

# Sustainability Management Plan

## Warringah Freeway Upgrade

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### Document Approval

Rev.	Date	Prepared by	Reviewed by	Approved by	Remarks
A	8/10/2021	Christine Mueller	Mark T/ Howard C	Steven Clark	Issued per SWTC App C.1
Signature					
B	19/11/2021	Christine Mueller	Mark T/ Howard C	Steven Clark	To include Appendix F
Signature					
C	07/12/2021	Christine Mueller	Mark T/ Howard C	Steven Clark	TfNSW review comments provided and to include Appendix G
Signature					
D	01/02/2022	Mark Trethewy & Deborah Romero	Christine Mueller/ Howard C	Steven Clark	Addressing TfNSW review comments and observations provided
Signature					
E	09/05/2022	Mark Trethewy & Deborah Romero	Howard Chemney	Steven Clark	Addressing DPE review comments and observations provided.
Signature					

## Details of Revision Amendments

### Document Control

The CPB Downer JV Project Director is responsible for ensuring that this plan is reviewed and approved. The Project Sustainability Manager is responsible for updating this plan to reflect changes to the contract and other requirements, as required.

### Amendments

Any revisions or amendments must be approved by the CPB Downer JV Project Director before being distributed / implemented.

### Revision Details

Revision	Current	Details
A		Issued per SWTC App C.1
B		To include Appendix F
C	Current	TfNSW review comments provided and to include Appendix G
D	For Review	Addressing TfNSW review comments and observations provided
E	For Review	Addressing DPE review comments and observations provided.

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## Compliance with Deed and SWTC Requirements

The Project SWTC documents set out the minimum requirements of the Project. This Sustainability Management Plan sets out the minimum client requirements as defined in Table 1, and shows where each requirement has been addressed within this Plan or the wider CPB Contractors Management System (CMS).

Table 1: Compliance with Sustainability Requirements

No	Requirement	Reference
	<a href="#">SWTC Appendix C.1 Project Plan Requirements</a>	
Table A	Sustainability Management Plan (SMP) must be submitted 40 days after date of the Deed	8 Nov 2021
Table A	The SMP must be updated and submitted annually	Due Dec 2022
Table A	The SMP must include the following sub-plans: <ul style="list-style-type: none"> <li>ISCA IS Rating Management Plan</li> <li>Energy Efficiency and GHG Emissions Strategy and Management Plan</li> </ul>	Appendix F Appendix G
13 a)	The Sustainability Management Plan must identify how the Contractor will comply with the sustainability requirements of the Deed, the SWTC and the Planning Approvals.	This Plan
13 b)	As a minimum, the Sustainability Management Plan must:	N/A
(i)	contain the contents specified for the Sustainability Management Plan in the SWTC, including this Appendix and Appendix D.5 Sustainability Requirements;	This Plan
(ii)	demonstrate how the sustainability commitments and overarching sustainability objectives and targets will be achieved;	This Plan
(iii)	detail the sustainability management team structure, including key personnel, authority and roles of key personnel, lines of responsibility and communication, minimum skill levels of each role and interfaces with the overall project organisation structure;	Section 5
(iv)	include a sustainability policy statement and associated strategies for adaptation to climate change, resource management, workforce development and biodiversity enhancement;	Appendix A
(v)	provide a description of the overall approach to the identification and assessment of sustainability opportunities;	Section 6.2
(vi)	detail the sustainability initiatives to be implemented during the performance of the Contractor's Activities and milestones for key sustainability initiatives;	Section 9 Appendix E
(vii)	detail the processes and methodologies for tracking and assigning responsibility for the identification and whole-of-life assessment of potential sustainability initiatives;	Section 6 RVTM
(viii)	detail the processes and methodologies for embedding sustainability initiatives into design, procurement and construction processes;	Section 6
(ix)	detail the processes and methodologies for assurance, monitoring auditing, corrective action and reporting on sustainability performance (including performance against sustainability targets);	Section 8
(x)	provide a description of the overall approach to the identification of opportunities to reduce carbon emissions, energy use and embodied lifecycle impacts during the Contractor's Activities;	Section 9.2
(xi)	demonstrate how the Contractor will achieve an 'As Built' Infrastructure Sustainability (IS) rating level required by Appendix D.5, for the design and construction of the Project Works and Temporary Works (including proposed contingency measures to ensure that a rating level of 'Excellent' is achieved); detail the approach to sustainable procurement including: <ul style="list-style-type: none"> <li>A. the processes and procedures that will be used to enhance the whole-of-life environmental, social and economic sustainability outcomes of the project through the supply chain (including Subcontractors);</li> </ul>	Appendix F  Section 6.5  Section 8

No	Requirement	Reference
	<p>B. the processes and evaluation criteria (specifying the environmental, social and economic criteria and weightings) that will be used for the selection of Subcontractors; and</p> <p>C. the processes and procedures for assurance, monitoring, auditing, corrective action and reporting on sustainability performance of Subcontractors;</p>	
(xiii)	provide an outline of the systems that will be used to support sustainability management;	Section 1.6 Section 6
(xiv)	detail the interfaces with other Project Plans; and	Figure 2 Table 4
(xv)	detail optional sustainability initiatives for the project in the form set out in Table D.5-1 of Appendix D.5 Sustainability Requirements.	Section Appendix E
c)	<p>The Sustainability Management Plan must describe how the Contractor will achieve the following overarching sustainability objectives:</p> <ul style="list-style-type: none"> <li>(i) demonstrate sustainability leadership and continual improvement;</li> <li>(ii) protect and enhance the natural environment and local heritage;</li> <li>(iii) contribute to liveable communities (ease congestion, connect communities, integrate land use and transport planning and facilitate urban revitalisation);</li> <li>(iv) optimise resource efficiency (materials, energy, water, land) and waste management;</li> <li>(v) increased resilience to future climate;</li> <li>(vi) design allows for future transport needs (transport modes, extensions, access points);</li> <li>(vii) sustainable procurement – whole-of-life environmental, social and economic considerations; and</li> <li>(viii) maximise equitable/fair training and employment opportunities</li> </ul>	Section 6 Appendix B
d)	The Contractor must prepare an ISC IS Rating Management Plan, included as a sub-plan of the Sustainability Management Plan, that guides the achievement of the IS Design Rating and IS As-Built Rating scores identified in Table D.5-2 contained in Appendix D.5 Sustainability Requirements. The sub-plan must detail implementation protocols including:	Appendix F
(i)	ISC IS assessment and registration process and timeframes;	Appendix F
(ii)	proposed consultation and engagement with ISC and other stakeholders;	Appendix F
(iii)	the IS rating process and requirements for the provision of documentation to ISC;	Appendix F Section 4.4
(iv)	key sustainability management roles and responsibilities;	Section 5.4 Appendix F
(v)	the Contractor's nominated sustainability targets which must be equal to or greater than the minimum targets, if stated, listed in Table D.5-2 contained in Appendix D.5 Sustainability Requirements; and	Section 4 Appendix F
(vi)	how the Contractor will achieve the nominated sustainability targets.	Appendix C
e)	The Contractor must develop and implement an Energy Efficiency and Greenhouse Gas Emissions Strategy and Management Plan, included as a sub-plan to the Sustainability Management Plan, that identifies processes and methods to:	Appendix G
(i)	improve energy efficiency; and	Appendix G
	(i) reduce greenhouse gas emissions for the construction and operational stages.	Appendix G
f)	<p>Further to the requirements of the Deed and this Appendix, the Contractor must undertake the ongoing development, amendment and updating of the Sustainability Management Plan throughout the duration of the Contractor's Activities to incorporate:</p> <ul style="list-style-type: none"> <li>(i) new elements of the Project Works and Temporary Works not covered by the existing Sustainability Management Plan changes in construction sequencing or methodology; and</li> <li>(ii) lessons learnt, improvements/enhancements in accordance with continual improvement.</li> </ul>	Section 1.4.1
	<a href="#">SWTC Appendix D.5 Sustainability Requirements</a>	
<b>1</b>	<b>General</b>	
a)	The Contractor must comply with the requirements of the Transport for NSW Environment and Sustainability Policy and address the sustainability objectives described in the Roads and Maritime Environmental Sustainability Strategy 2019-23 throughout the performance of the Contractor's Activities. The Contractor must ensure that sustainability is embedded into the design,	Section 6 Appendix B



No	Requirement	Reference
	construction, operation and maintenance of the Project to enhance the whole-of-life environmental, social, economic and sustainability outcomes.	
b)	The Contractor must propose sustainability initiative options for the Project in the form set out in Table D.5-1 and include these in the Sustainability Management Plan. Should the options be adopted by the Principal, they will be implemented as a Variation in accordance with the Deed.	Appendix E
c)	The impact, including but not limited to, whole-of-life social, environmental and economic costs and benefits, program impacts, risks and opportunities of each proposed sustainability initiative option nominated in Table D.5-1 must also be addressed in the Sustainability Management Plan required by Appendix C.1.	Appendix E
d)	The Contractor's Activities and the Project Works and Temporary Works must meet and comply with the targets identified in Table D.5-2.	Appendix C
e)	The Contractor must manage the design and construction of the Project to achieve the minimum Infrastructure Sustainability Rating (IS Rating), as defined in the Infrastructure Sustainability Council of Australia (ISCA) Technical Manual Version 1.2, with a minimum rating level of 'Excellent' for the Design and As-Built rating types for the Project as identified in Table D.5-2.	Appendix F
<b>2.</b>	<b>Sustainability Requirements</b>	
<b>2.1</b>	<b>Governance</b>	
a)	The Contractor must develop, implement and maintain governance structures, processes and systems that ensure integration of all sustainability considerations, including but not limited to vision, commitments, principles, objectives and targets, initiatives, knowledge sharing, monitoring and reporting.	This Plan
b)	The Contractor must comply with the sustainability vision and policy detailed in the Planning Approval.	This Plan
c)	A member of the Contractor's senior management team as defined in the ISCA Technical Manual Version 1.2 is to have central responsibility for managing sustainability and be responsible for achieving the IS Rating. The senior management team representative must be an 'Infrastructure Sustainability Accredited Professional' having achieved this accreditation from the ISCA.	Element 2
d)	The Contractor must appoint a sustainability representative with sufficient and relevant sustainability experience to provide sustainability advice and guide the achievement of the IS Rating, sustainability considerations (vision, commitments, principles, objectives and targets), initiatives, knowledge sharing, monitoring and reporting requirements. Sufficient and relevant experience means having provided the same or a similar role in at least one other major project. The sustainability representative must be an 'Infrastructure Sustainability Accredited Professional' having achieved this accreditation from the ISCA. The sustainability representative must be engaged full time throughout the design and construction stages of the Project.	Section 5.2
e)	The Contractor's appointed sustainability representative must work in collaboration with the Principal's Representative to facilitate ongoing sustainability reporting, knowledge sharing and continual improvement.	Section 5.2
f)	The Contractor must develop, implement and document compliance with a procedure to ensure that for significant Project issues, the Contractor's Activities considers the related whole-of-life environmental, social and economic costs and benefits across the forecast useful life of the asset	Section 5.2
g)	The Contractor must develop, implement and maintain a sustainability assurance framework to track compliance with policy, objectives, targets and requirements in accordance with the items in section 2.1 a) to section 2.1 k), as well as the sustainability requirements contained within the Deed, the SWTC (including this Appendix) and the nominated sustainability targets included in the Contractor's Sustainability Management Plan.	Section 6
h)	The Contractor must ensure a suitably qualified person is based on site during the construction stage with responsibility for managing the day-to-day activities required to execute the Sustainability Management Plan. This person must demonstrate that a minimum of 50% of their time is utilised on implementing the Sustainability Management Plan. This person may also fulfil the role of sustainability representative if desired.	Section 5.2
i)	The Contractor must ensure a sustainability reviewer is engaged to monitor and review sustainability performance. The sustainability reviewer must be an independent sustainability professional and must be a current member of the ISCA verifier panel but cannot be the ISCA appointed verifier for the Project	Element 2
j)	The Contractor must convene or participate in regular sustainability knowledge sharing workshops (to be arranged with the Principal's Representative) during the design and construction stages of the Project. The frequency of such workshops is to be agreed with the Principal's Representative and must meet the ISCA requirements.	Section 5.4 Section 6.7.1 Element 6



No	Requirement	Reference
k)	<p>Sustainability objectives, targets and requirements must be clearly articulated in the Contractor's Design Documentation and specifically addressed in:</p> <ul style="list-style-type: none"> <li>(i) design briefings for all personnel involved in the preparation of Design Documentation;</li> <li>(ii) formal sustainability knowledge sharing workshops (to be arranged with the Principal's Representative) at an agreed frequency in accordance with section 2.1 j) above and at least once during each of the design and construction stages of the Project;</li> <li>(iii) processes for the development of Design Documentation;</li> <li>(iv) procurement briefings and preparation of procurement documentation;</li> <li>(v) site inductions for all the Contractor's personnel and subcontractor personnel engaged in the Contractor's Activities; and</li> <li>(vi) design and construction project plans</li> </ul>	<p>Section 6 Section 6.7.1 Element 6</p>
<b>2.2</b>	<b>Infrastructure Sustainability Rating</b>	
a)	The Contractor must register the Project for an IS Design and As-Built Rating within 40 Business Days of the date of the Deed.	Appendix F Element 1
b)	The Contractor must review and note the weightings as developed for the Project with the ISCA. The Contractor must use the IS Rating tool Version 1.2 to demonstrate how the IS Rating score for the design and construction of the Project Works and Temporary Works (the IS As-Built Rating) will be achieved.	Appendix F Element 1
c)	The Contractor at its discretion can elect to undertake the ISCA innovation challenges using credits from Version 2.0 of the IS Rating tool to support the overall assessment under Version 1.2.	Appendix F
d)	The Contractor must use the IS Rating tool to demonstrate how the IS Rating score for the design of the Project Works and Temporary Works (IS Design Rating) will be achieved.	Appendix F Section 6
e)	<p>Within three months of the commencement of any design under this Deed, the Contractor must complete and submit via to the PDCS to the Principal's Representative the following:</p> <ul style="list-style-type: none"> <li>(i) use the IS Rating tool to calculate an updated IS Design Rating score for the design of the Project Works and Temporary Works;</li> <li>(ii) identify the key steps required to achieve each IS Credit and IS Credit Level; and</li> <li>(iii) nominate responsibility for the achievement of each IS Credit.</li> </ul>	Noted
f)	<p>Within three months of the commencement of any construction the Contractor must complete and submit via to the PDCS to the Principal's Representative the following:</p> <ul style="list-style-type: none"> <li>(i) use the IS Rating tool to calculate an interim IS As-Built Rating score for the design and construction of the Project Works and Temporary Works;</li> <li>(ii) identify the key steps required to achieve each targeted IS Credit and IS Credit Level; and</li> <li>(iii) nominate responsibility for the achievement of each IS Credit</li> </ul>	Noted
g)	The Contractor must achieve an IS Design Rating score for the design of the Project Works and Temporary Works within six months of the last Substantial Detailed Design Stage Design Documentation submission. The IS Design Rating score must be independently verified in accordance with the IS Rating process described in the IS Rating scheme, which is administered by the ISCA. The IS Design Rating score must meet or exceed the score identified in Table D.5-2	Appendix F
h)	The Contractor must submit the first-round assessment for the IS As-Built Rating of the design and construction of the Project Works and Temporary Works to ISCA within one month of the Date for Completion of the relevant Portion. The Contractor must achieve an IS As-Built Rating score for the design and construction of the Project Works and Temporary Works within six months of the Date for Completion of the relevant Portion. The IS As-Built Rating score must be independently verified in accordance with the IS Rating process described in the IS Rating scheme which is administered by the ISCA. The IS As-Built Rating score must meet or exceed the score identified in Table D.5-2.	Appendix F
i)	<p>A sustainability review must be undertaken by the sustainability reviewer engaged in accordance with the requirements of section 2.1 i).</p> <ul style="list-style-type: none"> <li>(i) The sustainability review must address the following as a minimum: <ul style="list-style-type: none"> <li>A. assess and report on progress against the Sustainability Management Plan;</li> <li>B. provide a provisional update to the interim IS Ratings submitted under sections 2.2 e)(i) and 2.2 f)(i); and</li> <li>C. identify opportunities or deficiencies to be addressed to meet the IS Rating requirement nominated in sections 2.2 g) and 2.2 h).</li> </ul> </li> <li>(ii) The minimum frequency of the sustainability reviews are to be as follows:</li> </ul>	<p>Noted</p> <p>Section 5.4 Section 8.1 Element 2</p> <p>As above</p>

No	Requirement	Reference
	<p>A. two audits in the design stage; and</p> <p>B. a minimum frequency of one audit per year during the construction stage; and</p>	
	(iii) The sustainability reviewer's report must be submitted to the Principal's Representative within two weeks of the completion of the sustainability review. As a minimum, the sustainability reviewer's report must address and document the requirements as detailed in section 2.2 i)(i).	Section 8.1
j)	The Contractor must also achieve the sustainability requirements in Table D.5-2.	Appendix C
<b>2.3</b>	<b>Climate Change</b>	
a)	The Contractor must undertake a climate change risk assessment for the construction and operational stage of the Project in accordance with AS 5334-2013 Climate change adaptation for settlements and infrastructure - A risk-based approach.	Appendix G
b)	The Contractor must identify and implement adaptation measures to comprehensively address, as a minimum, 'extreme' and 'high' rated risks identified in the climate change risk assessment.	Section 6.2, Element 3, App G
<b>2.4</b>	<b>Energy and Carbon</b>	
a)	The Contractor must demonstrate that opportunities to maximise operational energy efficiency of the Works have been identified, analysed and implemented where feasible. Whole-of-life costs and benefits must be estimated for each opportunity identified.	Section 6.2 Appendix C, E, G
b)	The Contractor must demonstrate that opportunities to maximise construction energy efficiency during the Works have been identified, analysed and implemented where feasible.	Section 6.2, Appendix C, E, G
c)	The Contractor must demonstrate that opportunities to use renewable energy or lower carbon energy during the construction and operational stages of the Works have been fully investigated. Whole-of-life costs and benefits must be estimated for each opportunity identified.	Section 9 Appendix C, E
d)	The Contractor must ensure that all non-road diesel plant and equipment complies with the European Union or United States Environmental Protection Agency air emission standards as a minimum.	Appendix G
e)	The Contractor must undertake a greenhouse gas assessment to estimate construction and operational emissions and demonstrate that opportunities to minimise emissions during the construction and operational stages have been identified, analysed and adopted. These must be undertaken in accordance with the 'Greenhouse Gas Assessment Workbook for Road Projects, Transport Authorities Greenhouse Group' for at least scope 1 and 2 emissions.	Section 4.5 Appendix G
f)	The Contractor must monitor, record and report energy use and greenhouse gas emissions (at least scope 1 and 2 emissions) during the construction stage.	Appendix F, G
g)	At the Date of Completion of the relevant Portion, the Contractor must update the greenhouse gas assessment (for at least scope 1 and 2 emissions) for the operation of the Project Works based on the As-Built Project Works.	Appendix F, G
h)	The Contractor must propose and analyse road designs to minimise energy consumed by vehicles using the Project Works and implement these where feasible.	Appendix E, G
<b>2.5</b>	<b>Materials and Waste</b>	
a)	The Contractor must demonstrate that opportunities to reduce materials used during construction have been identified, analysed and implemented where feasible. Whole-of-life costs and benefits must be estimated for each opportunity identified.	Section 9.2.3
b)	The Contractor must demonstrate that opportunities to use materials with low embodied environmental impact (e.g., recycled content, reduced embodied emissions) during construction and maintenance have been identified, analysed and implemented where feasible. Whole-of-life costs and benefits must be estimated for each opportunity identified.	Section 6.5 Element 5
c)	<p>The Contractor must source all timber products used in the Project from either reused timber, recycled timber, or from timber sustainably managed forests that have obtained Forest Management Certification (FMC), prioritised in this order. Acceptable FMC schemes include the:</p> <ul style="list-style-type: none"> <li>(i) Programme for the Endorsement of Forest Certification;</li> <li>(ii) Forest Stewardship Council; and</li> <li>(iii) Australian Forest Certification Scheme.</li> </ul>	Section 9.2 Element 5 Appendix C
d)	Forest management certificate/s must be obtained by the Contractor and must be available for review by the Principal's Representative on request.	Section 6.5, 9.2.3, App C

No	Requirement	Reference
e)	The Contractor must demonstrate that opportunities for the beneficial reuse of useable spoil excavated during construction and other materials have been identified, analysed and implemented where feasible.	Section 9.2.4 Appendix B & C
f)	The Contractor must demonstrate that opportunities have been fully investigated and, wherever feasible, implemented to: <ul style="list-style-type: none"> <li>(i) minimise waste generation;</li> <li>(ii) maximise waste segregation and storage for different waste streams; and</li> <li>(iii) maximise waste reuse; recycling; and landfill diversion.</li> </ul>	Section 9.2.4 Waste and Resource Management Plan (WRMP)
g)	The Contractor must negotiate and implement packaging take-back arrangements with suppliers where suppliers will reuse and recycle packaging materials.	Section 6.5 Section 7
h)	The Contractor must monitor, record and report on, in accordance with Appendix C.2, the following: <ul style="list-style-type: none"> <li>(i) quantities of materials used (for each material type) during the construction stage;</li> <li>(ii) quantities of waste beneficially reused (for each waste material type, e.g., spoil, timber) during the construction stage, including where waste is beneficially reused on other projects;</li> <li>(iii) quantities of waste recycled (for each waste material type, e.g., steel) during the construction stage; and</li> <li>(iv) quantities of waste unable to be recycled or beneficially reused for each waste material type during the construction stage.</li> </ul>	Section 7 WRMP
<b>2.6</b>	<b>Water Efficiency</b>	
a)	The Contractor must undertake and report on, in accordance with Appendix C.2, a water balance study to estimate the quantities of potable and non-potable water uses, volumes, sources that would be used and generated during the construction and operational stages of the Project.	Section 7
b)	The Contractor must demonstrate that opportunities to reduce total water use against an established baseline (in particular potable water use) and reuse water (for example rainwater, stormwater and wastewater) during the construction and operational stages have been identified, analysed and implemented where feasible. Whole-of-life costs and benefits must be estimated for each opportunity identified.	Appendix C Appendix E
c)	The Contractor must monitor, record and report on, in accordance with Appendix C.2, the following during the construction stage: <ul style="list-style-type: none"> <li>(i) quantities of water use (potable and non-potable); and</li> <li>(ii) quantities of water reuse, treatment and harvesting.</li> </ul>	Section 7
d)	The Contractor must document in the relevant Design Documentation, estimates of the quantities of the following items that will be used during the operational stage of the Project: <ul style="list-style-type: none"> <li>(i) water use (potable and non-potable); and</li> <li>(ii) water reuse, treatment and harvesting.</li> </ul>	Design Reports
Table D5-1	Sustainability Initiative Options	Appendix E
Table D5-2	Sustainability Requirements ( <i>note: 26 minimum and contractor nominated targets</i> )	Appendix C
	<a href="#">Ministers Conditions of Approval, 21<sup>st</sup> Jan 2021</a>	
E125	A Sustainability Strategy must be prepared to achieve a minimum “Excellent” ‘Design’ and ‘As built’ rating under the Infrastructure Sustainability Council of Australia infrastructure rating tool.	Appendix F
E126	The Sustainability Strategy must be submitted to the Planning Secretary for information before the commencement of construction and must be implemented throughout construction and operation.	Appendix F
E127	Note: Water Reuse Strategy (will be a separate document)	Section 9.3
	<a href="#">Revised Environmental Mitigation Measures (REMMs)</a>	
SU1	Project sustainability objectives and targets will be finalised during further WHT/WFU design development, informed by the requirements of the project planning approval.	Section 4, Appendix A, Appendix B
SU2	Activities to implement the sustainability framework, including requirements from the Infrastructure Sustainability rating scheme, will be implemented through a Sustainability Management Plan. The management plan will detail measures to meet the sustainability objectives and targets as well as	Section 4.3 & 9

No	Requirement	Reference
	achieving 'Design' and 'As Built' ratings of Excellent under the Infrastructure Sustainability Council of Australia rating scheme (Version 1.2).	Part B Elements & Expectations, Elements 1 to 8 Appendix B  Appendix C Appendix F, Section 6, Table 21 Appendix E Appendix G, Section 6.2
	<b>SWTC Main Body</b>	
4.8 a) b)	<b>Sustainability</b> The Contractor must comply with the requirements for sustainability set out in Appendix D.5. In order to achieve the ratings referred to in Appendix D.5 Sustainability Requirements the Contractor must: (i) register with the Infrastructure Sustainability Council of Australia for the purposes of obtaining a rating; (ii) cooperate and liaise with the Infrastructure Sustainability Council of Australia as required; and (iii) provide any documentation required by the Infrastructure Sustainability Council of Australia	Appendix F
	<b>WFU Deed Schedule – A06</b>	
12 (a)	<b>Sustainability Manager</b> The Sustainability Manager must: (i) possess a recognised qualification relevant to the position and the Contractor's Activities and have recent relevant experience in sustainability management on projects similar to the Project Works and Temporary Works; (ii) have at least 5 years' sustainability management experience unless otherwise approved by the Principal, with previous experience in the provision of sustainability advice on the design and construction engineering; (iii) be available as the Principal's Representative's primary contact with the Contractors on sustainability matters; (iv) be responsible for a sustainability induction and induction program for all personnel involved in the performance of the Contractor's Activities; (v) Be responsible for and have the authority to develop and implement the Sustainability Plan; and (vi) be engaged full-time during the execution of the Contractor's Activities and be full-time on or around the Construction Site during the construction phase of the Project Works and Temporary Works with responsibilities limited to sustainability management of the Contractor's Activities.	Section 5.2
	<b>SWTC Schedule C1</b>	
e)	Environmental and sustainability management must be taken into account in all aspects of the Contractor's Activities. The Contractor must address the following in the development and production of the Design Documentation:	This Plan
	(i) environmental and sustainability management during construction; (ii) environmental and sustainability management during operation; (iii) environmental and sustainability management during maintenance; and (iv) environmental and sustainability management during decommissioning.	Section 6
4.8	<b>Sustainability</b>	
	a) The Contractor must comply with the requirements for sustainability set out in Appendix D.5. b) In order to achieve the ratings referred to in Appendix D.5 Sustainability Requirements the Contractor must: (i) register with the Infrastructure Sustainability Council of Australia for the purposes of obtaining a rating; (ii) cooperate and liaise with the Infrastructure Sustainability Council of Australia as required; and	Appendix F

No	Requirement	Reference
	(iii) provide any documentation required by the Infrastructure Sustainability Council.	
	<a href="#">SWTC Appendix C.2 Contractor Documentation Schedule</a>	
Table C.2-1	Submit Annually a Sustainability Report, within five Business Days of 31 August each calendar year. Reporting period: For a period of one year from 1 September until the following 31 August each year.	Section 7
1.7	Annual Sustainability Reports: The report must demonstrate and detail performance in sustainability in relation to the Sustainability Management Plan and include progress against sustainability goals and targets over the last year including annual sustainability reporting metrics in line with the NSW Government Resource Efficiency Policy (2019).	Section 7
1.2	Submit Monthly Progress Report to Principal's Representative and the Independent Certifier within five Business Days after the end of each calendar month, which addresses and details sustainability.	Section 7
<b>1.2.6</b>	<b>Sustainability</b>	
a)	The sustainability section of the monthly progress report must, as a minimum, address and detail:	
	<ul style="list-style-type: none"> <li>(i) the performance of the Contractor against the targets identified in the Sustainability Management Plan. This must be summarised within a compliance table and a dashboard showing the status of compliance with the sustainability requirements and specified targets of the Contractor's Activities;</li> <li>(ii) progress towards achieving the "Design" and "As Built" Infrastructure Sustainability Council of Australia (ISCA) IS rating tool v1.2, including completed and updated checklists and scorecards;</li> <li>(iii) data to support reporting on targets, and a commentary / analysis of trends including actions to be undertaken to improve performance, for the following: <ul style="list-style-type: none"> <li>A. greenhouse gas emissions throughout construction in accordance with the requirements of TfNSW's Carbon Estimate and Reporting Tool;</li> <li>B. current and accumulative level of energy use and greenhouse gas emissions and performance against the target identified in the energy and carbon management section of the Sustainability Management Plan;</li> <li>C. electricity consumption and generation, including any on-site renewable energy generation, renewable energy sources and offsets for the Contractor's Activities, and performance against the targets in the Sustainability Management Plan;</li> <li>D. fuel consumption and performance against fuel consumption targets;</li> <li>E. volume and percentage of potable and non-potable water consumed for the Contractor's Activities, and performance against targets;</li> <li>F. quantities of waste generated, recycled, beneficially re-used or disposed of and performance against waste targets, including spoil targets;</li> <li>G. volume weighted average of substitute cementitious content in concrete used for the Contractor's Activities, and the substitute materials specified and categorised;</li> <li>H. details of sustainable training and inductions provided to major Subcontractors and suppliers including sustainable procurement;</li> <li>I. details where low carbon and greenhouse gas reduction initiatives have been implemented in the design and construction of the Project Works and Temporary Works;</li> <li>J. climate change risk assessments undertaken and details of where the assessments have influenced the design and construction for the Project Works and Temporary works;</li> <li>K. life cycle assessments undertaken, and details of environmental impact reduction initiatives which have been implemented in the design and construction of the Project Works and Temporary Works; and</li> <li>L. details of any innovative sustainable design initiatives.</li> </ul> </li> </ul>	Section 7 Appendix G
<b>3.4.1</b>	<b>Design Package Design Reports</b>	
c)	The design reports must identify, demonstrate and address the following general requirements: <ul style="list-style-type: none"> <li>(a) sustainability in design demonstration, including how the sustainability requirements have been addressed;</li> </ul>	Section 6.4 Element 4
	<a href="#">TfNSW SPECIFICATION D&amp;C G36 Environmental Protection</a>	
<b>4.11</b>	<b>Waste Management and Resource Recovery</b>	
4.11.1	Waste and Resource Management Sub-Plan	CEMP subplan
<b>4.11.5</b>	<b>Greenhouse Gas Emission Reductions</b>	

No	Requirement	Reference
	<p>In accordance with the requirements of REMM GHG1-GHG2, implement a procurement strategy developed for the construction phase will demonstrate value for money and that it has considered opportunities to procure goods and services:</p> <ul style="list-style-type: none"> <li>(a) From local suppliers</li> <li>(b) That are energy efficient or have low embodied energy</li> <li>(c) That minimise the generation of waste</li> <li>(d) That make use of recycled materials.</li> </ul>	<p>Section 9 Appendix A Appendix G</p>
F1	<p><b>ANNUAL WASTE AVOIDANCE AND RESOURCE RECOVERY REPORT</b></p> <p>Materials:</p> <ul style="list-style-type: none"> <li>• Aggregates</li> <li>• Asphalt</li> <li>• Building and demolition materials</li> <li>• Concrete</li> <li>• Fill</li> <li>• Glass</li> <li>• Steel</li> <li>• Non-ferrous metal</li> <li>• Timber</li> <li>• Vegetation</li> <li>• Virgin excavated natural material (VENM)</li> <li>• Other materials</li> </ul>	WRMP
	<a href="#">SWTC Appendix B.17 Lighting</a>	
b)	<p>Lighting infrastructure required for interfacing, modification and coordinating with urban design, ITS infrastructure and electrical infrastructure is set out in:</p> <ul style="list-style-type: none"> <li>(i) SWTC Appendix B.11 Urban Design;</li> <li>(ii) SWTC Appendix B.16 Intelligent Transport Systems; and</li> <li>(iii) SWTC Appendix D.5 Sustainability Requirements.</li> </ul>	Lighting, Urban Design, Mechanical & Electrical Package
	<a href="#">SWTC Appendix B.7 Drainage</a>	
1 e)	<p>The Contractor is not required to design the Project Works to account for the effects of climate change unless climate change adaptation measures have been identified for 'extreme' and 'high' rated risks in the risk assessment required by section 2.3 of Appendix D.5. Notwithstanding, the Design Documentation must include an assessment of the impacts on flood levels, flow velocities, afflux levels and tunnel flood immunities for the five climate change scenarios identified in Table B.7-1.</p>	<p>Drainage Design Package</p> <p>RVTM</p>



## Abbreviations and definitions

Refer also to WFU Deed, and specific SWTCs, (Scope of Works Technical Criteria).

Table 2: Abbreviations and definitions

Key Term / Abbreviation	Definition
BAU	Business As Usual
CAP	Climate Adaptation Plan
CCRA	Climate Change Risk Assessment
CIR	Credit Interpretation Request – <i>as submitted to ISC</i>
CMS	CPB Contractors Management System – <i>the PMS is the project specific version</i>
CoA	Ministers Conditions of Approval, 21 <sup>st</sup> Jan 2021 (CSSI)
CPB Downer JV	CPB Contractors Downer EDI Works Joint Venture
CPTED	Crime Prevention Through Environmental Design
Deed	WFU Deed Incentivised Target Cost Contract No: TfNSW 20.00003001755.1100
DPIE	NSW Department of Planning, Industry and Environment
EIS	Environmental Impact Statement, <i>in reference to WHT and WFU EIS, Jan 2020</i>
EMS	Environmental Management System
ENM	Excavated Natural Material, as per the <i>Excavated Natural Material Exemption 2014</i>
EPD	Environmental Product Declaration
FSC	Forest Stewardship Council
GHG	Greenhouse Gas
GREP	NSW Government Resource Efficiency Policy
iPKL	Interactive Project Knowledge Library - <i>CPB Contractor's knowledge sharing hub</i>
IS	Infrastructure Sustainability - <i>in reference to the ISC IS rating scheme</i>
ISAP	Infrastructure Sustainability Accredited Professional
ISC	Infrastructure Sustainability Council - <i>previously known as ISCA (A= Australia)</i>
ISP	Independent Sustainability Professional
LCA	Life Cycle Assessment
MCA	Multi-criteria Analysis
NGER	National Greenhouse and Energy Reporting - <i>annual corporate reporting under NGER Act</i>
PEFC	Programme for the Endorsement of Forest Certification
PRR	Principal Risk Register
RFT	Request for Tender
RVTM	Requirements Verification Traceability Matrix – <i>in the Systems Engineering MP (SEMP)</i>
SCM	Supplementary Cementitious Materials (i.e. fly ash or slag)
SDG	United Nations Sustainable Development Goals
SME	Subject Matter Expert
SMP	Sustainability Management Plan
SMS	CPB Contractors Sustainability Management System
SLT	Senior Leadership Team
TC	Technical Clarification – <i>as submitted to ISC</i>
tCO <sub>2</sub> e	Tonnes of carbon dioxide equivalent, which is a measure that allows you to compare the emissions of other greenhouse gases relative to one unit of CO <sub>2</sub>
TfNSW	Transport for NSW (the Principal)
UDLP	Urban Design and Landscape Plan
WFU	Warringah Freeway Upgrade - <i>part of Western Harbour Tunnel &amp; Beaches Link Program</i>
WHTBL	Western Harbour Tunnel and Beaches Link
WoL	Whole of Life



# Part A

## 1. Introduction

The WFU is a crucial upgrade to the Warringah Freeway to integrate the new motorway infrastructure with the existing road network and to enable the future connection of the Beaches Link and Gore Hill Freeway Connection. It is identified as a priority initiative under Infrastructure Australia's Australian Infrastructure Plan: The Infrastructure Priority List (Infrastructure Australia, 2018) for its importance in addressing urban congestion on Sydney's road network and providing cross-harbour connectivity. The CPB Contractors, Downer Joint Venture (CPB Downer JV) will deliver the Project in partnership with Transport for NSW (TfNSW).

### 1.1 Plan Structure

This Sustainability Management Plan outlines how the CPB Downer JV will deliver on its sustainability commitments through the application of the CPB Contractors Sustainability Management System (SMS). It outlines the approach for identifying sustainability risks (risks and opportunities); determining the project sustainability deliverables; mapping a pathway to achieving these; and measuring and reporting on progress.

The SMS will be supported by procedures and tools within the CPB Management System (CMS) which align to and are certified under:

- ISO 14001: Environmental Management;
- ISO9001: Quality Management;
- AS/NZS 4801: OHSMS Specification with Guidance for use; and
- AS/NZS 4804: OHSMS guidelines on principles, systems and support procedures.

This Plan is based on four parts which outline our approach to managing sustainability on the Project.

Table 3: Sustainability Management Plan Structure

<b>Part A:</b>	<b>Introduction</b> <ul style="list-style-type: none"> <li>▪ Plan Structure</li> <li>▪ Project Description</li> <li>▪ Purpose of the Plan</li> <li>▪ Interface with other Plans</li> <li>▪ Sustainability Management System</li> </ul>
	<b>Sustainability Approach</b> <ul style="list-style-type: none"> <li>▪ Sustainability Context</li> <li>▪ Significant Sustainability Issues</li> <li>▪ Sustainability Policy, Objective and Targets</li> <li>▪ Management and Accountability</li> <li>▪ Integrating Sustainability</li> <li>▪ Sustainability and Information Management</li> <li>▪ Evaluation and Improvement</li> <li>▪ Key Sustainability Initiatives</li> </ul>
	<b>Key Sustainability Initiatives</b> <ul style="list-style-type: none"> <li>▪ Climate Change</li> <li>▪ Energy Efficiency and Greenhouse Gas Emission Strategy</li> <li>▪ Water Efficiency</li> <li>▪ Environmental Management Systems</li> <li>▪ Heritage Management</li> <li>▪ Urban Design and Landscape</li> <li>▪ Social Sustainability</li> </ul>

<b>Part B:</b>	<b>Summary of the Sustainability Management Elements</b> <ul style="list-style-type: none"> <li>▪ Expectations</li> <li>▪ Actions</li> <li>▪ Responsibilities</li> <li>▪ Deliverables</li> </ul>
<b>Part C:</b>	<b>Appendices</b> <ul style="list-style-type: none"> <li>▪ Sustainability Policy</li> <li>▪ Sustainable Procurement Policy</li> <li>▪ Mapping Objectives, Targets and Commitments</li> <li>▪ Sustainability Responsibilities Matrix</li> <li>▪ Achieving Sustainability Targets</li> <li>▪ Sustainability Initiatives Register</li> </ul>
<b>Part D:</b>	<b>Sub-plans</b> <ul style="list-style-type: none"> <li>▪ IS Management Plan</li> <li>▪ Energy Efficiency and Greenhouse Gas Emissions Strategy</li> </ul>

## 1.2 Project Description

Warringah Freeway Upgrade is a critical component to the Western Harbour Tunnel and Beaches Link (WHTBL) Program. It will enable the connection of the new WHTBL motorways into the existing motorway network, ensuring the WHTBL Program delivers its connectivity and safety benefits for public transport, freight and private vehicle customers, while improving the journey experience for existing Warringah Freeway users.

The program of works is designed to boost transport capacity around the Harbour CBD and improve connectivity to and from the Northern Beaches – two areas of importance to Greater Sydney’s future as a liveable, productive and sustainable global city. Once complete, the upgraded corridor will optimise demand across Sydney Harbour Tunnel, Sydney Harbour Bridge and Western Harbour Tunnel, enabling each to perform its intended function.

The Warringah Freeway Upgrade consists of surface road upgrades, structural works and ancillary works of an approximate four-kilometre section of the freeway corridor. The upgrade is focused on the simplification of traffic flows and wayfinding, as well as enabling works for the new WHTBL.

### 1.2.1 Project scope

CPB Downer JV’s Tender Design delivers the scope of works to meet the Deed and SWTC requirements to achieve TfNSW’s Project objectives and outcomes during construction and operation.

