissions was conducted and concept noise and vibration controls were nominated to ensure the noise emissions from plant operation meet the required noise levels as follows:

FCU's:

Casing radiated noise – ceiling overlay of 1 layer of 13mm PB cut to the size of the ceiling tiles and 100mm, 32kg/m<sup>3</sup> polyester under the FCU's and extending 1.8m beyond the FCU's footprint.

SA and RA – ducts internally lined with 50mm, 48kg/m<sup>3</sup> glasswool.

Vibration and structure borne noise – the FCU's should be installed on neoprene spring hangers with minimum static deflection of 25mm.

CPEF – 2D circular attenuator will be installed to the discharge duct to prevent breakout noise through the riser walls in the tenancies above. The CPEF should be suspended on neoprene spring hangers with minimum static deflection of 25mm.

Roof mounted TEF's and GEF's – 2D circular attenuators will be installed to the intake and discharge sides to control the noise emissions impacting to the roof/ceiling structure and the breakout noise through the riser walls as well as controlling the noise emissions to the neighbouring properties.

Condenser banks - the roof structure with the proposed acoustic ceiling tiles will provide sufficient sound transmission loss to attenuate the condensers' noise emissions and achieve the internal noise criteria.

To achieve the required reverberation time within a typical office floor, acoustic ceiling tiles with minimum Noise Reduction Coefficient (NRC) of NRC 0.8 will be specified.

If the building is mechanically ventilated, provide confirmation that the mechanical plant and associated equipment were fully operational when the tests were carried out.

All equipment will be fully operational at the time of commissioning an final as-built stage acoustic testing.

Provide details of any areas that have been excluded for functional reasons.

No areas have been excluded for functional reasons.

## 10.1 INTERNAL NOISE LEVELS

Mechanically Ventilated Spaces	In the nominated area, ambient sound levels are no more than 5dB(A) above the ‘satisfactory’ sound levels provided in table 1 of AS/NZ 2107:2000.	<input checked="" type="checkbox"/>
--------------------------------	---	-------------------------------------

OR

Naturally Ventilated Spaces	In the nominated area, ambient sound levels are no more than 10dB(A) above the ‘satisfactory’ sound levels provided in table 1 of AS/NZ 2107:2000.	<input type="checkbox"/>
-----------------------------	--	--------------------------

The following Table details noise levels as recorded by the Acoustic Consultant:

### SUMMARY OF INTERNAL NOISE LEVELS

Description of Area / Room	Space Type Definition	“Acceptable” sound limit	Actual Value
General Office Area		45	45

**Please note: project teams may add more rows as required or use an attachment to display this information.**

## 10.2 REVERBERATION

The reverberation time in the nominated area is below the maximum stated 'Recommended Reverberation Time' provided in table 1 of AS/NZ 2107:2000.

The following Table details reverberation times as recorded by the Acoustic Consultant:

### SUMMARY OF REVERBERATION TIMES

Description of Area / Room	Space Type Definition	"Recommended Reverberation Time"	Actual Value
General Office Area		0.6	0.52

**Please note: project teams may add more rows as required or use an attachment to display this information.**

## 10.3 ACOUSTIC SEPARATION

Noise transmission between enclosed spaces has been addressed by the installation of partitions that achieve a weighted sound reduction index (Rw) of at least 45

Noise transmission between enclosed spaces has been addressed by the installation of partitions that comply with  $D_w + LA_{eqT} > 75$

Provide a list of areas that have been included to demonstrate compliance with this criterion.

Not claimed.

A description of the partitions that have been installed that address noise transmission between enclosed spaces.

Not claimed.

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

Mr Ivailo Dimitrov  
Associate/ Principal Acoustic Consultant  
idimitrov@emailsampl.com.au

28/04/2015

— **Report end** —



# LIGHTING COMFORT

CREDIT 11

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION

PROJECT NAME: 185-189 PIRIE STREET, ADELAIDE

PROJECT NUMBER: GS- 1882DA

TOTAL POINTS AVAILABLE: 3 POINTS CLAIMED: 3

Credit Element	Description	Points Available	Points Claimed
<b>11.0 Minimum Lighting Comfort</b>	All lights are flicker free and accurately address the perception of colour in the space.	Conditional requirement	<input checked="" type="checkbox"/>
<b>11.1 General Illuminance and Glare Reduction</b>	Lighting levels comply with best practice guidelines and glare is eliminated in the nominated area.	1	<input checked="" type="checkbox"/>
<b>11.2 Surface Illuminance</b>	A combination of lighting and surfaces improve uniformity of lighting to give visual interest.	1	<input checked="" type="checkbox"/>
<b>11.3 Localised Lighting Control</b>	Occupants have the ability to control the lighting in their immediate environment.	1	<input checked="" type="checkbox"/>

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit. x

There are project specific queries for this credit.

All responses received from the GBCA are attached.

## 11. GENERAL INFORMATION

Provide a list and description of the project’s Nominated Area. The Nominated Area includes all primary and secondary spaces.

The nominated area includes the office areas on the Typical Levels 01-07.

Provide a description and details of any areas that have been excluded for functional reasons.

The amenities and internal car park have been excluded as they are considered tertiary spaces.

### 11.0 MINIMUM LIGHTING COMFORT

All lights in the nominated area are flicker-free and accurately address the perception of colour.



Provide a description of how the project meets this minimum lighting comfort requirement.

All luminaires have been specified with electronic control gear which inherently contains high frequency ballasts with a minimum colour rendering index of 80.

# 11.1 GENERAL ILLUMINANCE AND GLARE REDUCTION

## 11.1.1 GENERAL ILLUMINANCE

Lighting installed in the project achieves appropriate lighting levels that, on average, do not exceed 'best practice' illuminance as defined in AS 1680 by more than 25%, and the maintained illuminance values achieve a uniformity of no less than the values given in table 3.2 of AS 1680.1:2006.

Where the lighting design and installation has not been done at practical completion, however the building owner has committed to provide best-practice lighting guidelines to tenants.

### SUMMARY OF ILLUMINANCE LEVELS

Space/Floor	Task/activity type	'Best practice general illuminance'	Area weighted average illuminance	Compliant [Y/N]
Typical Floor	Office Space	320 Lux	340 Lux	Y

Please note: project teams may add more rows as required or use an attachment to display this information.

### SUMMARY OF UNIFORMITY VALUES

Space/Floor	Task/activity type	Required uniformity level (Table 3.2 of AS1680.1:2006)	Uniformity level in space	Compliant [Y/N]
Typical Floor	Office Space	0.7 (over task area)	0.9	Y
Typical Floor	Office Space	0.3 (circulation)	0.5	Y

Please note: project teams may add more rows as required or use an attachment to display this information.

## 11.1.2 GLARE REDUCTION

Glare from lamps has been eliminated from the nominated area.

Where the fitout has not been completed at practical completion, the building owner has committed to provide best-practice lighting guidelines to tenants.

## SUMMARY OF GLARE REDUCTION MEASURES

Space/Floor	Lighting description	Select compliance option(s) for each space/floor			Compliant [Y/N]
		Option A	Option B	Option C	
Typical Floor	Office Space	Selected			Y

**Please note: project teams may add more rows as required or use an attachment to display this information.**

Provide a description of how the project meets this minimum lighting comfort requirement.

The average ceiling reflectance is greater than 0.75 and the ceiling has an average surface illuminance of at least 30% of the lighting levels on the working plane.

Where the building owner has committed to provide best-practice lighting guidelines to tenants where lighting has not been completed at the time of the submission, please provide a description of how this is to be achieved.

The guide must provide options as to how the tenant can comply with the requirements in 11.0 Minimum Lighting Comfort and 11.1 General Illuminance and Glare.

Base building luminaires have been specified with electronic control gear which inherently contains high frequency ballasts with a minimum colour rendering index of 80.

## 11.2 SURFACE ILLUMINANCE

A combination of lighting and surfaces improve the uniformity of lighting to give visual interest within the project’s nominated area.

11.2A The project complies with Prescriptive Method.

OR

11.2B The project complies with the Performance Method.

### SURFACE ILLUMINANCE SUMMARY

Space/Floor	Lighting description	Surface Description	Compliance Method [A/B]	Compliant [Y/N]
Typical Floor	Recessed T5	White Finish	A	Y

**Please note: project teams may add more rows as required or use an attachment to display this information.**

Provide a description of how the project meets this requirement. If the project has modelled areas of the building rather than the entire project, please state this in your description too.

The Typical Floor Office Areas have been modelled using industry standard lighting software (AGI32) to measure the surface illuminance of each defined area. The calculations demonstrate that the average illuminance is within 25% of the recommended values as defined in AS 1680 and within the required uniformity level stated in Table 3.2 of AS1680.1:2006.

## 11.3 LOCALISED LIGHTING CONTROL

Occupants in the nominated area have the ability to control the lighting in their immediate environment

### 11.3 LOCALISED LIGHTING CONTROL SUMMARY

Space / Level	Area (m <sup>2</sup> )	Localised Control Method
Typical Floor	<100m <sup>2</sup>	Motion Sensor Lighting Control
TOTAL		

**Please note: project teams may add more rows as required or use an attachment to display this information.**

Provide a description of how the project meets this minimum lighting comfort requirement.

Each typical floor has motion sensor lighting control to control the lighting within zones less than 100m<sup>2</sup>

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

Peter Kemp – Electrical Services Engineer – pkemp@emailsample.com.au

8/05/2015

— Report end —

# INDOOR POLLUTANTS

## CREDIT 13

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION

PROJECT NAME: 185-189 PIRIE STREET

PROJECT NUMBER: GS- 1882DA

TOTAL POINTS AVAILABLE: 2 POINTS CLAIMED: 2

Criterion Name	Criterion Description	Points Available	Points Claimed
13.1 Total VOCs	All internally applied paints, adhesives, sealants and carpets meet stipulated 'Total VOC Limits', or where no paints, adhesives, sealants or carpets are used in the building.	1	1
13.2 Formaldehyde	All engineered wood products meet stipulated formaldehyde limits or no new engineered wood products are used in the building.	1	1

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit.	<input checked="" type="checkbox"/>
There are project specific queries for this credit.	<input type="checkbox"/>
All responses received from the GBCA are attached.	<input type="checkbox"/>

## 13.1 TOTAL VOCS

All internally applied paints, adhesives, sealants and carpets meet stipulated 'Total VOC Limits'. x

No paints, adhesives, sealants or carpets are used in the building.