The Project scope broadly includes:

- Surface road upgrade works between the northern end of the Sydney Harbour Bridge at Milsons Point and the Willoughby Road interchange at Naremburn, including:
  - Surface works required to provide efficient connections to the existing Sydney Harbour Bridge, Sydney Harbour Tunnel and Gore Hill Freeway
  - All surface works required to enable the future connections of the Western Harbour Tunnel and Beaches Link projects
  - Interchange works at Miller Street interchange, Ernest Street interchange, Falcon Street interchange, Mount Street interchange and High Street interchange
  - Other surface works include widening and amendments to the Falcon Street and Miller Street intersection and carriageway and intersection amendments to the Pacific Highway between High Street and Denison Street
- Structural works, including:
  - Widening of the High Street bridge (as part of the High Street interchange upgrade)
  - Modification and minor widening of the Mount Street bridge

- A new underpass beneath Mount Street for the Cahill Expressway to accommodate the new dedicated southbound bus lane
- A new bridge structure as part of the Alfred Street North off ramp from the Warringah Freeway, spanning the new dedicated southbound bus lane and connecting the southbound carriageways of the Warringah Freeway to the Cahill Expressway and High Street
- Modification and minor widening of the Falcon Street bridge (as part of the Falcon Street interchange upgrade)
- Modification of the Ernest Street bridge to allow for relocated utilities and a future active transport link
- A new underpass beneath Ernest Street as part of a dedicated southbound bus lane and the new Warringah Freeway connection from the Beaches Link
- A new grade separated viaduct to connect Brook Street/Miller Street with the Warringah Freeway, spanning the new dedicated southbound bus lane
- Replacement of the Ridge Street shared user bridge, spanning the Warringah Freeway
- Replacement of the Falcon Street shared user bridge, spanning the Warringah Freeway.
- Three tunnel approaches/exit structures and cut and cover structures
- Retaining walls, cut widenings, noise walls and supports and large structural gantries
- Other ancillary works including:
  - Intelligent transport systems works
  - Bus layover facilities and other bus priority infrastructure
  - Pavement works including all resurfacing works
  - Infrastructure associated with drainage channels and systems, stormwater treatment
  - Active transport infrastructure
  - New service utilities, and modifications and connections to existing service utilities
  - Lighting
  - Traffic Control
  - Signage (directional and regulatory), safety barriers and line marking
  - Other minor adjustments to local roads in the vicinity of the Project.

CPB Downer JV has sought opportunities to improve safety and performance outcomes within the Reference Design and investigate value for money alternatives and opportunities to improve constructability and reduce impacts to traffic flow.

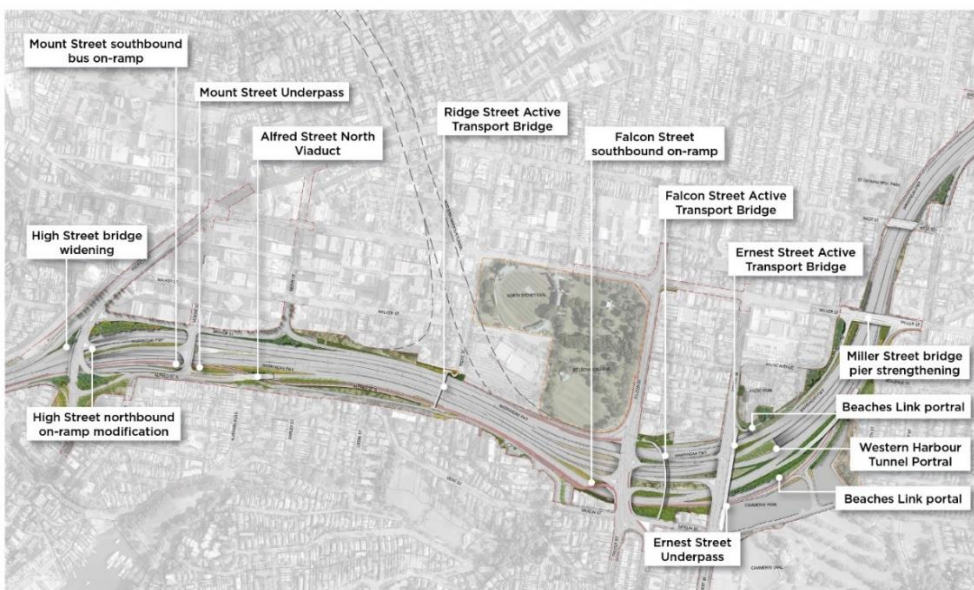


Figure 1: Warringah Freeway Upgrade Project Scope

## 1.3 Purpose

CPB Contractors and Downer EDI Works (CPB Downer JV) have been contracted by Transport for NSW (TfNSW, the client) to design and construct the Warringah Freeway Upgrade (the Project). The WFU project extents are shown in Figure 1, and a detailed overview of the scope of work covered by the Contract is described in the Project Management Plan (PMP).

The SMP has been prepared to be applicable through the life of the project and in accordance with the obligations under the Deed, SWTC and Planning Approval.

The SMP provides the overarching governance framework for addressing sustainability requirements during project delivery.

Implementation of the SMP will:

- Identify the WFU sustainability obligations, hazards and risks associated with the works
- Fulfill the Client's sustainability requirements as defined in the Contract
- Integrate sustainability considerations throughout the design, construction and operation of the WFU
- Identify, assess and implement initiatives to achieve sustainability outcomes
- Reduce environmental and social impacts and improve resilience to climate change
- Meet the requirement to achieve an 'Excellent' Rating, with a minimum score of 60/100 and a targeted score of 68/100 or greater, under the IS Design Rating' and the 'IS As-Built Rating', and
- Quantify costs and benefits associated with sustainability initiatives and ratings.

## 1.4 Plan Requirements

This Plan has been prepared in accordance with:

- SWTC Appendix D.5 Sustainability Requirements
- SWTC Appendix C.1 Project Plan Requirements
- Infrastructure Sustainability (IS) Rating Tool v1.2

The Plan also addresses other references to sustainability within the Deed, including: SWTC Schedule C1; SWTC Appendix C.2 Contractor Documentation Schedule; SWTC Main Body; Ministers Conditions of Approval; TfNSW Specification D&C G36 and the SWTC Appendix B.17 Lighting and SWTC Appendix B.7 Drainage.

### 1.4.1 Plan Revisions

This SMP will be submitted to TfNSW:

- within 40 Business Days after the date of the Deed
- Annually following SMP review and update

The SMP will be updated as necessary to reflect changes to scope of works, where these activities are not covered by this SMP.

### 1.4.2 Plan approval and distribution

The SMP is authorised for implementation by the CPB Downer JV Sustainability Manager.

## 1.5 Interface with other Plans

The Project Management Plan provides an overview of the Project and its overarching management systems. Supporting Project plans are focused on implementation activities and responsibilities. This Plan forms part of the PMP which details how CPB Downer JV will provide an integrated design management framework that details the procedures, processes and systems to manage the design in accordance with the Deed and the SWTC. Figure 2 shows the Project Plan hierarchy and interface with other plans.

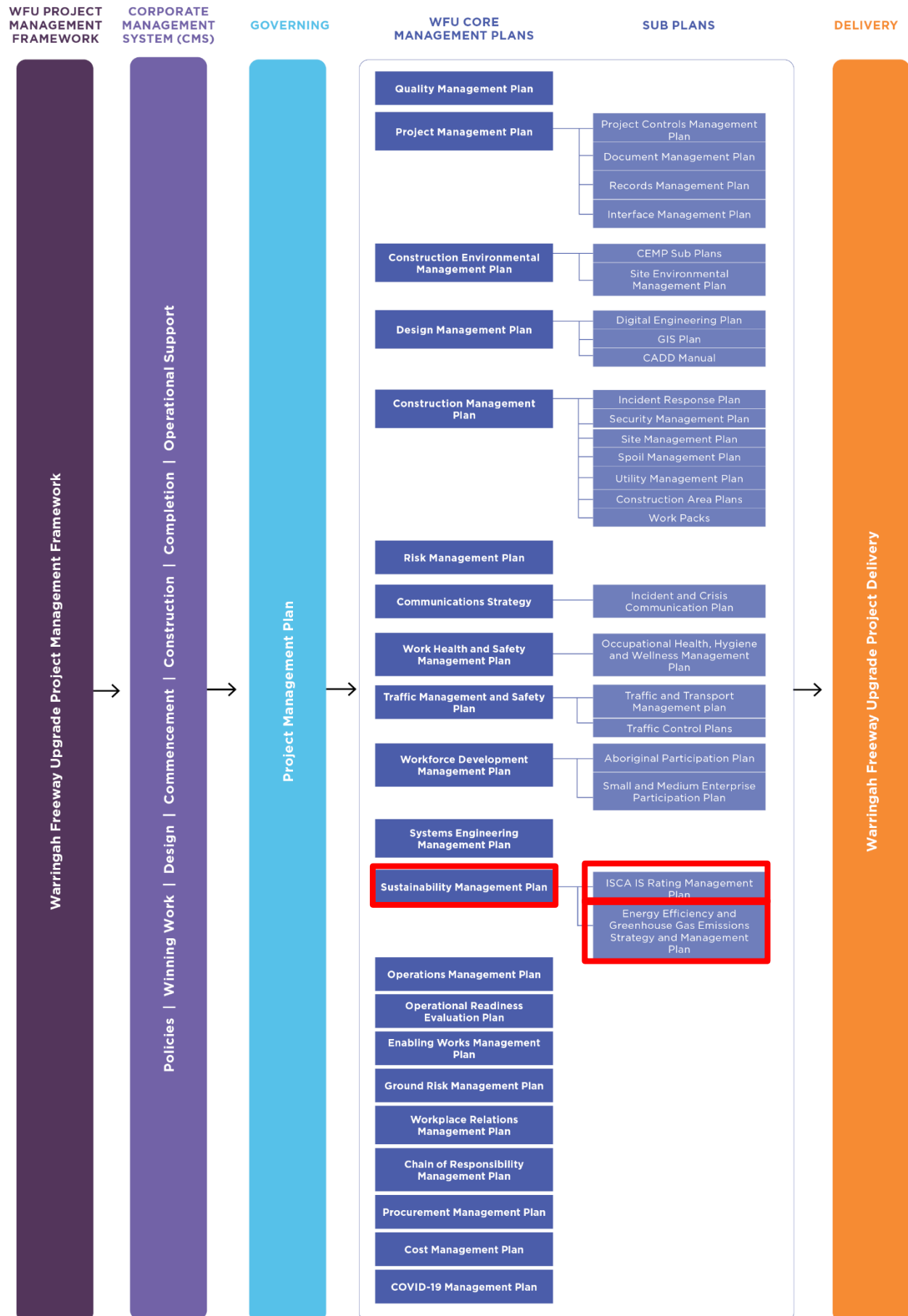


Figure 2: Warringah Freeway Upgrade Project Plans



In addition to the Project Management Plan, other Project Plans that interface with the Sustainability Management Plan include the following.

Table 4: Interface with other Management Plans

Management Plan	Relevance to Sustainability
Construction Management Plan	Optimises construction sequence, staging, methodology and resourcing with flow on materials reduction and program improvements. Includes a Spoil Management Plan which optimising excavation, spoil haulage and beneficial reuse. Includes strategies to avoid, reduce, reuse and recycle waste generation.
Design Management Plan	Describes how sustainability is incorporated into the design development, review and tracking processes to improve whole of life outcomes. Lifecycle Assessment tools will be used to inform decision-making, in the consideration of options, design change and alternatives. Sustainability targets will be tracked throughout the design packages and initiatives identified and adopted that provide value for money, material, energy or water savings, or reduced impact.
Risk Management Plan	Defines the risk management system for capturing, assessing, tracking and reviewing all environmental, social and economic risks and opportunities.
Procurement Management Plan	Supports the process for sustainable decision-making in selection and management of the supply chain and social procurement initiatives. Its details our procurement policy, supplier and subcontractor identification and selection processes, tender evaluation, contract management and reporting expectations, including supplier training, rewards and recognition.
Construction Environmental Management Plan	Includes systems, policies, procedures and targets relating to discharges to air, land and water, pollution prevention, resource and waste management, noise and vibration management, management of topsoil, contaminants, ecology and heritage, environmental risks and environmental auditing.
Communication Action Plan (CAP) and Communications and Stakeholder Engagement Plan (CSEP)	Ensures a stakeholder engagement strategy is implemented, communications are measured, and priority issues for community health and wellbeing are established. It identifies and influences project 'negotiables', integration of urban design principles and wayfinding. Note: The CSEP is the TfNSW plan which informs the CPB Downer JV CAP.
Workforce Development Management Plan	Addresses skills gaps, resource planning and talent management. It ensures an employee culture and wellbeing programs, diversity and inclusion initiatives, and knowledge sharing through our workforce engagement processes are embedded across the WFU project. It defines the workforce participation targets and support indigenous and SME engagement as part of the projects social sustainability commitments.
Systems Engineering Management Plan	Defines the systems and processes for design integration across asset life cycle and the requirements management, analysis, accountability, verification analysis and traceability (RVTM). The RVTM sustainability requirements facilitates the review of materials and potential impacts on the environment, including sustainability analysis of the constructability, operability and decommissioning stages of the Project.
Quality Management Plan	References the sustainability governance process, IS Rating, sustainability review and auditing program.

## 1.6 Sustainability Management System

WFU sustainability governance is guided by the project level CMS (PMS) and the CPB SMS, with sustainability processes and performance outcomes evidenced through the projects IS rating submission.

Figure 3 shows how project governance aligns the project and sustainability management systems stages of delivery with the IS Rating process, which together form the Project's sustainability governance framework.

Downer's Integrated Management System (IMS), which is certified to ISO 14001 will be used to support CPB's CMS where better practice is identified during the development of the SMP and supplemented by outcomes from Downer's monthly knowledge share sessions attended by CPB Downer JV's Sustainability Manager. Downer's sustainability assurance system will be fully integrated into the Project's overall design assurance system. The assurance system will incorporate all requirements derived from the WFU Project Deed, ISC and outcomes of workshops. Implementation of this system requires our design team to respond to each requirement before proceeding to the relevant design gate.

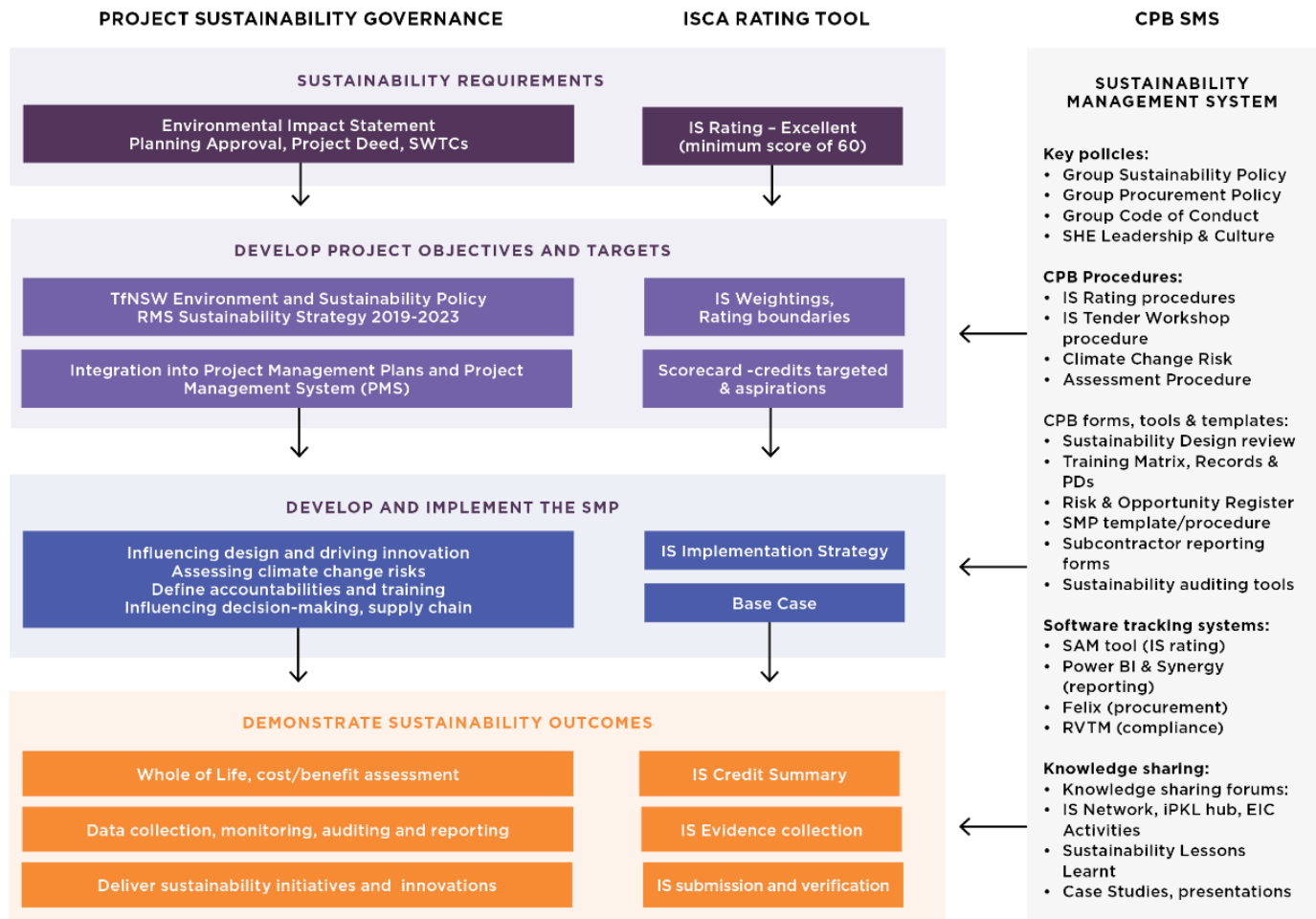


Figure 3: Sustainability Governance

The CPB Downer JV will use CPB's SMS which has been refined since its first IS rating in 2012. With experience and learnings from 18 certified ratings to date, the SMS has been progressively aligned to IS credit requirements and integrated into the broader CPB management systems. This means corporate policies, procedures, tools, forms, templates and software have been developed or modified to ensure they support sustainability outcomes.

This ensures that our project teams have a clear understanding of their roles and responsibilities, but also ensures that our sustainability teams is focused on driving sustainability outcomes rather losing valuable time to the integration of sustainability into project management systems and processes.

Part B of this SMP defines the sustainability system requirements though 'Elements' as used across our key Management Plans to align with the management system processes of ISO 9000 and ISO 14001, ensuring a process of continuous improvement across project delivery.



# Part B

## 2 Sustainability Context

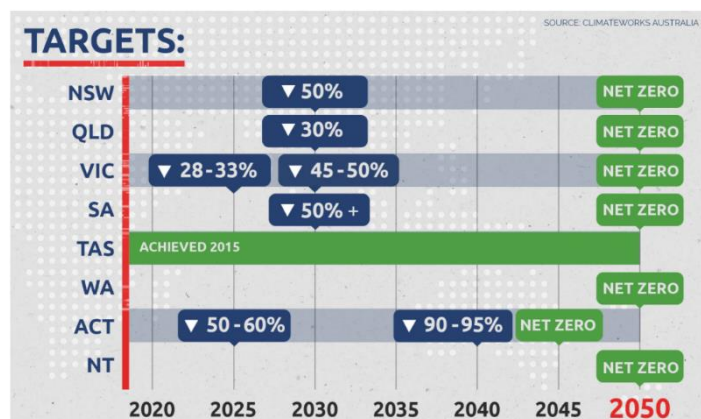
### 2.1 Project Context

Underpinning the effectiveness of our governance framework is our understanding of the projects impacts, risk and opportunities. The Warringah Freeway Upgrade project presents a number of sustainability challenges and opportunities. The upgrade of this 4km stretch of the most complex road network in Australia, is in a live traffic environment, with logistical challenges, program and site constraints. While design has been well progressed by TfNSW, the CPB Downer JV have identified significant initiatives that improve design, construction management and operational performance with flow on- project benefits with respect to improved safety, as well as energy and material lifecycle reductions.

We recognise the importance TfNSW places on asset durability and the whole of life (WoL) approach particularly where traffic disruption for operational and maintenance activities will be significant and potentially hazardous. We also recognise there are also some limitations within TfNSW Specifications in the use of recycled materials and pavement technologies, including pavement depth restrictions due to road bridge heights and roadway tie ins. Project also has locational site constraints in terms of onsite storage of materials, site access restrictions, assembly and parking, and will favour more offsite prefabrication, bring sharp focus on logistics management, trip optimisation, driving fuel efficiency, avoid waste generation and maximising spoil reuse.

### 2.2 Climate Change

The impact of climate change is the most significant sustainability issues, we are facing globally, nationally and locally. The recent IPCC (AR6) report released in Aug 2021, states that human influence warming of the atmosphere, ocean and land is unequivocal. We are set to pass 1.5 degrees warming by 2040, and we are closer to an irreversible tipping point. Based on the most optimistic scenario (SSP1.9) if we reach carbon neutrality by 2050 with suitable interim targets, we can limit warming to 1.5 degrees by 2040 and 1.4 degrees by 2100. However, the middle of the road scenario (SSP2 4.5) we will see a 2.7 degree rise by 2100. Ahead of Glasgow Cop26, Australia has committed to carbon neutrality by 2050. The NSW Government has committed to a 50% reduction in greenhouse gas emissions below 2005 levels by 2030 as part of the Net Zero: Stage 1 Implementation Update.



### 2.3 Sustainable Development Goals

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries - developed and developing - in a global partnership. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests.

Australia is however performing worse than other advanced countries in achieving the Sustainable Development Goals (SDGs), particularly in terms of addressing climate change, according to the global SDG Index, which compares different nations' performance on the goals. The latest SDG Index released in June 2021, ranks Australia 35th in the world.

The index shows that Australia is performing relatively well in areas such health and wellbeing and providing good-quality education. But its results for the environmental goals and climate change are among the worst in the Organisation for Economic Co-operation and Development (OECD group) of advanced nations. Australia is the worst-performing country in the world on climate action (this SDG takes into account domestic greenhouse gas emissions, emissions embodied in the goods we consume, climate change vulnerability, and exported emissions from fossil fuel shipments to other countries).

## 2.4 Transport for NSW – sustainability context

The transport sector is the second largest source of greenhouse gas (GHG) emissions in NSW. The transport sector contributes 19% of the state's greenhouse gas emissions and is a growing source of GHG emissions. In late 2016, the NSW Government committed to net zero emissions by 2050. The Future Transport 2056 Strategy and the key plans it supports, including the Future Energy Strategy, Connected and Automated Vehicles and NSW Electric and Hybrid and Vehicle Plan, contribute to building a resilient transport system to support the objective of net zero emissions by 2050.

Other key documents helping to drive sustainability include:

- Beyond the Pavement (2014)
- Better Placed (NSW Government Architect, 2017)
- NSW Climate Change Policy Framework 2016
- Transport Administration Act 1988 (NSW)
- NSW Government Resource Efficiency Policy 2019
- Aboriginal Participation in Construction (APiC) policy 2015
- Technical Guide Sustainability in Infrastructure Design and Construction

*The UNEP, Inger Anderssen, recently stated that the world 'needs to slash current emissions in half in the next 8 years' . He goes on to state that 'the world needs to reimagine and reinvent all energy and transportation sectors'*

The key document guiding TfNSW approach to sustainability is the Environmental Sustainability Strategy 2019-2023. The strategy is supported by 10 focus areas, with objectives, targets and key initiatives. The CPB Downer JV Sustainability Policy was developed to align with the TfNSW key objectives, policy commitment and this strategy as per Appendix B.

## 2.5 CPB Sustainability Framework

The CPB sustainability framework, that will be deployed on this Project is detailed below.

Sustainability is about meeting the needs of today without compromising the future. For CPB Contractors, sustainability is about ensuring the long-term success of our projects, people, communities and ecosystems by integrating environmental, social, economic and governance factors into our decision making.

Working closely with our clients and partners, our projects connect communities, play a role in urban and rural development, and help drive economic growth. sustainability is about ensuring the long-term success of our projects, people, communities and ecosystems by integrating environmental, social, economic and governance factors into our decision making.

Our sustainability goals are to:

- Target and report sustainable performance to generate reliable returns and investor confidence for the CIMIC Group.
- Be recognized as a leader and contractor of choice in sustainability by our clients and the construction industry.
- Develop a culture of collaboration and knowledge sharing to encourage and capture innovation.
- Seek environmentally and socially responsible supply chain solutions.

- Create safe, diverse and rewarding workplaces for our people.
- Deliver resilient projects and places that support communities and leave positive legacies.
- Utilise the employment, training and business opportunities that our projects provide to foster diversity and social inclusion.

Achievement of these goals is guided by the CIMIC Group's five sustainability themes and commitments that help define the way we operate:

- **Environment:** Promote environmentally responsible outcomes by using resources efficiently, minimising waste and building resilience to climate risks.
- **Safety:** Support safe communities and provide safe, supportive and positive workplaces for our people.
- **Integrity:** Act with integrity, operate honestly and respectfully, and seek sustainable supply chain outcomes.
- **Culture:** Promote a culture that builds capability and supports opportunities for sustainability, diversity and inclusion.
- **Innovation:** Target innovation through knowledge sharing and collaboration and seek competitive advantage with a focus on the future.

## 2.6 Downer Sustainability Framework

The Downer EDI sustainability framework will be utilised to complement the CPB framework that will be deployed on this Project as detailed below.

At Downer, sustainability means sustainable and profitable growth, providing value to our customers, delivering our services in a safe and environmentally responsible manner, helping our people to be better and advancing the communities in which we operate.

A core element of Downer's sustainability approach is to focus on our customers' success. Our core operating philosophy, 'Relationships creating success', encapsulates this theme.

Downer is proud of the role we play in creating more sustainable cities and improving the quality of life in Australia and New Zealand. Our customers trust us to deliver these services that will have a direct impact on their customers each day.

With our services impacting millions of lives every day, the sustainability of our operations is paramount – for our people, our partners, our shareholders, our customers and their customers.

Downer believes that what is important to our stakeholders is important for us to meet our strategic objectives and fulfil our Purpose. This requires ongoing and effective engagement with our stakeholders, where we provide transparent and timely information and actively encourage feedback

Downer's stakeholder influenced Material & Important Issues (Extensive List can be found in Downer's Annual Sustainability Report):

- Ensuring that contractors know their obligations and are engaged and aligned to Downer's values in managing risk. This includes adherence to Downer's Standards of Business Conduct and The Downer Standard including Downer's health, safety and environmental policies which govern how we perform work to meet our customers' expectations;
- Minimising Downer's contribution to the harmful effects of climate change. This includes reducing Downer's greenhouse gas emissions, as well as those of our supply chain. Improving the resilience of our assets and portfolio and capitalising on climate-related opportunities;
- Fostering a diverse and inclusive workplace that facilitates opportunity and respect. This includes focusing on gender, cultural and generational inclusiveness to reduce inequalities;
- Supporting the success of communities in which we operate. This includes fostering partnerships to aid in developing local communities, minimising negative impacts and leaving a positive legacy;
- Driving innovation through the application of technology. This includes adapting and utilising existing technology while identifying opportunities for new technology to increase efficiency and market competitiveness; and

- Ensuring that the products Downer develops, and the services Downer provides are contributing to positive sustainability outcomes. This includes the principles of the circular economy, a system aimed at eliminating waste through the continual reuse of materials.
- Downer's contribution to addressing and contributing in a net positive manner to material and important issues is achieved through our four pillars:
- Safety: Zero Harm is embedded in Downer's culture and is fundamental to the company's future success;
- Delivery: We build trust by delivering on our promises with excellence while focusing on safety, value for money and efficiency.
- Relationships: We collaborate to build and sustain enduring relationships based on trust and integrity; and
- Thought leadership: We remain at the forefront of our industry by employing the best people and having the courage to challenge the status quo.

## 2.7 Infrastructure Sustainability Rating

As per the SWTC the project is required to achieve a minimum score of 60/100 and a targeted score of 68/100 (as the Contractors nominated target) using version 1.2 for both Design and As Built. A pathway for a stretch target of 72 has also been developed.

The IS rating submissions to the ISC (as detailed below) will be at Design completion and again at Practical Completion. The Design rating will be an 'interim' rating and will be replaced by the As Built rating. A number of credits only apply to the As Built stage. In total there are 44 credits with up to three benchmark levels for each credit. The IS Scorecard is the tool used to determine the 'IS Pathway', ie credit levels targets with adjusted points. Within the scorecard is a weightings assessment as credits are weighted based on materiality (importance). The project will consider whether any credits should be scoped out based on contract scope or whether materiality should be further adjusted. The IS submission will include Credit Summary Forms (CSF) and supported by evidence documents. The rating submissions will be independently verified and scored by 2 appointed verifiers, involved 2 rounds of review for both Design and As Built.

As per the SWTC, CPB Downer JV can elect to undertake the ISC innovation challenges using credits from Version 2.0 of the IS Rating tool to support the overall assessment under Version 1.2. This provides the opportunity to score innovation points through credit benchmark exceedance, trialling of V2.0 or V2.1 as well as undertake specified challenges as per the Innovation Challenge (ISC document).

### 2.7.1 Infrastructure Sustainability Council

ISC is a member-based, not-for-profit peak body operating in Australia and New Zealand with the purpose of enabling sustainability outcomes in infrastructure. ISC do this in the following ways:

- With an Infrastructure Sustainability (IS) rating scheme for planning, design, construction and operations of infrastructure assets,
- Education, training and capacity building,
- Connecting suppliers of sustainable products and services with projects through ISupply,
- Bringing together experts to share knowledge and lift the community of practice,
- Recognition and rewarding best practice.

The IS Rating scheme is Australia and New Zealand's only comprehensive rating system for evaluating sustainability across design, construction and operation of infrastructure. To ensure projects are assessed on the material (important) items within their local context each project is required to undertake a 'Weightings Assessment' as part of the Rating process. For more information, please refer to the subsequent sections and Appendix F.

### 3 Significant sustainability issues

Figure 4 outlines the Project's key features that represent high materiality as well as key opportunities to mitigate impacts. Note: these project features are based on a preliminary assessment undertaken during tender phase.

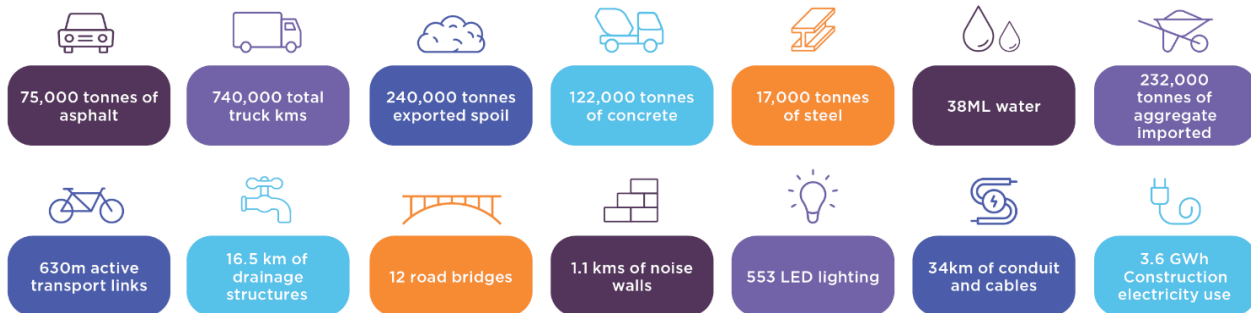


Figure 4: Project features relevant to sustainability

#### 3.1 Materiality Assessment

As part of developing the IS Pathway for the project an initial Weightings Assessment using the IS Scorecard v.1.2, in consultation with the project team has identified the following IS credit materiality.

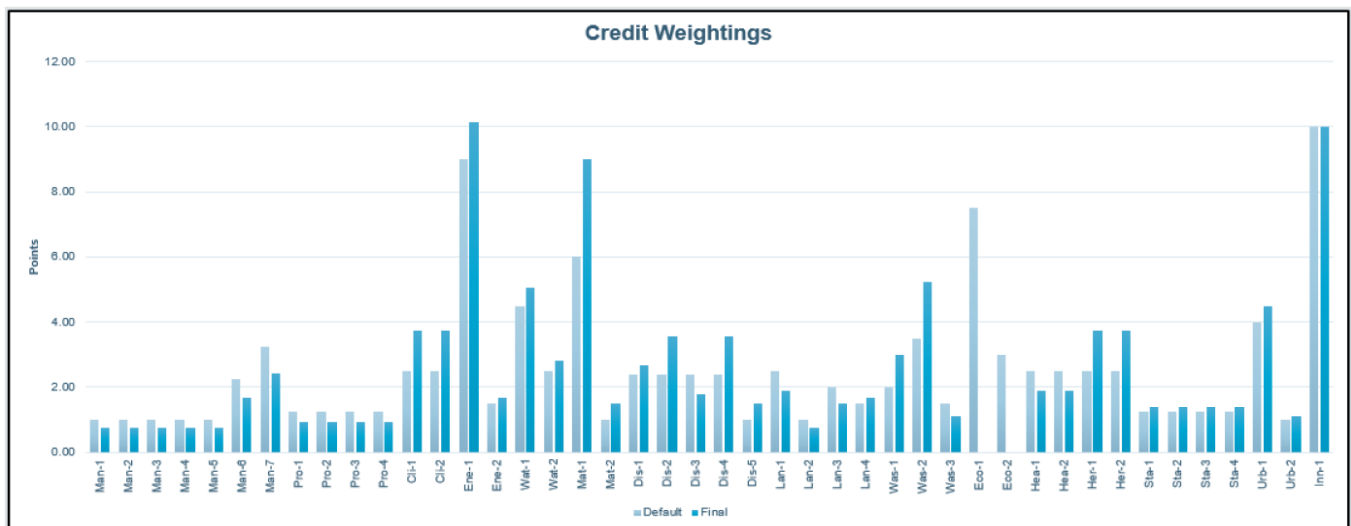


Figure 5: Initial Weightings Assessment



## 3.2 Carbon Footprint for Construction phase

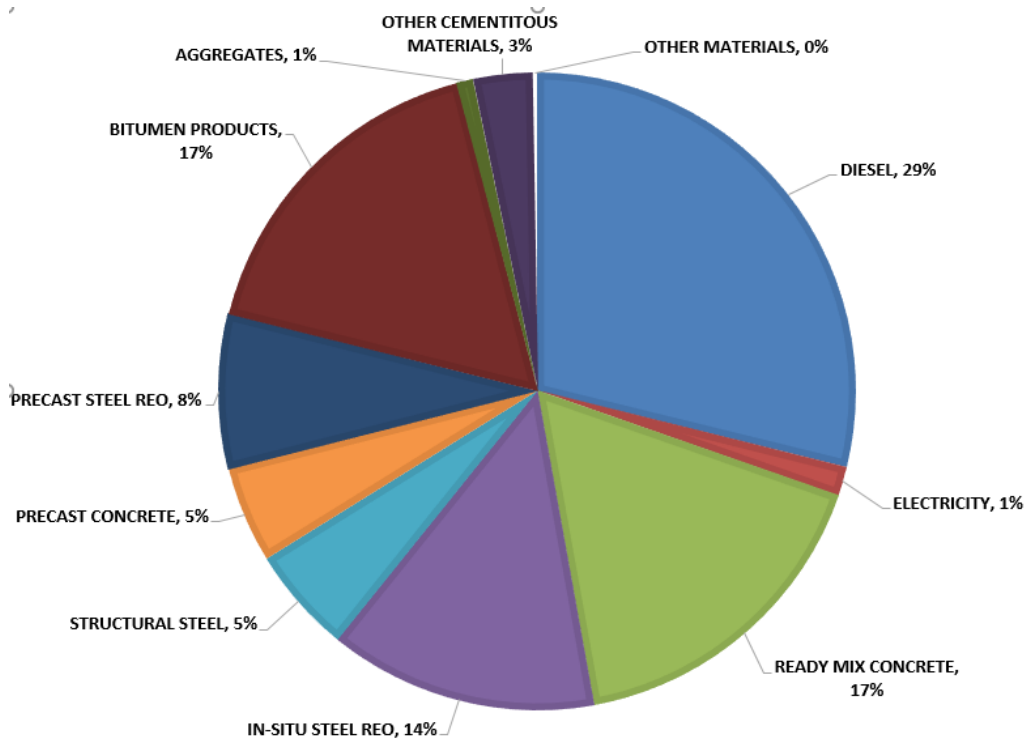


Figure 6: Initial Carbon Footprint

Defining significant issues helps to establish the project risk and opportunities as well as the project sustainability objectives and targets. Significant sustainability issues were identified for this SMP development based on:

- Project scope impact, opportunities and limitations (Figure 4)
- Materiality Assessment using the IS Scorecard (Figure 5)
- Initial carbon footprint based on BOQ (Figure 6)
- Supply chain opportunities investigated during tender
- TfNSW sustainability focus areas and WFU targets
- Global imperative to curb climate change

## 3.3 Significant Issues

The following significant issues and opportunities will be further investigated during design and construction phases. Further issues and opportunities will be identified through the risk review process.

- Reducing the embodied carbon in materials, particularly concrete, steel and asphalt
- Increasing use of materials with recycled content, such as SCM's in concrete and RAP content in asphalts
- Improving durability of key assets and operations and maintenance performance
- Use of biofuels to substitute fossil fuel-based fuels, such as biodiesel
- Minimising materials haulage and maximising reuse of site won materials
- Optimising CSR and use of recycled materials in pipe bedding
- Optimising design and construction to reduce materials, fuel demand, and waste generation
- Improving the climate resilience of the infrastructure
- Identifying opportunities to enhance active transport links, urban design and heritage value
- Mitigating community and environmental impacts.

## 4 Sustainability Policy, Objectives and Targets

A sustainability policy for the project has been developed, with each commitment mapped to TfNSW's Environmental Sustainability Strategy (2019-2023), Transport for NSW Environment and Sustainability Policy (2020), TfNSW sustainability objectives and IS credit targets, as per Appendix B. The policy will be signed by the Project Director and placed on the project website.

The following targets form part of the project base case and include the required targets from Table D.5-2 of SWTC D.5. Included is also the relationship to the IS credits for credit tracking through the IS rating. Stretch targets have also been developed as per Table 6. Further targets are defined through the 44 IS rating credit benchmarks targeted as further detailed in Table 8.

Table 5: Sustainability Targets

No.	Category	Target	Relevant IS Credit
1	IS V1.2 Design Rating	68	All
2	IS V1.2 As-Built Rating	68	All
3	Percentage of usable spoil (uncontaminated surplus excavated material) reused/recycled (not including Virgin Excavated Natural Material (VENM))	95%	Was-2
4	Percentage of VENM reused/recycled	100%	Was-2
5	Percentage of construction and demolition waste (overall uncontaminated material excluding spoil) reused/recycled	80%	Was-2
6	Clean concrete beneficially reused	100%	Was-2
7	Clean asphalt pavement reclaimed	100%	Was-2
8	Percentage of construction electricity consumption sourced from renewable energy generated onsite and/or accredited GreenPower	20%	Ene-1 Ene-2
9	Percentage of construction stage energy use offset (in accordance with the Australian Government National Carbon Offset Standard)	100%	Ene-2
10	Not Used		
11	Not Used		
12	Percentage of non-potable water demand which is sourced from non-potable water sources during construction	15%	Wat-2
13	Percentage of non-potable water demand which is sourced from non-potable water sources during operation	0%	Wat-2
14	Percentage of water (rainwater, stormwater, wastewater, groundwater) generated/collected during construction which is reused, recycled or reclaimed	15%	Wat-1
15	Percentage of water (rainwater, stormwater, wastewater, groundwater) generated/collected during operation which is reused, recycled or reclaimed	0%	Wat-1
16	Percentage of cement replacement material, measured by mass, used in concrete during the construction stage	50%	Mat-1
17	Percentage of recycled material used in road base and subbase during the construction stage	17%	Mat-1



No.	Category	Target	Relevant IS Credit
18	Percentage improvement in operational energy intensity versus a business-as-usual design	15%	Ene-1
19	Percentage improvement in construction energy efficiency versus a business-as-usual baseline	10%	Ene-1
20	Percentage LED light sources in street lighting and other permanent area lighting installed for public amenity or safety purposes	100%	Ene-1
21	Percentage improvement in supply chain carbon emissions intensity (including embodied energy in materials) versus a business-as-usual baseline <i>Note: Supply Chain emissions are to be estimated using methodologies consistent with the World Resources Institute Greenhouse Gas Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard.</i>	20%	Mat-1
22	Percentage of tree canopy cover; calculated from pre-project total area versus final design total area <i>Note: Excludes areas subject to existing biodiversity offsetting requirements and the selection and positioning of trees must meet the requirements of the Roads and Maritime Landscape Design Guideline (2018).</i>	100%	Eco-2
23	Percentage of suppliers and supply chain applying sound labour practices <i>Note: The project must address relevant requirements of the Modern Slavery Act (NSW) 2018 and the Modern Slavery Act (Cth) 2018. At a minimum, human rights and labour practices must be considered in alignment with ISO 20400.</i>	100%	Pro-2
24	Percentage of office paper used on the project site that is high recycled content paper (50 per cent or more recycled content)	100%	NA
25	Percentage of single use and/or non-recyclable kitchen items supplied to on-site facilities	0%	NA
26	Percentage of timber to be sourced from either reused/recycled timber or from sustainably managed forests that have obtained Forest Management Certification (FMC)	100%	NA

## 4.1 Stretch targets

Table 6: Sustainability Stretch Targets

No.	Category	Stretch	IS Credit
1	IS V1.2 Design Rating	72	All
2	IS V1.2 As-Built Rating	72	All
10	Fuel supplied to site will use biodiesel, B5 for plant and B20 for generators	100%	Ene-1

## 4.2 Workforce Targets

Included in the Sustainability SWTC is Workforce Development and Social Procurement which form a vital part of the social dimension of sustainability. Specific targets have been established for Priority Groups, which will be managed and tracked through the Workforce Development Management Plan by the Workforce Development and Industry Participation Manager. In summary this includes:

Table 7: Workforce Targets

Priority Group	Target	Stretch	Requirement
	Minimum Aboriginal Participation requirements means one or a combination of the following:		
Aboriginal participation	1.5%	2%	Value of the Target Cost as at the date of the deed is subcontracted to Aboriginal businesses;
	1.5%	2%	Contractor's Australian based workforce (full time equivalent) directly contribute to the Contractor's Activities are Aboriginal employees; or Value of the Target Cost as at the date of the deed is applied to the cost of education, training or capability building for Aboriginal staff or businesses directly contributing to the contract.
Apprentices	20%	22%	20% of all trade positions
Trainees	10%	10%	10% of the Workforce across the Supply Chain are made up of Trainees where Traineeship quals are available
Under 25 years of age	8%	10%	Overall workforce
Learning workers	20%	22%	Total labour force
Women in non-traditional roles/occupations	2%	4%	Workforce
Local Sustainable Jobs	20%	25%	Workforce resides in the local area

## 4.3 IS Rating Targets

IS Rating targets as relevant to the IS credit benchmark levels are addressed in the IS Management Plan in Appendix F. The following targets are subject to adjustment through the rating process.

Table 8: IS Pathway

Credit	Levels	BAU	Target	Stretch
Man-1	3	2	3	3
Man-2	2	2	2	2
Man-3	2	1	2	2
Man-4	2	1	1	1
Man-5	3	1	2	2
Man-6	3	2	3	3
Man-7	3	2	2	2
Pro-1	3	2	3	3
Pro-2	3	2	3	3
Pro-3	3	2	3	2
Pro-4	3	1	2	2
Cli-1	3	1	2	3
Cli-2	3	1	2	2
Ene-1	3	1	1.5	1.5
Ene-2	3	0	1	1
Wat-1	3	1	2	2
Wat-2	3	0	0.5	0.5
Mat-1	3	0	2.3	2.3
Mat-2	3	0	2	2
Dis-1	3	2	2	2
Dis-2	3	1	1	2
Dis-3	3	1	1	1

Credit	Levels	BAU	Target	Stretch
Dis-4	3	1	1	1
Dis-5	1	0	1	1
Lan-1	3	3	3	3
Lan-2	3	0	1	2
Lan-3	3	2	3	3
Lan-4	2	1	1	1
Was-1	2	2	2	2
Was-2	3	1	2	2
Was-3	3	1	0	0
Eco-1	Scope out			
Eco-2	Scope out			
Hea-1	3	1	2	2
Hea-2	2	1	2	2
Her-1	3	1	1	1
Her-2	3	0	1	1
Sta-1	3	1	3	3
Sta-2	3	1	2	2
Sta-3	2	1	2	2
Sta-4	2	0	2	2
Urb-1	3	3	2	3
Urb-2	2	2	2	2
Inn-1	10	0	4	4

Credit	Levels	BAU	Target	Stretch

Credit	Levels	BAU	Target	Stretch
Score		38.4	68	72

## 4.4 Sustainability Milestones

Figure 7 below outlines the projects sustainability milestones and the intended duration and forecast completion dates. For further detail and additional IS Rating tasks please refer to the IS Management Plan in Appendix F.

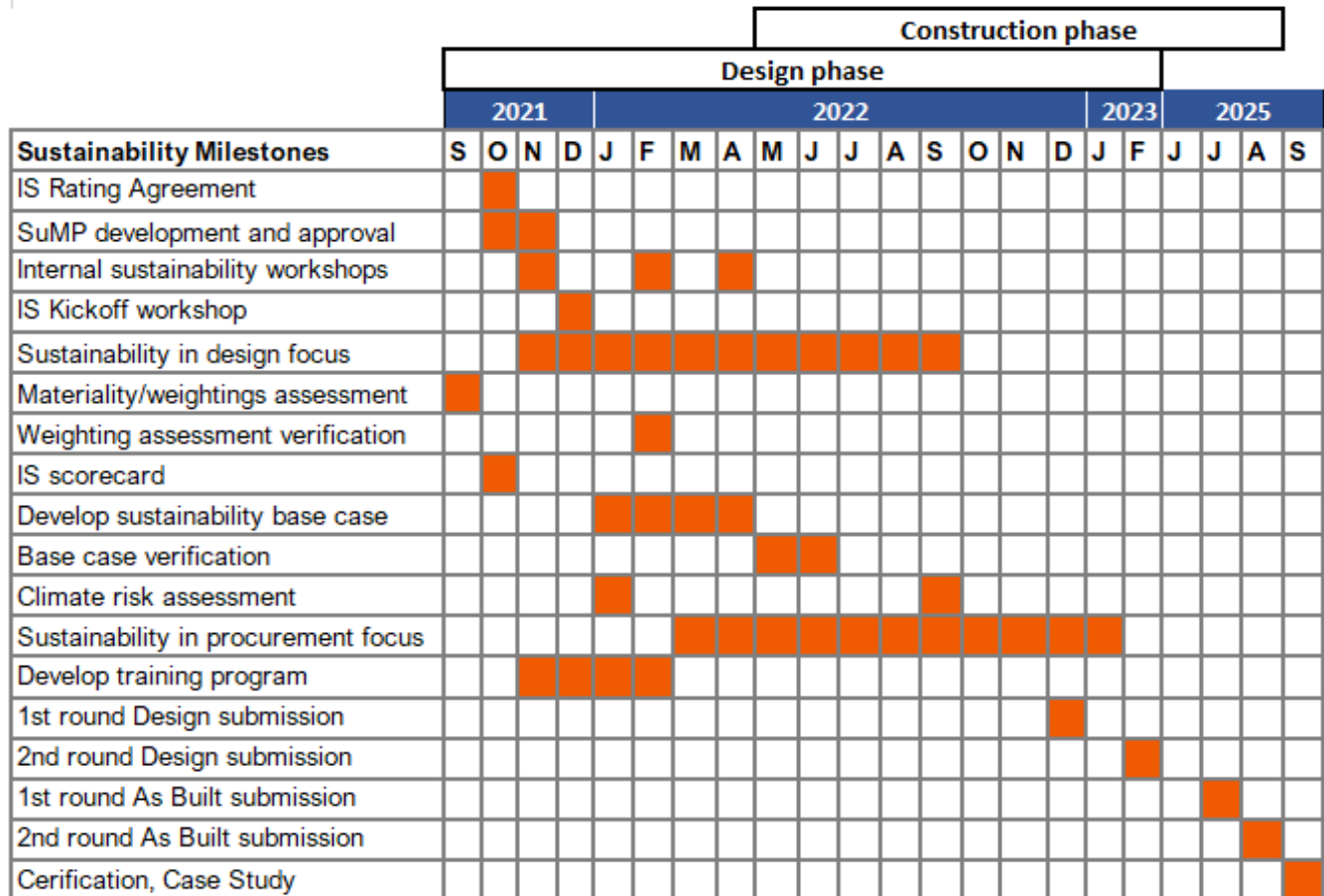


Figure 7: Sustainability Milestones

## 4.5 Sustainability Guidelines and Tools

Table 9: Sustainability Guidelines and Tools

Guideline and tools	Description
Environmental Impact Statement: Western Harbour Tunnel and Warringah Freeway Upgrade (2020)	The Environmental Impact Statement (EIS) is a publicly available document that provides information on a project, including its environmental impacts and mitigation measures, and is used to inform development consent decisions.
<b>Infrastructure Sustainability Council (ISC)</b>	
Infrastructure Council of (ISC) - Infrastructure Sustainability (IS) Rating Tool	The IS Rating Tool evaluates sustainability initiatives and impacts of infrastructure projects, and is a guide for sustainable design, procurement, construction and operation
IS Infrastructure Sustainability Technical Manual (v1.2)	The Technical Manual describes rating process and mandatory credit criteria and levels/targets

Guideline and tools	Description
IS Materials Calculator IS Materials Calculator Guideline	A calculator used to determine embodied greenhouse gas emissions (CO <sub>2</sub> -e) and life cycle impact of products used in the construction of infrastructure projects. The calculation includes transport distances for the delivery of construction materials and waste composition emissions.
IS Scorecard	The IS rating tool scorecard (Excel spreadsheet) facilitates self-assessment against the IS Rating and summary of credits claimed which is submitted to ISC for independent verification.
ISC Case Study Guideline	ISC guidance document to assist in Preparation of Case Studies
ISC Business Case Preparation Guideline	ISC guidance document to assist in the preparation of Business Cases
<b>Other</b>	
Supply Chain Sustainability School	Various sustainable procurement related resources & tools. <a href="http://www.supplychainschool.org.au/">http://www.supplychainschool.org.au/</a>
National Greenhouse Account Factors	The National Greenhouse Accounts (NGA) Factors provide methods that help companies and individuals estimate greenhouse gas emissions. Factors will be used to Scope 1 and Scope 2 emissions. <a href="http://industry.gov.au/NationalGreenhouseAccounts/Factors">National Greenhouse Accounts Factors (industry.gov.au)</a>
Greenhouse Gas Assessment Workbook for Road Projects, Transport Authorities Greenhouse Group' (TAGG)	The Workbook outlines a process for estimating the GHG emissions for all of the major activities that were found to contribute significantly to the overall emissions arising from a road project. Includes the Carbon Gauge tool.
US EPA air emission standards	Sets limits on certain air pollutants, including setting limits on how much can be in the air anywhere in the United States. Relevant to on-road diesel plant and equipment
Climate change adaptation for settlements and infrastructure – A risk-based approach (AS 5334-2013)	Provides principles and generic guidelines on the management of the risks that settlements and infrastructure face from the impacts of climate change.
TfNSW Climate Risk Assessment Guidelines (2021)	Guideline developed and provided by TfNSW to Project Teams to provide practical advice and requirements on conducting a Climate Risk Assessment. The guideline complies with at a minimum the Infrastructure Sustainability Council (ISC) Rating Tool Technical Manual Version 1.2 (Cli-1 and Cli-2) requirements for 'Design' and 'As Built' phases.

## 4.6 Legislation and Regulatory Requirements

The key legislation relevant to sustainability management includes:

- Protection of the Environment Administration Act 1991 (POEA Act)
- Protection of the Environment Operations Act 1997 (PEEO Act)
- National Greenhouse and Energy Reporting (NGER) Act 2007 (Cth)
- Environment Protection and Biodiversity Conservation Act 1999 (Cth)

The principles of Ecologically Sustainable Development are outlined in the Protection of the Environment Administration Act 1991 (POEA Act). Ecologically Sustainable Development (ESD) is the development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends. The principles of ESD have been an integral consideration throughout the development of the Project. The POEA Act recognises that ESD requires the effective integration of economic, social and environmental considerations in decision-making processes. Refer to the Construction Environmental Management Plan for further details of the relevant legislation.

## 5 Management and Accountability

### 5.1 Sustainability Organisational Structure

The key roles with accountability for delivery the sustainability requirements of the Project are shown in organisational structure extract in Figure 8.

Our Project Director will provide overall leadership and ensure accountability for sustainability across the project team. The Sustainability Manager will be part of the senior management team, with responsibility for reporting on progress against sustainability requirements and implementation of the SMP. The Sustainability Manager and the Sustainability Design Lead will champion key initiatives and priorities and have responsibility for internal and external communication relating to sustainability.

The team will be supported by Environmental Coordinators during construction to support data capture. CPB and Downer Corporate Sustainability leaders, and Jacobs and Arcadis Sustainability Leads will provide technical support and audit support.

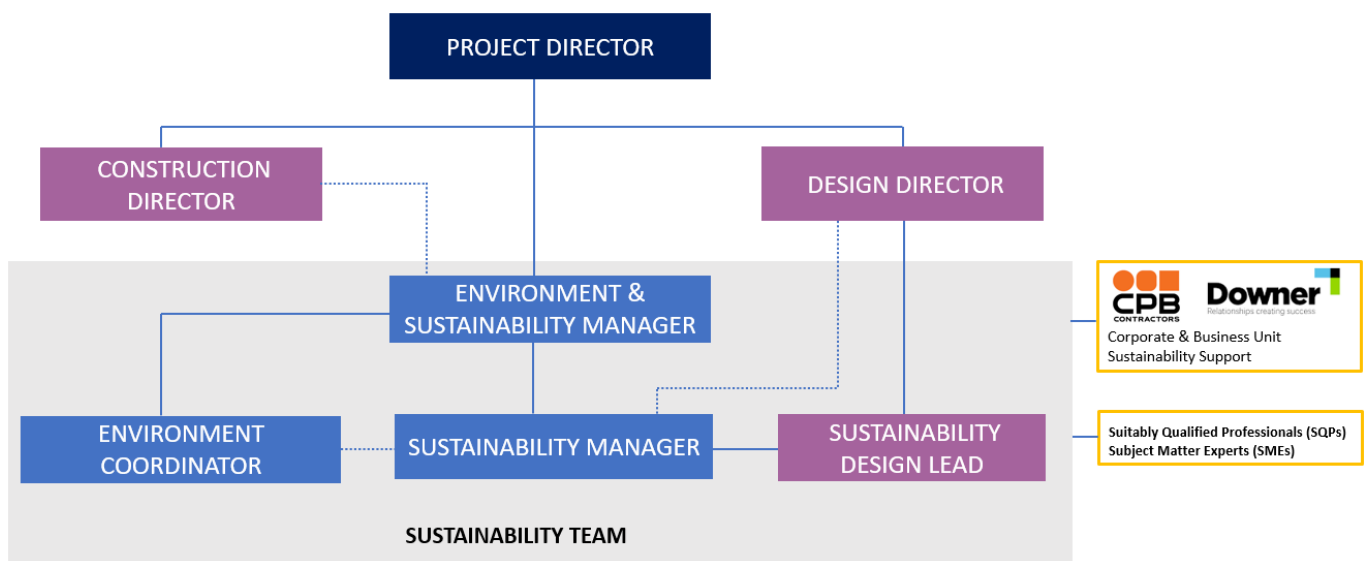


Figure 8: Sustainability Team Structure

### 5.2 Sustainability Team

The Sustainability Manager in conjunction with direct sustainability support roles will work collaboratively across the design and construction teams providing a proactive approach to managing sustainability. The table below outlines the key sustainability team roles, responsibilities and minimum levels of competency.

Table 10: Sustainability Team Key Roles, Responsibilities and Competencies

Key Roles and Responsibilities	(Minimum) Competency Levels
<b>Sustainability Manager (IS Assessor)</b>	
<p>Available as the primary contact for the CPB Downer JV on sustainability matters</p> <p>Will be engaged full-time throughout project delivery, full-time on or around the construction site during construction phase, including temporary works, with responsibilities limited to sustainability management</p> <p>Responsible for the development and implementation of the SMP and associated sub plan(s)</p>	<p>Current Infrastructure Sustainability Accredited Professional (ISAP)</p> <p>5 years' sustainable management experience including sustainability advice on design and construction engineering</p> <p>Relevant tertiary qualifications relevant to project activities and</p>

Key Roles and Responsibilities	(Minimum) Competency Levels
<p>Establish project team sustainability roles and responsibilities</p> <p>Facilitate the identification of sustainability risks and opportunities and treatment options</p> <p>Work collaboratively with procurement, design, construction other functional leads to coordinate the implementation of sustainability initiatives to ensure the project's sustainability objectives, requirements and targets are achieved</p> <p>Principal point of contact for ISC in relation to the IS rating process</p> <p>Establish the IS Rating Agreement and Conduct IS Kick off Workshop and project team sustainability training</p> <p>Champion innovation, resource efficiency and Whole of Life (WOL) thinking</p> <p>Ensure sustainability management and reporting is incorporated into project processes and systems</p> <p>Monitor and report sustainability progress throughout the project delivery</p> <p>Undertake self-assessment using the IS rating tool and is responsible for ensuring submission readiness for verification</p> <p>Be responsible for the sustainability induction and training program</p>	<p>recent relevant experience in sustainability management on similar projects</p> <p>Strong partnering, leadership and governance skills</p> <p>Strong skills and experience in leading sustainability achievements.</p>
<b>Sustainability Design Lead</b>	
<p>Undertake technical sustainability assessments and reporting, including life cycle assessments, energy modelling, water balance, GHG assessments, climate risk assessments</p> <p>Assessment will be used to track design development and assess initiatives</p> <p>Develop BAU Assumptions and Base Case for ISC submission</p> <p>Conduct Innovation workshops and CCRA Workshop</p> <p>Collect design evidence for IS design rating submission</p> <p>Develop the Sustainability Specification for design and procurement</p>	<p>Qualifications in sustainability, environmental engineering or similar</p> <p>Appropriate Technical expertise</p> <p>Infrastructure Sustainability Accredited Professional</p>
<b>Environment Coordinator</b>	
<p>Assist the Sustainability Manager with the implementation of identified sustainability initiatives</p> <p>Assist the Sustainability Manager to develop and collate evidence for the Sustainability Rating Scheme</p> <p>Assist the Sustainability Manager with the monitoring and reporting of sustainability metrics</p> <p>Develop induction package, toolbox talks, subcontractor training</p>	<p>Qualifications in sustainability, environmental engineering or similar</p> <p>Experience in sustainability of the built environment (minimum 1 year)</p> <p>Infrastructure Sustainability Accredited Professional (ISAP)</p>

### 5.2.1 Sustainability Meetings

The Sustainability Manager and/or their nominated delegate, will attend regular meetings with:

- IS Project Manager as part of the IS rating process
- TfNSW Sustainability Representative
- Environment Team
- Design and Construction Teams
- Project Leadership Team



- Procurement Team.

## 5.3 Project Team supporting sustainability

The project leadership team will promote the integration of sustainability at all functional management levels and create a culture where everyone acknowledges their role to play towards achieving the project sustainability objectives. The table below outlines the general sustainability responsibilities for typical leadership roles, functional leads and staff. The Sustainability Manager and sustainability support staff roles are further addressed in the section below.

Table 11: Project Leadership, Functional Leads and Staff Sustainability Responsibilities

Role	Responsibilities
<b>Project Director</b>	<p>Establish, support and promote sustainability culture and promote project sustainability achievements across the project</p> <p>Ensure sustainability is represented in senior management decision-making</p> <p>Ensure sustainability is effectively resourced to integrate sustainability across the project and its functions</p> <p>Ensure that sustainability requirements, risks and opportunities are identified and incorporated into project controls and systems</p> <p>Reinforce the sustainability roles and responsibilities across project team</p> <p>Approve key sustainability plans and reports for client submission</p>
<b>Design Director / Design Leads</b>	<p>Engage with the Sustainability Design Lead to ensure sustainability requirements / performance specifications are integrated into the design plans/packages/specifications and communicated to relevant parties</p> <p>Integrate Sustainability Rating Scheme requirements into design management processes and provide supporting evidence as required to support rating scheme certification</p> <p>Ensure the design team achieves the sustainability objectives and direct/oversee corrective actions where appropriate</p> <p>Ensure sustainability requirements are incorporated in the design verification process</p> <p>Facilitate alternative specifications to help meet sustainability targets</p> <p>Seek WoL assessments and LCAs to support decision-making</p> <p>Use MCA process to support options consideration for significant issues and opportunities</p>
<b>Construction Director / Construction Leads</b>	<p>Engage with the Sustainability Manager to ensure sustainability requirements / performance specifications are integrated into the construction plans/packages/specifications and communicated to workforce</p> <p>Ensure the subcontractors and suppliers achieve sustainability objectives in the Delivery Phase and direct/oversee corrective actions where appropriate</p> <p>Scope sustainability initiatives to improve environment, sustainability, community outcomes</p> <p>Integrate sustainability into Construction Management Plan and ensure relevant sustainability targets are achieved and evidence capture through data tracking is maintained</p>
<b>Environment &amp; Sustainability Manager</b>	<p>Provide data to the Sustainability Manager for sustainability reporting</p> <p>Assist the Sustainability Manager in preparing the Sustainability Rating submissions</p>
<b>Workforce Development and Industry Participation Manager, Stakeholder &amp; Engagement</b>	<p>Incorporate workforce targets and tracking requirements in RFT specifications</p> <p>Support achievement of community benefit initiatives, identification of community heritage values, stakeholder engagement planning, identification of 'negotiables', and engaging with stakeholder through the IAP2 Spectrum of Public Participation.</p> <p>Conduct community surveys and audits as necessary to meet IS credits</p>



Role	Responsibilities
<b>Manager and HR</b>	<p>Providing evidence to support the achievement of IS credits and support the development of the credit summary forms</p> <p>Develop and implement strategies to achieve the human resource related sustainability initiatives with regard to equality, social enterprises, diversity and training</p> <p>Ensure the provision of appropriate induction and training for sustainability aspects to all relevant Project personnel</p>
<b>Commercial Director / Procurement</b>	<p>Engage with the Sustainability Manager to embed sustainability requirements in sub-contracts and supply agreements</p> <p>Embed the Sustainability Procurement Policy into procurement process and outcomes</p> <p>Include Sustainability Manager in the development of RFT scope, RFT specifications, supplier identification, pre-qual review, RFT evaluation, supplier briefings and Kickoff meetings for high impact suppliers/ subcontractors</p> <p>Ensure non-financial evaluation is conducted using effective sustainability criteria</p> <p>Integrate sustainability risks and opportunities into risk processes and procurement decision-making</p> <p>Facilitate the ongoing identification of High Impact suppliers through the procurement schedule</p> <p>Ensure contract administration resourcing for monthly sustainability reporting</p> <p>Support Sustainability Manager in leveraging sustainability performance and monitoring contractor performance</p>
<b>All Staff</b>	<p>Integrate consideration of environmental, social and economic impacts into decision making</p> <p>Generate and support the implementation of sustainability initiatives</p>

## 5.4 External sustainability roles

Table 12: External Sustainability Key Roles, Responsibilities and Competencies

Roles	Responsibilities	Communication
ISP/ sustainability reviewer	<ul style="list-style-type: none"> <li>Reviews the Project's sustainability performance and makes recommendations for improvement. Acts independently and objectively, challenging conventional thinking</li> <li>Current member of the ISC verifier panel as per SWTC Section 2.1 (i).</li> <li>Undertake sustainability reviews as per SWTC D.5 Section 2.2 (i)</li> </ul>	Monthly Meetings with IS Project Manager
IS Project Manager	<ul style="list-style-type: none"> <li>ISC staff member assigned to the project once Registration is completed.</li> <li>Holds monthly meetings with the IS Assessor</li> <li>Reviews and advice on, Base Case, and TCs/CIRs</li> <li>Provides advice regarding the self-assessment submission and evidence requirements</li> <li>Manages the formal verification and feedback processes</li> </ul>	
Verifiers (2)	<ul style="list-style-type: none"> <li>Independent industry expert nominated by ISC to projects from a verification panel</li> <li>Provides independent verification of the weighting's assessment, Base Case and the self-assessment IS submission.</li> </ul>	
Technical Steering Committee	<ul style="list-style-type: none"> <li>Sub-committee of the ISC Board</li> <li>Govern the rating process and are primarily responsible for certifying the achievement of a rating performance level, providing governance of tool development projects, and reviewing of TCs and CIRs.</li> </ul>	

Roles	Responsibilities	Communication
TfNSW Sustainability Representative	<ul style="list-style-type: none"> <li>▪ Work collaboratively with the CPB Downer JV team particularly the Sustainability Manager and internal stakeholders to support knowledge sharing and innovation development</li> <li>▪ Arrange formal sustainability knowledge-sharing workshops at least once during each of the design and construction stages of the Project (subject to agreement)</li> <li>▪ Facilitate monthly meeting with project sustainability team (subject to agreement)</li> <li>▪ Participate in IS Kick-off Meeting and scoping opportunities</li> <li>▪ Provide where possible, planning phase IS evidence specifically for WFU to support:               <ul style="list-style-type: none"> <li>▶ Man-7 – Decision-making (option evaluation using MCA)</li> <li>▶ Cli-1 – CCRA workshop and modelling</li> <li>▶ Cli-2 – Additional climate mitigation measures</li> <li>▶ Ene-1 Energy reduction initiatives above BAU</li> <li>▶ Mat-1 – Materials reduction initiatives above BAU</li> <li>▶ Wat-1 &amp; Wat-2 – Water initiatives above BAU</li> <li>▶ Baseline data &amp; mitigations in CoA :Dis, Lan, Her, Eco, Sta</li> <li>▶ Urb-1 – Independent review</li> </ul> </li> <li>▪ Provide where possible, Reference Design and assumptions for construction and operations for establishment of the IS Base Case:               <ul style="list-style-type: none"> <li>▶ Water balance</li> <li>▶ Energy use and demand</li> <li>▶ GHG emissions/carbon footprint</li> <li>▶ Materials footprint</li> <li>▶ BAU technology assumptions</li> </ul> </li> </ul>	Monthly meetings
Independent Certifier	<ul style="list-style-type: none"> <li>▪ Review the Sustainability Management Plan and provide requirements and recommendations where applicable in accordance with the SWTC</li> </ul>	Refer to CEMP and the Communication Strategy
Environmental Representative (ER)	<ul style="list-style-type: none"> <li>▪ Independently oversee compliance with the Project Planning Approval and be the principal point of advice on the environmental performance of the works -Refer to the CEMP for further details</li> </ul>	
Acoustics Advisor (AA)	<ul style="list-style-type: none"> <li>▪ Independently oversee construction noise and vibration planning, management and mitigation in accordance with the Project Planning Approval.</li> </ul>	
Parent Companies	<ul style="list-style-type: none"> <li>▪ Submission of NGER's data (CPB)</li> <li>▪ Facilitate education and knowledge sharing between projects</li> </ul>	
Council and agencies	Refer to Communication Strategy	
Community Stakeholders	Refer to Communication Strategy	

## 6 Integrating Sustainability

By its nature, sustainability involves the integration of multiple disciplines. Consistent with the Sustainability Strategy, the sustainability requirements have been integrated with the wider Project Program, including processes, procedures and workstreams.

### 6.1 Sustainability Assurance Framework

The key sustainability governance processes related to the Project delivery stages are outlined in Figure 9. This figure illustrates the overall sustainability assurance mechanism for integrating and embedding sustainability throughout the project lifecycle to help optimise sustainability outcomes.

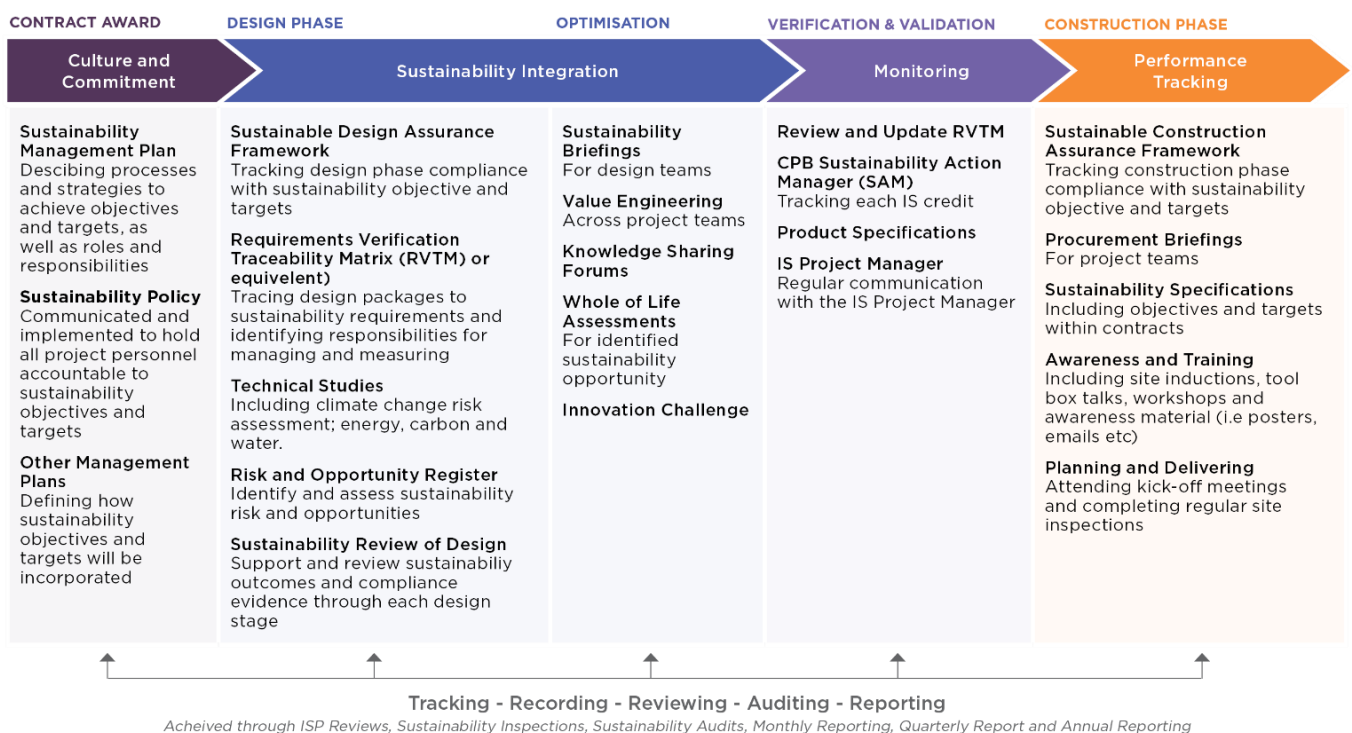


Figure 9: Sustainability Assurance Framework

### 6.2 Assess Sustainability Risks and Opportunities

Sustainability risks and opportunities will be assessed/captured using the Project's Risk management approach, as detailed in the Risk Management Plan.

In terms of sustainability, risk and opportunity assessment will consider direct and (where possible) indirect risks and opportunities for the full project lifecycle (design, construction and operations), including consideration of:

- Governance risks and opportunities
- Economic and financial risks and opportunities
- Environmental risks and opportunities
- Social risks and opportunities

A multidisciplinary team including the Sustainability Manager, Design Leads and Construction Manager will participate in the risk and opportunity assessment processes. The identification of treatment/implementation options for sustainability risks/opportunities will be captured via risk and opportunity documents/processes, which may include:

- Overall Project Risk and/or Opportunity Register
- Sustainability and Innovation Opportunity Register

- Work Pack Risk Registers
- Climate Change Risk Assessment
- Options Reports

Actions to treat Sustainability related Risks and Opportunities will be identified and address where appropriate:

- The sustainability risks and their treatment/s
- The sustainability opportunities and their implementation option/s
- The selected treatment/implementation options and the reasons for selecting the treatment/implementation option
- Resources required to implement treatment/implementation options
- Timing and schedule
- Reporting and monitoring requirements
- Persons responsible for implementing, measurement, monitoring and reporting

Risks will be documented in the Risk Register (as described in the Risk Management Plan). Review of the sustainability risk and opportunity assessment will be undertaken throughout the Project to ensure the identification, communication and monitoring of risks/opportunities and associated treatments are relevant.

Climate change risk identified in the EIS will be incorporated into design development with mitigation measures developed to reduce current medium risks by at least 50%. Opportunities to reduce flood risk, particularly to adjacent areas including ANZAC Park and the Cammeray Golf Course, will be modelled and construction flood mitigation measures implemented to avoid impacts. To reduce climate change impacts, vegetation will be retained where possible and tree cover maximised over paved areas to reduce heat island effect.

### 6.2.1 Sustainability Initiatives and Innovation

CPB Downer JV will document sustainability initiatives using the Sustainability Initiative Register. The purpose of this register is to identify and document all initiatives implemented and considered during project delivery.

When initiatives exceed the sustainability, requirements specified in the SWTC D.5, CPB Downer JV will use a sustainability impact assessment process as detailed in the Sustainability Initiative Register. This method allows financial and non-financial aspects to be scored and weighted to produce a benefit score. Initiatives that score high or very high will be adopted. Initiatives that score below a high will be rejected.

Financial review of the whole of life costing will consider where appropriate and feasible the total costs and potential benefits of the initiative across its life cycle, including:

- Up-front and transactional costs
- Capital costs
- Holding costs
- Costs incurred during operations
- Costs incurred during the expected life of the investment to upgrade or refresh an asset
- End of life decommissioning
- Revenue streams for the infrastructure

The financial review will also consider impacts to the program and other factors as required, such as scope restriction or compliance requirements.

The non-financial review takes into consideration safety, environment, community, stakeholder, workforce, supply chain and any other consideration.

CPB Downer JV will recommend initiatives to TfNSW as optional sustainability initiatives as described in SWTC D.5 Section 1 b), when;

- The benefit score was significantly impacted by WFU restrictions or scope.
- The benefit score was rated a medium; or

- CPB Downer JV believes the initiative achieves best practice results.

WFU commits to recommending optimal sustainability initiatives in line with the table supplied in SWTC D.5 Section 3 (Table D.5-1). Appendix E provides a Sustainability Initiatives Register which will be further developed throughout the project, particularly through the design phase.

### 6.3 Assess Options for High Impact / Significant Decisions

The Sustainability Manager will assist the project team in assessing feasible options/alternatives where appropriate for high impact/significant project-related decisions. The definition and threshold of significant decisions will change throughout project delivery. It may include decisions associated with high materiality, high cost or high impact initiatives or involve variation from EIS or reference design. The project team will define and justify high impact/significant decisions.

The options/alternatives will include a credible range of high-level options, including a defined business-as-usual (BAU) approach. The project will apply sustainability decision making criteria to assess the feasibility of options/alternatives based on the ability to reduce costs, time and risks whilst generating increased environmental and/or social benefits.

Identified sustainability opportunities will be documented as sustainability initiatives as per Section 9 and Appendix E.

### 6.4 Integrating Sustainability in Design

Integrating the sustainability requirements into the design process is critical to achieving the Project's sustainability targets and creating whole life value for key stakeholders.

The Sustainability Design Lead will work with key design disciplines to ensure the Project's sustainability requirements, risk and opportunities are incorporated into design decision making, conducting the tasks as commenced in tender phase, Table 13.

Sustainability reviews will be undertaken for design packages at each design stage (DCD, SDD, FDD). The Sustainability Design Lead will have primary responsibility for design reviews and will participate in design meetings as an integral member of this team to discuss and document initiatives implemented during design that relate to sustainability requirements, implications and benefits. Sustainability requirements will be tracked through the RVTM for the capture and tracking of IS design rating progress evidence.

Table 13: Key elements integrating sustainability into design development

Key Stages	Sustainability role	Governance document
<ul style="list-style-type: none"> <li>Discipline workshops</li> <li>Technical Advice Notification (TAN) development</li> <li>Value Engineering (VE) workshops</li> <li>Risk &amp; Opportunity (R&amp;O) reviews</li> <li>Constructability reviews</li> <li>Management Plan development</li> <li>Design Package development</li> </ul>	<ul style="list-style-type: none"> <li>Sustainability workshop with discipline leads</li> <li>TAN reviews</li> <li>Participation in VE workshops</li> <li>Testing sustainability initiatives</li> <li>Managing the Innovation Register</li> <li>Participation in risk reviews</li> <li>Reviewing management plans which interface with sustainability</li> </ul>	<ul style="list-style-type: none"> <li>Training materials/presentation</li> <li>VE Register</li> <li>R&amp;O Register</li> <li>RVTM</li> <li>TANs &amp; Comments Register</li> <li>Management Plans</li> <li>Design Packages</li> <li>Sustainability in Design Report</li> </ul>

Material lifecycle, water and energy foot printing will be undertaken considering WoL outcomes to achieve targeted material reductions and further opportunities as calculated for the IS resource credits (Energy, Water, Materials). Leading into the Procurement phase, a key design objective relevant to sustainability will be durability evaluations of products and materials to meet design life requirements. This will help to ensure WoL and Value for Money considerations deliver the most sustainable outcomes.



## 6.5 Sustainable Procurement

CPB Downer JV has adopted CPB Contractor's' procurement process and systems for the delivery of the WFU. A project specific procurement policy has been developed as per Appendix A, which along with the CIMIC Group Procurement Policy and the CPB Contractors' Procurement Procedures, tools and knowledge resources, form the basis of the project procurement approach in line with ISO20400:2007 Sustainable Procurement Guidance.

### 6.5.1 Procurement Process

An overview of the procurement process that will be implemented on the WFU Project is detailed in the Procurement Plan. The following provides an overview of how sustainability considered and incorporated into in the procurement process

#### 6.5.1.1.1 Review of Procurement Schedule

The Procurement Schedule is a live document and central to the management of the timely delivery of all goods and services for WFU.

This Procurement Schedule outlines amongst other things, details on each package to be let (including nature of work, type of agreement to be entered into and tenderer identities) and timing requirements pertaining to when the various stages of the procurement process are to be reached with respect to each package, from completion of design documentation through to executed agreements. This schedule has also been used to identify suppliers with high impact works in regard to sustainability. This is defined as having scope/s of works likely to have an impact on the overall achievement of the sustainability targets.

The Sustainability Manager has reviewed the procurement schedule and identified the following as high impact suppliers:

- Spoil and waste haulage
- Concrete and shotcrete supply
- Asphalt supply
- Precast concrete -super T's, planks, piers, beams, retaining walls
- Road base and aggregate supply
- Steel supply- structures and reinforcement
- Bored piling and civil subcontractors
- Drainage structures

The procurement team will use the schedule to ensure that all parties in the development of specifications, work packages and tendering documentation can be effectively co-ordinated, allowing time for engagement with the supply chain. The procurement team will work closely with the Sustainability Team to ensure relative sustainability aspects are adequately managed.

#### Prequalification

WFU uses an initial prequalification process which ensures all subcontractors and suppliers meet the minimal requirements. This involves subcontractors and suppliers completing multidisciplinary questionnaires, which includes environment and sustainability and a review for modern slavery. Reviews are carried out by representatives from the Commercial and Procurement Team, in consultation with the Project's Environmental and Sustainability Manager and/or Sustainability Manager as required. This is considered as the first stage of supplier evaluation to ensure suppliers can operate under systems and high standards. Suppliers are either rejected or invited to tender.

#### Sustainability Specification

All contracts refer to the Sustainability Specification which includes the sustainability targets in plain English. The Sustainability Specification will also be included in all tender requests to set out sustainability systems and targets. All suppliers must agree to the requirements.



## Request for Quotation

6.5.1.1.2 Tenders accepted within the prequalification can be invited to tender and request for quotation submitted. The tender is provided the Sustainability Specification and is required to comply with all elements.

## Pre-Tender Questionnaire

A pre-award tender interview questionnaire will request additional information based on the responses provided in the EOI form. When suppliers are identified as high-impact suppliers, further information may also be requested from the sustainability team at this stage. When a subcontractor accepts all WFU's terms and conditions, this interview is not necessary (at the discretion of the Contracts Manager).