All paints used on the project are detailed below.

### SUMMARY OF PAINT VOC LEVELS

Paint product name	Type	Benchmark TVOC Limit	Actual TVOC	Reference to datasheet	Compliant (y/n)
TBA	-	-	-	-	-

**Please note: project teams may add more rows as required or use an attachment to display this information.**

This is confirmed by a Building Owner instructions letter at Design Review stage, to demonstrate that the strategies and processes required to achieve this credit have been agreed to.

#### Supporting Documentation:

Document No.	Document name
1	Building Owner instructions letter – <i>13 Indoor Pollutants.pdf</i> - p.6

All adhesives and sealants used on the project are detailed below.

### SUMMARY OF ADHESIVE AND SEALANT VOC LEVELS

Paint product name	Type	Benchmark TVOC Limit	Actual TVOC	Reference to datasheet	Compliant (y/n)
TBA	-	-	-	-	-



**Please note: project teams may add more rows as required or use an attachment to display this information.**

This is confirmed by a Building Owner instructions letter at Design Review stage, to demonstrate that the strategies and processes required to achieve this credit have been agreed to.

**Supporting Documentation:**

Document No.	Document name
1	Building Owner instructions letter – <i>13 Indoor Pollutants.pdf</i> - p.6

All carpets installed on the project are detailed below.

**SUMMARY OF CARPET VOC LEVELS**

Paint product name	Type	Benchmark TVOC Limit	Actual TVOC	Reference to datasheet	Compliant (y/n)
TBA	-	-	-	-	-

**Please note: project teams may add more rows as required or use an attachment to display this information.**

This is confirmed by a Building Owner instructions letter at Design Review stage, to demonstrate that the strategies and processes required to achieve this credit have been agreed to.

**Supporting Documentation:**

Document No.	Document name
1	Building Owner instructions letter – <i>13 Indoor Pollutants.pdf</i> - p.6

## 13.2 FORMALDEHYDE

All engineered wood products used in the building meet stipulated formaldehyde limits. x

No new engineered wood products are used in the building.

All engineered wood products installed on the project are detailed below.

### SUMMARY OF FORMALDEHYDE LEVELS

Engineered wood product	Formaldehyde Content	Emission Limit	Compliant (y/n)
TBA	-	-	-

**Please note: project teams may add more rows as required or use an attachment to display this information.**

This is confirmed by a Building Owner instructions letter at Design Review stage, to demonstrate that the strategies and processes required to achieve this credit have been agreed to.

#### Supporting Documentation:

Document No.	Document name
1	Building Owner instructions letter – 13 Indoor Pollutants.pdf- p.6

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

The project detailed design documentation will specify materials which safe guard occupant health through the reduction in internal air pollutant levels.

### TOTAL VOCS

Only compliant paint, adhesives, sealants and carpets will be selected for the project.

### FORMALDEHYDE

Only engineered wood products will be selected for the project.

At Design Stage, future project intentions are outlined in letter of instructions from building owner.

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

Paul Davy

GSAP

Email: [paul@emailsample.com.au](mailto:paul@emailsample.com.au)

1/05/2015

— **Report end** —



## 14. GENERAL

Provide a list and description of the project’s Nominated Area. The Nominated Area includes all primary and secondary spaces.

Class 5 office space, levels 1-7 inclusive. Refer also to *14 Thermal Comfort.pdf* - p 7-31

Provide details of the hours of occupancy.

Hours of occupancy have been based on the NABERS protocol for offices.

They are full occupation between 9am and 6pm with partial occupation outside of these hours, and partial occupation at weekends and public holidays. The hours of occupancy that relate directly to the calculation of PMV is 9am to 6pm.

Refer also to *14 Thermal Comfort.pdf* - p 7-31

### 14.1 THERMAL COMFORT

The project complies with the following requirements for 95% of the nominated area:

OPTION 14.1.1	Naturally Ventilated Spaces	Thermal comfort is demonstrated as being within 80% Acceptability Limit 1 ASHRAE Standard 55-2010.	<input type="checkbox"/>
OPTION 14.1.2A	Mechanically Ventilated Spaces	Thermal comfort is demonstrated with a PMV model and PMV level between ±1.0, inclusive.	<input checked="" type="checkbox"/>
OPTION 14.1.2B	Mechanically Ventilated Spaces	Thermal Comfort is demonstrated by the prescriptive method.	<input type="checkbox"/>
OPTION 14.1.3	Residential Spaces	Thermal comfort has been demonstrated by NatHERS calculators and the project average NatHERS rating is at least 7 Stars.	<input type="checkbox"/>

OR

### 14.2 ADVANCED THERMAL COMFORT

The project complies with the following requirements for 95% of the nominated area:

OPTION 14.2.1	Naturally Ventilated Spaces	Thermal comfort is demonstrated as being within 90% Acceptability Limit 1 ASHRAE Standard 55-2010.	<input type="checkbox"/>
---------------	-----------------------------	--	--------------------------

OPTION 14.2.2	Mechanically Ventilated Spaces	Thermal comfort is demonstrated with a PMV model and PMV level between ±0.5, inclusive.	<input type="checkbox"/>
OPTION 14.2.3	Residential Spaces	Thermal comfort has been demonstrated by NatHERS calculators and the project average NatHERS rating is at least 8 Stars.	<input type="checkbox"/>
	Retail Spaces	Second point is 'Not Applicable'.	<input type="checkbox"/>

## COMPLIANCE DETAILS

### 14.1.1 & 14.2.1 - NATURALLY VENTILATED SPACES

Thermal comfort for the project has been designed in accordance with ASHRAE Standard 55-2004.	<input type="checkbox"/>
Temperature range that the project has been show to be within Acceptability Limit 1 of 55-2004, achieved during 98% of the year, during the specified hours of occupancy.	80% or 90%
<ul style="list-style-type: none"> <li>A summary of the thermal comfort modelling report or calculations for the space.</li> <li>A description of how the space meets the acceptability limits as per ASHRAE Standard 55-2013.</li> </ul>	

### 14.1.2A MECHANICALLY VENTILATED SPACED – PRESCRIPTIVE METHOD

The following conditions have been achieved:

Dry Bulb Temperature in space is controlled to minimum 20°C to maximum 24°C.	<input type="checkbox"/>
Relative humidity controlled between 40% and 60%.	<input type="checkbox"/>
The HVAC system has separate internal and perimeter zones with independent temperature controls which meet the following maximum zone size requirements (for at least 95% of the nominated area): <ul style="list-style-type: none"> <li>75m<sup>2</sup> perimeter zones;</li> <li>120m<sup>2</sup> internal zones; and</li> <li>No perimeter zone serves more than one orientation unless the second orientation is negligible (&lt;4m perimeter length).</li> </ul>	<input type="checkbox"/>
The perimeter zones must have a maximum depth of 4m, with exceptions permitted for small enclosed spaces at the discretion of the mechanical engineer.	<input type="checkbox"/>
Each HVAC zone contains its own temperature sensor(s) and has the capability to turndown and modulate its output.	<input type="checkbox"/>
Air velocity is not more than 0.2 m/s with no supply directed at occupants (unless they have direct control over air flow and/or direction).	<input type="checkbox"/>
Modulation/turn down capability, i.e. the ability to maintain dry bulb temperature and relative humidity at low space loads.	<input type="checkbox"/>

SHGC of façade glazing is 0.3 or lower; OR Maximum solar heat gain through the glass is calculated to be no greater than 250W/m<sup>2</sup> peak.

Total glazing U-Value (inclusive of glass and frame) is 3.0 W/m<sup>2</sup>.K or lower.

- Details of all of the HVAC Design and Building Fabric Performance criteria of the Prescriptive Method, and referencing and appending any justification, tender drawings and evidence necessary.
- A summary of how each of the above criteria has been met, referencing supporting information.

### 14.1.2B & 14.2.2 MECHANICALLY VENTILATED SPACED – PMV MODELLING

Thermal comfort has been calculated in accordance with either ISO7730-2005 or ASHRAE Standard 55-2013, during hours of occupancy for 98% of the year, using metabolic rate and air velocity values from the following table.

#### MODELLING INPUTS

Modelling variable	Information source	Areas Applied
Hours of Occupancy	9am to 6pm as per NABERS Protocol for offices	All
Clothing value (CLO)	1.00. ASHRAE 55-2013	All
Metabolic rate (MET)	1.2 ASHRAE 55-2103	All
Air velocity rate	0.2 m/s. ASHRAE 55-2013	All

#### CALCULATING PERCENTAGE COMPLIANCE FOR MECHANICALLY VENTILATED AIR-CONDITIONED SPACES

Floor	Zone	Total Area	PMV	Percentage of occupied hours with specified PMV
Levels 1-7	All office spaces, all zones	All	+/- 1.0	96.81

- A summary of the thermal comfort calculations for the project design and demonstrating that the PMV targets are achieved.
- A description of the methodology, weather data, and software package used for determining the thermal comfort levels.
- A description of the HVAC system, and including details of temperature, humidity, air rates, infiltration rates, control and zoning strategy.
- The internal loads used, the usage profiles, the clothing, metabolic rate, and air movement values used, and relevant characteristics of building materials (including U-values).

- A summary of the hourly thermal comfort results, mean radiant temperatures, air temperatures and humidity for each zone. The summary must include a tabulation of the hours where the system is within the designed range, and the hours where this is exceeded.

### 14.1.3 & 14.2.3 RESIDENTIAL SPACES - NATHERS RATING METHOD

Thermal comfort has been demonstrated by NatHERS calculators and the project average NatHERS rating is:  Stars

- A summary of modelling outputs demonstrating the NatHERS Star ratings achieved.
- A summary of modelling inputs and assumptions.
- Which compliant software has been used.
- Confirmation that the modelling was undertaken by a NatHERS Accredited Assessor, in line with all relevant protocols and regulatory requirements.

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

Detailed thermal comfort modelling has been undertaken in accordance with ASHRAE 55-2103. The detailed thermal comfort modelling report is attached and concludes by confirming that the project qualifies for the award of the 14.1 Thermal Comfort point.

*14 Thermal Comfort.pdf*

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

Paul Davy

GSAP

Email: [paul@emailsample.com.au](mailto:paul@emailsample.com.au)

[5/05/2015](#)

— **Report end** —



# GREENHOUSE GAS EMISSIONS MODELLED PERFORMANCE PATHWAY

CREDIT 15D

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION

PROJECT NAME: 185-189 PIRIE STREET

PROJECT NUMBER: GS-1882DA

TOTAL POINTS AVAILABLE: 20 POINTS CLAIMED 11.25

Credit Element	Points Available	Points Claimed
Energy Consumption	4	4
GHG Emissions	16	7.25
TOTAL	20	11.25

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit.	<input type="checkbox"/>
There are project specific queries for this credit.	<input checked="" type="checkbox"/>
All responses received from the GBCA are attached.	<input checked="" type="checkbox"/>

**A project specific CIR was awarded allowing the use of an alternative Submission Template.  
The CIR with the approved template is attached.**

## 15.D MODELLED PERFORMANCE PATHWAY

Summarise the projects systems and initiatives that have been included to reduce greenhouse gas emissions compared to the reference building.

The building design includes a high performance curtain wall facade, extensive external shading, high efficiency VRV air conditioning systems, high efficiency lighting with daylight automated control, and a fully integrated BMS system.

### 15.D.0 CONDITIONAL REQUIREMENT

The proposed building GHG emissions are less than those of the equivalent benchmark building. (a 10% improvement on minimal compliance with the NCC section J DTS provisions) X

#### SUPPORTING DOCUMENTATION FOR 15.D.0:

Description / Title	Reference (page no., etc.)
Building energy Consumption and Greenhouse Gas Emissions Calculator	Refer to <i>15 Greenhouse Gas Emissions</i> – p.35
Energy Modelling Report	Refer to <i>15 Greenhouse Gas Emissions</i> – p.13-45

### 15.D.1 CREDIT REQUIREMENTS

#### SUMMARY OF RESULTS

Energy Consumption Reduction	
Energy consumption of <i>Reference Building</i>	<b>1,565,031.6</b> MJ/annum
Energy consumption of <i>Intermediate Building</i>	<b>1,102,233.6</b> MJ/annum
Percentage improvement	<b>29.57%</b>
Points claimed	<b>4</b>

**Greenhouse Gas Emissions**

Greenhouse Gas Emissions of <i>Benchmark Building</i>	<b>285,618.267</b> kg CO <sub>2</sub> e/annum
Greenhouse Gas Emissions of <i>Proposed Building</i>	<b>156,278.4</b> kg CO <sub>2</sub> e/annum
Percentage improvement	<b>45.28%</b>
Points claimed	<b>7.25</b>

SUPPORTING DOCUMENTATION FOR 15.D.1:

Description / Title	Reference (page no., etc.)
Building energy Consumption and Greenhouse Gas Emissions Calculator	Refer to <i>15 Greenhouse Gas Emissions</i> – p.35
Energy Modelling Report	Refer to <i>15 Greenhouse Gas Emissions</i> – p.13-45
Energy Modelling Report	Refer to <i>15 Greenhouse Gas Emissions</i> – p.11

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

## DECLARATION

I confirm that I have reviewed the Energy Consumption and Greenhouse Gas Emissions Calculator, and the Energy Consumption and Greenhouse Gas Emissions modelling report prepared as supporting documentation for this credit and I declare that:

1. The documentation has been correctly and fully completed.
2. The documentation inputs are consistent with all other elements of the submission.
3. The documentation has been prepared in accordance with the Building Energy Consumption and Greenhouse Gas Emissions Calculator Guide v1.

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

Paul Davy  
GSAP  
paul@emailsample.com.au

11/05/2015

— **Report end** —

# PEAK ELECTRICITY DEMAND REDUCTION

CREDIT 16

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION

PROJECT NAME: 185-189 PIRIE STREET

PROJECT NUMBER: GS- 1882DA

TOTAL POINTS AVAILABLE: 2 POINTS CLAIMED: 1.6

Criterion Name	Criterion Description	Points Available	Points Claimed
<b>16.A Reference Building Pathway</b>	The project has demonstrated that the peak electricity demand has been reduced below that of a reference building	2	1.6
<b>16.B Prescriptive Pathway – On-site Energy Generation</b>	The project uses on-site electricity generation systems to reduce the total peak demand by at least 15%	1	<input type="checkbox"/>
16.C Prescriptive Pathway – Demand Response Ready HVAC Systems	Criterion Pending.	N/A	N/A

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit.	<input checked="" type="checkbox"/>
There are project specific queries for this credit.	<input type="checkbox"/>
All responses received from the GBCA are attached.	<input type="checkbox"/>

## 16.A REFERENCE BUILDING PATHWAY

The project has used the reference building pathway to demonstrate a peak electricity demand reduction. YES

The energy model used to determine the reduction in peak electricity demand meets the requirements of the credit and the GHG Calculator Guidelines YES

Provide a summary of how the project has met the requirements of the credit.

The project's peak electricity demand is 26.46% lower than a standard reference building peak demand, by the combination of the use of a high performance facade, energy efficient lighting, and energy efficient air conditioning systems.

Peak electricity demand reduction (%) as entered in the GHG Emissions Calculator 26.46%

## DISCUSSION

Any matter you would like to highlight and clarify to the Assessment Panel.

Evidence as listed in the 'Documentation Requirements' section of the credit is attached. x

### Supporting Documentation:

Document No.	Document name
1	Energy Modelling Report – 16 Peak_Electricity_Demand_Reduction.pdf – p.4-38

## 16.B PRESCRIPTIVE PATHWAY

The project has demonstrated that onsite renewable energy or other on-site generation sources will reduce the total peak electricity demand by at least 15%

Provide a summary of how the project has met the requirements of the credit.

---

Total electricity demand

---

Peak electricity demand reduction due to on-site generation

---

% Reduction

---

## DISCUSSION

Any matter you would like to highlight and clarify to the Assessment Panel.

The Green Star energy calculator is included in *16 Peak\_Electricity\_Demand\_Reduction.pdf* – p. 28

Evidence as listed in the 'Documentation Requirements' section of the credit is attached. x

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

Paul Davy

GSAP

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1/05/2015

— **Report end** —

# SUSTAINABLE TRANSPORT: PERFORMANCE PATHWAY

CREDIT 17.A

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION

PROJECT NAME: 185 PIRIE ST

PROJECT NUMBER: GS- 1882DA

TOTAL POINTS AVAILABLE: 10      POINTS CLAIMED: 10

Criterion Name	Criterion Description	Points Available	Points Claimed
17.A Performance Pathway	The proposed transport solutions on site decreases carbon emissions from transport, decreases mental and social impacts of commuting and encourages the uptake of active transport options.	10	10

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit.

There are project specific queries for this credit.

All responses received from the GBCA are attached.



## 17.A PERFORMANCE PATHWAY

A travel plan has been developed by a suitably qualified transport planner

X

### Provide details and qualifications of the qualified transport planner.

Name: Ken Long

Contact Details: [ken@emailsample.com.au](mailto:ken@emailsample.com.au)

Qualifications:

- Bachelors of Architecture (5 yr) – New York Institute of Technology
- Certificate of Ecological Design – Ecosa Institute
- Masters of Sustainable Design – University of South Australia
- Green Star Accredited Professional (since 2013)
- Living Building Challenge Ambassador (since 2011)

Ken Long has over 3 years experience in sustainable transport planning in South Australia. Ken has prepared sustainable transport plans for the following projects:

Bowden Village - targeting 5 Star Green Star Communities PILOT

Tonsley Park - targeting 5 Star Green Star Communities PILOT

50 Flinders Street - Certified 5 Star Green Star Office Design v3, targeting 6 Star As-Built

80 Grenfell Street - Certified 5 Star Green Star Office As-Built v3

James Cook University Campus, Townsville

### Provide a description of the timing and process of developing the site-specific transport assessment and the Travel Plan.

The site specific transport assessment and travel opportunities were assessed prior to Development Approval and at the early stages of site planning and concept design. Ongoing advice was provided to the project team in relation to alternative low carbon transport strategies including car park minimisation and the provision of facilities for cyclists.

Although still at early design stage, a Travel Plan has been developed and this has been provided at Design Review Stage along with the completed transport calculator. The Travel Plan have largely been adopted at early concept design stage.

### Provide a summary of the sustainable transport initiatives implemented by the project

- Central CBD Location for easy access by public transport. Location is also in close proximity to many amenities.
- 36 Bike Racks (9% of building population) and commuter shower and locker facilities provided.

- Only 15 onsite car parks are provided, which is equivalent to only 3.75% of the building population.

<b>Sustainable Transport Calculator Summary</b>		
	<b>% improvement</b>	<b>Points Achieved</b>
Reduction in Carbon Emissions	48.7%	<b>5</b>
Increase in Active Mode Use	119.3	<b>1</b>
Reduction in Vehicle Kilometres Travelled	92.3%	<b>1</b>
Walk score	93 points	<b>3</b>

Refer to *17 Sustainable Transport.pdf* – p.4 for Transport Calculator results

Refer to *17 Sustainable Transport.pdf* – p.7-21 for Transport Plan

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

- Current building design has an NLA of approximately 5,991m<sup>2</sup>. If a ratio of 1 person for every 15m<sup>2</sup> is taken into consideration, the target occupancy will be 400 people. Car driver and Bicycle percentages have been calculated through the available car parks and bicycle parks in relation to this population.
- Attached Transport Plan was first issued after assessment of initial Sketch Design. NLA of the project was still speculative, hence the difference between NLA and percentages in Green Star Calculator reported.

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

Ken Long

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Email: [ken@emailsample.com.au](mailto:ken@emailsample.com.au)

1/05/2015

— **Report end** —

# POTABLE WATER PRESCRIPTIVE PATHWAY

CREDIT 18.B

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION

PROJECT NAME: 185 PIRIE ST

PROJECT NUMBER: GS- 1882DA

TOTAL POINTS AVAILABLE: 6 POINTS CLAIMED: 6

Up to 6 points out of 12 are available where it is demonstrated that the building’s potable water consumption has been reduced through best practice water saving design features.