## Tender evaluation and recommendation

Once all tender responses are received, WFU will analyse and document the details of each submission. The analysis will consider each offer from an overall technical, timeframe and commercial viewpoint, as well as from the financial aspect.

The Contracts Manager will coordinate with the respective design and construction staff to analyse and assess tenders in accordance with the Procurement Plan and Sustainability Specification. Analysis of results will be documented in a Tender Analysis sheet and processed for tender selection.

Where a subcontract has been identified as a high-impact supplier, the second stage of environment and sustainability evaluation is utilised, which includes specific environment and sustainability consideration. This criteria is unique to the subcontract and will be detailed in the tender evaluation documentation

## Supply contracts

Supply contracts include requirements to comply with the Sustainability Specification, including Sustainability requirements. Where suppliers are identified as a high-impact subcontractor, additional sustainability requirements may be incorporated into the contract, where relevant.

The Sustainability Specifications include the requirement for all subcontractors to provide reports (in the form required by CPB Downer JV)

- (a) energy production and energy usage;
- (b) material usage
- (c) water usage; and
- (d) waste production,

in connection with their Project related activities.

## Performance monitoring

Performance of subcontractor is monitored throughout their engagement on the Project. Monitoring processes are dependent on the type of subcontract, and this is detailed in the Sustainability Specification. Sustainability monitoring and assurance processes include;

- review of sustainability reporting in accordance with sustainability objectives and targets,
- work activities inspection and,
- compliance audit with applicable Project management plans, processes and procedures.

Corrective action will be issued to the subcontractor where identified. This may include;

- inspection/audit actions,
- information requests for sustainability reports
- evidence of compliance\ certification

Where corrective actions remain unresolved, management will be escalated to the Procurement and Commercial team for management. Unresolved corrective actions or where a subcontractor fails to carry out corrective action, it will be treated as breaches in their contract and CPB Downer JV may exercise their rights in respect of default.

## Rewarding Sustainability Performance of Suppliers and Subcontractors

Once suppliers and subcontractors have been engaged, CPB Downer JV will recognise and/or reward the sustainability performance of suppliers by:

- Recognition and involvement at Subcontractor Forums
- Considering their sustainability performance in the assessment of additional tender packages
- Considering sustainability innovations identified by subcontractors or suppliers.
- Considering sustainability performance in After Action Improvement Reviews which aim to capture lessons learnt and are shared with Parent Companies to assist in improving future performance on other relevant projects.

### 6.5.2 Human Rights and Modern Slavery

CPB Downer JV will implement CIMIC Group Policies including the commitments for actively avoiding human rights violations, abiding by the human rights and civil liberties included in the Universal Declaration of Human Rights, the International Labour Organisation (ILO) and the ten principles of the United Nations Global Compact. The CIMIC Group's Code of Conduct and the Dealing with Third Parties Policy, in addition to CPB Downer JV's Sustainability Policy requires specific due diligence to be undertaken regarding risks associated with modern slavery.

Supply chain due diligence includes the screening of third parties (including vendors, suppliers and business partners) against a range of risk factors and indicators which include:

- Sanctions, watch-lists, adverse litigation and Politically-Exposed-People (PEP) lists
- Adverse media (print media and social media) in any jurisdictions in which CIMIC operates
- Financial information including company ownership, structure, credit rating and financial strength
- Potential for modern slavery, bribery and corruption to occur in particular industries and countries

As part of prequalification and onboarding, all suppliers must also complete a Third-Party Anti-Bribery and Business Integrity Declaration in which they disclose (among other things) whether they (or any of their subcontractors or suppliers) have:

- Been subject to or received any prosecutions, regulatory notices, tendering restrictions, sanction notices, litigation or arbitration concerning allegations of fraud, bribery, ethical-business practices or corruption, modern slavery or breaches of the human rights of employees or contractors, or environmental or safety breaches or any similar or associated laws or regulations
- Used modern slavery, human trafficking or forced or child labour anywhere
- A compliance management program (i.e., policies, procedures, training, whistleblower protection) to ensure compliance with business integrity laws and regulations (i.e., bribery and corruption, fraud, modern slavery legislation and or any other associated laws or regulations)

Suppliers are also required to make certain assurances, such as that they will not use any payments which they receive from CPB in violation of any modern slavery, anti-bribery, anti-money laundering, trade sanctions, terrorist financing or other similar laws and regulations.

## 6.6 Integrating Sustainability in Construction

Integrating the sustainability requirements into the construction process is critical to achieving the Project's sustainability targets and creating whole life value for key stakeholders. The Project's Sustainability Team will conduct meetings with the Construction Director (or delegate), and other relevant construction leads to discuss and document initiatives implemented at key construction phases that relate to sustainability requirements, implications and benefits.

The Sustainability Team will prepare a 'Sustainability Requirements Register', which will outline the project sustainability requirements for construction elements.

Impacts from implemented opportunities, such as material or operational energy reductions, will be calculated as part of the IS resource credits (Energy, Water, Materials). Identified sustainability opportunities will be documented as sustainability initiatives as per Section 6.2.1 and Appendix E.

Section 6.5 and Section 6.7 are also relevant in detailing how sustainability is embedded into construction processes.

## 6.7 Training Requirements

Sustainability training requirements will be identified and documented within the Project training matrix for each role, including competency, needs and capability, further details provided in the Workforce Development Management Plan.

CPB Downer JV will provide additional training and education on sustainability aspects for the WFU Project staff and workforce. This includes:

- **Project induction** - All personnel, subcontractors and visitors will undergo an induction before commencing work on-site. The induction will address Project-specific sustainability issues, including sustainability objectives and targets and sustainability expectations of employees and subcontractors. Induction materials will be reviewed at least annually and amended where necessary to reflect changes to Project sustainability issues.
- **Project Sustainability Training** - The Project will deliver (internally or externally facilitated) sustainability training to provide specific and targeted sustainability training. This will include workshops described in Section 6.
- **Sustainability toolbox talks and workshops** – toolbox talks targeted around relevant sustainability initiatives and ideas generation will be rolled out across the worksites to communicate key messages, reinforce requirements, and seek feedback.
- **ISC Infrastructure Sustainability Accredited Professional Training (ISAP)** – Relevant project staff will be encouraged to complete ISC’s ISAP training, particularly personnel within the Environment and Sustainability Team and other relevant functional areas.

### 6.7.1 Knowledge sharing

CPB Downer JV is committed to enhancing sustainability culture and raising awareness about sustainability principles and initiatives throughout the WFU Project and beyond. As such, CPB Downer JV will ensure knowledge sharing is carried out regularly with the project team, parent companies, key stakeholders and the wider infrastructure industry.

The Sustainability Manager will participate in relevant forums for sharing knowledge across the industry. Where appropriate, sustainability case studies will be generated by the project for internal and external communications as appropriate.

Knowledge sharing processes are iterative and evolve as the project progresses. Key examples of knowledge sharing initiatives to be adopted by CPB Downer JV are shown in Table 14.

Table 14: Examples of sustainability knowledge sharing initiatives

Audience	Knowledge Sharing Initiatives
Internal	Sustainability toolbox talks Sustainability workshops
Parent Organisation	The CPB IS Network - was developed as a forum for information sharing and to provide IS rating support. Where relevant, the project will share updates, lessons learnt, key achievements and challenges with the network to facilitate learning and capability building across CPB IS project teams. Downer Monthly Knowledge Sharing Forums across major projects with presentation of key initiatives.
TfNSW	Sustainability knowledge sharing workshop as per SWTC D.5 Section 2.1 k) (ii)
Key Stakeholders	Community consultation Annual report
Wider Industry	Industry Conference and Workshops - The Environment and Sustainability Manager, Project Sustainability Manager and/or other relevant personnel may present on sustainability initiatives, and lessons learnt at relevant industry conferences

Audience	Knowledge Sharing Initiatives
	<p>Case Studies – CPB Downer JV will work collaboratively with Industry to prepare case studies to document specific sustainability initiatives, and lessons learnt.</p> <p>Annual report</p>

## 7 Sustainability Reporting and Information Management

## 7.1 Sustainability Data Capture

### 7.1.1 Resource data

To monitor the consumption of resources (including energy, water and materials) and the generation of waste, CPB Downer JV has established and will implement a monthly monitoring program. This incorporates data collection from sources across the WFU Project, collation and reported as per reporting requirements (Section 7.2). Table 15 shows high material resource types data source for different resources monitored during the Project

Table 15: Sustainability data capture source

Resource Type		Source/s
Resource	Fuel	Project invoices Subcontractor monthly reports
	Energy	Project invoices Mains meter reads
	Gas	Project invoices Mains meter reads
	Other (LPG, oil, grease solvents, acetylene)	Project invoices Subcontractor monthly reports Site tracking register
Water	Potable water	Project invoices Water meter reads Subcontractor monthly reports
	Non-potable water	Water meter reads Modelled consumption estimates (where water meter reads are unavailable) Subcontractor monthly reports
	Water discharge	Water meter reads Modelled estimates (where water meter reads are unavailable)
Waste	Construction waste	Waste tracking register Subcontractor monthly reports
	Office waste	Subcontractor monthly reports
Materials	Concrete	Subcontractor monthly reports
	Steel	Subcontractor monthly reports
	Road base	Project invoices
	Other materials (timber, aggregates, glass, plastic, etc)	Site tracking registers

## 7.2 Sustainability Reporting Requirements

Table 16 describes the required reporting for sustainability on the WFU Project.

Table 16: CPB Downer JV sustainability reporting requirements

Reporting Requirement	Description	Frequency
<b>Client</b>		
Monthly Sustainability Progress Reporting	<p>Prepared by the Sustainability Manager for the Project Director's submission to the Client, this report will include requirements detailed in SWTC C.2 Section 1.2.6, including the following:</p> <ul style="list-style-type: none"> <li>Performance of the Contractor against the targets identified in the Sustainability Management Plan</li> <li>Progress towards achieving the "Design" and "As Built" ISC IS rating tool.</li> <li>Data to support reporting on targets, and a commentary / analysis of trends including actions to be undertaken to improve performance for the follow: <ul style="list-style-type: none"> <li>GHG emissions throughout construction</li> <li>Current and accumulated energy use and GHG emissions and performance against energy and carbon targets</li> <li>Electricity consumption and performance against fuel consumption targets</li> <li>Volume and percentage of potable and non-potable water consumed against targets</li> <li>Quantities of waste generated, recycled, beneficially re-used or disposed for waste and spoil targets</li> <li>Volume weighted average of substitute cementitious content in concrete</li> <li>Details of sustainable training and inductions for major subcontractors</li> <li>Details of low carbon and greenhouse gas reduction initiatives</li> <li>Climate change risk assessments undertaken and details of where the assessments have influenced the design and construction</li> <li>Life cycle assessments undertaken, and details of environmental impact reduction initiatives</li> </ul> </li> </ul> <p>Details of any innovative sustainable design initiatives</p> <p>The report will be submitted to the Principal's Representative and the Independent Certifier within five Business Days after the end of each calendar month. Note -sustainability data will be one month in arrears to capture all subcontractor data.</p>	Monthly
Quarterly	A quarterly report on performance against priority group targets will be provided by the Workforce Development and Industry Participation Manager as per SWTC D.5 section 3.2 c.	Quarterly (3 months post commencement of construction)
Annual Sustainability Report	The report must demonstrate and detail performance in sustainability in relation to the Sustainability Management Plan and include progress against sustainability goals and targets over the last year including annual sustainability reporting metrics in line with the NSW Government Resource Efficiency Policy (2019), as per SWTC C.2 s1.7.	Annual (within 5 business days following 31 August each year)



	The report will be submitted to the Principal's Representative and the Independent Certifier within five Business Days after the 31 August each year.	
<b>Legislation</b>		
NGERS Reporting	CPB Downer JV is required to report sustainability data to CPB Contractors and CIMIC to fulfil reporting requirements under the National Greenhouse and Energy Reporting Scheme (NGERs)	Annual
<b>Infrastructure Sustainability Council</b>		
ISC rating submissions	As outlined in Section 2.7, CPB Downer JV is required to obtain an ISC rating for the WFU Project for the Design and As-Built phases. Sustainability data captured by CPB Downer JV will be used to support the preparation of the WFU Project ISC rating submissions	End of Design and Construction phases
Annual Report	Report to identify sustainability performance, lessons learnt and gather stakeholder feedback	Annual

### 7.2.1 Sustainability Items Reported by other Functions

Sustainability aspects reported by other functions are listed in Table 17.

Table 17: Sustainability Items Reported by Other Functions

Sustainability Target, Requirement/Risk/Opp	Function	Sustainability Aspects Reported	Reporting Frequency
Environment Pollution	Environment	Environmental pollution (water discharge, noise, vibration, air quality and light), including environmental incidents and complaint management	Monthly (summary)
Environment and Sustainability Inspections	Environment	Quantity and results of inspections, audits and observations	Monthly
Tree Canopy	Environment	Percentage of tree canopy cover Sustainability Requirement 22	Once (Urban Design and Landscape Plan)
Workforce development	HR	Performance against SWTC D.5 Section 3	Monthly

## 8 Evaluation and improvements

### 8.1 Audits and Review

Audits, inspections, and reviews will be undertaken where required to achieve targeted rating scheme credit requirements and evaluate project performance associated with sustainability. Table 18 highlights an indicative list of audits

Table 18 : CPB Downer JV required sustainability audit

Name	Detail	Timing/ Frequency
<b>Client Required</b>		
Independent Sustainability Professional	Assess and report on progress against the Sustainability Management Plan; Provide a provisional update to the interim IS Ratings submitted under sections 2.2 e)(i) and 2.2 f)(i); and Identify opportunities or deficiencies to be addressed to meet the IS Rating requirement nominated in sections 2.2 g) and 2.2 h).	Two audits in the design phase; and Three audits and/or a minimum frequency of one per year in the construction stage. Reports must be submitted to the TfNSW Representative within two weeks of the completion of the review
<b>ISC Required</b>		
Design ISP Review (Man-3 Review)	Review of ISC Submission and Sustainability Management System	Quarterly during design, and
Construction ISP Review (Man-3 Review)	Review of ISC Submission and Sustainability Management System	Six monthly during construction
Design External Sustainability Audit (Man-4 Audit)	Review of ISC Submission and Sustainability Management System	Once during design
Construction Internal Sustainability Audit (Man-4 Audit)	Review of ISC Submission and Sustainability Management System, and or environment and sustainability aspects	3 per year
Construction External Sustainability Audit (Man-4 Audit)		Annual
Energy & Carbon Monitoring and Modelling (Ene-1 Audit)	Review of energy and carbon monitoring and modelling	Once during Design and Once during Construction
Waste Handling and Disposal to destination (Was-1 Audit)	Waste Handling Audit	6 monthly during construction

The Sustainability Manager will prepare an audit and review schedule to identify required actions, frequency and responsibilities throughout design and construction.

All persons conducting audits and reviews will be required to confirm they meet the requirements outlined within applicable project requirements or IS rating tools. This may include identification of qualifications and/or meeting the relevant thresholds of “IS suitably experienced”.

### 8.2 Inspections

Sustainability compliance monitoring on site will be undertaken using two types of sustainability inspections, which will be carried out throughout the delivery of the WFU Project. This sustainability inspection regime has been developed in line with the requirements of ISC credit Man-4. These inspections are:

1. Weekly environment and sustainability inspections, which will be carried out by personnel in the CPB Downer JV Environment and Sustainability Team. This process is detailed in the CEMP. The

sustainability component of the inspection will focus on initiatives to reduce both environmental and social impacts and, where required, actions may be raised to address any issues identified.

2. Quarterly detailed sustainability inspections, which are predominately carried out by the Sustainability Team to assess the implementation of sustainability initiatives and compliance with sustainability requirements at the WFU Project.

### 8.3 Sustainability Performance Review

Sustainability performance will be reviewed monthly by the CPB Downer JV Senior Leadership Team (SLT) and reported in the Monthly Sustainability Progress Reporting (refer to Section 7.2)

In addition, sustainability performance will be presented formally, at least annually, to the Senior Leadership Team.

CPB Downer JV will investigate methods to report sustainability performance to key stakeholders during construction. This will enable stakeholder feedback. Methods of delivery may include:

- Presentations during interface meetings.
- Sustainability information included in community newsletters and notifications.
- Annual sustainability performance report prepared and published online (publicly available).

### 8.4 Management Plan Review and Improvement

This Plan will be reviewed annually by the Sustainability Manager to assess the adequacy of the Sustainability Management Plan and overall performance against Project sustainability requirements, targets and objectives.

Updates will be made to the Plan, and where relevant, Sub-plans, when new elements of the Project Works, Temporary Works and O&M Activities not covered by the existing Sustainability Management Plan commence, or as required for changes in construction sequencing or methodology.

Updates will also take into consideration corrective actions including lessons learnt and improvement/enhancement opportunities identified as the results of:

- Audits undertaken.
- Communication, participation and consultation.
- Relevant communication including complaints from external stakeholders.
- performance of the Project.
- extent to which the objectives and targets have been met.
- Changes to legislation.
- Actions management reviews, and recommendations for improvement.
- Feedback for stakeholders.

## 9 Key Sustainability Initiatives

### 9.1 Climate change

CPB Downer JV will undertake a climate change risk assessment for the construction and operational stage of the Project in accordance with AS 5334-2013 (Climate change adaptation for settlements and infrastructure – A risk-based approach) & the Representative Concentration Pathway (RCP) 8.5 scenario in accordance with Intergovernmental Panel on Climate Change (IPCC). The aim of the assessment will be to comprehensively identify and implement adaptation measures to address, as a minimum, 'extreme' and 'high' rated risks identified in the climate change risk assessment.

### 9.2 Energy Efficiency and Greenhouse Gas Emissions Strategy

Refer to Appendix G.

#### 9.2.1 Materials initiatives

The WFU Project will place a significant demand on a range of resources, including both primary and secondary materials that have undergone some degree of offsite processing. This demand has the potential to create a resource depletion risk. As such CPB Downer JV has a sustainability objective to maximise efficiencies to reduce our footprint in relation to energy, water, materials, and waste. To manage this risk, CPB Downer JV will adopt the materials management hierarchy shown in Figure 10 during the WFU Project.

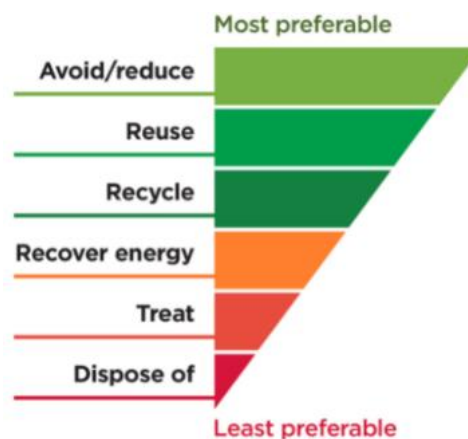


Figure 10: Waste Hierarchy

The following outlines our approach to sustainably manage materials used during the delivery of the WFU Project where appropriate:

- Use the IS Materials Calculator and EPD's, or other tools as accepted by ISC, to measure scope 3 emissions to meet IS credit requirements
- Consider trialing v2.1 Rso-6 and Rso-7 in place of Mat-1 & Mat-2
- Minimising the quantity of Portland cement in concrete mix designs and using supplementary cementitious material (e.g., fly ash, slag), where possible, while still meeting other Design requirements.
- Reducing steel and concrete quantities through value engineering initiatives identified during design development.
- Reducing steel reinforcement quantities through use of steel fibre reinforcement or plastic fibre reinforcement (e.g., in shotcrete), while still meeting other Design requirements.
- Production of bentonite onsite, reducing transport emissions.
- Use of recycled or reused steel where possible. Sourcing reinforcing steel (rebar and mesh) from suppliers who use electric arc furnaces which adopt energy-reducing processes such as Polymer Injection Technology (PIT), to reduce the embodied energy per unit. Suppliers will need to be members of the World Steel Association (WSA) Climate Assessment Program (CAP).

- Provide for asset reuse, where appropriate. This approach removes and/or minimises the need to procure various items of equipment through reuse of existing plant and facilities.
- Implement the Forest Certification Scheme (FSC) procurement policy. Sourcing timber from FSC sources certified suppliers or, where it can be shown it is impractical to source timber using the FSC scheme, timber will be sourced from Forestry Corporation NSW managed schemes which can provide Chain of Custody using PEFC certification.
- Where possible for significant elements, a portion of structural steel will be assembled off-site using optimal fabrication techniques.
- Reuse of formwork. If materials used on site can be reused without diminished performance or easily repurposed without the need for off-site treatment or processing, they will be used as a preference.

### 9.2.2 Waste initiatives

Waste management is an important aspect of sustainability on the WFU Works. The Waste and Resources Sub-plan to the CEMP details CPB Downer JV's management practices in relation to waste. A focus will be on minimising waste excavated and maximising recycling and reuse potential. Initiatives may include:

- Investigation of best practice approach to utilise existing assets where feasible and practicable, including removal of unnecessary work activities and option-engineering.
- Ensure at least 80 percentage of demolition and construction waste is reused or recycled.
- Where practicable, use post-consumer, post-industrial recycled material or waste materials, including crushed glass, recycled aggregate, tyre-derived aggregate and recycled materials for noise attenuation devices.
- Recycled hardstand materials use for temporary works, if possible, and existing hardstand areas will be maintained for use; and
- Useable spoil reuse opportunities will be sought and maximised, targeting 95% reuse of reusable spoil generated during delivery of the Works. This may involve seeking Resource Recovery Exemptions.
- 100% of Virgin Excavated Natural Material (VENM) will be reused or recycled through practices consistent with the Protection of the Environment Operations Act 1997 & Protection of the Environment Operations Waste) Regulation 2014.1
- Use compostable or reusable temporary erosion control devices where practicable.
- Compostable or reusable kitchen items will be selected where possible to prevent the use of single use and/or non-recyclable kitchen items at on-site facilities; and
- Identify opportunities for circular economy waste initiatives, through the recycling of existing road and associated infrastructure components and by products of temporary construction works to generate usable products in the temporary works or final asset

### 9.2.3 Monitoring and Reporting

CPB Downer JV will monitor carbon and energy usage, including material and waste consumption, through environmental and sustainability inspection and monthly client reporting detailed in Section 0.

## 9.3 Water Efficiency

CPB Downer JV is committed to maximising efficiencies to reduce our footprint in relation to water through the delivery of the WFU Project. The Water Reuse Strategy will include the findings of the water demand model and explores water minimisation and reuse practices and opportunities. Water efficiency strategies also form part of the Waste and Resource Management Plan (WRMP).

## 9.4 Environment Management Systems

Environment management is a core pillar of sustainability management. CPB Downer JV has committed to mitigate pollution and avoid environmental harm in accordance with environmental requirements and achieve net positive benefits for the environment and community and leave a positive legacy.

The Construction Environment Management Plan (CEMP) is the overarching document which details the environment systems and how CPB Downer JV will achieve this objective. The CEMP includes a range of documents that support the management practices and initiatives across the WFU Project. The CEMP and CEMP Sub-plans cover sustainability aspects such as,

- Pollution control such as discharges to air, land and water.
- Land use consideration, including conservation, remediation and flood design; and
- Ecological value, habitat connectivity and biodiversity enhancement

## 9.5 Heritage Management

CPB Downer JV is committed to protect, promote and enhance heritage values through appropriate design, planning, and management controls. CPB Downer JV approach to heritage management is detailed in the,

- Heritage Sub-plan.
- Urban and Landscape Design Plan

## 9.6 Urban Design and Landscape

The Project incorporates well-design and well-functioning urban places and landscaping. The design principle has a focus on water, ecology and community. Initiatives include heritage interpretation, habitat management, indigenous storytelling and planting, and public art installation. This is detailed in the Urban and Landscape Design Plan

## 9.7 Social Sustainability

Social sustainability is about identifying impacts (both positive and negative) which affects people and their community. For the WFU project, there are several methods of promoting social sustainability outcomes:

- CPB Downer JV will ensure the WFU Project will leave a positive legacy through effective and comprehensive community engagement. This is detailed in the Communications Strategy.
- Through delivery the WFU Project, we will contribute to industry uplift by building an engaged, diverse, and highly skilled workforce. This is detailed in the Workforce Development Management Plan.



# Part B

## Elements and Expectations

A core suite of management plans will be used on this Project, with the PMP being the overarching document in the Project suite of Project Plans. The components of the PMP and the structure of the plans are based on Elements and Expectations.

<b>Element</b>	Key aspects for managing this function on the Project
<b>Expectation</b>	The high-level outcomes achieved as part of each Element

This two-level hierarchy provides a consistent structure that is applied across all Project management plans. These Elements are:

- Element 1: Context and Objectives
- Element 2: Management and Accountability
- Element 3: Risk and Opportunity Management
- Element 4: Sustainability in Design and Construction
- Element 5: Sustainability in Procurement
- Element 6: Communication and Knowledge Sharing
- Element 7: Document and Records Management
- Element 8: Monitoring, Review and Improvement

## Element 1: Context and Objectives

Expectations	How we will meet the Expectations (minimum requirements)	Responsible Key Contributor	Deliverable
1.1 Identify project context, objectives, targets and requirements	<ul style="list-style-type: none"> <li>Develop the Project Context and Sustainability Strategies</li> <li>Develop a Sustainability Policy <ul style="list-style-type: none"> <li>Applicable to the WFU project</li> <li>Respond to the TfNSW key documents (as below)</li> <li>Cover environmental, social and economic aspects</li> <li>In place during design and applicable for entire duration of rating</li> <li>Every policy commitment has at least one objective and/or target</li> <li>Endorsed by senior management</li> <li>Placed on project website</li> <li>Identify key contract sustainability requirements and objectives</li> </ul> </li> <li>Respond to Contract Requirements, i.e., SWTC: <ul style="list-style-type: none"> <li>Sustainability Requirements (App D.5)</li> <li>Project Plans (App C.1)</li> <li>Reporting Requirements (App C.2)</li> </ul> </li> <li>Determine mandatory IS rating requirements</li> <li>Establish IS target and stretch target pathway</li> </ul> <p><u>TfNSW SWTC Requirements:</u></p> <ul style="list-style-type: none"> <li>A Sustainability Strategy must be prepared to achieve a minimum “Excellent” ‘Design’ and ‘As built’ rating under the Infrastructure Sustainability Council of Australia infrastructure rating tool</li> <li>Comply with requirements of the Transport for NSW Environment and Sustainability Policy</li> <li>Address the sustainability objectives described in the Roads and Maritime Environmental Sustainability Strategy 2019-23</li> <li>Comply with the sustainability vision and policy detailed in the Planning Approval</li> </ul>	<ul style="list-style-type: none"> <li>Sustainability Manager</li> <li>Project Director</li> </ul>	<p>Details to be included in SMP Section 2.</p> <ul style="list-style-type: none"> <li>Sustainability Policy</li> <li>Mapping policy commitments</li> <li>Compliance Table</li> </ul>

Expectations	How we will meet the Expectations (minimum requirements)	Responsible Key Contributor	Deliverable
<b>1.2 Assess sustainability materiality</b>	<p>Assess Sustainability Materiality</p> <ul style="list-style-type: none"> <li>Review Preliminary LCA (if data available)</li> <li>Determine IS rating boundary</li> <li>Conduct Weightings Assessment</li> <li>Adjust default weightings where necessary</li> <li>Identify credit scope outs</li> <li>Identify Innovation Challenge opportunities</li> <li>Submit Weightings Assessment for IS Verification</li> </ul> <ul style="list-style-type: none"> <li>Register for IS rating</li> <li>Conduct IS Kickoff Workshop <ul style="list-style-type: none"> <li>Attended by key project disciplines</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Sustainability Manager</li> <li>Project Director</li> <li>Design Director</li> <li>Construction Manager</li> <li>Risk Manager</li> <li>Stakeholder/Social Inclusion Manager</li> <li>Workforce Manager</li> <li>Environment Manager</li> <li>Commercial Director</li> </ul>	<p>External to SMP:</p> <ul style="list-style-type: none"> <li>Materiality Assessment</li> </ul>

## Element 2: Management and Accountability

Expectations	How we will meet the Expectations (minimum requirements)	Responsible Key Contributor	Deliverable
<b>2.1 Sustainability roles and responsibilities are clearly defined, documented and communicated</b>	<ul style="list-style-type: none"> <li>Define project leadership sustainability responsibilities</li> <li>Define sustainability responsibilities for key project roles and clearly define roles in associated with delivery of the rating scheme</li> <li>Define rating scheme associated roles and responsibilities</li> <li>Appoint an ISAP who is a member of the project leadership team and has direct responsibilities for sustainability. This person regularly provides advice and participates in decision-making in sustainability management at senior leadership meetings.</li> <li>ISAP is engaged throughout the rating period.</li> <li>Communicate sustainability responsibilities for key project roles upon commencing of their role.</li> <li>Appoint an Independent Sustainability Professional (ISP) to monitor and review sustainability performance.</li> </ul> <p><u>TfNSW Requirements:</u></p> <ul style="list-style-type: none"> <li>Sustainability Representative (Sustainability Manager (as per WFU Deed Schedule A06))</li> <li>Sustainability Reviewer (Independent Sustainability Professional (ISP))</li> <li>Sustainability Reviewer must be an IS Verifier</li> <li>TfNSW Sustainability Representative</li> </ul>	<ul style="list-style-type: none"> <li>Project Director</li> <li>Sustainability Manager</li> </ul>	<ul style="list-style-type: none"> <li>Position Descriptions</li> <li>Organisational Chart</li> <li>Management Plans</li> <li>SLT Meeting Minutes</li> <li>Sustainability Responsibility Matrix</li> </ul>
<b>2.2 Sustainability considerations incorporated into key decision-making processes</b>	<p>Sustainability considerations are an integral part of the decision-making processes on the project. This will include:</p> <ul style="list-style-type: none"> <li>The Risk process is used to categorize the significance of risk and opportunities and identify significant decisions. Significant decisions are those that relate to risk and opportunities rated very high or above.</li> <li>The Project will ensure that decision making in relation to significant issues is characterised by: <ul style="list-style-type: none"> <li>A consideration of options including business-as-usual and other proven approaches taken in comparable situations;</li> <li>An evaluation of options that considers environmental, social and economic aspects through multi-criteria analysis or other scored means; and</li> <li>An evaluation of options based on the useful forecast life of the infrastructure asset.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Sustainability Team</li> <li>Risk Manager</li> <li>Supervisors</li> <li>Line Manager</li> </ul>	<ul style="list-style-type: none"> <li>Risk Management Plan</li> <li>Decision-making tools</li> <li>Lifecycle Assessment (LCA) tools</li> </ul>

Expectations	How we will meet the Expectations (minimum requirements)	Responsible Key Contributor	Deliverable
	<ul style="list-style-type: none"> <li>Recording of outcomes and impacts.</li> </ul> <p><i>Note: Refer to Element 3 for further details on Risk Management and Element 5 for details on procurement process decision-making</i></p>		
2.3 Identify and facilitate sustainability training opportunities	<p><b>Identifying Training Needs</b></p> <p>Sustainability Training requirements are identified and documented within the Project's training matrix.</p> <p>The Sustainability team will contribute to the development of the training matrix.</p> <p>Participation in training will be included in subcontractor agreements.</p> <p><b>Infrastructure Sustainability (ISAP) Training</b></p> <p>Unless already completed, sustainability team staff will complete the [ISC Accredited] training course and exam within 6 months of project commencement or when the course is next offered.</p> <p>Industry sustainability training courses including [ISC Accredited] training courses will be offered to functional leads and project leadership roles where appropriate</p> <p><b>Project Induction</b></p> <p>All personnel, subcontractors and visitors will undergo an induction before commencing work on-site. The induction will address general and Project-specific sustainability issues, including:</p> <ul style="list-style-type: none"> <li>Project-specific sustainability issues</li> <li>Sustainability objectives and targets</li> <li>Sustainability expectations of employees and subcontractors</li> </ul> <p>An assessment will be conducted upon completion of the induction.</p> <p>Induction materials are reviewed at least annually and amended to reflect changes to Project sustainability risks, opportunities and project controls.</p> <p><b>Sustainability Training Modules</b></p> <p>The Project will deliver sustainability training modules as relevant to project team members and project scope, with 2 structured sustainability training sessions planned to be delivered at the project during construction phase.</p>	<ul style="list-style-type: none"> <li>Sustainability Team</li> <li>HR Manager</li> </ul>	<ul style="list-style-type: none"> <li>Meeting Agenda</li> <li>Meeting Minutes</li> <li>Toolbox Presentations</li> <li>Monthly Sustainability Report</li> <li>Training Matrix</li> <li>Training Records</li> </ul>
2.4 Personnel are trained and assessed according to the training plan	<p><b>Provide Training Resources</b></p> <p>All resources to deliver the training schedule, including personnel, equipment, funding and materials, will be allowed for in the Project budget.</p>	<ul style="list-style-type: none"> <li>HR Manager</li> <li>Sustainability Manager (or team member)</li> </ul>	
	<p><b>Delivery of Training</b></p>	<ul style="list-style-type: none"> <li>HR Manager</li> </ul>	<ul style="list-style-type: none"> <li>Training Records</li> </ul>

Expectations	How we will meet the Expectations (minimum requirements)	Responsible Key Contributor	Deliverable
	All training identified in the training matrix will be delivered according to the training schedule. Training and development needs identified through the performance and development process will be achieved as per time frames nominated in individual plans. Personnel delivering sustainability training must be deemed competent by the Sustainability Team or Business Unit Sustainability Manager.	<ul style="list-style-type: none"> <li>Sustainability Manager (or team member)</li> </ul>	
	<b>Training Evaluation and Review</b> Training assessments and evaluation forms will be used to assess the effectiveness of training. Training evaluation and feedback will be reviewed and used to improve the quality of sustainability training delivered on the Project.	<ul style="list-style-type: none"> <li>HR Manager</li> <li>Sustainability Manager (or team member)</li> </ul>	<ul style="list-style-type: none"> <li>Training Assessments</li> </ul>
<b>2.5 Training records are maintained and accessible to relevant personnel.</b>	<b>Training Records</b> Records of all training activities, including inductions, will be maintained. Records will include the name and role of the attendee, the name of the course and, where applicable, reference to the document-controlled version of the material presented, and a copy of the assessment completed.	<ul style="list-style-type: none"> <li>HR Manager</li> <li>Sustainability Manager (or team member)</li> </ul>	<ul style="list-style-type: none"> <li>Training Records</li> </ul>



## Element 3: Risk and Opportunity Management

Expectations	How we will meet the Expectations (minimum requirements)	Responsible Key Contributor	Deliverable
3.1 Processes are established identify and assess sustainability risks and opportunities	<p><b>Identifying Sustainability Risks and Opportunities</b></p> <p>Environmental, social and economic risks and opportunities associated with the whole of project scope will be identified, recorded and tracked in the Project Risk (Risk and Opportunity) Register. The Risk Register will define risk likelihood and consequence and controls to treat or manage the risk.</p> <p>The Sustainability Manager attends/participates in Project Risk Assessment reviews.</p> <p>Sustainability risks and opportunities are considered during all subsequent project risk assessments as per the Risk Management Plan. This includes:</p> <ul style="list-style-type: none"> <li>▪ The Principal Risk Assessment conducted at bid stage for major tangible risks.</li> <li>▪ Climate change risk assessment (direct and indirect risks)</li> <li>▪ Project Risk Register and/or Opportunities Register</li> <li>▪ Sustainability and Innovation Opportunity Register</li> </ul> <p>Where risks and opportunities are assessed separately from the projects overall risk and opportunity assessment, then:</p> <ul style="list-style-type: none"> <li>▪ Any risks rated as extreme, very high or high (or equivalent scale) must be included in the projects overall risk register or appropriate functional risk register</li> <li>▪ Any opportunities rated as extreme, very high or high (or equivalent scale) must be included in the projects overall opportunity register.</li> <li>▪ Treatment/implementation options will be identified and implemented so that there are no residual extreme, high or very high risks.</li> </ul> <p>The Project will integrate sustainability risk and opportunities into the design process utilising an approach similar to the Safety-in-Design process.</p> <p>Sustainability risks and opportunities, inclusive of those relating to sustainability, are managed in accordance with the Risk Management Plan.</p> <p>As a minimum risk and opportunities will be reviewed and updated at annually.</p> <p>Any significant sustainability related risks or opportunities will be raised for resolution during the monthly Sustainability Meetings.</p> <p><b>Climate Change Risks</b></p>	<ul style="list-style-type: none"> <li>▪ <b>Project Director</b></li> <li>▪ Sustainability Manager (or team member)</li> <li>▪ Engineering Manager</li> <li>▪ Engineers</li> <li>▪ Supervisors</li> </ul>	<ul style="list-style-type: none"> <li>▪ Project Risk and Opportunity Register</li> <li>▪ Climate Risk Assessment Workshop</li> <li>▪ Climate Action Plan</li> </ul>

Expectations	How we will meet the Expectations (minimum requirements)	Responsible Key Contributor	Deliverable
	<p>The Climate Change Risk Assessment is conducted with a multidisciplinary team included effected external stakeholders.</p> <p><i>Note: The TfNSW WHT and WFU EIS provides climate modelling using AR5 (IPPC Report).</i></p> <p>A Climate Action Plan will be prepared to achieve required Cli-3 Level 3 as follows:</p> <ul style="list-style-type: none"> <li>After treatment there are no extreme priority residual climate change risks. (Level 1 Cli-2)</li> <li>Adaptation options to treat 25-50% of all medium priority climate change risks are identified, assessed and appropriate measures implemented. (Level 2 Cli-2)</li> <li>Adaptation options to treat at least 50% of all medium priority climate change risks are identified, assessed and appropriate measures implemented. (Level 3 Cli-2)</li> <li>After treatment there are no high priority residual climate change risks. (Level 3 Cli-2)</li> </ul> <p><u>TfNSW requirement:</u></p> <ul style="list-style-type: none"> <li>Undertake a climate change risk assessment for the construction and operational stage of the Project in accordance with AS 5334-2013 Climate change adaptation for settlements and infrastructure - A risk-based approach.</li> <li>identify and implement adaptation measures to comprehensively address, as a minimum, 'extreme' and 'high' rated risks identified in the climate change risk assessment</li> <li>TfNSW Climate Risk Assessment Guidelines (2021) will be utilised by the Project team undertaking the Climate Change Risk Assessment where feasible for practical guidance and alignment to TfNSW systems. The TfNSW climate change assessment tools will be used to provide supplementary evidence and framework where required by the Project team.</li> </ul>		
<b>3.2 Respond to key risks and opportunities</b>	<p><b>Implement Adequate Controls</b></p> <p>If the risk rating returns a result of 'medium' or above, then additional controls sufficient to reduce the risk rating to 'low' or an alternative acceptable level using cost effective designs and engineering and/or administrative controls will be utilised.</p> <p>Residual risks with a high or extreme risk rating will be considered 'significant' and must be controlled using appropriate systems of work, including project work procedures, along with available "hard controls".</p>	<ul style="list-style-type: none"> <li><b>Risk owners</b></li> <li>Sustainability Manager (or team member)</li> <li>Project Director</li> <li>Engineering Manager</li> </ul>	<ul style="list-style-type: none"> <li>Appropriate risk control measures in response to risk ratings</li> </ul>
<b>3.3 Feasible opportunities are implemented</b>	<p><b>Implementing Opportunities</b></p> <p>Opportunities identified and for which a business case has been developed, are submitted to the appropriate member of the project leadership team for approval. Once approved, accountability</p>	<ul style="list-style-type: none"> <li><b>Opportunity Owner</b></li> <li>Sustainability Manager (or team member)</li> </ul>	<ul style="list-style-type: none"> <li>Opportunity business case/s</li> </ul>

Expectations	How we will meet the Expectations (minimum requirements)	Responsible Key Contributor	Deliverable
	for implementation of the opportunity is assigned and the opportunity is implemented. Environmental, social and cost benefits are recorded and reported in monthly reporting.	<ul style="list-style-type: none"> <li>Project Director</li> <li>Engineers</li> </ul>	<ul style="list-style-type: none"> <li>Opportunity Benefit Realisation</li> </ul>

## Element 4: Sustainability in Design and Construction

Expectations	How we will meet the Expectations (minimum requirements)	Responsible Key Contributor	Deliverable
4.1 Define sustainability requirements	<p>Sustainability compliance requirements for the project are clearly documented within the SMP, incorporated into the project wide RVTM and a Sustainability Requirement Register. This includes sustainability rating benchmarks being targeted, as well as specific design deliverables (for example, % materials reduction or incorporation of climate adaptation measures).</p> <p>Compliance tracking will include identifying derived sustainability requirements within the compliance verification and tracking system.</p>	<ul style="list-style-type: none"> <li>Sustainability Design Lead</li> <li>Design Director</li> <li>Project Director</li> </ul>	<ul style="list-style-type: none"> <li>Compliance Table (Table 1)</li> <li>RVTM</li> <li>Sustainability Requirements Register</li> </ul>
4.2 Allocation of resources and cost to support sustainability	The Commercial Director will ensure that sufficient cost provisions for resources are included in design and construction phases. The project has committed to a dedicated Sustainability Design Lead to support the Design Rating.	<ul style="list-style-type: none"> <li>Commercial Director</li> <li>Sustainability Design Lead</li> </ul>	<ul style="list-style-type: none"> <li>Sustainability budget</li> <li>Functional Management Plans</li> </ul>
4.3 Include sustainability responsibilities in Design	The project will ensure that sustainability requirements are appropriately captured within design roles and responsibilities to ensure clear accountability to achieve targeted sustainability outcomes.		<ul style="list-style-type: none"> <li>Design JV scope includes explicit sustainability requirements</li> <li>Responsibility Matrix (App D)</li> </ul>
4.4 Link sustainability requirements to key Design Packages	<p>Design packages which have material influence on how sustainability requirements will be defined and communicated. Sustainability requirements for key Design Packages will be articulated and communicated with the Design Director. This will involve:</p> <ul style="list-style-type: none"> <li>Developing a Sustainability in Design Matrix which identifies the key sustainability deliverables, targets and requirements relevant to those Design Packages.</li> <li>Interfacing with the Design Director to discuss requirements and identify potential sustainability opportunities for each Design Package</li> <li>Categorising Design Packages (e.g., Civils, structural, UL&amp;D) and providing a summary of material sustainability requirements and/or targets for each category to relevant Design Lead</li> </ul> <p>Specific records and documentation which are required during design phase to evidence the delivery of sustainability requirements (e.g., Sustainability details captured in the Design Report for each Design Package), will be defined and agreed.</p>	<ul style="list-style-type: none"> <li>Sustainability Design Lead</li> <li>Design Director</li> </ul>	<ul style="list-style-type: none"> <li>Sustainability Design Matrix</li> <li>Design Package Reports containing specific section that addresses sustainability management requirements and initiatives</li> </ul>

Expectations	How we will meet the Expectations (minimum requirements)	Responsible Key Contributor	Deliverable
<b>4.5 Identify and assess sustainability risks and opportunities</b>	<p>Opportunities to improve sustainability outcomes will be identified. Methods for identifying opportunities will include:</p> <ul style="list-style-type: none"> <li>▪ Sustainability Design Lead participation in project risk &amp; value engineering workshops/ processes.</li> <li>▪ A project wide risk and opportunity assessment will be conducted in line with the project Risk Management Plan.</li> </ul> <p>The Sustainability risk and opportunity assessment will include environmental, social and economic aspects. The risks and opportunities will be assessed through for the lifecycle of the project. Processes for this include Safety in Design (SiD), Sustainability in Design and construction area risk assessment workshops.</p> <p>CPB, will incorporate SiD principles throughout the term of the Contract in partnership with project design consultants. CPB will employ rigorous processes to integrate hazard identification and risk assessment within design and eliminate or minimise risk of injury throughout the D&amp;C Phase, including all phases of the project (construction, maintenance, operations and dismantling).</p> <p>A key focus for the WFU Project is ensuring design elements that impact the O&amp;M Phase are appropriately considered with relevant O&amp;M operators. This will occur through each design stage and be applied in conjunction with CPB Contractors' Risk and Opportunity Management processes and relevant legislation.</p>	<ul style="list-style-type: none"> <li>▪ <b>Design Director</b></li> <li>▪ Sustainability Design Lead</li> <li>▪ Design Director &amp; Leads</li> <li>▪ Project Team</li> </ul>	<ul style="list-style-type: none"> <li>▪ Sustainability Initiatives Register (see Appendix E)</li> <li>▪ Evidence of assessment of sustainability initiatives</li> </ul>
<b>4.6 Support and review sustainability outcomes and evidence</b>	<p>Review and support will be established. These will include:</p> <ul style="list-style-type: none"> <li>▪ Sustainability as an ongoing agenda item for relevant design meetings and/or establishment of a dedicated Sustainability in Design meeting.</li> <li>▪ Sustainability Design Lead to be provided updates to Design Schedules and progress reports to assist identify upcoming design review gateways for relevant Design Packages.</li> <li>▪ Sustainability input requested at specified design review gateways for material Design Packages.</li> <li>▪ Sustainability impacts captured in the design change management process. E.g., include a sustainability section in Design Report template.</li> <li>▪ Inclusion of sustainability documentation requirements (e.g., Environmental Product Declarations) in selected Inspection and Test Plans (ITPs).</li> </ul> <p>Monitoring and review of Design Team's compliance with incorporation of relevant sustainability requirements within design packages will be undertaken as follows:</p> <ul style="list-style-type: none"> <li>▪ Checking that sustainability requirement information provided for inclusion within Design Reports has been included for each Design stage</li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>Sustainability Design Lead</b></li> <li>▪ Design Director</li> <li>▪ Quality Manager</li> </ul>	<ul style="list-style-type: none"> <li>▪ Meeting minutes</li> <li>▪ Evidence of sustainability review signoff</li> <li>▪ Selected ITPs include reference to sustainability document requirements</li> </ul>

Expectations	How we will meet the Expectations (minimum requirements)	Responsible Key Contributor	Deliverable
	<ul style="list-style-type: none"> <li>Audit of Design interface process by Independent Sustainability Professional as part of IS Rating Man-4 Credit Sustainability Audits (if targeted)</li> <li>Audit of Design interface process by TfNSW or IC.</li> </ul>		
<b>4.7 Integrate sustainability into construction</b>	<p>During Construction:</p> <p>The Sustainability Manager will identify sustainability opportunities and agree responsibilities with relevant construction lot leads.</p> <p>The Sustainability Manager and Construction Manager will define and agree on specific input into the Construction Plans and key construction planning controls/documents/processes (e.g., Work Packs and Construction Area Plans) as relevant to evidence and achieve the project sustainability requirements/targets.</p> <p>The Sustainability Manager will:</p> <ul style="list-style-type: none"> <li>Be provided construction/procurement schedules and progress reports to enable input and review</li> <li>Provide input at specified construction review gateways for material packages.</li> </ul> <p>The Construction Manager will add Sustainability as an ongoing agenda item for relevant meetings and/or establishment of a dedicated sustainability in construction meeting.</p>	<ul style="list-style-type: none"> <li><b>Sustainability Manager</b></li> <li>Construction Manager</li> </ul>	<ul style="list-style-type: none"> <li>Functional Management Plans</li> <li>Construction Plans</li> </ul>



## Element 5: Sustainability in Procurement

Expectations	How we will meet the Expectations (minimum requirements)	Responsible Key Contributor	Deliverable
5.1 Identify material procurement scopes/packages	<b>The Sustainability Manager engages early with the Procurement Team and Commercial Team to understand the procurement process specific to this project and identify the key packages/scopes associated with high materiality sustainability topics</b>	<ul style="list-style-type: none"> <li>Sustainability Manager</li> <li>Commercial Director</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>
5.2 Incorporate sustainability performance specification into subcontractor and supplier contracts	<p>The Sustainability Manager will develop a set of Sustainability Performance Specifications to clearly articulate the performance requirements associated with selected high materiality design/construction packages and/or technical disciplines to achieve the sustainability requirements/targets.</p> <p>The Sustainability Performance Specification will be included in relevant design, construction and procurement contract documentation. Where relevant specific sustainability performance and targets will be established for high materiality packages.</p> <p>The Sustainability Performance Specifications and/or supply agreements will include the supplier/subcontractors reporting requirements.</p>	<ul style="list-style-type: none"> <li>Sustainability Manager</li> <li>Commercial Director</li> </ul>	<ul style="list-style-type: none"> <li>Sustainability Specifications</li> </ul>
5.3 Sustainability considerations incorporated into supplier selection processes	<p><b>Subcontractor/Supplier Selection and Engagement</b></p> <p>Subcontractors &amp; Suppliers engaged on the project are required to complete a Pre-qualification questionnaire prior to selection.</p> <p>Sustainability considerations will be incorporated into pre-qualification process.</p> <p>Sustainability policies and evidence of implementation will be requested.</p> <p>Pre-qualification responses will be reviewed and included in subcontractor/supplier selection process.</p> <p>Quantitative multi-criteria analysis will consider environmental, social and financial aspects for selected high impact procurement categories. Weighting for non-financial aspects in these categories is to be at least 30 percent.</p> <p>Subcontractors will be made aware of sustainability requirements during the tender process and Start-Up meetings</p> <p>Contract Managers will work with suppliers to identify opportunities for sustainability opportunities and collaboration.</p> <p><u>TfNSW Requirement:</u></p> <p>Identify, analyse and implement opportunities to use materials with low embodied environmental impact that are:</p> <ul style="list-style-type: none"> <li>(a) From local suppliers</li> <li>(b) That are energy efficient or have low embodied energy</li> <li>(c) That minimise the generation of waste</li> </ul>	<ul style="list-style-type: none"> <li>Commercial Director</li> <li>Engineering Manager</li> <li>Sustainability Manager</li> </ul>	<ul style="list-style-type: none"> <li>Pre-qualification questionnaire</li> <li>Tender Evaluations</li> <li>Meeting Minutes</li> </ul>

Expectations	How we will meet the Expectations (minimum requirements)	Responsible Key Contributor	Deliverable
	(d) That make use of recycled materials		
<b>5.4 Contract clauses to include sustainability training or competency requirements for high impact suppliers</b>	<p>For materially relevant key suppliers, the following requirements will be included in the Sustainability Specification:</p> <ul style="list-style-type: none"> <li>An appropriate supplier or subcontractor delegate will undertake CPB Downer JV High Impact Supplier training, or</li> <li>Have completed ASCSS (Australian Supply Chain Sustainability School) sustainable procurement training module(s)</li> </ul>	<ul style="list-style-type: none"> <li><b>Commercial Director</b></li> <li>Sustainability Manager</li> </ul>	<ul style="list-style-type: none"> <li>Sustainability Action Plan</li> <li>Sustainability engagement session minutes</li> <li>Sustainability performance report</li> </ul>
<b>5.5 Supply chain partners report periodically on sustainability performance</b>	<p>Suppliers and subcontractors will report periodically on sustainability performance as outlined in their contractual requirements.</p> <p>Compliance with reporting and documentation requirements will be monitored and corrective actions taken were non-compliant.</p> <p>Sustainability documents required include evidence necessary to support Rating Scheme Submissions, as well as other governance and compliance requirements (e.g., Forest Stewardship Council timber chain of custody notes; Energy consumption data)</p>	<ul style="list-style-type: none"> <li><b>Commercial Director</b></li> <li>Sustainability Manager</li> </ul>	<ul style="list-style-type: none"> <li>Sustainability performance metrics</li> </ul>
<b>5.6 Subcontractors/Suppliers are reviewed to assess their performance and compliance with our minimum sustainability requirements.</b>	<p><b>Subcontractor/Supplier Audits and Reviews</b></p> <p>Subcontractors will be inspected and/or audit for sustainability performance against objectives and targets and identify opportunities for improvement as per Element 8: Monitoring, Review and Improvement.</p> <p>Post engagement, suppliers and subcontractors will be evaluated based on performance against a range of non-financial criteria, including environment, health and safety, quality and sustainability among others.</p> <p>Sustainability successes will be promoted, and lessons learnt, including recognition of high performing suppliers/subcontractors will be captured in case studies and other communications.</p>	<ul style="list-style-type: none"> <li><b>Commercial Director</b></li> <li>Sustainability Manager</li> <li>Engineering Manager</li> <li>Supervisors</li> </ul>	<ul style="list-style-type: none"> <li>Audit reports</li> <li>Post engagement evaluations</li> <li>Lessons learnt</li> <li>Case study/s</li> </ul>

## Element 6: Communication & Knowledge Sharing

Expectations	How we will meet the Expectations (minimum requirements)	Responsible Key Contributor	Deliverable
6.1 Internal sustainability communications processes established	<p><b>Project Team Meetings</b></p> <p>Sustainability will be added as an agenda item in key project team meetings, with dedicated sustainability meetings to occur as required. Key project management team will participate as required to discuss sustainability performance, initiatives and challenges. Minutes to be taken and recorded.</p> <p><b>Internal Sustainability Workshops</b></p> <p>The Sustainability Team will coordinate workshops with Project Teams to integrate, monitor and maintain sustainability management requirements within project processes. This will include but not be limited to:</p> <ul style="list-style-type: none"> <li>Design efficiencies and initiatives</li> <li>Procurement processes to communicate requirements to supply chain</li> <li>Construction methodologies to improve resource consumption and waste production, and</li> <li>Workforce Management to develop sustainable procurement initiatives</li> </ul> <p><b>Toolbox Talks and Awareness Sessions</b></p> <p>The Sustainability Team will coordinate regular toolbox presentations and awareness sessions to ensure a high performing sustainability culture is built into the project. Documentation of toolboxes and awareness sessions, including sign on sheets will be retained.</p> <p><b>Ongoing awareness campaign</b></p> <p>The Sustainability team will be responsible for ongoing sustainability prestart messages, posters and input into project newsletters. Documentation of any sustainability awareness materials will be retained.</p> <p><b>Project Sustainability Performance reporting</b></p> <p>The Project will report periodically to the Client on sustainability performance against objectives and targets.</p> <ul style="list-style-type: none"> <li>Itemised quantities of any materials nominated within the sustainability attributes schedule. This includes both materials in the pavement materials and other sustainability categories</li> <li>Itemised quantities and sources of all water used on site</li> </ul> <p><b>Case Study</b></p>	<ul style="list-style-type: none"> <li><b>Sustainability Manager</b></li> <li>Communications and Stakeholder Manager</li> <li>Construction Manager</li> </ul>	<ul style="list-style-type: none"> <li>Meeting Agenda</li> <li>SLT Meeting Minutes</li> <li>Toolbox Presentations</li> <li>Monthly Sustainability Report</li> <li>Case Study/s</li> </ul>

Expectations	How we will meet the Expectations (minimum requirements)	Responsible Key Contributor	Deliverable
	<p>A minimum of one suitable sustainability case study will be generated by the project per annum for internal communications (and external as appropriate).</p> <p><u>TfNSW Requirements</u></p> <p>Monthly and annual reporting as per Appendix C.2 Contractor Documentation Schedule (see Element 8)</p>		
<b>6.2 External sustainability communications processes established</b>	<p>The project external sustainability communications strategy will have two primary pillars:</p> <p><u><b>Engage suppliers and subcontractors:</b></u></p> <p>(Refer to Element 5)</p> <p><u><b>Engage parent company, client and industry:</b></u></p> <p><i>CPB Sustainability Network</i></p> <p>The Sustainability Team (and other project appropriate personnel) will participate in the CPB Contractors Sustainability Network which has been developed as a forum for information sharing and to provide Sustainability Rating support. Where relevant, the Project will share updates, lessons learnt, key achievements and challenges with the network to facilitate learning, knowledge sharing and capability building across CPB Contractors Sustainability Professionals. This forum will also be used to obtain knowledge from other CPB projects, which will then be shared, as appropriate, with the Project team to harness lessons learnt.</p> <p>Minutes from the network are provided as documentation following every teleconference and will be retained as relevant.</p> <p><i>Downer Sustainability Forum</i></p> <p>The Sustainability Team will similarly participate in regular forums hosted by Downer Group.</p> <p><b>Rating Scheme Bodies</b></p> <p>The Project may approach Rating Scheme bodies for consultation and assistance at any time. The Project will liaise with the relevant IS Project Manager(s) from these organisations, as well as providing input into relevant working groups.</p> <p><b>TfNSW Sustainability Forum</b></p> <p>The Project Sustainability team will attend TfNSW sustainability forums with other TfNSW projects for knowledge sharing and communication of lessons learnt on TfNSW projects if required and considered valuable by TfNSW. The Project team will notify TfNSW Sustainability of any noteworthy innovations or initiatives that could assist other TfNSW Projects in achieving their sustainability goals. TfNSW will consider all contributions and request Contractor attendance when and if a forum is organised.</p> <p><b>Case Studies</b></p>	<ul style="list-style-type: none"> <li>▪ <b>Community and Stakeholder Manager</b></li> <li>▪ Sustainability Team</li> <li>▪ Commercial Director</li> </ul>	<ul style="list-style-type: none"> <li>▪ Presentation Content</li> <li>▪ Sustainability Peer Group – Terms of Reference</li> <li>▪ Meeting Agenda</li> <li>▪ Meeting Minutes</li> <li>▪ Case Study/s</li> </ul>

Expectations	How we will meet the Expectations (minimum requirements)	Responsible Key Contributor	Deliverable
	<p>The Project will submit a general sustainability rating case study post self-assessment through relevant certification body as well as to CPB Contractors. The case study will detail sustainability achievements of the Project, as well as key risks and challenges identified.</p> <p>Where relevant, the Project will also seek to communicate learnings and project outcomes externally to project partners, stakeholders, industry representatives and/or wider community, with a minimum of one external case study which outlines both sustainability achievements and challenges faced throughout the project.</p>		
<b>6.3 The effectiveness of internal and external stakeholder engagement is evaluated and improved.</b>	<p><b>Evaluation of Internal and External Communications</b></p> <p>The effectiveness of internal and external communication and consultation activities will be formally reviewed.</p>	<ul style="list-style-type: none"> <li>▪ <b>Community and Stakeholder Manager</b></li> <li>▪ Sustainability Manager</li> <li>▪ Project Director</li> </ul>	<ul style="list-style-type: none"> <li>▪ Communication Survey/s</li> <li>▪ Market Research</li> </ul>

## Element 7: Document and Records Management

Expectations	How we will meet the Expectations (minimum requirements)	Responsible Key Contributor	Deliverable
7.1 Documentation requirements are clearly defined	<b>Documentation Requirements</b> Documentation will be captured as evidence to verify achievement of project sustainability outcomes. This should include the Design documentation agreed in the Element 4 Register will be provided to responsible parties.	<ul style="list-style-type: none"> <li>Sustainability Manager</li> <li>Document Controller</li> </ul>	<ul style="list-style-type: none"> <li>Obligation Register</li> <li>IS Submissions</li> </ul>
7.2 Document and drawing numbering conventions are defined early and implemented	<b>Drawing and Document Numbering</b> Sustainability documentation and drawings will be managed in accordance with project naming and numbering conventions including those for revision, stage and status. Where the project is pursuing a rating under a formal sustainability rating scheme, the evidence submitted for verification will be saved by Credit.	<ul style="list-style-type: none"> <li>Sustainability Manager</li> <li>Document Controller</li> </ul>	<ul style="list-style-type: none"> <li>Sustainability documentation and drawings (where applicable)</li> </ul>
7.3 Relevant documents and records will be maintained using corporate business applications and systems	<b>Evidence/Document Collection</b> Evidence requirements and responsibilities for evidence collection will be identified and tracked for each targeted credit through the RVTM and the Sustainability Requirements Register. Evidence collection status information will be provided upon request and will be incorporated into periodic project reporting as relevant. <b>Evidence/Document Storage</b> Relevant documents and records to be used as evidence will be stored and managed using TeamBinder: <b>Sustainability Management Records</b> The following records will be stored in TeamBinder: <ul style="list-style-type: none"> <li>Evidence of implementation</li> <li>Meeting minutes/correspondence</li> <li>Evidence of review and audit</li> <li>Reporting and case studies</li> </ul> Rating Scheme: <ul style="list-style-type: none"> <li>Evidence submitted</li> <li>Credit Summary Forms</li> <li>Weighting Assessment</li> <li>Verification feedback</li> <li>Verification summary spreadsheet</li> </ul>	<ul style="list-style-type: none"> <li>Sustainability Manager</li> </ul>	<ul style="list-style-type: none"> <li>IS Submissions</li> <li>Incident Reports</li> <li>Resource use reports</li> <li>Risk Registers</li> <li>RVTM</li> <li>Sustainability Requirements Register</li> </ul>



Expectations	How we will meet the Expectations (minimum requirements)	Responsible Key Contributor	Deliverable
	<p>The following exceptions apply regarding storage of records in TeamBinder:</p> <ul style="list-style-type: none"> <li>Energy consumption, water consumption and waste generation data will be reported in JDE and Synergy*, including Water, Waste and Energy data. Final data analysis information and supporting evidence will be stored in TeamBinder as part of IS Rating Submission.</li> <li>Incident reports and corrective actions will be stored and managed using Synergy* - copies will be saved to TeamBinder as part of IS Rating Submission where relevant to IS Rating.</li> <li>Risk registers will be retained in excel spreadsheet. Copies of risk registers will be saved to TeamBinder periodically.</li> </ul> <p>The Project network drive (K: Drive) will be used to store working documents only. Final versions of key documents to be retained such as monthly reports, programme, etc. are to be stored on TeamBinder.</p>		

## Element 8: Monitoring, Review and Improvement

Expectations	How we will meet the Expectations (minimum requirements)	Responsible Key Contributor	Deliverable
<b>8.1 Sustainability performance trends are tracked and reported</b>	<p><b>Monthly Reporting</b></p> <p>A monthly progress report detailing sustainability performance will be prepared for inclusion in the monthly project report submitted. This report will meet with the SWTC C.2 Requirements as per section 7.2.</p> <p>Progress towards IS Credits will be tracked by the Sustainability Requirements Register.</p> <p>Monthly corporate sustainability reporting through Power BI will be undertaken. Dashboards will be utilised for monthly progress reporting to align corporate with project reporting systems.</p>	<ul style="list-style-type: none"> <li><b>Sustainability Manager</b></li> </ul>	<ul style="list-style-type: none"> <li>KPI Reports</li> <li>Action Register</li> <li>Monthly Sustainability Report</li> <li>Sustainability Requirements Register.</li> </ul>
<b>8.2 Regular management reviews are conducted to determine the continuing suitability, adequacy and effectiveness of the Sustainability Management System</b>	<p>The Project must conduct formal management reviews to assess the adequacy of the Sustainability Management Plan as part of its annual management system reviews. The outputs of the review will be incorporated into the Sustainability Management Plan.</p> <p>That review must consider the decision results of:</p> <ul style="list-style-type: none"> <li>Audits undertaken;</li> <li>Communication, participation and consultation;</li> <li>Relevant communication including complaints from external stakeholders;</li> <li>The performance of the Project;</li> <li>Progress towards achievement of targeted IS Rating credits;</li> <li>The extent to which the objectives and targets have been met;</li> <li>Changes to legislation;</li> <li>Actions from previous management reviews and recommendations for improvement.</li> </ul>	<ul style="list-style-type: none"> <li><b>Project Director</b></li> <li>Sustainability Manager</li> </ul>	<ul style="list-style-type: none"> <li>Annual management system reviews</li> <li>Audits</li> <li>Complaint/ enquiry records</li> </ul>
<b>8.3 Regular inspections and monitoring are conducted to check effectiveness of controls</b>	<p><b>Inspections, Observations and Audits</b></p> <p>Internal sustainability inspections of site management will be undertaken at least weekly during construction. These will cover environmental, social and economic aspects.</p> <p>Internal sustainability audits of the Sustainability Management System will be conducted at least quarterly during construction. These will cover environmental, social and economic aspects.</p> <p>External sustainability audits of the Sustainability Management System will be undertaken at least annually. These will cover environmental, social and economic issues.</p> <p>A sustainability audit schedule will be developed.</p> <p>Non-conformances, as identified through the inspection and auditing process will be reported, managed and closed out as per the Quality Management Plan.</p> <p><b>Supplier and subcontractors</b></p>	<ul style="list-style-type: none"> <li><b>Sustainability Manager</b></li> <li>Project Director</li> <li>Engineers</li> <li>Supervisors</li> </ul>	<ul style="list-style-type: none"> <li>Weekly Inspections</li> <li>Quarterly Audits</li> <li>ISP Reviews</li> <li>Waste Audits</li> <li>Supplier Audits</li> </ul>

Expectations	How we will meet the Expectations (minimum requirements)	Responsible Key Contributor	Deliverable
	<p>Suppliers will be audited to verify claims made in tender documents; identify areas of key risk (environmental, social, economic) and identify areas for improvement which need to be considered for possible inclusion in the contract negotiation and terms.</p> <p>Suppliers will be monitored for the duration of contracts against contract specifications, scope of works and sustainability objectives and targets. Poor sustainability performance or non-compliance will be actively managed.</p> <p><i>Note: auditing requirements will be subject to IS credits targeted and any minimum IS credit requirements of the contract.</i></p>		
<b>8.4 All audits are undertaken by suitably qualified and experienced personnel</b>	<p><b>Auditor Competency</b></p> <p>Persons conducting audits and reviews will be suitably experienced and qualified professionals (SQP) as per the requirements outlined within the Infrastructure Sustainability V1.2 Technical Manual.</p>	<ul style="list-style-type: none"> <li>▪ <b>Sustainability Manager</b></li> <li>▪ Project Director</li> </ul>	<ul style="list-style-type: none"> <li>▪ SQP CVs</li> </ul>

# Part C

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## Appendices

## Appendix A: Sustainability Policies

# WFU Sustainability Policy

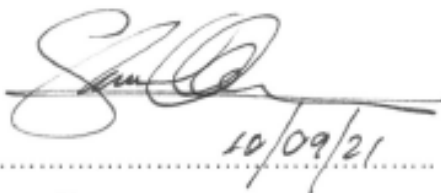
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CPB Contractors (CPB) is committed to integrating governance, environmental, social and economic considerations into decision-making for the design, procurement and construction of the Warringah Freeway Upgrade.

CPB staff, including subcontractors and suppliers, will be empowered to, and held to account for, enhancing positive environmental, economic and social outcomes, where possible, whilst minimising adverse impacts, resource use and embodied impacts.

CPB aims to achieve sustainability excellence in the delivery of this project by committing to:

- Demonstrate industry-leading sustainability performance by driving innovation, encouraging critical thinking and building on a culture of continual improvement
- Mitigate pollution and avoid environmental harm in accordance with environmental requirements
- Minimise impacts on local waterways and vegetation, enhancing and restoring vegetation on completion
- Protect, promote and enhance heritage values through appropriate design, planning, and management controls
- Reduce our carbon footprint through efficient design and construction initiatives
- Provide a positive legacy through emission reduction initiatives and carbon offsetting to support restoration of degraded ecological habitats
- Actively reduce our contribution to climate change
- Work with our local and regional supply chain to develop innovative solutions, sustainability practices and materials
- Improve energy, water and resource use efficiency, maximising recycled material substitution of non-renewables to reduce waste generation.
- Ensure a balanced consideration of the whole of life environment, social and economic costs and benefits during decision-making
- Increase community amenity and connectivity through urban placemaking, active transport options and integration of public transport modes.
- Provide our employees, contractors and suppliers with the information, training and support they require to meet our targets
- Work with the local community to develop workforce skills and support diversity



10/09/21

Steven Clark  
Warringah Freeway Upgrade Project  
Project Director

# WFU Sustainable Procurement Policy

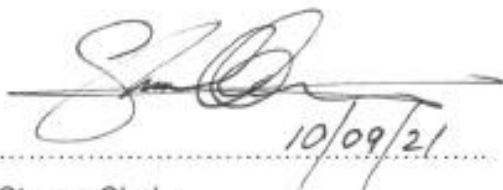
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CPB Contractors Pty Ltd / Downer EDI Pty Ltd Joint Venture (the JV) recognise and support the commitments of the TfNSW Sustainable Procurement Policy. For the JV, procurement is undertaken to generate economic, environmental and social benefits beyond the goods and services required. We will strive to achieve value for money on a whole life basis in terms of generating benefits not only to the organisation, but also to society and the economy, with a neutral or positive impact to the environment. This includes issues such as: organization governance; human rights; environmental impact; consumer rights; community support; fair and ethical operation.

We will strive to deliver new benchmarks for sustainability in the transport infrastructure sector. At all times we will involve all employees, subcontractors, suppliers and consultants to:

- Reduce our projects' contribution to climate change and work with our local and regional supply chain to develop innovative solutions, enhance sustainable practices and materials.
- Ensure a balanced consideration of the whole of life environment, social and economic costs and benefits during decision-making, rather than just initial cost.
- Set frameworks that will deliver value for money and minimise adverse impacts with the application of appropriate risk management techniques throughout the life cycle of the project.
- Collaborate, train, support and empower our employees, contractors and suppliers to develop positive partnerships that will assist meeting our objectives.
- Implement strategies to avoid unnecessary consumption, manage demand and reduce waste
- Non-financial prequalification criterion shall be greater than 20% in total and incorporate sustainability
- Increase industry sustainability awareness and knowledge through the delivery of sustainability training to high impact suppliers.
- Require suppliers to have socially responsible practices including compliance with legislative obligations to employees.

The set of principles described in this policy will be enacted during Procurement in line with the projects Supply Chain Engagement Strategy and ISO 20400 as a driver for innovation to deliver sustainable project solutions.



10/09/21

Steven Clark

Warringah Freeway Upgrade  
**Project Director**



## Appendix B: Mapping Objectives, Targets and Commitments

TfNSW Environmental Sustainability Strategy 2019-2023: Objectives	Key Actions	CPBD JV Environment and Sustainability Policy Commitments	IS Credit Target	TfNSW Environment and Sustainability Policy (2020): Commitments
Communicate our sustainability objectives to employees, contractors and other key stakeholders, and foster a culture which encourages innovative thinking to address sustainability challenges.	<ul style="list-style-type: none"> <li>CPB Downer JV ensures sustainability in integrated into project leadership roles (refer to Section 5.3)</li> <li>CPB Downer JV ensure continual improvement practices (refer to Section 8.4)</li> <li>CPBDJV will show leadership to the wider industry through knowledge sharing (Section 6.7.1)</li> </ul>	Demonstrate industry-leading sustainability performance by driving innovation, encouraging critical thinking and building on a culture of continual improvement.	Man-1	Leadership – contributing to and influencing the strategic environment and sustainability agenda of the NSW Government.
Minimise the air quality impacts of road projects and support initiatives that aim to reduce transport-related air emissions	Implementation of the CEMP and subplans: <ul style="list-style-type: none"> <li>AQMP (Air Quality &amp; Odour Management Plan)</li> <li>NVMP (Noise &amp; Vibration Management Plan)</li> <li>SWMP (Soil and Water Management Plan)</li> <li>FFMP (Flora and Fauna Management Plan)</li> <li>HMP (Heritage Management Plan)</li> <li>CLMP (Contaminated Land Management Plan)</li> <li>TTAMP (Traffic, Transport and Access Management Plan)</li> </ul>	Mitigate pollution and avoid environmental harm in accordance with environmental requirements.	Dis-1-4	Environmental protection – being accountable for addressing and minimising the environmental impacts of our activities to satisfy the expectations and legislative requirements of the NSW Government and community.
Minimise noise, water and land pollution from road and maritime construction, operation and maintenance activities	<i>Note: works undertaken on behalf of TfNSW as part of the project planning approval, outside of CPB Downer JV scope, will contribute to IS submission evidence.</i>			

TfNSW Environmental Sustainability Strategy 2019-2023: Objectives	Key Actions	CPBD JV Environment and Sustainability Policy Commitments	IS Credit Target	TfNSW Environment and Sustainability Policy (2020): Commitments
<p>Improve outcomes for biodiversity by avoiding, mitigating or offsetting the potential impacts of road and maritime projects on plants, animals and their environments.</p>	<p>As per the FFMP:</p> <ul style="list-style-type: none"> <li>• Retirement of credits associated with impact on 'Sunshine Wattle' species</li> <li>• Timber and root balls for habitat enhancement and rehabilitation work will be salvaged for reuse</li> <li>• Design process to retain as many trees as possible. Replacement trees and plantings will be at a ratio of 2:1 and deliver an increase in tree canopy.</li> <li>• Replacement trees will be of suitable pot size, will be have regard to local ecology, and provide shading to footpaths, pedestrian and cycle paths</li> <li>• Tree Protection Zones and Tree Management Plans will be developed as part of the CPB Downer JV best practice approach</li> </ul> <p>Water quality measures as per the SWMP</p>	<p>Minimise impacts on local waterways and vegetation, enhancing and restoring vegetation on completion.</p>	<p>Eco-1 Eco-2 Dis-1</p>	
<p>Manage and conserve cultural heritage according to its heritage significance and contribute to the awareness of the past.</p>	<p>As per the HMP:</p> <ul style="list-style-type: none"> <li>• Archival recording and heritage interpretation of significant heritage items potentially impacted as per CoA 56</li> <li>• Thematic heritage study of golf courses in Sydney for the region north of the Sydney Harbour</li> <li>• Impacts to areas of archaeological potential will be avoided by the Project such as ANZAC Park, Cammeray</li> <li>• Works will avoid impacts in the</li> </ul>	<p>Protect, promote and enhance heritage values through appropriate design, planning, and management controls.</p>	<p>Her-1 Her-2</p>	<p>Environmental protection – being accountable for addressing and minimising the environmental impacts of our activities to satisfy the expectations and legislative requirements of the NSW Government and community.</p> <p>Social – recognising the social impacts and benefits of our activities, and working for healthy liveable communities.</p>

TfNSW Environmental Sustainability Strategy 2019-2023: Objectives	Key Actions	CPBD JV Environment and Sustainability Policy Commitments	IS Credit Target	TfNSW Environment and Sustainability Policy (2020): Commitments
	location of the air raid trenches			
Minimise energy use and reduce carbon emissions without compromising the delivery of services to our customers.	<p>As per the Energy Efficiency and Greenhouse Gas Emission Reduction Subplan:</p> <ul style="list-style-type: none"> <li>Sustainability integration into design process as per section 6</li> <li>Biodiesel for onsite refuelling of plant and equipment</li> <li>100% offsetting carbon of construction energy</li> <li>Select offsetting projects which help to restore degraded habitats</li> </ul>	<p>Reduce our carbon footprint through efficient design and construction initiatives.</p> <p>Provide a positive legacy through emission reduction initiatives and carbon offsetting to support restoration of degraded ecological habitats.</p>	Ene-1 Ene-2 Hea-1	Energy and carbon – improving energy efficiency and working towards net zero carbon emissions.
Design and construct transport infrastructure to be resilient or adaptable to climate change impacts	<p>See Element 3, section 2, 3 and 9.1:</p> <ul style="list-style-type: none"> <li>Conduct climate change risk assessment</li> <li>Identify mitigation measures to reduce risk</li> <li>Embed climate mitigations into design and project delivery</li> <li>Opportunities to reduce flood risk, particularly to adjacent areas including ANZAC Park and the Cammeray Golf Course, will be modelled and construction flood mitigation measures implemented to avoid impacts.</li> <li>To reduce climate change impacts, vegetation will be retained where possible and tree cover maximised over paved areas to reduce heat island effect</li> </ul>	Actively reduce our contribution to climate change.	Cli-1 Cli-2	Resilience – embedding climate risk and resilience considerations in our activities.
Procure goods, services, materials and works for infrastructure development	See section 6.5, Part B – Element 3 Risk & Opportunity Management & Appendix C:	Work with our local and regional supply chain to develop innovative	Pro-1-4 Mat-1 Mat-2	Sustainable procurement – procuring and delivering sustainable, efficient and cost

TfNSW Environmental Sustainability Strategy 2019-2023: Objectives	Key Actions	CPBD JV Environment and Sustainability Policy Commitments	IS Credit Target	TfNSW Environment and Sustainability Policy (2020): Commitments
and maintenance projects that over their lifecycle deliver value for money and contribute to the environmental, social and economic wellbeing of the community.	<ul style="list-style-type: none"> <li>Sustainability Manager engagement in procurement processes</li> <li>Identifying high impact suppliers</li> <li>Sustainability requirement in prequal questionnaire</li> <li>Establishing 30% non-financial criteria</li> <li>Development of Sustainability Specification</li> <li>Subcontractor monitoring and auditing</li> </ul> <p>See Procurement Management Plan See Section 5.4 - Management System - "The Way we Operate" See Section 5.5 - Felix Procurement System See Section 7.3 - 5 Stage Procurement Process</p> <p>See Risk Management Plan See Section 4.3 - Approach See Section 5.1 - Project Risk and Opportunity Register</p>	<p>solutions, sustainability practices and materials.</p> <p>Reduce our projects' contribution to climate change and work with our local and regional supply chain to develop innovative solutions, enhance sustainable practices and materials.</p> <p>Set frameworks that will deliver value for money and minimise adverse impacts with the application of appropriate risk management techniques throughout the life cycle of the project.</p> <p>Non-financial prequalification criterion shall be greater than 20% in total and incorporate sustainability.</p> <p>Require suppliers to have socially responsible practices including compliance with legislative obligations to employees.</p>	Ene-1 Cli-1	effective transport options, including responsible supply chains.
Minimise the use of non-renewable resources and minimise the quantity of waste disposed to landfill.	<p>As per Section 6, Appendix C &amp; E:</p> <ul style="list-style-type: none"> <li>Design development process, efficiencies quantified through LCA/WoL</li> <li>Optimising RAP content and recycled glass in pavements</li> <li>Non-potable water used for dust suppression through early</li> </ul>	<p>Improve energy, water and resource use efficiency, maximising recycled material substitution of non-renewables to reduce waste generation.</p> <p>Ensure a balanced consideration of the whole of life environment, social</p>	Ene-1 Wat-1 Mat-1 Was-1 Was-2  Man-7	Whole of life – considering whole of life benefits and impacts from our activities across all life cycle stages - demand/need, plan, acquire, operate/maintain and disposal.