Criterion Name	Criterion Description	Points Available	Points Claimed
18.B.1 Sanitary Fixture Efficiency	All fixtures are within one star of the best available WELS rating	1	1
18.B.2 Rainwater Reuse	A rainwater tank is installed to collect and reuse rainwater within the project’s site boundary and the rainwater tank size meets the criteria established in Table Wat-1.1.	1	1
18.B.3 Heat Rejection	No water is used for heat rejection	2	2
18.B.4 Landscape Irrigation	Drip irrigation with moisture sensor override is installed; <b>OR</b> No water is used for irrigation.	1	1
18.B.5 Fire System Test Water	The fire protection system does not expel water for testing; <b>OR</b> The fire system includes storage for 80% of the fire water and the sprinkler systems for reuse on-site.	1	1

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit.

There are project specific queries for this credit.

All responses received from the GBCA are attached.

## 18.B.1 SANITARY FIXTURE EFFICIENCY

The project is specifying the following fittings which will help it achieve reductions in potable water demand. These fittings are all rated within one star of the best available WELS rating:

Item	Schedule Code	WELS Rating	Flowrate (L/min or L/flush)	Quantity of fixtures	Highest Available WELS Rating
Toilets		4	3.5	100%	5
Urinals		6	1	100%	6
Indoor Taps		6	4.5	100%	6
Showers		3	9	100%	3

Refer to 18 Potable Water.pdf – p. 8-9

## 18.B.2 RAINWATER REUSE

The project is installing a rainwater reuse system to collect and reuse rainwater. x

Please describe the rainwater reuse system:

A rainwater re-use system is provided comprising a 5kL storage tank which collects all of the rainwater collected by 100% of the building roof, and pumped supply to all WC's in the development. A CIR has been granted for the use of the Potable Water Calculators to determine the adequacy of the rainwater storage provided, instead of the prescriptive approach to rainwater tank sizing.

### Summary of rainwater reuse system

System Component	Details
Tank size required to meet credit requirements	Note that an alternative methodology using the potable water calculator has been used to size the tank, and not the rule of thumb included in the Submission Guidelines.
Tank Size	5,000 Litres
Treatment Installed	Will be specified to comply with SA Water regulations (particle and UV filtration) to Class A water standards)

Overflow/Top-up

Overflow to drain. Tank is not topped up with mains water. Mains water feed to WC's bypasses the tank when the tank is empty. The tank is never topped up with mains water.

Refer to 18 Potable Water.pdf – p. 8-9

### 18.B.3 HEAT REJECTION

Naturally Ventilated and Mechanically Assisted Naturally Ventilated Spaces

The project meets the requirements of credit IEQ – Indoor Air Quality for naturally ventilated spaces, and can demonstrate that **95%** of the Usable Floor Area (UFA) is naturally ventilated in accordance with **AS1668.2-2002**.

No water-based heat rejection system

The project has demonstrated throughout the submission that the air conditioning needs of the project will be effectively met by means other than water-based heat rejection, and that there are no water-based heat rejection systems installed.

Briefly describe the heat rejection system installed for the project:

Heat rejection is via air cooled VRV condensing units. Water is not used for heat rejection.

Refer to 18 Potable Water.pdf – p. 8-9

### 18.B.4 LANDSCAPE IRRIGATION

No potable water is used for landscape irrigation

Landscape irrigation is provided by a drip irrigation systems with a moisture sensor override

A xeriscape garden is being installed and the irrigation system will be removed within three months of landscaping installation and does not require watering after this time.

Briefly describe the landscape irrigation system installed for the project:

There is no landscape installation within the entire development.

## 18.B.5 FIRE SYSTEM TEST WATER

The fire protection system within the project does not expel water for testing.

The fire protection system includes temporary storage for 80% of the routine fire protection system test water and maintenance drain-downs for reuse on site x

Each floor is fitted with isolation valves or shut-off points

Where applicable, provide details of the fire protection testing by completing the table below. The table shall included hydrants, fire-hose reels, storage and sprinkler test tanks and sprinkler-test and drain down points.

### Summary of fire protection system testing

Test type	Frequency	Water use per test (kL)	Annual water used (kL)	Water collected for reuse (kL)
Pump	Annual	9	9	9
Pump	weekly	0.35	18.2	18.2
Hose reels	Annual	0.85	0.85	0
Hydrants	Annual	1.2	1.2	0
Total Maximum Fire System Test Water			<b>29.25</b>	<b>27.2</b>
Percentage of water reused / recycled (%)				<b>93</b>

Describe how the fire system water is reused within the building.

Pump test water is discharged into a local storage tank. This tank is dedicated to fire system test water collection and is not shared with any other use. The water is then used for Car park vehicle bay and bin store wash down purposes.

If the tank used to store fire system water is used for other uses, such as rainwater storage, please explain how double counting of water has been avoided.

Not shared - see above

If the fire protection system does not expel water for testing, described the alternative testing methods:

N/A

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

A CIR has been granted for the following alternative method of calculating the rainwater tank storage volume, instead of using the rule of thumb included in the Submission Guidelines:

1. The potable water calculator is fully completed with all project specific inputs.
2. The potable water calculator is then completed with the rainwater storage tank volume as required using the Submission Guideline rule of thumb calculator. In this case 82,000 Litres.
3. An alternative potable water calculator is then completed with the rainwater tank volume as provided in the project design, in this case 5,000 Litres.
4. The two calculator results are compared and if the potable water efficiency and therefore Green Star points awarded by the calculator are the same, the design water storage volume is considered to be providing an outcome equivalent to the prescriptive storage water volume.
5. The two alternative calculators are attached to this template. Both show 3 weighted points achieved and therefore the point for rainwater using the prescriptive method should be awarded.

Note to Assessors: The result is the same because roof area for rainwater capture, rather than the storage volume itself, is the greater driver for water capture and water availability for re-use. The Submission Guidelines rule of thumb does not take this into account and merely requires a storage volume incrementally larger based on building floor area. For buildings which have a low roof to height ratio (office towers) this will provide a storage volume in excess of that usefully required. The potable water calculator provides a more accurate and appropriate representation of the efficiency of the system.

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

Paul Davy

GSAP

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[11/05/2015](#)

— **Report end** —

# LIFE CYCLE IMPACTS: CONCRETE

## CREDIT 19.B.1

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION

PROJECT NAME: 185-189 PIRIE STREET

PROJECT NUMBER: GS- 1882DA

TOTAL POINTS AVAILABLE: 3      POINTS CLAIMED: 2.5

Criterion Name	Criterion Description	Points available	Points claimed
19.B.1.1 Reduced Use of Portland Cement	Portland cement content has been reduced by 30%, measured by mass across all concrete used in the project compared to the reference case[1 point]; <u>or</u> Portland cement content has been reduced by 40%, measured by mass across all concrete used in the project compared to the reference case[2 points].	2	2
19.B.1.2 Reduced Use of Water	At least 50% of the mix water for all concrete used is captured or reclaimed.	0.5	.5
19.B.1.3 Reduced Use of Aggregates	At least 40% of coarse aggregate in the concrete is crushed slag aggregate or another alternative materials; <u>or</u> At least 25% of fine aggregate (sand) inputs in the concrete are manufactured sand or other alternative materials.	0.5	<input type="checkbox"/>

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit.

There are project specific queries for this credit.

All responses received from the GBCA are attached.



# 19.B.1 GENERAL

## COST OF CONCRETE SUMMARY

Total Cost of New Concrete	To be advised at As-Built stage
Project Contract Value	To be advised at As-Built stage
Percent Value of Concrete	To be advised at As-Built stage

## 19.B.1.1 REDUCED USE OF PORTLAND CEMENT

The project has reduced the absolute quantity of Portland Cement by replacing it with supplementary cementations materials. X

Provide the % (mass) of Portland cement that has been replaced: 40%

## CONCRETE MIX SUMMARY

Mix Label	Mpa (following AS1379)	Volume (m <sup>3</sup> )	Reference Case Portland Cement Content (kg/m <sup>3</sup> )	Total Portland Cement Content Under the Reference Case	Actual Portland Cement Content (kg/m <sup>3</sup> )	Actual Total Portland Cement Content
[Mix 1]						
[Mix 2]						
[Mix 3]						
[Mix 4]						
[Mix 5]						
etc						
Overall Total Portland Cement (kg)				[x]		[y]
Overall percentage of replacement (%)				[1-(y/x)(100)=%]		
Portland cement content was reduced by [%] and [1/2] point/s are claimed						

### Attached Documentation:

Document No.	Document name
1	Letter from Structural Engineer – 19.B1_Concrete.pdf – p.6

## 19.B.1.2 REDUCED USE OF WATER

The project uses at least 50% captured or reclaimed water for mixing concrete. x

### WATER DIVERSION SUMMARY

Mix Label	Mix Volume (m <sup>3</sup> )	Total (L/ m <sup>3</sup> )	Total Water Content	Reclaimed or Captured Component (L/ m <sup>3</sup> )	Total Reclaimed or Captured Component
[Mix 1]					
[Mix 2]					
[Mix 3]					
[Mix 4]					
[Mix 5]					
<b>Totals</b>			[x]		[y]
<b>Overall percentage of replacement (%)</b>					<b>[(y/x)(100)=%]</b>

#### Attached Documentation:

Document No.	Document name
1	Letter from Structural Engineer – 19.B1_Concrete.pdf – p.6

## 19.B.1.3 REDUCED USE OF AGGREGATES

Select one option only

The project has reduced the quantity of coarse aggregate used in concrete by 40% replacing it with alternative materials.

The project has reduced the quantity of fine aggregate used in concrete by 25% replacing it with alternative materials.

### AGGREGATE REPLACEMENT SUMMARY

Mix Label	Mix Volume (m <sup>3</sup> )	Total (Kg/ m <sup>3</sup> )	Total Coarse/Fine Aggregate in Mix	Alternative Aggregate Component (kg/ m <sup>3</sup> )	Total Alternative Aggregate
[Mix 1]					
[Mix 2]					
[Mix 3]					
[Mix 4]					
[Mix 5]					
Totals			[x]		[y]
<b>Overall percentage of replacement (%)</b>		<b>[(y/x)(100)=%]</b>			
<b>Points Claimed</b>		<b>[x]</b>			

[Insert hyperlinks to documents which support these claims]

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

At Design Stage, future project intentions are outlined in a formal Letter from structural engineer.