TfNSW Environmental Sustainability Strategy 2019-2023: Objectives	Key Actions	CPBD JV Environment and Sustainability Policy Commitments	IS Credit Target	TfNSW Environment and Sustainability Policy (2020): Commitments
	<ul style="list-style-type: none"> <li>establishment of detention basins</li> <li>Non-potable used for all ready-mix concrete</li> <li>Transport efficiencies as per Spoil Management Strategy</li> <li>Resource and waste strategies as per WRMP</li> <li>Establishment of Wicks Road Facility</li> </ul>	<p>and economic costs and benefits during decision-making.</p> <p>Implement strategies to avoid unnecessary consumption, manage demand and reduce waste.</p>	<p>Pro-2</p> <p>Pro-3</p>	
Provide high quality urban design outcomes that contribute to the sustainability and liveability of communities in NSW.	<p>As per UDLP:</p> <ul style="list-style-type: none"> <li>Direct impacts to existing shared user paths will be minimised. Any detours and adjustments will be designed with consideration of user safety and convenience.</li> </ul> <p>As per the TTMP:</p> <ul style="list-style-type: none"> <li>Opportunities to reduce or offset the permanent loss of long stay parking spaces along Alfred Street North due to the project will be investigated during further design development.</li> <li>During further design development, the project will investigate opportunities for additional pedestrian connections across Ernest Street that would improve connectivity between active transport paths and public open space in the area</li> </ul>	Increase community amenity and connectivity through urban placemaking, active transport options and integration of public transport modes.	<p>Urb-1</p> <p>Urb-2</p> <p>Hea-1</p> <p>Hea-2</p>	Social – recognising the social impacts and benefits of our activities, and working for healthy liveable communities.
Communicate our sustainability objectives to employees, contractors and other key stakeholders, and foster a culture which	<p>See Workforce Management Plan</p> <p>See Section 4.2 for workforce targets</p> <p>See Section 6.7 and Element 2 for workforce training</p>	Provide our employees, contractors and suppliers with the information, training and support they require to meet our targets.	<p>Man-5</p> <p>Pro-3</p> <p>Pro-4</p> <p>Man-6</p>	Awareness – raising the awareness and capacity of our workforce to be accountable for implementing the Policy through their activities to achieve enhanced

TfNSW Environmental Sustainability Strategy 2019-2023: Objectives	Key Actions	CPBD JV Environment and Sustainability Policy Commitments	IS Credit Target	TfNSW Environment and Sustainability Policy (2020): Commitments
<p>encourages innovative thinking to address sustainability challenges.</p> <p>Procure goods, services, materials and works for infrastructure development and maintenance projects that over their lifecycle deliver value for money and contribute to the environmental, social and economic wellbeing of the community.</p>	<p>See Procurement Management Plan See Section 10.7 - Workforce Development See Section 5.4 - Management System</p> <p>See Communication Action Plan See Section - Stakeholders See Section - Our Approach See Section – Complaints and Issues Management</p>	<p>Collaborate, train, support and empower our employees, contractors and suppliers to develop positive partnerships that will assist meeting our objectives.</p> <p>Increase industry sustainability awareness and knowledge through the delivery of sustainability training to high impact suppliers.</p>		<p>environmental outcomes and a culture of environmental responsibility.</p>
		<p>Work with the local community to develop workforce skills and support diversity.</p>	<p>Hea-2 Sta-1-4</p>	<p>Communication – communicating openly, responsively and empathetically with our customers, partners and stakeholders on environmental matters and report on our performance.</p>



## Appendix C: Achieving Sustainability Targets

No.	Target	Category	Assessment	How target will be meet
1	*68/100	IS V1.2 Design Rating	Assessment against ISC's IS Rating Tool version 1.2 and application of the ISC Scorecard	CPB Downer JV will meet this expectation through: <ul style="list-style-type: none"> <li>• Previous knowledge and expertise in obtaining leading IS ratings for Design and As Built</li> <li>• Knowledge sharing through experiences on other projects</li> <li>• Gap analysis to identify where knowledge and application of ISC can be improved</li> <li>• Ensuring ISC requirements are imbedded in decision-making through the design process</li> <li>• Preparation of meaningful and concise evidence to address relevant ISC credits</li> <li>• Ongoing evaluation to ensure that ISC requirements are being fulfilled</li> </ul> <i>*CPB Downer JV will work towards stretch target IS pathway of 72 points</i>
2	*68/100	IS V1.2 As-Built Rating		
3	95%	Percentage of usable spoil (uncontaminated surplus excavated material) reused/recycled (not inc. Virgin Excavated Natural Material (VENM))	Waste quantities classified under Waste Classification Guidelines, Part 1: Classifying Waste (NSW EPA November 2014).	Our spoil strategy will maximise beneficial reuse of spoil through the Wicks Road Facility enabling transfer to projects in Western Sydney and reprocessing plant in Eastern Creek. This is expected to achieve a 53% reduction in GHG emissions associated with spoil transport, with significant reduction in community impacts associated with reduced truck movements.
4	100%	Percentage of VENM reused/recycled		
5	80%	Percentage of construction and demolition waste (overall uncontaminated material excluding spoil) reused/recycled		By volume RAP, concrete and steel are the highest materials that will be generated. RAP will all be recycled at Downer Recycling Centre. Concrete and steel will be recycled at a local supplier.  Key actions include: <ul style="list-style-type: none"> <li>• Waste strategies included in the Waste and Resource Management (WRMP) of the CEMP</li> <li>• Develop excellent working relationships with waste recovery service providers to maximise recycling and reduce waste to landfill</li> <li>• Investigate the use of project-specific resource exceptions in collaboration with the Environment Protection Authority (EPA) to allow inert waste</li> </ul>
6	100%	Clean concrete beneficially reused		<ul style="list-style-type: none"> <li>• Identify concrete beneficially reused offsite.</li> <li>• Explore potential for onsite reuse.</li> </ul>
7	100%	Clean asphalt pavement reclaimed		<ul style="list-style-type: none"> <li>• Downer Recycling Centre is located nearby in Rosehill</li> </ul>
8	20%	Percentage of construction electricity consumption sourced from renewable energy generated onsite and/or accredited GreenPower	Percentage of purchased GreenPower or onsite generated electricity compared to construction electricity consumption (measured in kWh)	<ul style="list-style-type: none"> <li>• Grid connected site facilities which use Greenpower, supporting grid based renewable energy.</li> <li>• Use of solar on site facilities at Porter Creek</li> <li>• B20 +(20% biodiesel) generators subject to availability</li> </ul> <i>Note: Based on total electricity use of 3.6GWh for D&amp;C phase.</i>
9	100%	Percentage of construction stage energy use offset (in accordance with the Australian Government National Carbon Offset Standard)	Quantity of Australian Government National Carbon Offset Standard offset with compared to construction electricity carbon footprint (measured in tonnes co2-e)	All construction energy associated greenhouse gas emissions will be offset for social and environmental projects, including degraded habitat restoration. With the project acceptance of carbon neutral concrete, this percentage is expected to increase.
10	-	Not Used		-
11	-	Not Used		-
12	15%	Percentage of non-potable water demand which is sourced from non-potable water sources during construction	Quantifying the quantity of non-potable water used during construction compared to total non-potable water demand.	Key actions: <ul style="list-style-type: none"> <li>• Potential to place a large tank and truck water into large tank for water carts from Rosehill, Castle Hill, Liverpool.</li> <li>• Selection of concrete supplier/s that use non--potable water in off-site concrete batching.</li> <li>• Rainwater tanks used at the Wicks Road Facility and using the golf course dams.</li> <li>• On-site capture of treated water for above ground construction activities, i.e. dust suppression (at golf course)</li> <li>• Development of a Water Reuse Strategy and the WRMP</li> </ul>
13	0%	Percentage of non-potable water demand which is sourced from non-potable water sources during operation	Modelling quantity of non-potable water used during operation compared to total non-potable water demand.	The operational phase will not have a water demand post vegetation establishment phase, and therefore no requirement for collections from non-potable sources.
14	15%	Percentage of water (rainwater, stormwater, wastewater, groundwater) generated/collected during construction which is reused, recycled or reclaimed	Quantifying water generated/collected during construction which has been which is reused, recycled or reclaimed compared to total water generated/collected during construction	Rainwater tanks at Wicks Road Facility and reuse from the golf course dams.
15	0%	Percentage of water (rainwater, stormwater, wastewater, groundwater) generated/collected during operation which is reused, recycled or reclaimed	Quantifying water generated/collected during construction which has been which is reused, recycled or reclaimed compared to total water generated/collected during operation	The operational phase will not have a water demand after the vegetation establishment phase, and therefore no requirement for collection from non-potable sources.
16	50%	Percentage of cement replacement material, measured by mass, used in concrete during the construction stage	Average supplementary cementitious material will be calculated from mix specifications	Key actions include: <ul style="list-style-type: none"> <li>• Incorporating SCM replacement targets into design criteria and/or procurement process</li> <li>• Reducing the overall quantity of cementitious material and optimizing the cement content for imposed performance criteria</li> <li>• Replacing a percentage of Portland Cement with supplementary cementitious materials including cement, fly ash, silica fume or ground granulated (iron) blast furnace slag.</li> </ul> <i>Note: Exceeding minimal target of 30%, an initiative identified through discussions with concrete suppliers for insitu concrete</i>
17	17%	Percentage of recycled material used in road base and subbase during the construction stage	Average recycled material content will be calculated from mix specifications	Incorporating recycled content requirements into design criteria and/or procurement process. Key initiatives include:

No.	Target	Category	Assessment	How target will be meet
				<ul style="list-style-type: none"> <li>Up to 40% for subbase (30% RAP and 10% glass) in suitable sections</li> <li>Up to 12.5% for wearing course (up to 10% RAP and 2.5% glass for a portion of the wearing course)</li> <li>Further opportunities exist for temporary and local roads</li> </ul> <p><i>Note: Exceeding minimal target of 10%, an initiative identified through preliminary material footprint assessment, comparing design with BAU</i></p>
18	15%	Percentage improvement in operational energy intensity versus a business-as-usual design	Greenhouse gas footprint analysis for energy consumption to assess modelled emission generated during the operation compared to the base case footprint	<p>Following the energy minimisation hierarchy; elimination, efficiency and substitution. Key action:</p> <ul style="list-style-type: none"> <li>Evaluate LED and sensors energy savings through operational modelling.</li> </ul> <p><i>Note: This is wholly dependent on what is accepted as a Base Case.</i></p>
19	10%	Percentage improvement in construction energy efficiency versus a business-as-usual baseline	Greenhouse gas footprint analysis to assess actual emission generated during the construction compared to the base case footprint	Conservate estimate, however expect to exceed this target once the BAU Assumptions, project IS boundaries and base case are verified by ISCA.
20	100%	Percentage LED light sources in street lighting and other permanent area lighting installed for public amenity or safety purposes	Percentage of permanent lighting which utilises LED lighting	All 553 street lighting are LED with established WoL benefits.
21	20%	Percentage improvement in supply chain carbon emissions intensity (including embodied energy in materials) versus a business-as-usual baseline	Greenhouse gas footprint analysis for embodied carbon (materials) to assess modelled emission generated compared to the base case footprint	<p>Consideration of elimination, reuse and substitution of materials during design and construction.</p> <p><i>Note: Exceeding minimal target of 10%, an initiative identified through preliminary carbon footprint assessment of high impact materials.</i></p>
22	100%	Percentage of tree canopy cover, calculated from pre-project total area versus final design total area	Quantification of tree canopy cover at final design compared to pre-project tree canopy cover	<p>Avoid clearing where possible.</p> <p>Expect to exceed this target with a 1:2 tree replacement program.</p>
23	100%	Percentage of suppliers and supply chain applying sound labour practices	Percentage of engaged suppliers and supply chain that undertook CPB Downer JV procurement process	All supply contracts will incorporate labour practice requirements and modern slavery act compliance including signing a commitment declaration. These requirements will be communicated at Supplier Kick-off meetings. Subcontractors will be monitored during the delivery phase.
24	100%	Percentage of office paper used on the project site that is high recycled content paper (50 per cent or more recycled content)	Percentage of project site' office paper which contains 50% or more recycled content	<p>Tailored sustainability training for procurement team</p> <p>Specified in supply contracts</p>
25	0%	Percentage of single use and/or non-recyclable kitchen items supplied to on-site facilities	Number single-use kitchen items supplied by CPB Downer JV in on-site kitchens	<p>Key actions:</p> <ul style="list-style-type: none"> <li>Communication of requirements to office representatives</li> <li>Specified in supply contracts for site facilities.</li> <li>Part of Office Manager sustainability responsibilities.</li> <li>Support the 'EPIC Business Program – Plastic Oceans Australasia', or similar to avoid all soft plastic use on our construction sites.</li> </ul>
26	100%	Percentage of timber to be sourced from either reused/recycled timber or from sustainably managed forests that have obtained Forest Management Certification (FMC).	Percentage of timber product reused, or sourced from sustainably managed forests that have obtained Forest Management Certification (FMC)	<ul style="list-style-type: none"> <li>Specified in supply and subcontractor contracts.</li> <li>Requirements will also be communicated at Project kick-off meeting.</li> <li>Supplier training package</li> <li>Reusing materials, thereby reducing the need to source new timber for some uses</li> <li>Sourcing timber from sustainably managed forests that have obtained Forest Management Certification (FMC), including</li> <li>FSC-certified suppliers or</li> <li>Forestry Corporation NSW-managed schemes which can provide Chain of Custody from using PEFC certification.</li> </ul>

## Appendix D: Sustainability Responsibilities Matrix

The following table summarises the responsibilities identified in this Plan.  
Legend: R = Responsible, C = Key Contributor

Table 19: Sustainability roles and responsibilities

Expectation	Relevant IS Credits	Sustainability Manager	Sustainability Design Lead	Project Director	Design Director	Bridges and Structures Lead	Durability Lead	Drainage and Flooding Lead	Civil Lead	Urban Design Lead	Environment and Sustainability Manager	Ecology Lead	Noise and Vibration Lead	Risk Manager	Construction Director	Community & Stakeholder Mgr	Workforce Manager (WDIP)	HR Manager	Commercial Director	Estimators
<b>Sustainability Outcomes</b>																				
Climate Change Resilience	Cli-1 & Cli-2	C	R	C	R	C	C	C	C	C	C	C		C	C				C	
Energy and Carbon Reductions	Ene-1, Ene-2	C	R	C	R	C	C	C	C	C	C				R					
Materials Reductions	Mat-2, Mat-2	C	R	C	R	C	C	C	C	C					R					
Environmental Protection	Dis, Eco, Was and Her credits	C	R	C	C			C			R	C	C		R					
Potable Water Reduction and Substitutions	Wat-1, Wat-2	C	R	C	R			C			C				R					
Social Value Benefit	Sta-1-3, Hea-1	C		C												R	R	C		
<b>CPB Sustainability Management System</b>																				
<b>Element 1: Context and Objective</b>																				
1.1 Identify project context, objectives, targets and requirements	Man-1	R	C	C																
1.2 Assess sustainability materiality	Man-1	R	R	C	C						C			C	C	C	C		C	
<b>Element 2: Management and Accountability</b>																				
2.1 Sustainability roles and responsibilities are clearly defined, documented and communicated	Man-3	C		R																
2.2 Sustainability considerations incorporated into key decision-making processes	Man-2	R												R						
2.3 Identify and facilitate sustainability training requirements	Man-1, Man-6, Pro-4	R									C							C		
2.4 Personnel are trained and assessed according to the training plan	Man-1, Man-6, Pro-4	R																R		
2.5 Training records are maintained and accessible to relevant personnel	Man-1, Man-6, Pro-4	C																R		
<b>Element 3: Risk and Opportunity Assessment</b>																				
3.1 Processes are established identify and assess sustainability risks and opportunities	Man-2, Man-7, Cli-2	C	R	R	C	C	C	C	C	C	C			R	C	C	C		C	C
3.2 Respond to key risks and opportunities	Man-2, Man-7, Cli-2	C	R	R	C	C	C	C	C	C	C			C	C	C	C		C	C
3.3 Feasible opportunities are implemented	Man-2, Man-7, Cli-2	C	C	R	C	C	C	C	C	C	C			C	C	C	C		C	C
<b>Element 4: Sustainability in Design and Construction</b>																				
4.1 Define sustainability requirements	Man-2, All	C	R	C	R						C				C					
4.2 Allocation of resources and cost to support sustainability	Man-2, Inn-1	C																	R	
4.3 Include sustainability responsibilities in Design	Man-2, All	C	R		R	C	C	C	C	C	C	C	C	C	C	C	C			
4.4 Link sustainability requirements to key Design Packages	Man-2, All	C	R		R	C	C	C	C	C	C			C	C	C				
4.5 Identify and assess sustainability risks and opportunities	Man-2, Inn-1	C	R		R	C	C	C	C	C	C			C	C	C	C		C	
4.6 Support and review sustainability outcomes and evidence	All	C	R		R															
4.7 Integrate sustainability into construction	Man-2, Inn-1	R													R	C	C			
<b>Element 5: Sustainability in Procurement</b>																				
4.1 Identify Material procurement scopes/packages	Pro-2, Pro-3	R	C																C	
4.2 Incorporate sustainability performance specifications (requirements) in subcontractor and supplier contracts	Pro-3	R																	R	

Expectation	Relevant IS Credits	Sustainability Manager	Sustainability Design Lead	Project Director	Design Director	Bridges and Structures Lead	Durability Lead	Drainage and Flooding Lead	Civil Lead	Urban Design Lead	Environment and Sustainability Manager	Ecology Lead	Noise and Vibration Lead	Risk Manager	Construction Director	Community & Stakeholder Mgr	Workforce Manager (WDIP)	HR Manager	Commercial Director	Estimators
4.3 Sustainability considerations incorporated into supplier selection processes	Pro-3, Pro-4	C																	R	
4.4 Contract clauses to include sustainability training or competency requirements for high impact suppliers	Pro-2	C																	R	
4.5 Supply chain partners report periodically on sustainability performance	Pro-4	C																	R	
4.6 Subcontractors/Suppliers are reviewed to assess their performance and compliance with our minimum sustainability requirements	Pro-4	C																	R	
<b>Element 6: Communication and Knowledge Sharing</b>																				
6.1 Internal sustainability communications processes established	All	R		C																
6.2 External sustainability communications processes established	All	R		C																
6.3 The effectiveness of internal and external stakeholder engagement is evaluated and improved	All	R		C																
<b>Element 7: Document and Records Management</b>																				
7.1 Documentation requirements are clearly defined	All	R	C	C	R										C				C	
7.2 Document and drawing numbering conventions are defined early and implemented	All	R	C		R										C					
7.3 Relevant documents and records will be maintained using corporate business applications and systems	All	R			C										C					
<b>Element 8: Monitoring, Review and Improvement</b>																				
8.1 Sustainability performance trends are tracked and reported	All	R	C	C																
8.2 Regular management reviews are conducted to determine the continuing suitability, adequacy and effectiveness of the Sustainability Management System	All	R		C																
8.3 Regular inspections and monitoring are conducted to check effectiveness of controls	All	R																		
8.4 All audits are undertaken by suitably qualified and experienced personnel	Specific credits	R																		



## Appendix E: Sustainability Initiatives Register

### Sustainability Initiatives Register

No	Initiative	Description/application	Benefit	Risk	Target Cost impact	O&M impact	Program impact	IS Credit	Status
<b>Pavements</b>									
1	Optimise asphalt substitution with Reclaimed Asphalt Pavement (RAP)	A total of 74,293 tonnes of asphalt will be used with 13,176 tonnes (17.4%)	Combined RAP and glass initiatives achieves 21% reduction in emissions	Subject to spec limitations	CAPEX saving	Nil	Nil	Mat-1	Accepted
2	Use of recycled glass in place of virgin materials in asphalt	4,665 tonnes (6.3%) post-consumer glass to be used		Subject to spec limitations	TBD	Nil	Nil	Mat-1	Accepted
3	Trialing alternative pavement -Reconophalt	Use on temporary roads and share user paths (SUPs) Build on Downers relationship with local councils. <i>Downer have previously designed a mix using 83% recycled material laid at a depth of 50mm, performing equivalent to a concrete cycleway at 100mm depth .</i>	Recycled glass and plastic, Product has EPD, Isupply listed	Local Councils may defer to accepted TfNSW spec	Minor CAPEX cost	TBD	TBD	Mat-1	Investigate opportunity
4	Insitu pavement stablisation	Mobile process, where a stabilisation binder is added to an existing pavement or earthworks material and mixed with a purpose-designed road recycler	Rehabilitation of existing pavements -reduce virgin materials. Improve desing life	Site and access constraints	CAPEX saving	TBD	TBD	Mat-1	Investigate opportunity
<b>Low carbon materials</b>									
6	Support suppliers with low-carbon product certifications	Australian suppliers of steel -have EPDs. Concrete suppliers with EPDs - Holcim & Boral.	Build supply chain capability	Time/cost to support a supplier to gain EPD	Variable/Nil	Nil	Nil	Mat-2	Accepted
<b>Conduit and cables</b>									
8	Low smoke zero halogen (LSZH) cable jackets and conduits	For above ground communications, M&E, ITS, electronic tolling and security systems	Improve safety and avoid end of life issues associated with PVC	Nil -meeting design life equivalence	TBD	Improve	Nil	Mat-2	Subject to client support
<b>Concrete</b>									
10	Trial geopolymmer concrete for non-structural applications	Trial Geopolymer Concrete (GPC) mix for TfNSW R53 applications, including for footpaths and SUPs, and incorporating glass sand to replace virgin sand	Can potentially reduce embodied emissions by up to 80% in these applications	Need to determinine if client will accept	TBD	TBD	TBD	Inn-1	Investigate opportunity
11	Portland Cement reduction in concrete	50% SCM content for insitu concrete across the project	Potential to reduction up to 30% GHG	Subject to spec limitations	Nil	Nil	TBD	Mat-1 Inn-1	Accepted
<b>Energy and Carbon</b>									
13	Use alternative fuel use and renewable energy for lighting	Use solar construction tower lights with lithium-ion batteries instead of diesel-powered towers	Renewable, low emission, low noise and has low running costs.	Site engineer training to use effectively	Savings	Nil	Nil	Ene-1	Accepted
14	Substitute fossil fuel based fuels with renewable fuels such as biodiesel	Use B5 for onsite refuelling and B20 for generators. Our procurement processes will favour newer plant and equipment that can use higher % biodiesel, and electric plant -including hybrid excavators	Scope 1 savings which represent approx 50% of total construction emissions	Some subbies still unfamiliar with biodiesel, inclusion in RFT/contract	\$0.5c/L - B5, \$0.20c/L- B20, Minor CAPEX cost	Nil	Nil	Ene-1	Accepted
15	Efficient energy use in construction	Procure energy efficient plant and equipment and implementing energy efficient work practices.	As previous	Availability/choice/cost	TBD	Nil	Nil	Ene-1	Investigate opportunity
16	Automatic dimming for main carriageway	PE cells will be installed for V category lighting across the main carriageways.	Operational energy savings	Nil known	OPEX saving	Improve	Nil	Ene-1	Accepted
17	Automatic dimming for ATL, caparks and SUPs	Luminaire with capability of dimming and PE control will be introduced to P category lighting at ATL, carparks and SUPs	Operational energy savings	Nil known	OPEX saving	Improve	Nil	Ene-1	Accepted
18	Smart street lighting with LED	Smart Streel lighting will be installed which will enable central control of the 553 LEDs to optimise maintenance activities and eliminates inspections. The system will have light sensors and dimming capability with override capability	Saving fuel during the operational phase and optimise energy use while maintaining safety.	Nil known	OPEX saving	Improve	Nil	Ene-1	Accepted
19	Generate renewable energy at site facilities	Renewable energy generation from solar panels installed on site facilities at the Porter Creek site.	Reduce scope emissions	Supplier permitting roof mounting	Minor cost	Nil	Nil	Ene-1 Ene-2	Accepted

No	Initiative	Description/application	Benefit	Risk	Target Cost impact	O&M impact	Program impact	IS Credit	Status
20	Use renewable for operational lighting	The use of solar to power the streetlighting when they are taken off the grid during the Project.	This will save up to 90 tCO2-e over the course of the Project.	Client acceptance	CAPEX, but OPEX saving	Improve	Nil	Ene-1 Ene-2	Investigate opportunity
	Offsetting								
22	Offset carbon emissions associated with concrete	Procurement of 100% Carbon Neutral concrete. Subject to concrete supplier selected	Offset scope 3 emissions	Nil	CAPEX cost	Nil	Nil	Ene-1 Ene-2	Investigate opportunity
23	Offset carbon emissions associated with reconophalt	Procurement of Carbon Neutral Reconophalt. <i>The recent EPD for Reconophalt on PLR will be applied to WFU. Suitable for surrounding local streets</i>	Offset scope 3 emissions	Nil	Minor CAPEX cost	Nil	Nil	Ene-1 Ene-2	Investigate opportunity
24	Construction electricity consumption sourced from renewable energy	20% of construction electricity will be sourced from onsite renewables or Greenpower. <i>Based on 3.6GW total.</i>	Reduce carbon footprint of construction electricity	Nil	CAPEX cost	Nil	Nil	Ene-1 Ene-2	Accepted
25		100% of construction energy will be offset, in accordance with the Australian Government National Carbon Offset Standard.	Support social and environmental programs include restoration of koala habitat following 2019	Nil	CAPEX cost	Nil	Nil	Ene-1 Ene-2	Accepted
	Supply Chain								
27	Social procurement	Complete community analysis to identify suitable local suppliers and indigenous businesses.	Social benefit, support local economy	Nil	Nil	Nil	Nil	Hea-1 Pro-2	Accepted
28	Building capability within the supply chain	Provide Sustainability training to suppliers and subcontractors using CPB bespoke inhouse High Impact Supplier Training program and conducting Supplier Forums	Support supply chain engagement, opporrtnuity to identify further iniitatives	Nil	Nil	Nil	Nil	Pro-4	Accepted
	Water Efficiency								
30	Source non-potable water	The golf course dam will be a source of non-potable water. <i>Further opportunities will be explored in the Water Reuse Strategy.</i>	Potable water substitution	Rainfall variability effecting dam volumes	CAPEX saving	Nil	Nil	Wat-1 Wat-2	Accepted
31		Non-destructive digging (NDD) waste treatment on site will yield a source of water.	Potable water substitution	Capture and storage proximate to drilling ops	CAPEX saving	Nil	Nil	Wat-2	Accepted
32	Water efficient site facilities	Integrate high efficiency water fittings and fixtures into the temporary works and permanent design.	Minimise water use Support GREP	Not included in supplier RFT/contract	Minor CAPEX cost	Nil	Nil	Wat-1 Wat-2	Accepted
33	Harvest rainwater for site facilities	Water tanks will be installed for the construction sites to supply the site amenities. North Sydney does not have a dedicated water recycling scheme nearby, however water can be trucked in from Rosehill, Castle Hill, Liverpool	Potable water substitution	Appropriate sizing and site availability not considered	Minor CAPEX cost	Nil	Nil	Wat-1 Wat-2	Accepted/ Investigate opportunity
34	Support potable water substitution in supply chain	Favouring suppliers that maximise reuse of concrete production operation water into production at batch plants.	Potable water substitution	Not included in supplier RFT/contract	Nil	Nil	Nil	Wat-2 Pro-2	Accepted
35		Favouring fabricators that use recycled water in steel production, ie 90% from Port Kembla Steelworks through tertiary treated effluent.	Potable water substitution	Not included in supplier RFT/contract	Nil	Nil	Nil	Wat-2 Pro-2	Accepted
	Waste and pollution								
37	Efficient construction methods	Use rock trencher technology for drainage structures and other pipework, reducing excavation and backfill by 40%.	Reduce excavation and backfill Energy efficient of method	Plant availability, appropriate sizing	CAPEX cost	Nil	Improve	Lan-2 Ene-1	Accepted
38	Reduce construction impacts of drainage structures	Manufacture (or source from suppliers) a precast slot drain for a section between Mount Street and Falcon Street.	Reduce the depth of excavation and width, energy efficiency	Transport, handling and QA	CAPEX cost	Nil	Improve	Lan-2 Ene-2	Accepted



## Sustainability Initiatives Register

No	Initiative	Description/application	Benefit	Risk	Target Cost impact	O&M impact	Program impact	IS Credit	Status
39	Construction waste management using Downer facility	Downer's recycling yard at Rosehill will take all reclaimed asphalt and turn it into asphalt. The same site will also recycle Non-Destructive Digging, street sweeping and gully pit waste from the Project's activities through the Detritus Processing Plant	Beneficial reuse of construction waste for road construction	Travel distance relative to other resource reuse facilities	TBD	Nil	Nil	Was-2	Investigate opportunity
	Offsite spoil/fill management and sorting	Porter Creek site used to to management excavated materials and storage, sorting facility maximise nightwork opportunities	Maximise reuse of excavated materials	Approvals	CAPEX cost	Nil	Improve	Was-2 Ene-1	Accepted awaiting final approvals
40	Spoil diversion from landfill	Use the EPA's resource recovery exemptions for spoil to be taken offsite to ensure 100% of spoil is diverted from landfill	Beneficial reuse of spoil and maximise reuse of all other construction and demolition	Classification of excavated materials	CAPEX saving	Nil	Nil	Was-2	Accepted
41	Reuse of demolition materials	Repurposing of heritage buildings to reduce waste materials generated.	As above	Not included in supplier RFT/contract	CAPEX saving	Nil	Nil	Was-2	Investigate opportunity
42	Reduce packaging waste	Implement take-back agreements with suppliers for packaging to reduce waste entering site	Increase supplier accountability Reduce problem waste streams	Not included in supplier RFT/contract	CAPEX saving	Nil	Nil	Was-2	Accepted
43	Cut/fill balance	Optimal cut/fill balance, balance timings to reuse spoil on site, e.g. ensure site spoil can be used (if waste classification and engineering suits) to fill the golf course dam.	Reduce fuel consumption in spoil haulage Minimise offsite fill management	Subject to design, support, grade, tie-ins, reuse opportunities	CAPEX saving	Nil	Improve	Ene-1 Was-2	Accepted
Environment and community									
45	Environmental monitoring	Real time data capture technologies will be used to manage noise, dust traffic, light spill impacts on sensitive receivers. Use SiteHive (or similar) to provide real-time data to alert monitoring staff and implement prompt mitigations	Other projects have identified savings and better response time	Early engagement with acoustic advisor, project team for traffic surveillance and client	TBD	Nil	Nil	Dis-2 Dis-4	Accepted
46	Traffic barrier system	QuickChange reactive tension barrier system and a permanent works 'zipper' barrier transfer machine will be used to maintain safe separation between opposing lanes. Significantly reduce daily impacts on traffic flow associated with traditional F T ype barrier lane separation for temporary works.	This system also has significant WoL benefits, given that it has a fivefold increase in operation life to the standard concrete F Type barrier.	Freight delay with international import of zipper barrier transfer machine	CAPEX cost	Nil	Improve	Mat-1	Accepted

# Part D

## Appendix F: IS Management Plan



# Infrastructure Sustainability Rating Management Plan

## Warringah Freeway Upgrade



## Project Document Control

Version	Date	Prepared	Reviewed and revised	Approved

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# 1 Introduction

## 1.1 Purpose of the IS Management Plan

The purpose of this management plan is to facilitate the management and implementation of an Excellent IS Design and As Built rating under version 1.2 of the Infrastructure Sustainability Council (ISC) rating scheme for the Warringah Freeway Upgrade project.

The Plan, as required under the contract (App C1 Table A), outlines the approach and identifies potential credits and targets that may be implemented as a pathway to the IS rating. The credits and targets may be subject to change during project delivery

The objectives of this management plan are to:

- Outline the approach to applying the IS Rating Scheme on Warringah Freeway Upgrade project
- Describe and facilitate planning towards key IS timing and milestone requirements on the project.
- Outline the ISC's role and specific support requirements for the duration of the rating process.
- Assign responsibility and key tasks associated with achieving the IS rating.

## 1.2 The IS Council and IS Rating Scheme

The Infrastructure Sustainability Council (ISC) is a member-based industry association committed to the delivery of more sustainable outcomes from the design, construction and operation of infrastructure.

The IS Rating Scheme is developed and administered by the ISC. The IS Rating Scheme is a comprehensive rating system for evaluating sustainability across planning, design, construction and operation of infrastructure.

The IS Rating Scheme tools relevant to this rating include:

IS v.1.2 Technical Manual	IS Rulings (updated -ongoing)	ISCA approved guidance documents
IS v 1.2 Scorecard	IS v1.2 Innovation Challenge	ISCA Design Review Guideline
IS v 1.2 Materials Calculator (Australia)	Base Case Proposal Form	IS Materials LCA Guideline
GBCA Ecological Value Calculator	Guidance on BAU Assumptions	ISC forms and template

The IS Rating Scheme consists of 44 credits under the following sustainability themes and categories:

V1.2

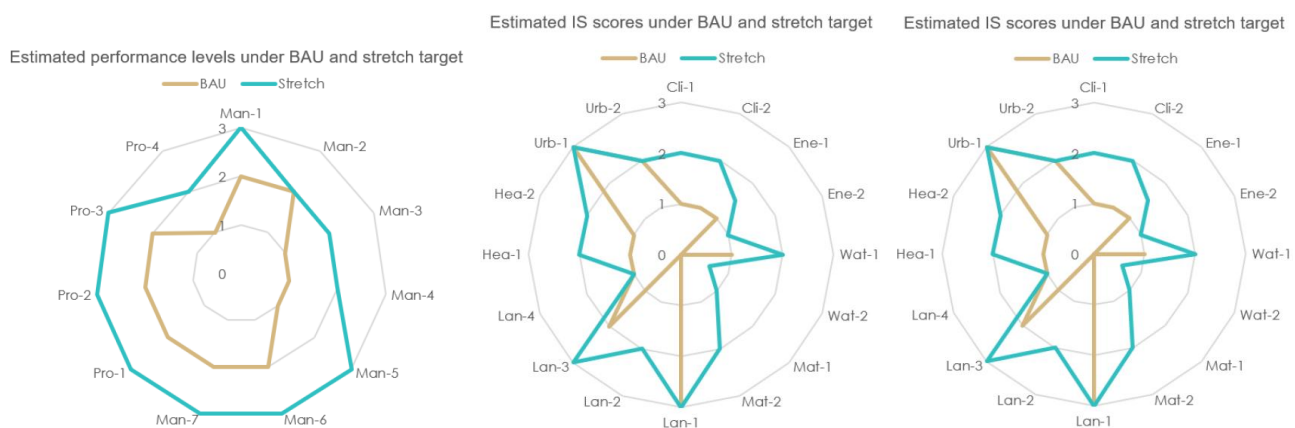
Themes	Categories
Management and Governance	Management Systems
	Procurement and Purchasing
	Climate Change Adaptation
Using Resources	Energy & Carbon
	Water
	Materials
Emissions, Pollution and Waste	Discharges to Air, Land & Water
	Land

	Waste
Ecology	Ecology
People and Place	Community Health, Well-being and Safety
	Heritage
	Stakeholder Participation
	Urban & Landscape Design
Innovation	Innovation

### 1.3 Preliminary IS Rating Approach

TfNSW provided a Reference Report “WHTBL Project - Recommendations for sustainability requirements in the Warringah Freeway Upgrade” (Oct 2020) during the Tender Phase. WHTBL refers to the Western Harbour Tunnel (WHT) and Beaches Link (BL) Program. Whilst the content of this Report is not contractually binding, it provides recommendations and an initial IS pathway for consideration by the planning team and tenderers.

The Report provides a preliminary (unverified) weightings assessment, with responses to weightings questions and an IS Pathway based on a multidisciplinary sustainability workshop. The IS pathway identified a BAU score of 38.4 and a stretch target of 65.5.



The above diagrams indicates where the Report identified BAU to Stretch target opportunities.

## 2 Project Description

### 2.1 General

The project is located on the Warringah Freeway between North Sydney and Cammeray. Warringah Freeway Upgrade is a critical component to the Western Harbour Tunnel and Beaches Link (WHTBL) Program. It will enable the connection of the new WHTBL motorways into the existing motorway network, ensuring the WHTBL Program delivers its connectivity and safety benefits for public transport, freight and private vehicle customers,

Key features of the Warringah Freeway Upgrade include:

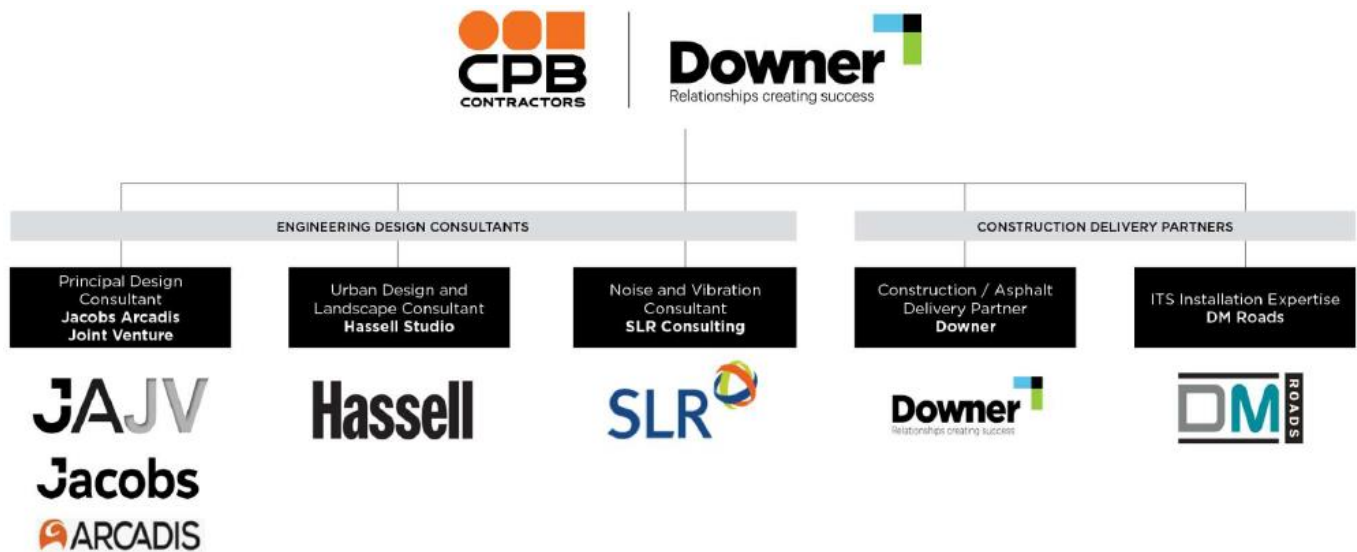
- Upgrade and reconfiguration of the Warringah Freeway from immediately north of the Sydney Harbour Bridge through to Willoughby Road at Naremburn
- Upgrades to interchanges at Falcon Street in Cammeray and High Street in North Sydney
- New and upgraded pedestrian and cyclist infrastructure
- New, modified and relocated road and shared user bridges across the Warringah Freeway
- Connection of the Warringah Freeway to the portals for the Western Harbour Tunnel mainline tunnels and the future Beaches Link tunnels via on and off ramps, which would consist of a combination of trough and cut and cover structures
- Upgrades to existing roads around the Warringah Freeway to integrate the project with the surrounding road network
- Upgrades and modifications to bus infrastructure, including relocation of the existing bus layover along the Warringah Freeway
- Other operational infrastructure, including surface drainage and utility infrastructure, signage, tolling, lighting, CCTV and other traffic management systems.

### 2.2 Contractual Arrangements

The project is being delivered by Lead Contractors CPB Contractors and Downer EDI as a Joint Venture under a Design and Construct, Incentivised Target Costs Contract for TfNSW (client). While the Contract has KPI's there are no specific KPI payments or penalties for sustainability outcomes, including the IS rating.

The design is being delivered by Arcadis and Jacobs as a Design Joint Venture. Hassel will focus on bridge structures, noise walls public open spaces and driving integration with Western Harbour Tunnel and Beaches Link. DM Roads is responsible for installing the permanent ITS network.





## 2.3 Project/Program

The contract was awarded on the 10<sup>th</sup> Sept 2021. Design phase is expected to be 14 months long, with expected IFC in Jan 2023. Site possessions are expected in Nov-Dec 2021. Construction is expected to be over 3 years, commencing in May 2022, with Practical Completion in July 2025. Note the table below is indicative only and subject to approval of alternatives and meeting client requirements.