The final construction will be specified to comply with the credit criteria as per the attached structural engineer's letter. At Design Review stage we have elected not to claim the 0.5 point for aggregate as this is still subject to design development review (note the attached letter refers to claiming all 3 points).

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

Paul Davy

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Email: [paul@emailsample.com.au](mailto:paul@emailsample.com.au)

1/05/2015

— Report end —

# LIFE CYCLE IMPACTS: STEEL

## CREDIT 19.B.2

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION

PROJECT NAME: 185-189 PIRIE STREET

PROJECT NUMBER: GS- 1882DA

TOTAL POINTS AVAILABLE: 1 POINTS CLAIMED: 1

Criterion Name	Criterion Description	Points Available	Points Claimed
<b>19.B.2.A Reduced Mass of Steel Framing (Steel Framed Building)</b>	The mass of steel framing has been reduced when compared to standard practice	1	
<b>19.B.2.B Reduced Use of Steel Reinforcement (Concrete framed building)</b>	The mass of steel reinforcement has been reduced when compared to standard practice	1	1

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit.

There are project specific queries for this credit.

All responses received from the GBCA are attached.

## 19.B.2 GENERAL

### COST OF STEEL SUMMARY

Total Cost of New Steel

Project Contract Value

Percent Value of Steel

## 19.B.2.A STEEL FRAMED BUILDING

### REDUCED MASS OF STRUCTURAL FRAMING

The project has specified high-strength steel to 95% of category A products and 25% of category B products.

The project has reduced the mass of steel framing by 5% when compared to a suitable reference building.

### HIGH STRENGTH STEEL

#### High Strength Steel Use - Summary

Type of steel	Steel Strength	Quantity (mass)	Steel Strength met? Y/N
<b>Category A Products</b>			
Roof sheeting	550MPa		
Wall sheeting	550MPa		
Profiled steel decking	550MPa		
Purlins	450MPa		
Girts	450MPa		
Light-steel framing systems*	450MPa		
<i>Sub-total Category A steel</i>			[x] tonnes
<i>% of compliant steel</i>			[x]%
<b>Category B Products</b>			
Hot rolled structural steel sections (including plate)	350MPa		
Cold formed sections (including hollow sections)	450MPa		

Welded sections	400MPa
<i>Sub-total of Category B steel</i>	[x] tonnes
<i>% of compliant steel</i>	[x]%
Total quantity of structural steel specified for the project	[x] tonnes
Total % of compliant steel	[x]%

**REDUCTION IN MASS OF STEEL FRAMING**

Provide a description of the design initiatives that have been used to reduce the mass of structural steel framing in the project.

Provide description and justification of the reference case building.

Discuss how the reduction in steel framing has been achieved without changing the load path to other structural elements that are not steel.

Reference Case Building Steel Mass	[x] tonnes
Project Steel Mass	[x] tonnes
% Reduction in Steel	[x]%
Qualified professional Name	
Qualifications	

**Attached Documentation:**

Document No.	Document name

## 19.B.2.B REDUCTION IN USE OF REINFORCING STEEL

The project has reduced the mass of steel reinforcement by 5% when compared to a suitable reference building.

x

Provide a description of the design initiatives that have been used to reduce the mass of reinforcing steel in the project.

The following design initiatives have been used to reduce the mass of steel reinforcement used:

1. The use of loose bars in lieu of mesh (high ductility and better accuracy)
2. The use of threaded couplers to provide continuity to big diameter bars in beams and columns to reduce lap length to reinforcement bars
3. The use of fire protection sprinklers to reduce the amount of fire related reinforcement in slabs
4. The use of one way composite slabs in lieu of formed two way slabs to reduce positive reinforcement

Provide a description and justification of the reference case reinforcing rates

Two alternative designs were undertaken to test the design initiatives proposed and assess the minimum 5% reduction.

Discuss how the reduction in steel reinforcing has been achieved without changing the load path to other structural elements that are not steel.

As per description above. Simple initiatives have been used which do not transfer the load path to other steel elements. The building is a concrete frame building.

Reference Case Building Steel Reinforcing Mass [x] tonnes

Project Steel Reinforcing Mass [x] tonnes

% Reduction in Steel Reinforcing [x]%

Qualified professional Name

Qualifications

### Attached Documentation:

Document No.	Document name
1	Letter from Structural Engineer – 19.B2_Steel.pdf – p.6



## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

At Design Stage, future project intentions are outlined in a formal Letter from structural engineer.

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

Paul Davy

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[1/05/2015](#)

— **Report end** —

# RESPONSIBLE BUILDING MATERIALS

CREDIT 20

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION 

PROJECT NAME: 185-189 PIRIE STREET

PROJECT NUMBER: GS- 1882DA

TOTAL POINTS AVAILABLE: 3 POINTS CLAIMED: 3

Criterion Name	Criterion Description	Points Available	Points Claimed
20.1 Steel	95% of the buildings steel is sourced from a Responsible Steel Maker; and <i>For steel framed buildings:</i> At least 60% of the fabricated structural steelwork is supplied by a steel fabricator/steel contractor accredited to the Environmental Sustainability Charter of the Australian Steel Institute (ASI). <i>For Concrete framed buildings:</i> at least 60% (by mass) of all reinforcing bar and mesh is produced using energy reduced processing in its manufacture.	1	1
20.2 Timber	At least 95% (by cost) of all timber used in the building and construction works is either certified by a forest certification scheme that meets the GBCA's 'Essential' criteria for forest certification; <u>or</u> is from a reused source.	1	1
20.3 Cables, pipes, flooring and blinds	At least 90% (by cost) of all cables, pipes, flooring and blinds in a project either: do not contain PVC and have an Environmental Product Declaration (EPD); <u>or</u> meets Best Practice Guidelines for PVC.	1	1

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit.	<input checked="" type="checkbox"/>
There are project specific queries for this credit.	<input type="checkbox"/>
All responses received from the GBCA are attached.	<input type="checkbox"/>

## 20.1 RESPONSIBLE STEEL MAKER AND FABRICATOR

At least 95% of the building’s steel is sourced from a Responsible Steel Maker. x

**Steel Framed Building:**

At least 60% (by mass) of the fabricated structural steelwork is supplied by a steel fabricator contractor accredited to the Environmental Sustainability Charter of the Australian Steel Institute.

**Concrete Framed Building:**

At least 60% (by mass) of all reinforcing bar and mesh is produced using energy reduced processing in its manufacture. x

**Responsible Steel Maker Summary**

Product	Steel Maker	Valid ISO 14001 Certification	Mass of Steel Supplied (tonne)
---------	-------------	-------------------------------	--------------------------------

To be advised at As-Built stage

Total

Percentage Compliant

**Steel Fabricator Summary**

Product	Non-ASI Fabrication (tonnes)	ASI-ESC Fabrication (tonnes)
---------	------------------------------	------------------------------

To be advised at As-Built stage

Total

Percentages	X%	X%
-------------	----	----

**Energy Reducing Technologies in Steel Reinforcement Manufacture**

Product	Reinforcing steel	Manufacturer’s annual	Average mass of ERT
---------	-------------------	-----------------------	---------------------

(tonnes)	average production using ERT (%)	steel (tonnes)
To be advised at As-Built stage		
Total		
Percentage Compliant	(Total average ERT steel/ Total steel)	[x]%

**Supporting Documentation:**

Document No.	Document name
1	Letter from Structural Engineer – 20 Responsible Building Materials.pdf – p.6

## 20.2TIMBER

At least 95% (by cost) of the timber used in the projects building materials or construction works is reused or certified by a forest certification scheme that meets the GBCA’s ‘Essential’ criteria for forest certification. x

**Timber Schedule**

Description of Timber Use and/or Timber Products	Reused; Certified; or Uncertified Timber	Total cost reused	Total cost certified	Total cost uncertified
Wood Panels (e.g. plywood, particleboard and MDF used for formwork, joinery, kitchens, bathrooms)	Certified	-	-	95%
Doors	Certified	-	-	95%
Furniture covers timber used in loose furniture, tables, workstations, chairs, lockers, etc.	Not applicable	-	-	-
Skirting boards	Certified	-	-	95%
Architraves	Certified	-	-	95%
Structural Timber (pylons, beams, laminate beams, etc.)	Not applicable	-	-	-
[Other timber uses and timber products not mentioned in table]				
Sub-total costs		\$-	\$-	\$ 95%

Total cost of all timber specified in the building and construction works	\$-
Combined total costs of reused and certified timber	\$ 95%
Total cost of reused and certified timber as a percentage of total timber cost	95 %

Actual timber costs will be provided at As-Built stage. At Design Review stage the Building Owner has demonstrated the method of complying with the credit criteria by providing a Building Owner instructions letter at Design Review stage, to demonstrate that the strategies and processes required to achieve this credit have been agreed to.

**Supporting Documentation:**

Document No.	Document name
1	Letter from Building Owner – <i>20 Responsible Building Materials.pdf</i> – p.7

## 20.3 CABLES, PIPES, FLOORING AND BLINDS

At least 90% (by cost) of the all cables, pipes, flooring and blinds in the project either do not contain PVC and have an EPD; or meet Best Practice Guidelines for PVC. x

**Cables, pipes, flooring and blinds schedule**

Product Type	Product Name	Contains PVC (Y/N)	Compliant with Best Practice Guidelines for PVC (Y/N) or has EDP	Total cost of compliant products	Total cost of non-compliant products
eg. Pipe		Y/N	Y/N	\$	\$ 90%
eg. Conduit fittings		Y/N	Y/N	\$	\$ 90%
		Y/N	Y/N	\$	\$
		Y/N	Y/N	\$	\$
		Y/N	Y/N	\$	\$
Total cost of all compliant products				\$ 90%	
Total cost of all non-compliant products					\$ <10%

Combined total cost of all nominated products in schedule	\$
Percentage of PVC products compliant with the Credit Criteria	90%
( $\text{\$compliant products} / \text{\$nominated products}$ ) x 100= XX%	

Actual PVC costs will be provided at As-Built stage. At Design Review stage the Building Owner has demonstrated the method of complying with the credit criteria by providing a Building Owner instructions letter at Design Review stage, to demonstrate that the strategies and processes required to achieve this credit have been agreed to.