Portion		Schedule A.2	Forecast Date of Completion
1	Cammeray Golf Course (WHT)	29-Oct-22	02-Nov-22
2	Berry St North	25-Jul-23	05-Jul-23
3	Ridge St North	10-Feb-23	20-Jan-23
4	WHT Portal	30-May-25	11-Oct-24
5	Ventilation Outlet & Ernest St Bridge	31-May-24	18-Apr-24
6	BL Portal & Tie in (Excl PAV1)	15-Oct-25	04-Jun-24
6	BL Portal & Tie in (Incl PAV1)	-	Refer to detail below
7	WHT Tie-in	25-Jul-25	12-Oct-24
8	Cammeray Golf Course (BL Stage 1)	30-Oct-24	21-Sep-24
9	Cammeray Golf Course (BL Stage 2)	07-Nov-25	21-Sep-24
10	Carriageway Portion	31-Oct-25	23-Aug-25

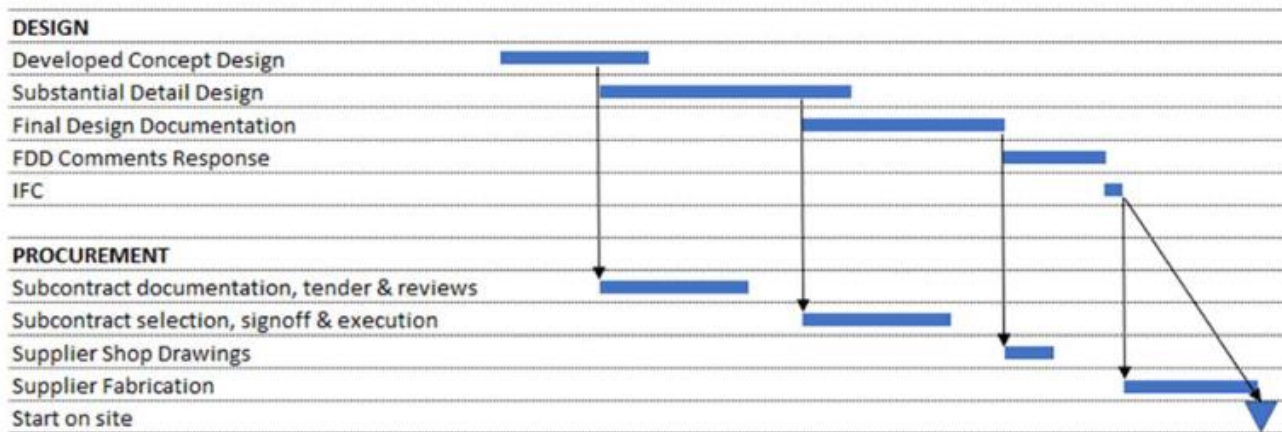


Figure 24: Integration of design packages with procurement and construction

## 2.4 Design Stages

Contractual terms used on this project are:

- Developed Concept Design (DCD)
- Substantial Detailed Design (SDD)
- Final Design Documentation (FDD)
- Issued For Construction (IFC)

## 2.5 Key design packages

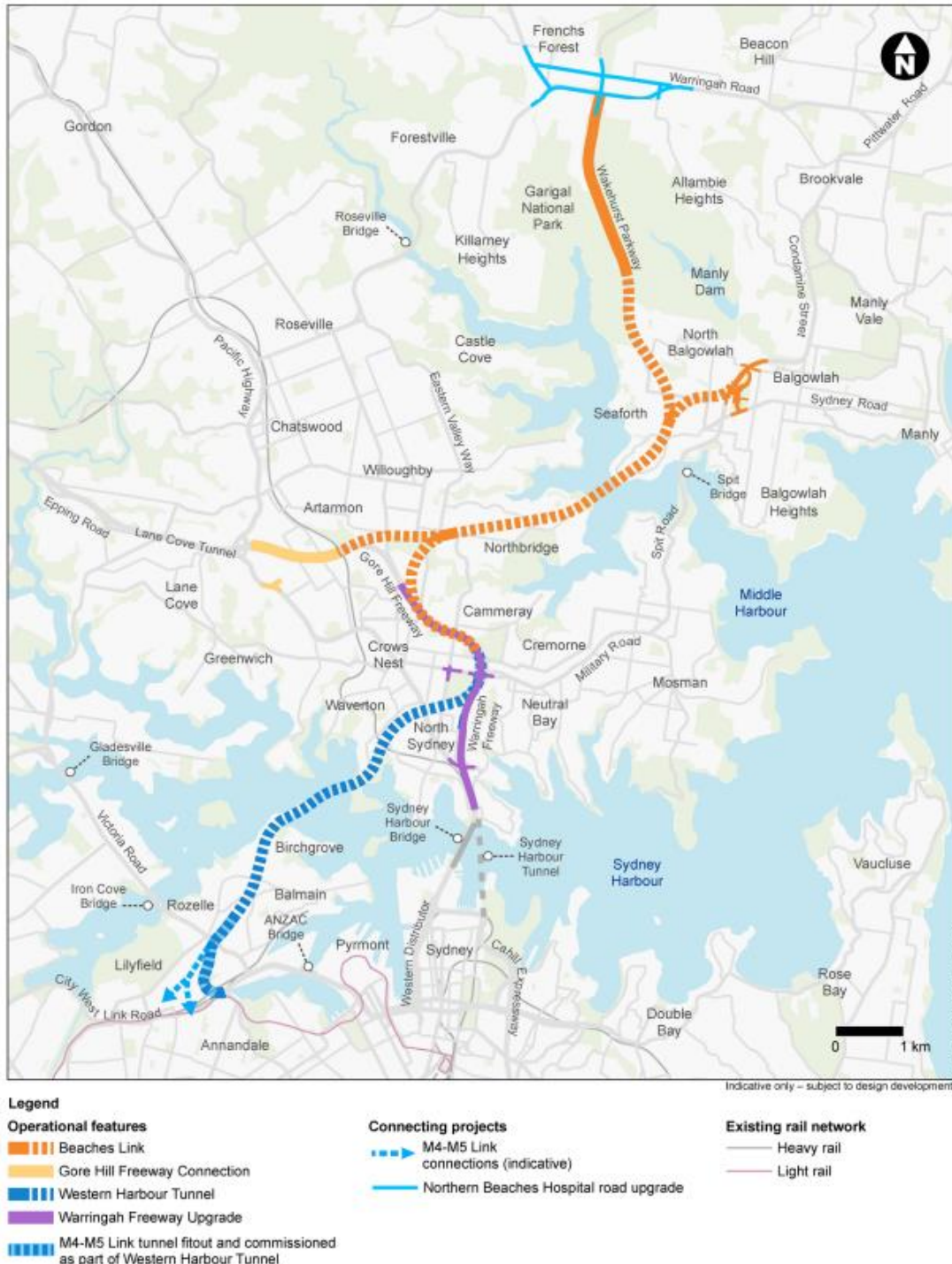
<b>Cammeray Precinct</b> <ul style="list-style-type: none"> <li>Civil Design</li> <li>Retaining Walls</li> </ul> <b>Civil Packages (North, South and Central)</b> <ul style="list-style-type: none"> <li>Earthworks</li> <li>Signs and Linemarking</li> <li>Road Furniture</li> <li>Drainage</li> <li>Pavement</li> <li>Landscaping</li> <li>Urban Design</li> </ul>	<b>Project Wide Reports</b> <ul style="list-style-type: none"> <li>Durability Assessment Report</li> <li>Flood Study hydrology Report</li> <li>Traffic Model Assessment Report</li> <li>Staging Traffic Model Assessment Report</li> <li>Civil Structures</li> <li>Bridge Structures</li> <li>Flood Study Report for Temporary Works Report</li> <li>Stormwater/Drainage Report</li> </ul>
<b>Structures</b> <ul style="list-style-type: none"> <li><u>Existing bridges</u>: High St, Mount St, Ridge St, Falcon St, Ernest St, Miller St-strengthening pier</li> <li><u>New bridge</u>: Ernest St</li> <li><u>Viaduct</u>: Alfred St North, Miller St On-ramp</li> <li><u>Pedestrian bridge</u>: Ridge St, Falcon St</li> <li><u>Underpass</u>: Mount St</li> <li>Retaining walls</li> <li>Portal structures</li> </ul>	<b>Geotechnical Reports</b> <b>ITS &amp; TCS</b> <b>Lighting</b> <b>Temporary works</b> <b>Utilities</b>

## 2.6 Key procurement packages

<b>Materials</b> <ul style="list-style-type: none"> <li>Reinforced Steel</li> <li>Pre-mix Concrete</li> <li>Quarry Materials</li> <li>Soil Nails/ Rock Bolts</li> <li>Pits &amp; Pipes – Drainage</li> <li>Pits &amp; Pipes – Power &amp; Comms</li> <li>Drainage Materials</li> <li>Traffic Barrier</li> <li>Zipper Barriers</li> </ul>	<b>Installation</b> <ul style="list-style-type: none"> <li>Plant &amp; Equipment Hire</li> <li>Pre-cast – Retaining Walls</li> <li>Formwork – F-Type Barriers</li> <li>Tree Felling -Stump Grinding</li> <li>Drainage</li> <li>Specialised Asbestos Removal</li> <li>Pipe Jacking</li> <li>FRP Retaining walls, lean mix, Pile Caps</li> <li>Piling</li> <li>Reinforced Earth Wall</li> <li>Electrical Works – Street Lighting</li> <li>Landscaping soft &amp; hard</li> <li>Linemarking Permanent</li> </ul>
<b>Bridges</b> <ul style="list-style-type: none"> <li>Precast – planks, Piers, Beams, Panels, Barriers</li> <li>Super T's</li> <li>Steel Girders</li> <li>Bearings</li> <li>Barrier Rails</li> <li>Safety Screens</li> </ul> <b>ITS</b> <ul style="list-style-type: none"> <li>Pits &amp; Pipes</li> <li>Boring</li> <li>Directional Drilling</li> </ul> <b>Utilities</b>	<b>Cut &amp; Covers</b> <ul style="list-style-type: none"> <li>Precast – panels, planks</li> <li>Structural Steel – barrier rails</li> <li>Safety screens</li> </ul> <b>Installation</b> <ul style="list-style-type: none"> <li>Bored Piling Works</li> <li>FDR Works</li> <li>Temporary Works for WHT Deck Sliding</li> <li>Rockbolts, Soil Nails, Shotcrete</li> <li>Waterproofing</li> <li>Structural Steel – Barrier Rails</li> <li>Safety Screens</li> </ul>

## 2.7 IS Rating Scope and Boundaries

The following figures are derived from the project EIS to demonstrate boundaries between the WFU, WHT and BL projects.





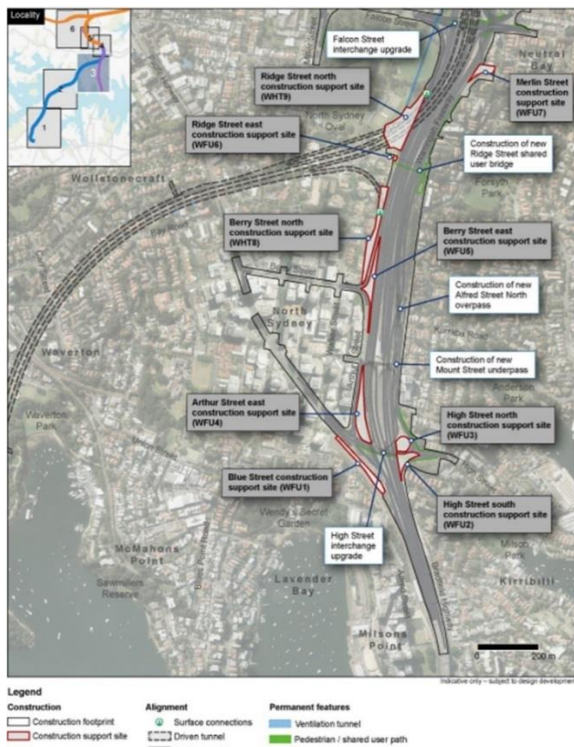


Figure 6-22 Overview of construction activities and construction footprint (map 3)



Figure 6-23 Overview of construction activities and construction footprint (map 4)

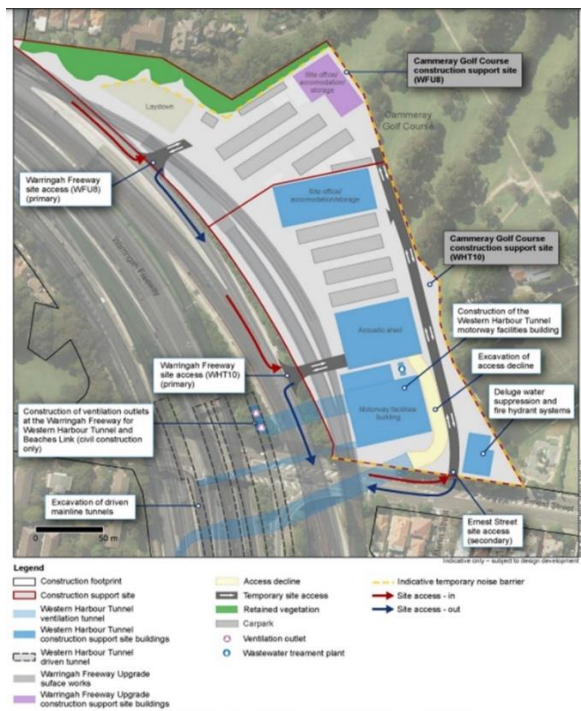


Figure 6-34 Indicative layout - Cammeray Golf Course construction support site

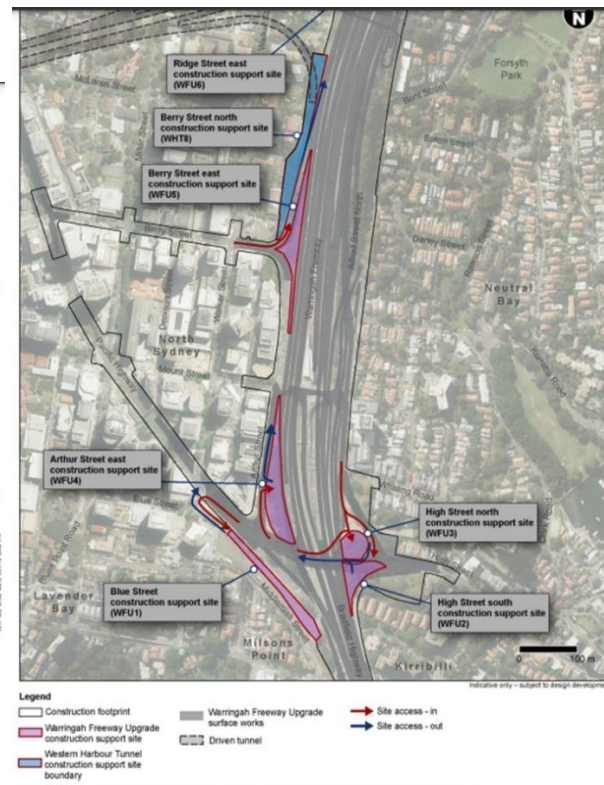


Figure 6-36 Warringah Freeway Upgrade construction support sites (map 1)



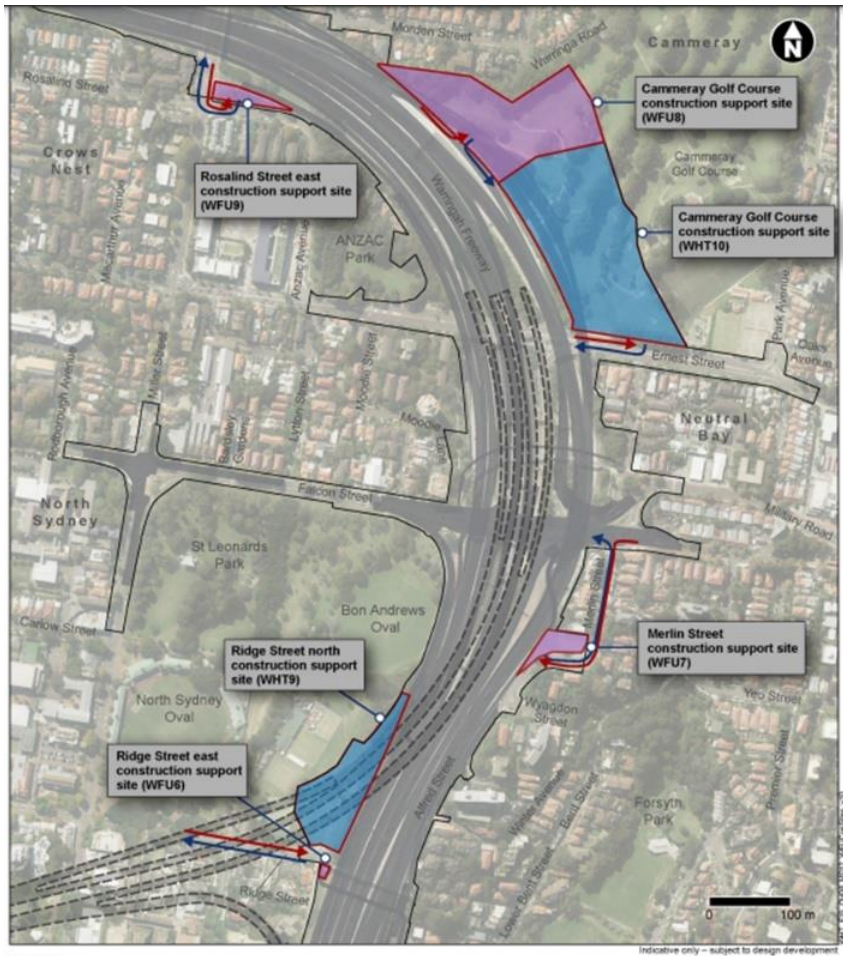
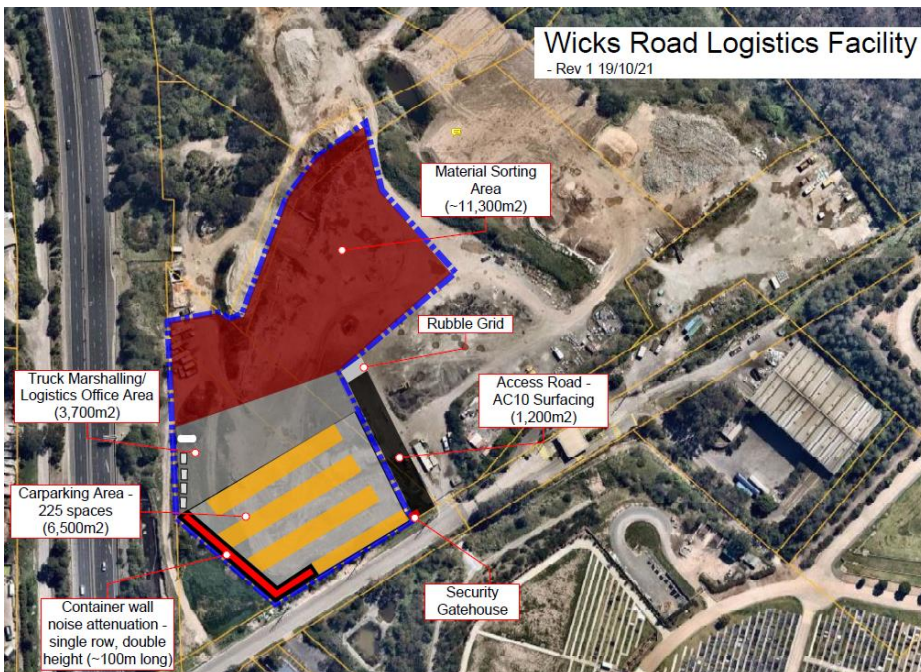


Figure 6-37 Warringah Freeway Upgrade construction support sites (map 2)



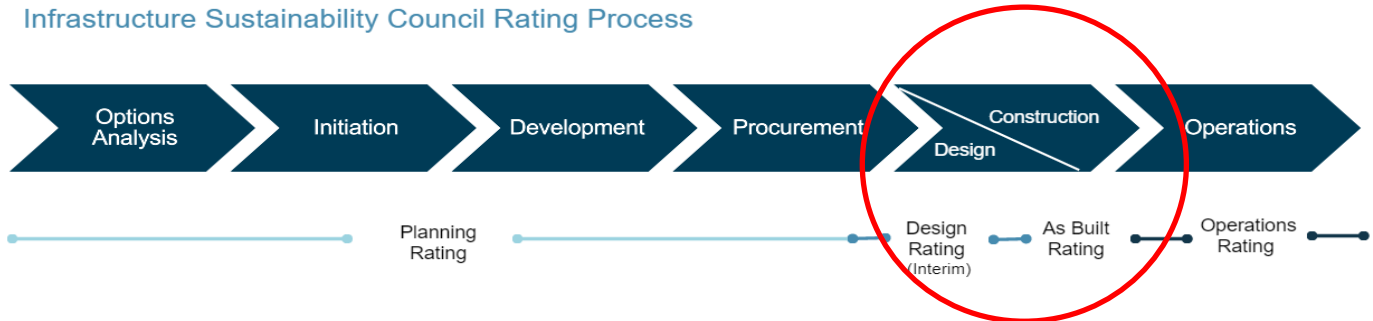
Note: this site was not included in the project EIS but as part of the CPBJV was identified as a strategic logistics location.



### 3 IS Rating Process

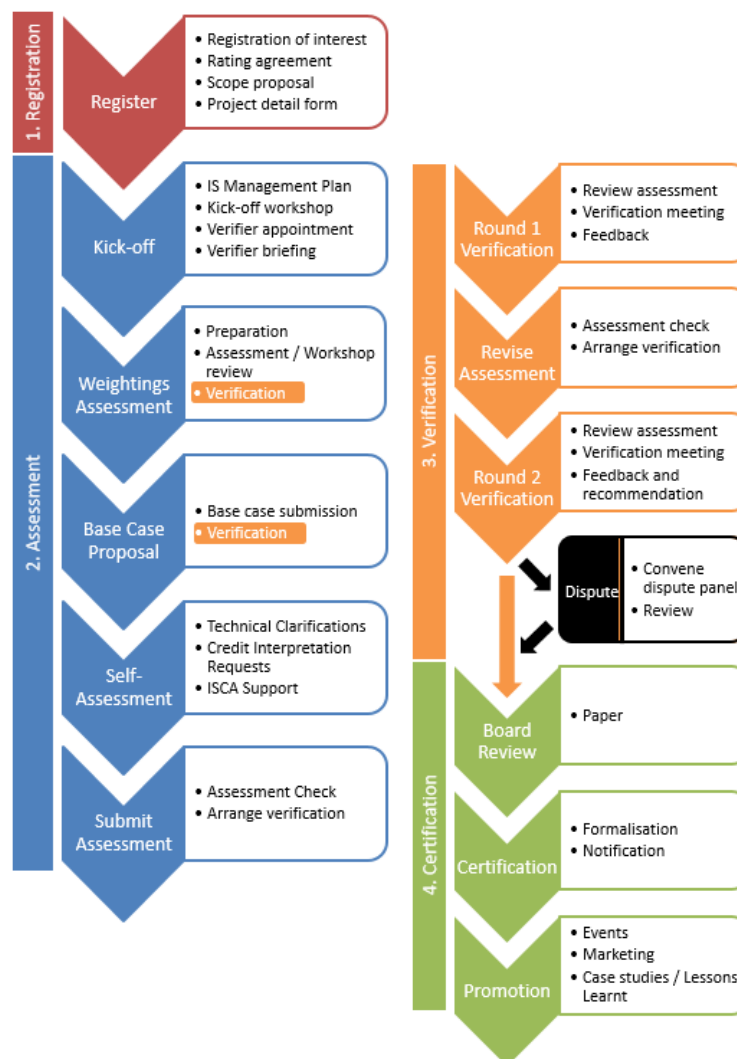
The infrastructure stages intended to be covered by the guideline(s) and how these relate to the current rating types are illustrated below:

Infrastructure Sustainability Council Rating Process



#### 3.1 Design and Construction Phases

The below diagram outlines the process for completing an IS rating. The diagram includes required activities from Registration through to Certification.



## 4 Sustainability Governance

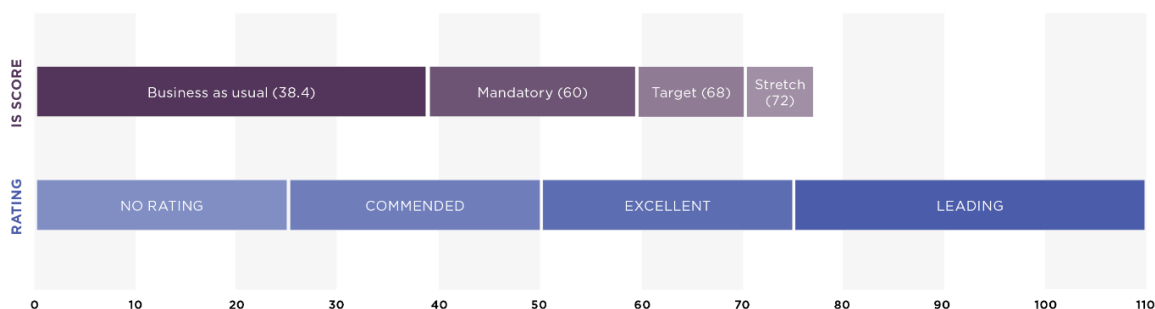
### 4.1 Sustainability Policy

A project specific policy has been developed, refer to Appendix A for the Sustainability Policy. Appendix B maps the policy commitment to targets, IS credits and commitments from the TfNSW policy and strategy.

### 4.2 IS Rating Sustainability Strategy

The WFU project sustainability context and strategy is described in section 2 of the SMP. During the tender phase an assessment of material quantities and their embodied carbon compared to reference design was undertaken, as well as a review of the TfNSW preliminary weightings assessment to consider most significant sustainability risks and opportunities in the development of the IS Pathway. From this assessment significant sustainability issues were identified as per section 3.

A CPB Downer JV targeted score of 68, above the RFP mandatory score of 60, is now the ‘contractor nominated target’ in the contract. The project has established a stretch target score of 72 which will be reviewed and adjusted during the project. The IS Pathway is also subject to be adjusted following verification of a Weightings Assessment and Base Case, scope out of credits and potential materiality adjustments. The IS Pathway is illustrated below, with full scorecard in Appendix A which shows how the BAU and recommended targets established by TfNSW compare with the CPB Downer JV targets and stretch targets including corresponding IS scores for each credit.



The WHT and the WFU projects were assessed in the one Environmental Impact Statement, with energy and water footprint combined for construction and operations making it difficult to establish the WFU reference design. Indicative quantities of resources for WFU construction were however included in the EIS and form the basis of the Materials Reduction subplan. Further discussion with TfNSW is planned to identify source data and assumptions for WFU to establish the reference design and determine appropriate targets for Mat-1, Wat-1, Wat-2 and Ene-1 credits.

To be considered in the development of the IS Pathway is whether Eco credits should be scoped in or out, whether reference design data once received or tender design is used as base case and the need for materiality adjustments subject to site and scope limitations. Establishing the BAU Assumptions as part of the base case establishment will also be key to finalising the IS Pathway.

The IS Innovation Challenge will also be considered, to achieve Innovation points, such the following:

- IC-2 High Clinker Substitution
- IC-3 Carbon Neutral
- IC-4 Sustainable Site Facilities

- IC-6 Supply Chain Education
- IC-8 Sustainable Supplier and iSupply.

Trialling v2.1 credits can also achieve Innovation points. At this stage the following credits are being considered:

- Rso – 6 & 7
- Sta -1 & 2

Exceedance of credit benchmark to achieve innovation points will also be further considered.

## 4.3 Roles and Responsibilities

The Sustainability Manager will be an Infrastructure Sustainability Professional (ISP) and the principal participant on the Project team responsible for managing and delivering sustainability on the Project. The Sustainability Manager will be the IS assessor.

### 4.3.1. Key Project Sustainability Roles and Responsibility

The implementation of sustainability strategies on an infrastructure project requires participation by key representatives from all functional areas across the project. This is particularly true for the development of an ISC design submission, which covers multiple project aspects and requires input from personnel across the project team.

Building on the sustainability roles and responsibilities discussed in Section 5.2 of the SMP, Table 20 further outlines key functional areas that the Sustainability Team may need to collaborate in regard to rating categories in the ISC IS Rating Tool version 1.2.

Roles and responsibilities specific to IS credits are tabled in Appendix D. Other project roles that contribute to sustainability are defined in Section 5.3 and 5.4.

Table 20: Functional area input required for completion of ISC rating submission

Theme	Categories	Functional area input
Management & Governance	Management Systems	Quality Team Environment Team Senior Leadership Team
	Procurement & Purchasing	Commercial Team Procurement Manager Finance and Admin Team
	Climate Change Adaptation	Design Team Interface Team
Using Resources	Energy & Carbon	Design Team Construction Team Plant Manager Finance and Admin Team
	Water	Construction Team Plant Manager Utilities Lead Environment Team Finance and Admin Team
	Materials	Design Team Construction Team Finance and Admin Team
Emissions, Pollution & Waste	Discharges to Air, Land & Water	Environment Team Design Team Construction Team
	Land	Design Team Environment Team
	Waste	Environment Team Construction Team Spoil Manager
Ecology	Ecology	Environment Team
People & Place	Community Health, Wellbeing & Safety	Stakeholder and Community Relations Team Safety Team

Theme	Categories	Functional area input
	Heritage	Environment Team Stakeholder and Community Relations Team Design Team (Urban Design)
	Stakeholder Participation	Stakeholder and Community Relations Team Interface Team
	Urban & Landscape Design	Environment Team Design Team (Urban Design)
Innovation	Innovation	Input may be sought across the entire WFU project team, dependent upon the nature of innovations proposed.

## 5 Management

### 5.1 SharePoint (Information exchange)

The IS rating submission is uploaded on to a SharePoint site managed by ISC who have administrative control. This rating site is secure and is only accessible by ISC staff and other invitees. Invitations are sent to the Assessor (plus others when requested by the Assessor) and the two rating Verifiers. To access the site a Office365 login and password is required. The rating site is used by the Assessor to submit their self-assessment when they are ready for Verification.

### 5.2 Progress Meetings

Consultation with ISC is essential in achieving a successful IS rating. IS roles and responsibility are detailed in Section 5 of the SMP.

CPB Downer JV will arrange regular IS Progress meetings with the assigned IS Project Manager. The purpose of these meetings will be to allow transparency and knowledge share between ISC and the Project. The key content of these meetings will include:

- Updates on construction progress and sustainability performance on WFU Project
- Requirements of technical clarification (TC) or credit interpretation requests (CIR)
- Discussion regarding the development of the weighting assessment and base case documents
- Discussion regarding technical guidance on sustainability performance and the IS rating scheme.

### 5.3 Timing

Milestone	Activity	Proposed Timing
<b>Registration</b>	IS Rating Agreement	ROI sent 15/10/21
<b>Assessment</b>	Kick-off workshop	Dec 2021
	Submit Weightings Assessment for verification	Feb 2022
	Submit Base Case for verification	May 2022
	Submit Technical Clarifications and Credit Interpretation Requests for review and endorsement	March 2022- Jan 2023
<b>Verification</b>	Submit Design round 1 self-assessment	Dec 2022
	Submit Design round 2 self-assessment	Feb 2023
	Submit As Built round 1 self-assessment	June 2025
	Submit As Built round 2 self-assessment	Aug 2025
<b>Certification</b>	Certification	Sep 2025
	Lessons learned workshop	TBC

## 6 Implementation

This section of the Management Plan will describe the key implementation activities which the project team will use to implement the IS Rating Scheme.

### 6.1 Establishment Period

The IS guideline enables an establishment period at the start of the design or construction phases for establishing management systems. Audits/monitoring/review of these management systems therefore do not need to be undertaken during this establishment period. CPB Downer JV has determined that the WFU establishment period will conclude when the Sustainability Management Plan has been approved by the Client.

### 6.2 Kickoff Meeting

Once the IS Rating Agreement has been established, which contractually ensures the rights, responsibilities and obligations of ISC and CPB Downer JV in the rating process and final certification of the IS rating, a Kick Off Meeting is held.

As recommended in the IS Submission Guidelines (Sep 2021), the meeting will be attended by key members of the project team. ISC suggest participants include:

- Project Director
- Construction Manager
- Quality Manager
- Sustainability Manager
- Commercial Manager
- Design Leads
- Stakeholder Relationship Managers
- Environment Manager
- Procurement Manager

TfNSW Representatives and the IS Project Manager will also be invited to attend.

### Kickoff Meeting Agenda

Key agenda items may include:

- ISC Presentation – overview of IS Rating Scheme, trends, traction and IS Rating process
- CPB Downer JV Presentation – (Project Director or Sustainability Manager)
  - How sustainability will be integrated into the project
  - Drivers for pursuing rating
  - How IS rating aligning with key targets/contract requirements
  - IS rating delivery and management within project team
- Discussion on project scope and boundaries, schedule, roles and responsibilities (all)
- Weightings Assessment confirmation (Sustainability Manager)
- Breakout sessions, (smaller groups) e.g.,
  - Design discipline sessions
  - Urban Design
  - Procurement
  - Stakeholder engagement
  - Environment



## 6.3 Key milestones

Table 21 details the IS process and timing for achieving an IS rating and has been developed to support the milestones detailed in Section 5.5.

Table 21 : IS Rating process and timeframes

Rating Deliverable	Description	Responsibility	Required timing
ISC Registration	Involves Registration of Interest (ROI) to ISC and fee schedule and payment of a rating agreement	Assessor	At project commencement
Weightings Assessment	Highlights the materiality of rating credits in the context of the project. Ensure an appropriate level of effort is allocated to the most material areas. Through a series of questions and responses to the default credit scores are adjusted within the IS scorecard.	Assessor/ IS verifier	Preparation and assessment throughout Design. Verification prior to Design rating submission
Base Case Proposal	Sets out the project scope and boundaries and proposes business as usual (BAU) assumptions to be used in resource use modelling for ISC credits Ene-1, Wat-1, Wat-2, and Mat-1.	Assessor/ IS verifier	
Design Rating Round 1 (R1) Submission	Involves the self-assessment of sustainability performance during the design phase of WFU Project.	Assessor	Submitted at design completion
Design Rating Verification (R1)	Independent verification of sustainability performance during the design phase of the WFU Project. The Project receives verification comments.	IS Verifiers	Typically 4-6 weeks
Design Rating Round 2 (R2) Submission	Design rating submission with updated response to resolve verification comments.	Assessor	Typically 1-2 months after round 1 verification comments
Design Rating Verification	Independent verification and certification of sustainability performance during the design phase of the WFU Project.	IS Verifiers	Typically 4-6 weeks
As Built Rating R1 Submission	Involves the self-assessment of sustainability performance during construction of the WFU Project.	Assessor	At construction completion
As Built Rating Verification R1	Independent verification of sustainability performance during the as-built phase of the WFU Project. The Project receives verification comments.	IS Verifiers	Submitted at design completion
As Built Rating R2 Submission	As-built rating submission with updated response to resolve verification comments.	Assessor	Typically 4-6 weeks

## 7 Business Case Capture

The ISC encourage tracking of both quantitative and qualitative costs and benefits associated with applying the IS rating tool. The following table provides a framework for collecting and reporting costs and benefits.

Active tracking should be undertaken using the Spreadsheet incorporating the below Business Case Capture table or equivalent.

				Costs		Savings/Benefits	
				Description	\$	Description	\$
<b>ISC rating fees</b>							
<b>Assessment costs:</b>					hrs	\$/hr	
Assessor time							
Preparation and assessment submission							
Rating facilitation							
Other's time							
Other costs							
<b>Initiatives investigated/pursued:</b>							
Management and Governance							
Energy							
Water							
Materials							
Other resources							
Emissions and pollution							
Waste (reduction)							
Ecology							
Stakeholder engagement							
Community							
Social licence / reputation							
Innovation							
Tendering							
Risk management							
TOTAL							
<b>Cost-Benefit Analysis:</b>							
What is the overall cost-benefit of applying IS (benefit-cost)?							
BC ratio (benefit/cost)?							
Do you have any cost-benefit case studies for specific initiatives?							

## Appendix A: IS Rating Pathway

The following section compares the IS pathway for the BAU scenario as provided by TfNSW, with the TfNSW recommended pathway, the CPB Downer JV targeted pathway and also the stretch target pathway. The IS Pathway is subject to change through further investigation of opportunities throughout the design and construction phase.

Credit	No. Levels	Possible Score	BAU Level	BAU Score	Recommended Level <sup>R</sup>	Targeted Level	Rating Level	Target Score	Stretch Level	Rating Level	Stretch Score
Man-	3	0	2	0.50	3	3	Leading	0.75	3	Leading	0.75
Man-	2	0	2	0.75	2	2	Leading	0.75	2	Leading	0.75
Man-	2	0	1	0.38	2	2	Leading	0.75	2	Leading	0.75
Man-	2	0	1	0.38	2	1	Commended	0.38	1	Commended	0.38
Man-	3	0	1	0.25	2	2	Excellent	0.50	2	Excellent	0.50
Man-	3	1	2	1.13	3	3	Leading	1.69	3	Leading	1.69
Man-	3	2	2	1.63	3	2	Excellent	1.63	2	Excellent	1.63
Pro-1	3	0	2	0.63	3	3	Leading	0.94	3	Leading	0.94
Pro-2	3	0	2	0.63	3	3	Leading	0.94	3	Leading	0.94
Pro-3	3	0	2	0.63	3	3	Leading	0.94	2	Excellent	0.63
Pro-4	3	0	1	0.31	2	2	Excellent	0.63	2	Excellent	0.63
Cli-1	3	3	1	1.25	2	2	Excellent	2.50	3	Leading	3.75
Cli-2	3	3	1	1.25	2	2	Excellent	2.50	2	Excellent	2.50
Ene-1	3	1	1	3.37	1.5 <sup>D</sup>	1.5	Commended	5.06	1.5	Commended	5.06
Ene-2	3	1	0	0	1	1*	Commended	0.56	1	Commended	0.56
Wat-1	3	5	1	1.69	2 <sup>A</sup>	2	Excellent	3.37	2	Excellent	3.37
Wat-2	3	2	0	0	0.6 <sup>C</sup>	0.5*	Commended	0.47	0.5	Commended	0.47
Mat-1	3	8	0	0	1	2.3* <sup>E</sup>	Leading	6.89	2.3	Leading	6.89
Mat-2	3	1	0	0	2	2	Excellent	1.00	2	Excellent	1.00
Dis-1	3	2	2	1.78	3	2	Excellent	1.78	2	Excellent	1.78
Dis-2	3	3	1	1.19	1	1	Commended	1.19	2	Excellent	2.37
Dis-3	3	1	1	0.59	1	1	Commended	0.59	1	Commended	0.59
Dis-4	3	3	1	1.19	1	1	Commended	1.19	1	Commended	1.19
Dis-5	1	1	0	0	1	1	Leading	1.50	1	Leading	1.50
Lan-1	3	1	3	1.87	3	3	Leading	1.87	3	Leading	1.87
Lan-2	3	0	0	0	2	1	Commended	0.25	2	Excellent	0.50
Lan-3	3	1	2	1.00	3	3	Leading	1.50	3	Leading	1.50
Lan-4	2	1	1	0.85	1	1	Commended	0.85	1	Commended	0.85
Was-	2	3	2	3.00	2	2	Leading	3.00	2	Leading	3.00
Was-	3	5	1	1.75	2	2	Excellent	3.50	2	Excellent	3.50
Was-	3	1	1	0.37	2	0	N/A	Scope	0	N/A	0
Eco-1	Scope out				1 <sup>B</sup>	0	N/A	Scope	0	N/A	0
Eco-2	Scope out				1 <sup>B</sup>	0	N/A	Scope	0	N/A	0
Hea-1	3	1	1	0.62	2	2	Excellent	1.25	2	Excellent	1.25
Hea-2	2	1	1	0.94	2	2	Leading	1.87	2	Leading	1.87
Her-1	3	3	1	1.25	2	1	Commended	1.25	1	Commended	1.25
Her-2	3	3	0	0	1	1	Commended	1.25	1	Commended	1.25
Sta-1	3	1	1	0.47	2	3	Leading	1.41	3	Leading	1.41
Sta-2	3	1	1	0.47	2	2	Excellent	0.94	2	Excellent	0.94
Sta-3	2	1	1	0.71	2	2	Leading	1.41	2	Leading	1.41
Sta-4	2	1	0	0	1	2	Leading	1.41	2	Leading	1.41
Urb-1	3	4	3	4.50	3	2	Excellent	3.00	3	Leading	4.50
Urb-2	2	1	2	1.12	2	2	Leading	1.12	2	Leading	1.12
Inn-1	10	1	0	0	0	4	Leading	4	4	Leading	4
<b>Total</b>				<b>38.4</b>	<b>65</b>		<b>Excellent</b>	<b>68.4</b>		<b>Excellent</b>	<b>72.2</b>

- Credit level increased above BAU level but below a level recommended, targeted or stretch target level
- Highest credit level recommended, targeted or stretch target level, (when higher than BAU)
- Credit targeted or stretch targeted below recommended target

Note: <sup>(R)</sup> 'Recommended Level' refers to the TfNSW Reference Report: *WHTBL Project - Recommendations for sustainability requirements in the Warringah Freeway Upgrade (Oct 2020)* (see Table 3)

Note: (\*) means mandatory target from SWTC – as best correlated to an IS credit level. BAU credits without (\*) are not mandatory.

Note: (A) Wat-1 - Level 1.5 (ie 15%) is SWTC minimum target for reduction in construction water demand against base case. Level 1 (10%) is our target to include operations. No modelling of reference design water demand provided to confirm achievement.