#### Supporting Documentation:

Document No.	Document name
1	Letter of from Building Owner – <i>20 Responsible Building Materials.pdf</i> – p.7

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

At Design Stage, future project intentions are outlined in a letter of instructions from the building owner and formal Letter from structural engineer.

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

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[1/05/2015](#)

— Report end —

# SUSTAINABLE PRODUCTS

## CREDIT 21

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION

PROJECT NAME: 185-189 PIRIE STREET

PROJECT NUMBER: GS- 1882DA

TOTAL POINTS AVAILABLE: 3 POINTS CLAIMED: 1.7

Criterion Name	Criterion Description	Points Available	Points Claimed
21.1 Product Transparency and Sustainability	Products specified in the project meet requirements for product sustainability and transparency	3	1.7

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit.	<input checked="" type="checkbox"/>
There are project specific queries for this credit.	<input type="checkbox"/>
All responses received from the GBCA are attached.	<input type="checkbox"/>

## 21.1 PRODUCT TRANSPARENCY AND SUSTAINABILITY

Total Product Sustainability Value (PSV):	498,500
Total Project Contract Value (PCV):	9,800,000
% compliant= (PSVx100)/PCV:	5.087
Points Claimed:	1.7

Provide a summary of the products that have been specified that meet the aims of the credit.

The products specified that met the aims of the credit criteria are:

CSR Gyprock, partitions, plasterboard, shaft liner and associated products. GECA certified (GBCA third party certification Level A).

Fletcher fibreglass and polyester insulation. GECA certified (GBCA third party certification Level A).

Feltex Aria flooring. GECA certified (GBCA third party certification Level A).

Kwikloc Aluminium ceiling grid. GECA certified (GBCA third party certification Level A).

OWA Sinfonia ceiling tiles. GECA certified (GBCA third party certification Level A).

The following products are specified but at the time of submission the percentage recycled content cannot be third party verified and so has been excluded from the calculations:

Studco Steel Framing. Recycled steel content.

Refer to [21 Sustainable Products.pdf](#) – p.4 for Sustainable Products Calculator

Product specifications and the calculated value of each product is included in a letter from the Building Owner/Head Contractor, as attached.



## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

The compliant product specifications are confirmed by a Building Owner instructions letter at Design Review stage, to demonstrate that the strategies and processes required to achieve this credit have been agreed to.

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

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15/05/2015

— **Report end** —

# CONSTRUCTION AND DEMOLITION WASTE

## CREDIT 22

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION

PROJECT NAME: 185-189 PIRIE STREET

PROJECT NUMBER: GS- 1882DA

TOTAL POINTS AVAILABLE: 1 POINTS CLAIMED: 1

Criterion Name	Criterion Description	Points Available	Points Claimed
<b>22.1 Reduction of Construction and Demolition Waste</b>	<p>The construction waste going to landfill is reduced either by:</p> <p>22.1.A Minimising the total amount of waste sent to landfill when compared against a typical building or</p> <p>22.1.B Diverting a significant amount of waste from going to landfill.</p>	1	1

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit.

There are project specific queries for this credit.

All responses received from the GBCA are attached.

## 22.1 GENERAL INFORMATION

Provide a description of any structures on the site at time of purchase, or confirmation that the site contained no structures at time of purchase.

One building exists on the site as per the attached plan. This structure and all of the existing surrounding hard standing is proposed for demolition. No existing structures or facades will be retained.

Provide a summary of the waste management plan for the construction works.

The Building owner and head contractor has provided a written confirmation, as part of their ISO 14001 certified EMP, confirming that a minimum of 90% of the waste generated during demolition and construction, measured by mass, will diverted from landfill.

Provide details of the Waste Contractor.

The waste contractor has yet to be appointed.

### Supporting Documentation:

Document No.	Document name
1	Letter from Building Owner – <i>22 Construction and Demolition Waste.pdf</i> – p.5
2	Site Plan showing Structures at time of purchase – <i>22 Construction and Demolition Waste.pdf</i> – p.6

### 22.1.A FIXED BENCHMARK

The project is using method 22.A Reduction of Construction and Demolition Waste (Fixed Benchmark) to claim points for this credit.

x

The following Table provides a summary of waste streams:

Summary of Waste Streams	Kg/m <sup>2</sup>
Weight of waste sent to landfill	[Provide mass of waste stream per m <sup>2</sup> of the building's gross area]
Weight of waste reused on site	
Weight of waste recycled by waste contractor	
Total weight of Waste Generated from construction and demolition works	

**Points Claimed**

Where waste is reused on site, provide a short description of the way in which it was reprocessed and/or reused onsite.

Where volume to weight conversion is applicable, provide confirmation that the prescribed conversion factors have been used or details of the calculations.

[Insert hyperlinks to documents which support these claims]

## 22.B.1 PERCENTAGE BENCHMARK

The project is using method 22.B Reduction of Construction and Demolition Waste sent to landfill (Percentage Benchmark) to claim points for this credit.

The following Table provides a summary of waste streams:

Summary of Waste Streams	Kg/m <sup>2</sup>
Weight of waste sent to landfill	[Provide mass of waste stream per m <sup>2</sup> of the building's gross area]
Weight of waste reused on site	
Weight of waste recycled by waste contractor	
Percentage of waste send to landfill	

**Points Claimed**

Where waste is reused on site, provide a short description of the way in which it was reprocessed and/or reused onsite.

Where volume to weight conversion is applicable, provide confirmation that the prescribed conversion factors have been used or details of the calculations.

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

Future project intentions are outlined in a Building Owner instructions letter at Design Review stage, to demonstrate that the strategies and processes required to achieve this credit have been agreed to.

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

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1/05/2015

— **Report end** —

# SUSTAINABLE SITES

## CREDIT 24

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION

PROJECT NAME: 185-189 PIRIE STREET

PROJECT NUMBER: GS- 1882DA

TOTAL POINTS AVAILABLE: 2 POINTS CLAIMED: 1

The project has chosen to develop a site of limited ecological value, re-use previously developed land or remediate contaminated land the project meets the following site selection criteria:

Criterion Name	Criterion Description	Points Available	Points Claimed
24.0 <b>Conditional Requirement</b>	At the date of site purchase or date of option contract, the project site did not include old growth forest or wetland of 'High National Importance', did not impact on 'Matters of National Significance', and is not prime agricultural land.	Conditional Requirement	YES
24.1 <b>Reuse of Land</b>	75% of the site was Previously Developed Land at the date of site purchase (see Compliance Requirements); <u>or</u> The project is a building extension, and 75% of the extension (including landscaping) falls within an area of the site that was Previously Developed Land at the project's Green Star registration date.	1	1
24.2 <b>Contamination and Hazardous Materials</b>	The site was previously contaminated and the site has been remediated in accordance with a best practice remediation strategy; <u>and/or</u> Where a comprehensive hazardous materials survey has identified asbestos, lead or PCBs in any existing buildings or structures and they have been stabilized, or removed and disposed of in accordance with best practice guidelines.	1	<input type="checkbox"/>

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit.	x
There are project specific queries for this credit.	<input type="checkbox"/>
All responses received from the GBCA are attached.	<input type="checkbox"/>

## 24.0 CONDITIONAL REQUIREMENT

At the date of site purchase or date of option contract, the project site did not include old growth forest or wetland of ‘High National Importance’, did not impact on ‘Matters of National Significance’, and is not prime agricultural land. x

Date of purchase or option contract. 28<sup>th</sup> of August, 1996

Provide a description of the site at the time of purchase.

The site comprises an existing single storey community building surrounded by hard standing/car park area.  
 The site does not include old growth forest or wetland of ‘High National Importance’, did not impact on ‘Matters of National Significance’, and is not prime agricultural land.

Provide details of any Wetland Management Plan if required for compliance

Nil.

**Supporting Documentation:**

Document No.	Document name
1	Proof of date of purchase – <i>24 Sustainable Sites.pdf</i> – p.7-8

## 24.1 REUSE OF LAND

75% of the site was Previously Developed Land at the date of site purchase (see Compliance Requirements).	X
The project is a building extension, and 75% of the extension (including landscaping) falls within an area of the site that was Previously Developed Land at the project’s Green Star registration date.	<input type="checkbox"/>
Percentage of the site that was Previously Developed Land at the time of purchase or time of Green Star Registration.	100%

**Attached Documentation:**

Document No.	Document name
2	Aerial plan showing extent of prior development – <i>24 Sustainable Sites.pdf</i> – p.9

## 24.2 CONTAMINATION AND HAZARDOUS MATERIALS

### SITE CONTAMINATION

The project site has no contamination.	<input type="checkbox"/>
The site has been previously contaminated to the extent that the intended uses, as permitted under the relevant planning scheme, were initially precluded.	<input type="checkbox"/>
The developer has adopted and implemented a best practice remediation strategy.	<input type="checkbox"/>
The best practice site remediation strategy and implementation has been signed off by an auditor prior to issue of the occupation certificate.	<input type="checkbox"/>

Provide a description of the contamination found on site.

Provide details of the types of development that were precluded from the site due to the contamination.



Describe the decontamination procedures and how they demonstrate best practice.

### HAZARDOUS MATERIALS

No buildings existed on the site previously, or all existing buildings were demolished.

A comprehensive hazardous materials survey has been carried out on any existing buildings or structures on the project site, in accordance with the relevant Environmental and Occupational Health and Safety (OH&S) legislation.

Where the survey identified asbestos, lead or PCBs in any existing buildings or structures the materials have been stabilized, or removed and disposed of in accordance with best practice guidelines; or The survey concluded that no hazardous materials were found in any existing buildings or structures on the project site.

Describe any hazardous materials that have been found on site.

Provide a summary of the hazardous materials management plan.

Provide a summary of the stabilisation and/or removal and disposal methods used for the hazardous materials found.

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

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1/05/2015

— **Report end** —

# HEAT ISLAND EFFECT

CREDIT 25

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION

PROJECT NAME: 185-189 PIRIE STREET

PROJECT NUMBER: GS- 1882DA

TOTAL POINTS AVAILABLE: 1 POINTS CLAIMED: 1

Credit Criterion	Criterion Description	Points Available	Points Claimed
25.1 Heat Island Effect	1 point is awarded if at least 75% of the total project site area in plan view comprises building or landscaping elements that reduce the solar reflectance of the site.	1	1

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit.

There are project specific queries for this credit.

All responses received from the GBCA are attached.

## 25.1 HEAT ISLAND EFFECT

75% or more of the project site in plan view comprises building or landscaping elements that reduce the solar reflectance of the site. X

### Summary of Heat Island Effect Reduction Measures

Type	Area (m <sup>2</sup> )	SRI	Reference in Site Plan	Area (%)
Vegetation		NA		
Green Roofs		NA		
Roofing or shading structures pitched <15°				
Roofing or shading structures pitched >15°	1,000	64		100%
Un-shaded hard-scape				
Shaded hard-scape		NA		
Water bodies and/or water courses		NA		
<b>Total Site Area (m<sup>2</sup>)</b>	<b>1,000</b>	<b>Total Compliant Area (m<sup>2</sup>)</b>		<b>1,000</b>
<b>Compliant Area (%)</b>				<b>100%</b>
<b>Points Claimed</b>				<b>1</b>

### Attached Documentation:

Document No.	Document name
1	Roof Plan Drawing – 25 Heat Island Effect.pdf – p. 4

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

**As indicated on the attached plan, the site is being developed to its entire site boundary, and so 100% of the roof area comprises 100% of the site area.**

**We confirm that 100% of the roof/site area comprises roof with a pitch angle less than 15°. We confirm that this area will be painted with a coating with a three year SRI > 64.**

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

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1/05/2015

— **Report end** —

# STORMWATER

## CREDIT 26

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION

PROJECT NAME: 185-189 PIRIE STREET

PROJECT NUMBER: GS- 1882DA

TOTAL POINTS AVAILABLE: 2 POINTS CLAIMED: 2

The project has minimised peak storm water flows and reduced pollutants entering public sewer infrastructure.

Credit Element	Description	Points Available	Points Claimed
26.1 Reduced Peak Discharge to Sewer	The post-development peak event discharge from the site does not exceed the pre-development peak event discharge.	1	1
26.2 Reduced Pollution Targets	The first criteria has been met and all stormwater discharged from site meets the specified Pollution Reduction Targets.	1	1

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit.	<input checked="" type="checkbox"/>
There are project specific queries for this credit.	<input type="checkbox"/>
All responses received from the GBCA are attached.	<input type="checkbox"/>

Date the Development Approval was issued.

To be issued

Describe the site prior to the development of this project.

The site comprised a two storey detached building with the remaining site area comprising hard standing (car parking).

## 26.1 REDUCED PEAK DISCHARGE TO SEWER

The project has a low risk of increased rainfall and flooding during the design life of the project and has been designed for a 1 year ARI

The project has a medium or high risk of increased rainfall and flooding during the design life of the project and has been designed for a 5 year ARI

Describe the assessment that has identified the rainfall and flooding risks for the project

Local Council (Adelaide City Council) flood guidance confirms that the project site is not at risk of flooding.

Pre-development ARI

To be advised

Post-development ARI

To be advised

Describe the initiatives used in the design for the project site to reduce the peak discharge to sewer.

Stormwater detention tanks will be provided.

Refer to [26 Stormwater.pdf](#) – p.4

## 26.2 REDUCED POLLUTION TARGETS

Describe the initiatives used in the design for the project site to reduce pollution.

The current condition is exposed car parking and a small building roof. The new condition is 100% exposed roof which captures all site stormwater as rainwater and transfers it via particle filtration to a rainwater storage tank. Overflow water (balance stormwater) will be diverted via detention tanks before being filtered and discharged to sewer.

The following Table lists pollution reduction targets achieved by this project:

Pollutant	Applicable to Project	Reduction Target (% of the typical urban annual load).	Reduction Achieved (% of the typical urban annual load)
-----------	-----------------------	--	---

Pollutant	Applicable to Project	Reduction Target (% of the typical urban annual load).	Reduction Achieved (% of the typical urban annual load)
Total Suspended Solids (TSS) <sup>1</sup>	[y/n]	80%	[xx% / NA]
Gross Pollutants	[y/n]	85%	[xx% / NA]
Total Nitrogen (TN) <sup>2</sup>	[y/n]	30%	[xx% / NA]
Total Phosphorus (TP) <sup>2</sup>	[y/n]	30%	[xx% / NA]
Total Petroleum Hydrocarbons <sup>3</sup>	[y/n]	60%	[xx% / NA]
Free Oils <sup>3</sup>	[y/n]	90%	[xx% / NA]

The building will be constructed to achieve the required pollutant reduction levels. The actual levels achieved will be confirmed at As-Built stage. This is confirmed by a Structural/Civil engineer's letter at Design Review stage, to demonstrate that the strategies and processes required to achieve this credit have been agreed to.

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

At Design Stage, future project intentions are outlined in a formal Letter from structural engineer.

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

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1/05/2015

— Report end —



# LIGHT POLLUTION

## CREDIT 27

DESIGN REVIEW SUBMISSION

AS BUILT SUBMISSION

PROJECT NAME: 185-189 PIRIE STREET, ADELAIDE

PROJECT NUMBER: GS- 1882DA

TOTAL POINTS AVAILABLE: 1      POINTS CLAIMED: 1

Criterion Name	Criterion Description	Points available	Points claimed
<b>27.0 Light Pollution to Neighbouring Bodies</b>	The project complies with AS 4282 'Control of the Obtrusive Effects of Outdoor Lighting'.	Conditional requirement	<input checked="" type="checkbox"/>
<b>27.1 Light Pollution to Night Sky</b>	The project has demonstrated that a specified reduction in light pollution has been achieved by the project.	1	<input checked="" type="checkbox"/>

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit.	<input checked="" type="checkbox"/>
There are project specific queries for this credit.	<input type="checkbox"/>
All responses received from the GBCA are attached.	<input type="checkbox"/>

## 27.0 LIGHT POLLUTION TO NEIGHBOURING BODIES

The project complies with the requirements of AS 4282.



Describe of how the building complies with the requirements of AS 4282.

No External lighting installed.

## 27.1 LIGHT POLLUTION TO NIGHT SKY

### 27.1A CONTROL OF UPWARD LIGHT OUTPUT RATIO (ULOR)

The lighting design has minimised light pollution into the night sky by ensuring no external luminaire, relative to its particular mounting orientation, has an Upward Light Output Ratio that exceeds 5%.



OR

### 27.1B CONTROL OF DIRECT LUMINANCE

Direct illuminance from external luminaries produces a maximum initial point illuminance value no greater than 0.5 Lux to the site boundary and no greater than 0.1 Lux to 4.5 metres beyond the site into the night sky, when modelled using a calculation plane set at the highest point of the building.



Describe the external lighting strategy.

No External lighting installed.

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

Compliance is achieved as no external lighting is provided, therefore, there will be no light pollution.

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

Peter Kemp – Electrical Services Engineer – pkemp@emailsample.com.au

28/04/2015

— **Report end** —

SAMPLE ONLY

# MICROBIAL CONTROL

## CREDIT 28

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION

PROJECT NAME: 185-189 PIRIE STREET

PROJECT NUMBER: GS-1882DA

TOTAL POINTS AVAILABLE: 1 POINTS CLAIMED: 1

The project has been designed to minimise harmful microbes in building systems in accordance with the following criteria:

Credit Element	Description	Points Available	Points Claimed
<b>28.1 Legionella impacts from cooling systems</b>	<p>The building is either</p> <ul style="list-style-type: none"> <li>naturally ventilated; or</li> <li>has waterless heat-rejection systems; or</li> <li>has water-based heat rejection systems that include measures for Legionella control and Risk Management.</li> </ul>	1	1

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit.	<input checked="" type="checkbox"/>
There are project specific queries for this credit.	<input type="checkbox"/>
All responses received from the GBCA are attached.	<input type="checkbox"/>

# 28.1 LEGIONELLA IMPACTS FROM COOLING SYSTEMS

## 28.1A Natural Ventilation

The project meets the requirements of this credit as the building is naturally ventilated and it does not use any water-based cooling system(s).

## 28.1B Waterless Heat Rejection

The project meets the requirements of this credit as the building’s cooling system(s) are not water-based **X**

## 28.1C Water-Based Heat Rejection System

A Water-Based Heat Rejection System has been designed to mitigate risks from Legionella appropriate to its climate conditions.

Provide a description of the building’s cooling systems:

**The air conditioning system comprises air cooled VRV condensing units. Water is not used for heat rejection.**

Where the building includes water-based heat rejection systems:

The Water-Based heat rejection system has been designed and built according to AS 3666.1:2011 and the Victorian Public Health and Wellbeing Act 2008

The system is designed and built to maintain constant movement to prevent water stagnation in the system.

The water contained in the system is never at a temperature between 20°C and 50°C while not moving.

The system does not release an aerosol spray during operation.

Provide a description of how the water-based cooling system meets the credit criteria including summary of how the system avoids creating an aerosol spray during operation, how it achieves the specified temperatures and how the system prevents water stagnation

A Legionella Risk Management Plan has been provided to the building owner / operator as part of the Building Users Guide and complies with the credit requirements.

Provide a description of the maintenance process for the system.

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

Paul Davy  
GSAP  
[paul@emailsample.com.au](mailto:paul@emailsample.com.au)

11/05/2015

— **Report end** —

# REFRIGERANT IMPACTS

## CREDIT 29

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION

PROJECT NAME: 185-189 PIRIE STREET

PROJECT NUMBER: GS- 1882DA

TOTAL POINTS AVAILABLE: 1      POINTS CLAIMED: 1

Project teams may choose one of two different pathways to demonstrate compliance with the credit criteria. The project has complied with the following:

Credit Element	Description	Points Available	Points Claimed
29.1 Refrigerant Impacts	The combined Total System Direct Environmental Impact of the refrigerant systems in the building is less than 15.	1	1
	OR		
	The combined Total System Direct Environment Impact (TSDEI) of the refrigerant systems is between 15 and 35, AND a leak detection system is in place.		<input type="checkbox"/>
	OR		
	No refrigerants are employed by the nominated building systems.		<input type="checkbox"/>

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit.	x
There are project specific queries for this credit.	<input type="checkbox"/>
All responses received from the GBCA are attached.	<input type="checkbox"/>

## 29.0 OZONE DEPLETION

Every refrigerant, considered under the scope of this credit, has an Ozone Depletion Potential (ODP) equal to 0. x

## 29.1 REFRIGERANT IMPACTS

The Project demonstrates compliance by using the following option:

There are no refrigerants employed by nominated building systems

The combined Total Direct Environmental Impact (TDEI) of the refrigeration equipment and systems in the building is less than 15 x

The combined Total Direct Environment Impact (TDEI) of the refrigerant equipment and systems in the building is between 15 and 35, and a leak detection system is in place.

Provide a list of nominated systems to be included in the credit clearly outlining refrigeration equipment and refrigerant used.

The project will be utilising a 3-pipe VRV/VRF split air conditioning system throughout the building.

The system will comprise 14 outdoor units connected via refrigerant pipework to a series of internal fan coil units. Each System will have a capacity of 65kW, making the total system capacity 910kW.

The following system characteristics are specified in the design and have been used as inputs to the Refrigerant Impacts Calculator:

System Type: Split AC

Refrigerant Type: R410A

System Cooling Capacity: 910kW

System Refrigerant Charge: 0.48 kg/kW

Leakage Rate: 2%

Note that the specified system has a leakage rate of 0%, but 2% has been used as this is the lowest available number in the calculator.



Provide a summary of the building commissioning plan, clearly outlining refrigeration equipment.

The building commissioning has taken place according to the plan.

If the TDEI is between 15 and 35, provide a summary of the leak detection system.

The results from the Impacts from Refrigerants Calculator are as summarised below:

Calculator Item	Result
Sum of DEI x Plant Cooling Capacity	24,460.80
Sum of Cooling Capacity of all Rated Equipment	910.0
Total Direct Environmental Impact of Refrigerants	26.88

**Supporting Documentation:**

Document No.	Document name
1	Refrigerant Impacts Calculator – 29 Refrigerant Impacts.pdf - p. 5

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

Paul Davy

GSAP

Email: [paul@emailsample.com.au](mailto:paul@emailsample.com.au)

1/05/2015

— **Report end** —

SAMPLE ONLY

# INNOVATION

CREDIT 30B

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION

PROJECT NAME: 185 PIRIE STREET

PROJECT NUMBER: GS- 1882DA

TOTAL POINTS AVAILABLE: 10      POINTS CLAIMED: 1

Credit Element	Description	Points Available	Points Claimed
<b>30B</b> Market Transformation	The project has undertaken a sustainability initiative that substantially contributes to the broader market transformation towards sustainable development in Australia or the world.	1 point for each innovation	1

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit. x

There are project specific queries for this credit.

All responses received from the GBCA are attached.

## 30C MARKET TRANSFORMATION

Describe how the innovation meets the compliance requirements for each of the items below, by referencing supporting evidence attached to the Submission Template.

Describe how the initiative has led to market transformation, or to increased adoption of the solution towards sustainable development in Australia or in the world.

**Commissioning and Tuning:** The project team will be undertaking commissioning and tuning of the building in accordance with the BSRIA Soft Landings Framework.

As per the Submission Guidelines Credit 02 Commissioning and Tuning, Innovation, 1 point may be awarded for this initiative.

This is confirmed by a Building Owner instructions letter at Design Review stage, to demonstrate that the strategies and processes required to achieve this credit have been agreed to.

Clearly articulate the nature, magnitude and justification of the innovation, and quantify (where relevant) the environmental, social, and/or economic benefits achieved, which has led to market transformation or increased adoption of the solution.

The Innovation is justified in the Green Star Submission Guidelines.

]

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

Evidence for Design Review is provided in the form of a building owner's letter. Refer to *30B Market Transformation Benchmarks.pdf* – p.3

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

Paul Davy  
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13/05/2015

— **Report end** —

# INNOVATION

CREDIT 30C

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION

PROJECT NAME: 185 PIRIE STREET

PROJECT NUMBER: GS- 1882DA

TOTAL POINTS AVAILABLE: 10      POINTS CLAIMED: 1

Credit Element	Description	Points Available	Points Claimed
<b>30C</b> Improving on Green Star benchmarks	<p>The project has achieved full points in a Green Star credit and demonstrates a substantial improvement on the benchmark required to achieve full points.</p> <p>For credits where this innovation credit criterion is applicable, improved benchmarks are included in the 'Guidance' section of the individual credit.</p>	1 point for each innovation	1

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit.	x
There are project specific queries for this credit.	<input type="checkbox"/>
All responses received from the GBCA are attached.	<input type="checkbox"/>

## 30C IMPROVING ON GREEN STAR BENCHMARKS

Describe how the innovation meets the compliance requirements for each of the items below, by referencing supporting evidence attached to the Submission Template.

Identify the Green Star credit targeted and describe how the identified benchmark has been exceeded.

**Commissioning and Tuning:** The project team and building owner will carry out a comprehensive services and maintainability review of supplementary and tenancy fit-out systems, in addition to the base nominated building systems. The review will be undertaken to ensure the design and function of such systems are properly integrated with base building systems, as all tenancy fit-outs are required to be undertaken as fully integrated fit-outs.

As per the Submission Guidelines Credit 02 Commissioning and Tuning, Innovation, 1 point may be awarded for this initiative.

This is confirmed by a Building Owner instructions letter at Design Review stage, to demonstrate that the strategies and processes required to achieve this credit have been agreed to.

Clearly articulate the environmental, social and/or economic benefit over and beyond the Green Star benchmark.

This is articulated in the Green Star Submission Guidelines, as outlined above.

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

Evidence for Design Review is provided in the form of a building owner's letter. Refer to *30C Improving on Green Star Benchmarks.pdf* – p. 3

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

Paul Davy  
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13/05/2015

— Report end —

# INNOVATION

CREDIT 30D

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION

PROJECT NAME: 185 PIRIE STREET

PROJECT NUMBER: GS- 1882DA

TOTAL POINTS AVAILABLE: 1      POINTS CLAIMED: 1

Project teams may choose one of two different pathways to demonstrate compliance with the credit criteria. The project has complied with the following:

Credit Element	Description	Points Available	Points Claimed
30D.5 Financial Transparency	Costs of sustainable building practices have been disclosed and there is an agreement to participate in a yearly report developed by the GBCA to inform the industry on the costs and benefits of sustainability.	1	1

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit.	<input type="checkbox"/>
There are project specific queries for this credit.	x
All responses received from the GBCA are attached.	x

A CIR was awarded allowing the project to claim for this Innovation Challenge. This is attached.

## DEMONSTRATING INNOVATION

Describe how the innovation meets the compliance requirements for each of the items below, by referencing supporting evidence attached to the Submission Template.

## 30D.5 FINANCIAL TRANSPARENCY

Provide details as requested by the GBCA disclosure template relating to the cost of collecting documentation, building operations and any building upgrades.

This spreadsheet will be provided as a separate document to this submission for confidentiality reasons. Refer to *GBCA Disclosure Template.xls*

Confirm agreement to participate in the yearly GBCA report.

We confirm agreement on behalf of the building owner to participate in the yearly GBCA report.

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

The spreadsheet has been completed at completion of the design by Palumbo and is provided for assessment at Design Review stage. For confidentiality reasons the spreadsheet has been issued directly to the GBCA case manager, separate to this submission. Please verify receipt with the Case Manager. The spreadsheet will be updated post practical completion to reflect the As-Built financial situation, and an updated spreadsheet provided for As-Built submission review.

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

Paul Davy  
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13/05/2015

— **Report end** —



# INNOVATION

CREDIT 30E

DESIGN REVIEW SUBMISSION  AS BUILT SUBMISSION

PROJECT NAME: 185-189 PIRIE STREET

PROJECT NUMBER: GS- 1882DA

TOTAL POINTS AVAILABLE: 1      POINTS CLAIMED: 1

Project teams may choose one of two different pathways to demonstrate compliance with the credit criteria. The project has complied with the following:

Credit Element	Description	Points Available	Points Claimed
<b>30E</b> <b>Global Sustainability</b>	Demonstrate compliance with an approved credit from a Global Green Building Rating tool that addresses a sustainability issue that is currently outside the scope of this Green Star rating tools. A list of approved credits is published on the GBCA website.	1	1

## PROJECT SPECIFIC QUERIES (TCS AND CIRS)

There are no project specific queries for this credit.	<input type="checkbox"/>
There are project specific queries for this credit.	x
All responses received from the GBCA are attached.	x

A CIR was awarded for this innovation claim and is attached.

## 30E GLOBAL SUSTAINABILITY

Describe how the innovation meets the compliance requirements for each of the items below, by referencing supporting evidence attached to the Submission Template.

Identify and describe the credit being targeted from another World Green Building Council (WGBC) member rating tool.

**USGBC LEED v4 Integrative Design Process:** The project has undertaken computer simulation and analysis at the earliest stages of the project, and used this initial modelling and analysis work to drive the design of the building and engineering services in an holistic manner.

Describe how the compliance requirements of the credit were addressed and achieved for this project.

The use of this credit is approved by the GBCA as per the Innovation Guidelines published 5th February 2015.

Evidence for Design Review is provided in the form of an approved CIR and a short report which directly addresses the LEED Credit documentation criteria. Refer to *30E Global Sustainability.pdf* – p. 3-12

The requirements of the credit were met by the project team utilising integrative computer simulation design techniques to improve the design of the facade and engineering systems, incorporating energy efficiency and water efficiency technologies into the design solution at early design stages as a result.

## DISCUSSION

Outline any issues you would like to highlight and clarify with the Assessment Panel.

The credit evidence and approach to the innovation credit has been assessed by the GBCA using the CIR process. Refer to *30E Global Sustainability.pdf* p. 3

## DECLARATION

I confirm that the information provided in this document is truthful and accurate at the time of completion.

Provide author details, including name, position and email address:

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13/05/2015

— Report end —