Note: (B) Changed materiality question, ie Habitat Proximity to '<100m' to include Eco credit and avoid low materiality scope out

Note: (C) Wat-2: Mandatory 15% potable water substitution in construction and 5% during operation in SWTC. Modelling of reference design has not been provided to confirm achievement. A 0.5 score means 15% and a 0.6 score means a 20% substitution compared to base case from construction and operations.

Note: (D) Ene-1 – Level 1.5 is equivalent to 8% reduction against base case in energy from construction and operations. SWTC mandatory 15% operational energy target. Modelling of reference design has not been provided to confirm. Note -SWTC has 6% offset, 20% Greenpower & LED lighting requirements is BAU. Primary energy demand in construction is from fuel usage (ie no relevant target).

Note: (E) Mat-1 –SWTC Mandatory target of 20%, ie Level 2.3, not in recommended target.

Appendix G: Energy Efficiency and Greenhouse Gas Emissions  
Strategy

# Energy Efficiency and Greenhouse Gas Emissions Strategy and Management Plan

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## Warringah Freeway Upgrade

### Project Document Control

Version	Date	Prepared	Reviewed and revised	Approved

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## Compliance with SWTC Requirements

The Project SWTC documents set out the minimum requirements of the Project. This Strategy is a subplan to the Sustainability Management Plan (SMP). It sets out the minimum client requirements as defined in Table 1, and shows where each requirement has been addressed within this Strategy, the SMP or the wider CPB Contractors Management System (CMS).

Table 22: Compliance with the SWTC and section 5 of Appendix C.1 of the SWTC

Requirement	Section
<b>Subsection 2.3 Climate Change</b>	
a) The Contractor must undertake a climate change risk assessment for the construction and operational stage of the Project in accordance with AS 5334-2013 Climate change adaptation for settlements and infrastructure - A risk-based approach.	Element 3, SMP
b) The Contractor must identify and implement adaptation measures to comprehensively address, as a minimum, 'extreme' and 'high' rated risks identified in the climate change risk assessment.	Element 3, SMP
<b>Subsection 2.4 Energy and Carbon</b>	
a) The Contractor must demonstrate that opportunities to maximise operational energy efficiency of the Works have been identified, analysed and implemented where feasible. Whole-of-life costs and benefits must be estimated for each opportunity identified.	s6.2 & App E of SMP
b) The Contractor must demonstrate that opportunities to maximise construction energy efficiency during the Works have been identified, analysed and implemented where feasible.	s6.2 & App E of SMP
c) The Contractor must demonstrate that opportunities to use renewable energy or lower carbon energy during the construction and operational stages of the Works have been fully investigated. Whole-of-life costs and benefits must be estimated for each opportunity identified.	s6.2, App E & IS pathway of App F in SMP
d) The Contractor must ensure that all non-road diesel plant and equipment complies with the European Union or United States Environmental Protection Agency air emission standards as a minimum.	s5.2 and s6.2.2
e) The Contractor must undertake a greenhouse gas assessment to estimate construction and operational emissions and demonstrate that opportunities to minimise emissions during the construction and operational stages have been identified, analysed and adopted. These must be undertaken in accordance with the 'Greenhouse Gas Assessment Workbook for Road Projects, Transport Authorities Greenhouse Group' for at least scope 1 and 2 emissions.	s4.2, s5.2, s5.2.2
f) The Contractor must monitor, record and report energy use and greenhouse gas emissions (at least scope 1 and 2 emissions) during the construction stage.	Section 5
g) At the Date of Completion of the relevant Portion, the Contractor must update the greenhouse gas assessment (for at least scope 1 and 2 emissions) for the operation of the Project Works based on the As-Built Project Works.	s5.2.1
h) The Contractor must propose and analyse road designs to minimise energy consumed by vehicles using the Project Works and implement these where feasible.	S4.2
<b>Compliance with Appendix B.7 Drainage</b>	
1 e) The Contractor is not required to design the Project Works to account for the effects of climate change unless climate change adaptation measures have been identified for 'extreme' and 'high' rated risks in the risk assessment required by section 2.3 of Appendix D.5. Notwithstanding, the Design Documentation must include an assessment of the impacts on flood levels, flow velocities, afflux levels and tunnel flood immunities for the five climate change scenarios identified in Table B.7-1.	s6.2 & s6.4 of SMP
<b>Revised environmental management measures, Submissions Report</b>	
GHG1: Energy efficiency will be considered during further design development with energy efficient systems installed where reasonable and practicable.	SMP, This Strategy, s6
GHG2: Greenhouse gas emissions will be managed and minimised as part of the WHT/WFU Sustainability Management Plan which will be implemented to assist in achieving 'Design' and 'As Built' ratings of Excellent under the Infrastructure Sustainability Council of Australia rating scheme.	SMP, , IS Implementation subplan, This Strategy

# 1. Project Overview

Warringah Freeway Upgrade is a critical component to the Western Harbour Tunnel and Beaches Link (WHTBL) Program. It will enable the connection of the new WHTBL motorways into the existing motorway network, ensuring the WHTBL Program delivers its connectivity and safety benefits for public transport, freight and private vehicle customers, while improving the journey experience for existing Warringah Freeway users.

The program of works is designed to boost transport capacity around the Harbour CBD and improve connectivity to and from the Northern Beaches – two areas of importance to Greater Sydney’s future as a liveable, productive and sustainable global city. Once complete, the upgraded corridor will optimise demand across Sydney Harbour Tunnel, Sydney Harbour Bridge and Western Harbour Tunnel, enabling each to perform its intended function.

The Warringah Freeway Upgrade consists of surface road upgrades, structural works and ancillary works of an approximate four-kilometre section of the freeway corridor. The upgrade is focused on the simplification of traffic flows and wayfinding, as well as enabling works for the new WHTBL.

## 1.1 Purpose of the Strategy

With the objective of continual improvement, this strategy describes the systems and processes to be used by WFU on the Project to:

- Comply with contract and legal requirements relating to energy and greenhouse gas (GHG) emissions.
- Identify potential and actual sources of energy and GHG emissions.
- Measure and report energy use and GHG emission performance.
- Identify, assess and implement opportunities to reduce energy use, increase energy efficiencies, and reduce GHG emissions; and
- Drive continual improvement to meet or exceed its energy and GHG emission targets and objectives

## 1.2 Energy management hierarchy

CPB Downer JV has adopted an energy management hierarchy (Figure 11) in approaching energy and GHG management. This approach has been introduced early in the design development process and will be revisited at each of the key delivery phases to ensure any new opportunities to improve energy performance are investigated.

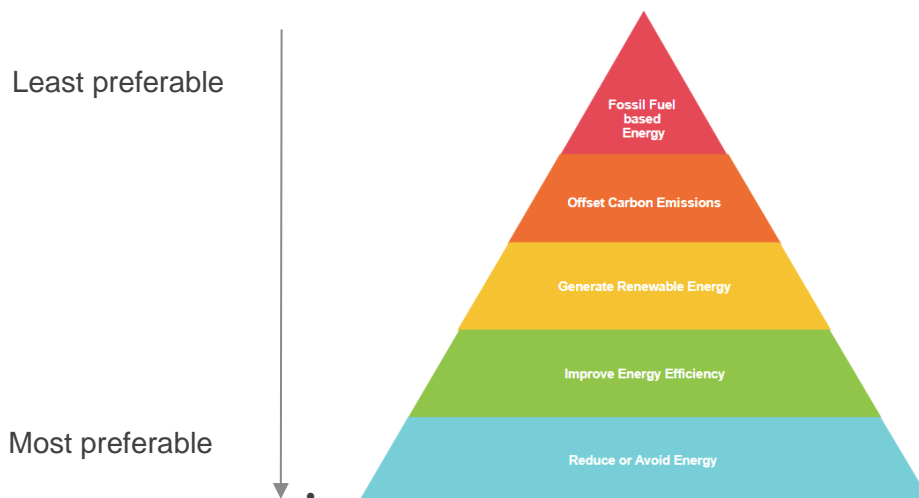


Figure 11: Energy Management Hierarchy

## 1.3 Targets and Objectives

### 1.3.1 Project Energy and Greenhouse Gas Emission Objectives

- Demonstrate sustainability leadership and continuous improvement.
- Protect and enhance the natural environment and local heritage.
- Optimize resource efficiency (materials, energy, water, land) and waste management; Increase resilience to future climate; and
- For construction activities, procure low environmental impact materials, accredited green power and/or provide onsite renewable electricity generation.

### 1.4 Project Energy and Greenhouse Gas Emission Targets

CPB Downer JV are targeting the following IS Rating benchmarks relating to the Energy and Carbon Category as part of achieving 'Excellent' Design and As Built IS Ratings. Note that these targeted credits and levels may alter throughout the life of the Project.

The Project has adopted the energy and greenhouse gas emission related targets shown below.

Table 23: IS Energy Credits

IS Credit Ref	IS Credit Name	Level Targeted (D/AB)	Benchmarks Targeted	Indicative Evidence
<b>Ene-1</b>	Energy and carbon monitoring and reduction	1.5/3	<p>Monitoring and modelling of energy use and GHG emissions, and actions taken to reduce them, is undertaken, covering at least Scope 1, Scope 2 and land clearing across the infrastructure lifecycle.</p> <p>AND</p> <p>Monitoring and modelling demonstrate a reduction in GHG emissions compared to a base case footprint.</p> <p>For every reduction up to 30% for Level 3, fractions of Levels may be achieved on a sliding scale.</p>	<p>Construction and Operational Energy Footprint Report.</p> <p>Supported by Base Case Proposal and BAU Assumptions</p>
<b>Ene-2</b>	Energy and carbon reduction opportunities	1/3	<p>Opportunities for use of renewable energy fully investigated.</p> <p>AND</p> <p>For every substitution of energy from renewable sources up to 40% for Level 3, fractions of Levels may be achieved on a sliding scale.</p>	<p>This Strategy.</p> <p>SMP.</p> <p>Renewable Energy Opportunities Report</p>

Note: The IS Rating Pathway is further defined in the IS Management Plan, as a subplan to the Sustainability Management Plan. Targeted credits are subject to change as opportunities emerge to exceed or limitations are identified as part of design and construction process.

## 2. Roles and Responsibilities

### Project Director

- Ensure implementation of this Strategy via the Environment and Sustainability Manager.
- Approve monthly Energy and GHG reports and issue by the 5th business day of each month for external issue to TfNSW.
- Secure nomination of JV partner with NGER Operational Control responsibility (i.e. NGER reporting entity).

### Environment and Sustainability Manager

- Ensure relationships with external stakeholders are effectively managed.
- Ensure relevant information from this Strategy is incorporated into Project inductions.
- Ensure all data is captured and reported according to CPB Manage Energy Procedure requirements.
- Support identified energy efficiency opportunities and their implementation.
- Review monthly sustainability report for external issue.

### Sustainability Manager

- Implement this strategy from a day-to-day perspective.
- Prepare monthly performance reports and issue to Environment and Sustainability Manager and Project Director for review.
- Facilitate internal consultative forums with design and construction teams on an as-needs basis to identify energy efficiency opportunities and communicate the requirements of this strategy.
- Ensure the requirements of this Strategy are addressed.
- Identify the relevant legal, parent JV Company, contractual, ISC and other requirements as applicable to this Strategy and ensure they are addressed within this Strategy.
- Provide training and support to procurement and contract administration teams enabling their NGER data collection responsibilities from suppliers and Contractors.
- Ensure Contractor documentation captures the requirements of this Strategy.

### Environment Coordinators

- Support the implementation of this Strategy in the field.

### Contract Administrators

- Collate and maintain Contractor documentation in accordance with this Strategy.
- Ensure timely and accurate NGER data entry into the JDE accounting system.

## 3. Approach to Achieving Energy IS Rating Credits

The Energy and Carbon related IS Credits reward the:

- Monitoring and minimizing of energy use and GHG emissions across the infrastructure lifecycle.
- Identification and implementation of opportunities to reduce energy use and GHG Emissions; and
- The investigation of, and use of, renewable energy.

The general approach to how IS Rating credits are scoped and achieved for the Design and As Built are described in the Sustainability Management Plan (SMP).

The extent to how these IS Rating credits will be targeted and achieved for the Design and As Built are described in the following sections of this Strategy.

## 4. Emission Sources and Initial Energy & GHG Assessments

### 4.1 Emission Sources

Construction & operational activities conducted on the Project forming part of the to be completed greenhouse gas assessment (Section 4.2) and have the potential to use material amounts of energy or emit significant quantities of GHG are:

Table 24: Emission Source

Project Activities	Type of fuel/ emission
<b>Construction Phase</b>	
Utility relocations	Diesel, Electricity
Construction Compounds and Ancillary facilities	Diesel, Petrol, Greases, Paint, Oil and Electricity
Earthworks	Diesel, Petrol
Spoil and Material Haulage and Reuse	Diesel, Petrol
Piling	Diesel
Concrete works	Diesel, Petrol
Pavement Works	Diesel, Petrol
Architectural Finishes	Paint, Diesel, Petrol
Landscaping	Diesel, Petrol, Oil and Greases
<b>Operations &amp; Commissioning Phase</b>	
Road Lighting	Electricity
Road Signage	Electricity
Barrier Instalment and retraction	Electricity, Diesel
Road Maintenance	Diesel, Petrol
Walkway & Safety Lighting	Electricity
Vertical Transport	Electricity

### 4.2 GHG Assessment

An initial construction phase carbon and energy assessment of the CPB Downer JV design was undertaken to determine the projects construction carbon footprint. The results of this assessment have contributed significantly to the Project ISC's strategy development. Future modelling will be undertaken once the reference design information has been provided to help establish the base case/BAU design. This modelling will include:

- ISC IS Energy Model which capture Scope 1, 2, and 3 emissions (excluding embodied carbon associated with materials) which compares against a business-as-usual design.
- A greenhouse gas assessment as required under SWTC D.5 D Section 2.4 (e), to estimate construction and operational emission using the 'Greenhouse Gas Assessment Workbook for Road Projects, Transport Authorities Greenhouse Group' or the most relevant tool provided by Transport for New South Wales that CPB Downer JV assess as fit for purpose at the time of assessment for at least scope 1 and 2 emissions; and
- ISC IS Material Calculator Model which captures the embodied carbon associated with materials and compares against a business-as-usual design.
 

This information will be used to drive initiatives and innovation to reduce carbon related to high impact aspects of the project. Aspects of project delivery that contribute to the greatest proportion of energy use and GHG emissions based on the preliminary footprint are:

  - Surface excavation and bulk excavation of temporary civil structures (Scope 1, diesel-powered plant)
  - Material consumption, predominately concrete, pavement and steel (scope 3 emissions)
  - Waste transportation and disposal (Scope 3 emissions)

- Road designs to minimise energy consumed by vehicles using the motorway (scope 3)

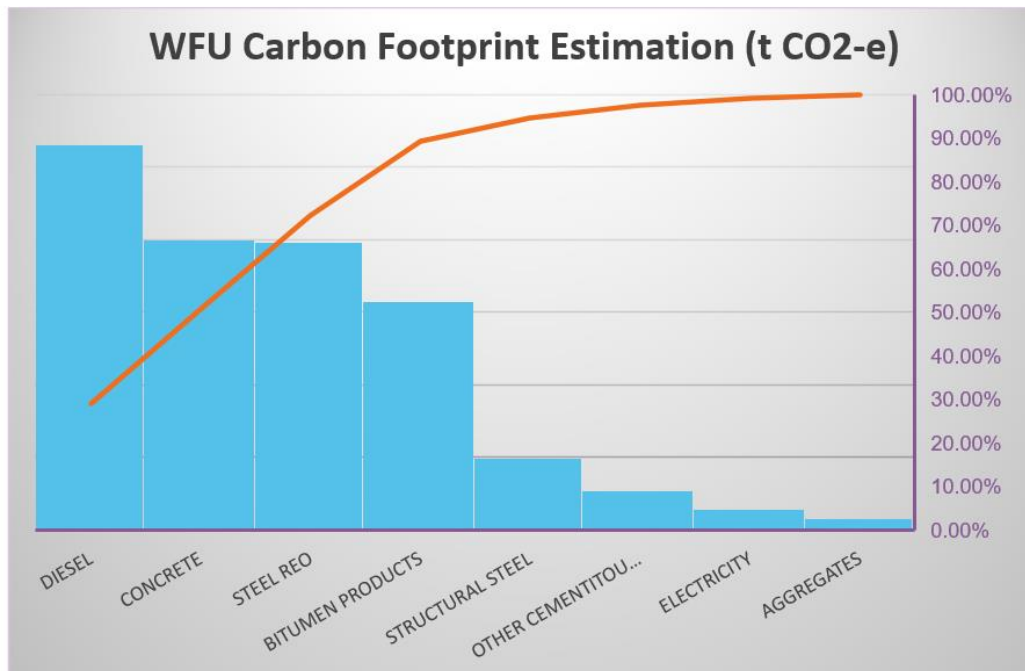


Figure 12: Initial Carbon Footprint Estimate

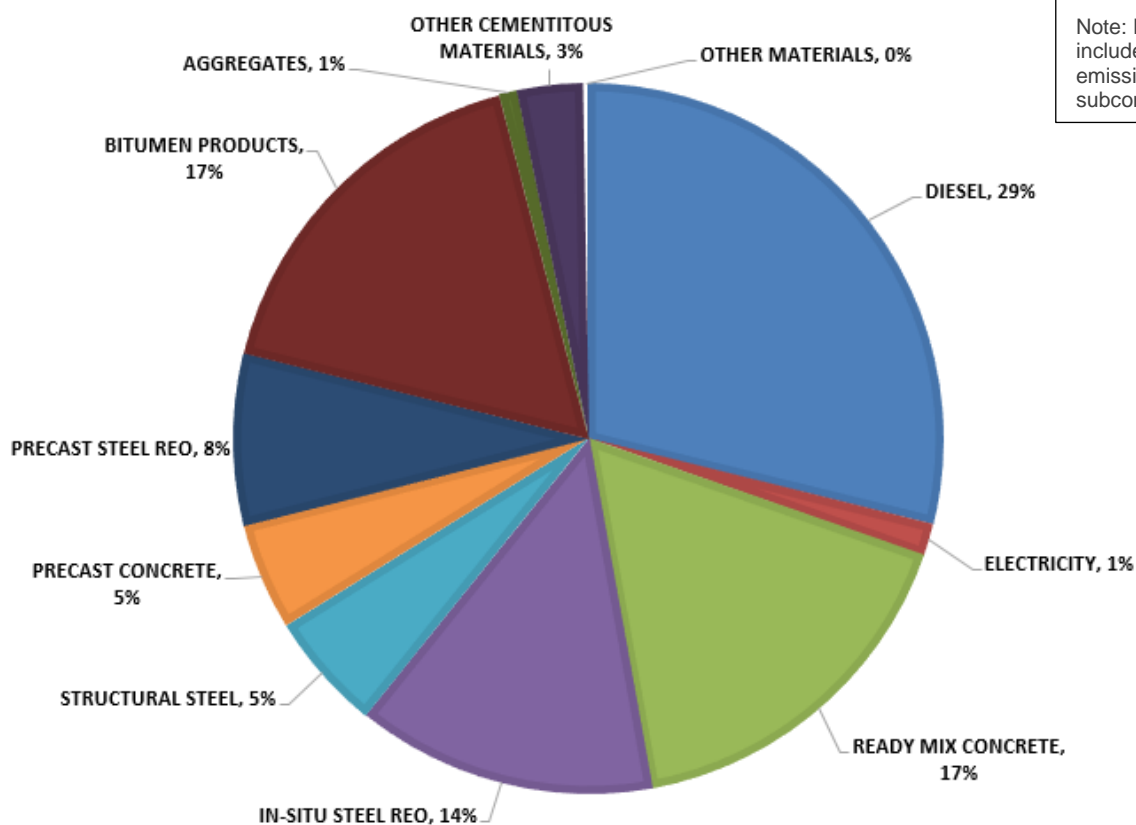


Figure 13: Construction Carbon footprint

## 4.3 Emission Scope Definitions

The definitions of GHG emission scope types are provided in Table 4 for information.



Table 25: Emission Types

Scope 1: Direct Emissions	Scope 2: Indirect Emissions	Scope 3: Other Emissions
<p>The consumption of fuels, oils, greases, gases and solvents on site. The combustion of fuel onsite leads to emissions being released within the site boundaries.</p> <p>Examples:</p> <ul style="list-style-type: none"> <li>• Fuel used in heavy vehicles, plant and equipment on site</li> <li>• Fuel used in light vehicles</li> <li>• Gas used on site</li> <li>• Oils, greases and solvents used on site</li> <li>• Contractor vehicles and fuels etc. used on site.</li> <li>• Vegetation clearing (lost carbon sink)</li> </ul>	<p>Consumption of electricity on site. Consumption occurs within the site boundaries, yet the emissions are generated elsewhere (at the power generation facility).</p> <p>Examples:</p> <ul style="list-style-type: none"> <li>• Electricity consumed within the site boundaries during construction, such as site offices and crib rooms</li> </ul>	<p>Broader upstream and downstream emissions where the energy consumed, and the emissions generated both occur outside of the site boundary.</p> <p>Examples:</p> <ul style="list-style-type: none"> <li>• Deliveries to site (including concrete trucks, waste collection etc)</li> <li>• Emissions generated in the production of materials (eg concrete, steel, asphalt)</li> <li>• Quarried products</li> <li>• Fuel used by subcontractors and workers getting to and from site</li> <li>• Emissions from waste disposal to landfill</li> </ul>

As per the project EIS, Noise and Vibration Assessment, mobile energy sources during construction will include - vibratory roller; compactor; bulldozer; excavators; hydraulic hammers; vibrator pile driver; impact piling; pile boring; jackhammer; and road saw.

## 5. Measuring and Reporting of Energy and GHG Emissions

### 5.1 Detailed Greenhouse Gas Assessment

CPB Downer JV will undertake a greenhouse gas assessment of Scope 1 and Scope 2 emissions for the detailed design in accordance with the latest version of the RMS Greenhouse Gas Assessment Workbook for Road Projects (Transport Authorities Greenhouse Group) (2013) or the most relevant tool provided by Transport for New South Wales that CPB Downer JV assess as fit for purpose at the time of assessment. This assessment will be undertaken to:

- Estimate construction and operational emissions; and
- Demonstrate that opportunities to minimize emissions during both the construction and operational stages have been identified and analyzed.

This assessment will also satisfy evidential requirements for IS Rating Credit Ene-1 and be the subject of an internal and/ or external audit in accordance with ISCA requirements and the level being targeted.

A revised assessment will also be undertaken for the operation of the Project based on the as-built Project as part of the as-built IS Rating submission.

### 5.2 Monitoring and Data Collection

The Project's energy consumption and GHG emissions associated with Scope 1, Scope 2 and land clearing will be monitored and reported throughout the delivery phase. Table 6 identifies the data sources and collection method for each emission type and reporting parameter generated by the Project. Energy and GHG monitoring will be conducted according to the CPB Manage Energy Procedure MSID-2-437 and CPB Report of Subcontractor Fuel Use Procedure MSID-2-433, including the collection of data from supplier invoices and Contractors, and uploading of data into the CPB Contractor's data collection systems.

The reporting forms include data capture demonstrating conformance to the European Union or United States Environmental Protection Agency air emission standards.

Table 26: Emission Data Sources and Collection Methods

Emission Sources	Fuel Combusted	Party	Data Collection Method
Liquid fuels by non-combustion methods	Solvents	Suppliers Subcontractors	Supplier Invoices. Monthly Contractor NGER forms.
Gaseous fuels by non-combustion	Acetylene	Suppliers Subcontractors	Supplier Invoices. Monthly Contractor NGER forms.
Electricity paid for by CPB Downer JV	Electricity	Suppliers	Utility Supplier invoices.
On-sell any fuel (i.e., diesel, LPG) to any third parties (i.e., CPB Downer JV subcontractors)	Diesel, biodiesel, petrol, LPG, grease, oil	CPB Downer JV	Commercial Team invoicing Contractors/ third parties.
Liquid fuel – stationary (ie gensets, fans, pumps, compressors, batch plant-diesel)	Diesel, biodiesel, petrol, LPG, grease, oil	Suppliers Subcontractors	Supplier Invoices. Monthly Contractor NGER forms.
Liquid fuel – transport (ie site vehicles and trucks)	Diesel, biodiesel, petrol, LPG, grease, oil	CPB Downer JV Supplies Subcontractors	Fuel Cards Supplier Invoices Monthly Contractor NGER forms.
Gaseous fuel - stationary	Natural Gas, Acetylene	Suppliers Subcontractors	Supplier Invoices. Monthly Contractor NGER forms.
Gaseous fuel - transport	LPG	CPB Downer JV Suppliers Subcontractor	Fuel Cards Supplier Invoices Monthly Contractor NGER forms.

### 5.2.1 Data Collection from Contractors

All CPB Downer JV template Contractor agreements include standard provisions placing a responsibility on the subcontractor to report energy use and GHG emissions in accordance with requirements under the NGER Act 2007 (Cmwlth). A Contractor Energy and Greenhouse Reporting Form is included as an attachment to each agreement.

An additional CPB Contractor Reporting Help Guide and supporting calculation sheet will be provided to Contractors seeking assistance and to improve the reliability of data received.

A list of Contractors and work packages anticipated to consume material amounts of energy or generate GHG emissions from its activities will be maintained and updated each month during the delivery phase.

A guide to determining materiality comprises:

1. Scope of activities anticipated to consume at least 200L of fuel/month on-site and generate Scope 1 emissions (e.g., piling contractor), and/or
2. Value of subcontract exceeds \$100,000 pa.

### 5.2.2 Estimates

Where invoiced data is not available for a specific parameter, estimates may be made based on technical specifications of relevant plant and equipment. Any estimates will be conducted in line with guidance developed by the RMS Greenhouse Gas Assessment Workbook for Road Projects, Transport Authorities Greenhouse Group or equivalent.

## 5.3 Tracking, Reporting and Reviewing Energy and GHG Performance

The tracking and reviewing of energy and GHG emission performance will occur throughout the delivery phase of the Project using informal and ad-hoc mechanisms as well as formal and structured review and reporting processes. The processes are detailed below.

## 5.4 Monthly NGER Reports to CPB Contractor's Pty Ltd

An aggregate of each Scope 1 and 2 energy and emission source will be provided to the CPB Contractor's Pty Ltd as the NGER Reporting Entity. This will be undertaken in accordance with the CPB Manage Energy Procedure MSID-2-437 and CPB Report of Subcontractor Fuel Use Procedure MSID-2-433.

### 5.4.1 Monthly Progress Report

From the date of the deed until Construction Completion, the Sustainability Manager will prepare a Monthly Progress Report. This report will be provided to the Environment and Sustainability Manager, Project Director, WFU Leadership team and communicated to the workforce. The Monthly Progress Report will be submitted to the TfNSW representative within 5 business days after the end of month. Note -data reporting will be one month in arrears to allow capture of subcontractor reporting data.

The Monthly Progress Report will include or address as a minimum the following areas:

- Performance against targets, both as requirements and CPB Downer JV nominated targets in the Sustainability Management Plan; and
- Performance towards achievement of the Infrastructure Sustainability (IS) rating for the Design and As-built stages.

The following energy and GHG related metrics will be included in each report:

- Greenhouse gas emissions throughout construction, current and accumulative
- Electricity consumption and generation
- Performance towards the achievement of Energy and Carbon IS Target Credits and other Project energy and GHG emission related objectives (including continual improvement initiatives and actions;
- Electricity use (including % of renewable energy purchased) and any electricity generated onsite;
- Fuel use by type (petrol, diesel, biodiesel);
- Energy use (in MJ/month); and
- Greenhouse gas emissions (in tonnes of Carbon Dioxide equivalents per month (tCO<sub>2</sub>-e/month)).

### 5.4.2 Annual Sustainability Report

From the date of the deed until Construction Completion, the Sustainability Manager will undertake an annual review of sustainability performance. This review will be evaluated by members of the CPB Downer JV Senior Leadership team and opportunities to drive continual improvement will be identified. The results of the review will be documented in the Annual Sustainability Report and provided to the Project Director for final review and approval. The Annual Sustainability Report will be submitted to TfNSW within 5 business days after the 31<sup>st</sup> August each year for review. The report will describe performance in sustainability in relation to the Sustainability Management Plan and include progress against sustainability goals and targets over the last year including annual sustainability reporting metrics in line with the NSW Government Resource Efficiency Policy (2019).

### 5.4.3 Internal and External Auditing

To obtain the IS Rating credit Ene-1 Level 2 or 3, an external audit of the energy and GHG modelling report must be undertaken for the Design IS Rating submission and monitoring report produced for the

As-Built IS Rating submission. The scope of these audits will be defined by ISC requirements defined in the IS Technical Manual and Ruling Updates available on <http://www.isca.org.au/is-rating-scheme/is-rulings>.

Energy performance will also fall within the scope of quarterly sustainability audits of the WFU management system in accordance with the Targeted IS Credit Man-5 level 2.

## 6. Identifying and Implementing Opportunities

CPB Downer JV utilise a risk-based approach according to ISO31000 Risk Management – Principles and Guidelines to identify and mitigate against environmental, social and economic risks and capitalise on opportunities. Key decisions, such as those made during design and constructability analysis, will use value engineering or multi-criteria analysis techniques to assess design options and key factors such as cost, design (product), safety, sustainability and energy.

During design and construction, where achievable, CPB Downer JV will investigate opportunities to reduce energy consumption by:

- Using renewable energy or lower carbon energy sources.
- Using biodiesel for diesel plant and equipment.
- Selecting low embodied energy materials (e.g., high % Supplementary Cementitious Materials in concrete or LED lighting).
- Producing or procuring goods and services locally to reduce transport fuel emissions.
- Considering emissions intensity of construction materials.
- Procuring energy efficient office equipment, kitchen appliances and portable heating/cooling units.
- Evaluating fuel efficiency as part of construction plant and equipment selection and procurement.

### 6.1 Opportunities Register

The identification and tracking of sustainability risk, opportunities and initiatives is the responsibility of the Sustainability Manager and is integrated with the Project-wide risk management approach. Additionally, identified sustainability opportunities will be recorded in the Sustainability Opportunities Register, refer to SMP App E. This register will be a ‘live’ document throughout Project delivery with opportunities that have been identified as part of the tender process forming the basis of the initial Initiatives Register and subsequent updates capturing new opportunities identified during design and construction. Opportunities will be assessed on a feasible and reasonable basis considering whole of life Project impacts.

- **Feasible** relates to engineering considerations, what is practical to build and whether or not Project-specific technical criteria can be met.
- **Reasonable** requires judgment on the total cost of the initiative versus benefits provided as well as the nature and extent of potential improvements and value for money.

Once deemed feasible and reasonable, opportunities become initiatives for implementation.

Responsibility for implementation will be assigned to a relevant manager within the Project team to ensure the initiative is implemented. This process will ensure that implemented initiatives align with Project objectives and provide whole of life value.

### 6.2 Energy and GHG Reduction Initiatives

A number of energy efficient initiatives and GHG reduction initiatives have been incorporated into the CPB Downer JV tender concept design and construction methodologies or were deferred pending further assessment during detailed design. These initiatives serve as a starting reference in the *Opportunities Register* described in section 6.1.4 and Appendix E of the SMP.

Initiatives to reduce the scope 3 emissions in terms of the embodied carbon of products and materials are captured in the SMP and through the IS materials credits.

## 6.2.1 Energy and GHG Emission Initiatives - Design

- **Design Efficiencies** – Optimize road design to minimize energy consumed by vehicles during operation.
- **Installation of smart street lighting** - along all pedestrianized and active transport areas. Luminaire with capability of dimming and PE control will be introduced to P category lighting at ATL, carparks and SUPs.
- **Road corridor light fixtures** – PE cells will be installed for V category lighting across the main carriageways. The lighting design along the roadway uses optimally spaced LED light banks. While still providing a 'white' light for improved driver safety, this arrangement reduces the number of fittings required in comparison to similar existing NSW roadway fluorescent fittings or high-pressure sodium (HPS) lights. The number of light fittings will be reduced, with a corresponding reduction in cabling. The LED light banks have a longer life expectancy than fluorescent and HPS fittings and therefore a reduced maintenance cycle. The LED lights also decrease the operational power demand and associated carbon footprint by an estimated 40%.
- **Renewables** – A feasibility study will be conducted to explore potential renewable energy options. This will include Solar photo voltaic (PV) panels for site facilities during construction phase and for operations, PV panels for Intelligent Traffic Systems (ITS), substations, the toll connection system and network communication system, will be considered.

## 6.2.2 Energy and GHG Emission Initiatives – Construction

- **Accredited Green Power** – 20% of construction energy to be 100% renewable either through onsite renewables or purchase of Accredited Green Power.
- **Carbon Offset** – 6% of construction energy use will be offset accordance with the Australian Government National Carbon Offset Standard. A 100% offset of construction energy use has been set as a Contractor nominated target. Offsetting will support social and environmental projects, included koala habitat restoration. With the project acceptance of carbon neutral concrete, this percentage is expected to increase.
- **Solar powered lighting towers** – trailer mounted lighting towers fitted with solar panels, battery storage system and LED fixtures are now a viable alternative to diesel powered lighting towers. These towers will be used in preference to traditional diesel driven lighting towers where possible, particularly for OOH works.
- **Spoil diversion from landfill** – efforts to minimize double-handling of spoil and materials will be exercised at all times. This will include optimize vehicle routes and sharing of spoil between project and civil sites to reduce fuel usage and emission generation.
- **Energy efficient appliances** – white goods for temporary offices will be Minimum Energy Performance Standards (MEPS) rated and adopt a minimum 4 Star Rating where available and economically feasible. Dishwasher is required to be 4.5 star minimum as per App C.3. Refer also to Government Resource and Energy Efficiency Policy (GREP) as a guide.
- **Energy efficient site facilities** – Refer to SWTC Appendix C.3 Principal and IC Facilities. Refer also to the 'RCLG Site Facilities Requirements' as a guide.
- **Team culture and discipline** – campaigns in workforce to encourage switching off lights, air conditioners, computers and other white goods when not in use and appropriate to do so. This will include toolbox talks covering energy efficient construction practices e.g., fuel usage and idling of vehicles.
- **Biodiesel** – fuel supply for all onsite plant and equipment is to use B5 and B20 as a Contractor nominated target. Generators for cranes and where electricity connection for site facilitates has not been established, B20 (ie 20% biodiesel) will be used. For all site-based plant and equipment, a minimum of B5 will be used. Where fuel storage on site is possible, wet hire contractors will be required to use B5 biodiesel.
- **Reducing or eliminating energy use** - through by using existing or adapted assets, such as precast steel moulds, and prefabricated assets where possible.



- **Utilization of energy-efficient equipment** – The construction methodology uses a range of energy efficient systems, including variable speed drives, power factor correction, efficient fans, pumps, compressors and energy-efficient lighting in site compound. These have been shown to deliver a ‘whole-of-life’ benefit through reduced energy use.
- **Adequate sizing of generators and electrical equipment** -will be conducted to prevent incorrect equipment selection and over consumption. Use of biodiesel for genset will be required.
- **Strategic construction staging and planning** -to optimize vehicle movement and haulage routes to minimize fuel consumption and material double handling.
- **Supplier location and transport modes** -considered during the procurement phase to minimize fuel consumption and emission generation.
- **Use of electrical plant and equipment** – opportunities to be explored to reduce noise impacts particular to allow OOHW and support cleaner technologies.
- **Investigate opportunities to use renewable energy or lower carbon energy** -during the construction, such as photovoltaics for the Porter Creek site facilities. A report will be prepared to meet the Ene-2 credit.
- **Compliance to European Union or US EPA air emissions standards** - and the fitting of any exhaust after-treatment devices for all non-road diesel plant and equipment (NRDE). CPB Downer will target an emission standard for plant and equipment used during construction, such as Euro V for trucks. Refer also to GREP and section below. The tender selection process will incorporate a weighting for air emission standards in conjunction with other environmental considerations to ensure it is factored into the selection process and apply a consistent weighting to preference the lowest emission engines.
- **Ensuring regular servicing of plant and equipment** - so that vehicular emissions remain within relevant air quality guidelines and standards. Requirements for servicing in accordance with manufacturers specifications and Service Logs to be maintained, which form part of subcontractor requirements with pre-commencement vehicle /plant assessment undertaken.

### 6.2.3 Emission Standards

Diesel engine exhaust contains many different pollutants which can cause harm to human health and the environment. Harmful components include particulate matter (PM), carbon monoxide (CO), hydrocarbons (HC), oxides of nitrogen (NO<sub>x</sub>) and oxides of sulfur (SO<sub>x</sub>).

In accordance with the National Greenhouse Accounts Factors, Commonwealth of Australia, Aug 2021, nitrous oxide, (N<sub>2</sub>O) has a global warming potential (GWP) of 265, making it a much more powerful greenhouse gas than carbon dioxide. Nitrous oxide molecules also stay in the

atmosphere for an average of 114 years before being removed by a sink or destroyed through chemical reactions and N<sub>2</sub>O contributes to ozone depletion. While not as significant as CO<sub>2</sub> as a GHG, which lasts for thousands of years in the atmosphere, N<sub>2</sub>O emissions are rapidly rising and account for approximately 6% of global emissions.

Unlike road vehicles there are no standards in place in Australia to limit emissions from non-road diesel engines (NRDE). Such regulations have however been enforced in the United States and the European Union since the mid-1990s and, more recently, in Canada, Russia, Switzerland, Turkey, Japan, China, India, South Korea, Singapore and Brazil.

NRDE are high polluters relative to their usage. In Australia in 2018 they:

- consumed a comparable amount of diesel to the entire on-road diesel fleet
- emitted more than double the particulate matter of the entire on-road fleet (all fuel types) and accounting for about 5–10% of all fine particle pollution
- had NO<sub>x</sub> emissions that were 80% of the entire on-road fleet.



US	EU
(often referred to as Tier 0)	(Pre-Stage I)
Tier 1	Stage I
Tier 2	Stage II
Tier 3	Stage IIIA
Tier 4 intermediate	Stage IIIB
Tier 4 final	Stage IV and Stage V



Australia has benefited from some uptake of NRDE that meet the requirements for the latest international emission standards. These have contributed to reduced emissions from this sector, but they are not widespread.

CPB and Downer vehicles, for new projects with over 18ths life, are generally predominantly sourced as new and compliant with the latest standards. Our vehicle fleet assets (predominantly leased) are replaced generally on a 5-year timeframe. This reduces waste (from turning vehicles over too frequently), and ensures new vehicles are constantly entering the fleet improving fuel consumption, emissions, and safety. Through our procurement strategies and subcontractor management, vehicle emissions will be further reduced and managed.

### 6.2.3.1 GREP Requirements

As per the Government Resource Efficiency Policy, emission standards apply to 'mobile non-road diesel plant and equipment' (NRDE) with engines greater than 19 kW in new buildings and infrastructure.

*The minimum performance standard for mobile non-road diesel plant and equipment purchased or leased by agencies must be:*

- US EPA Tier 4 or EU Stage IIIA/IIIB/IV compliant (depending on engine size)
- US EPA Tier 4 or EU Stage V compliant from 2021 or 2022 (depending on engine size).

*For contractor-supplied plant and equipment in new buildings and infrastructure:*

- *procurement contracts requiring the use of mobile nonroad diesel plant and equipment will require reporting of engine conformity with relevant US EPA, EU or equivalent emission standards and the fitting of any exhaust after-treatment devices*
- *the tender selection process will incorporate a weighting for air emission standards in conjunction with other environmental considerations to ensure it is factored into the selection process, and apply a consistent weighting to preference the lowest emission engines*
- *agencies that have difficulty weighting air emission performance of equipment in their tender processes can choose to instead request that contractors specify how they will reduce air emissions and provide data on the air emissions from their equipment*

## 7. Archiving and Document Retention

A variety of energy and GHG emission related documents, reports and data will be generated and collected by the Project. These records and documents must be accessible during and following Project completion and be of sufficient detail and quality to allow formal auditing of performance levels described in reports and assessments:

- All records and data types to be retained and archived for a minimum of seven years as nominated by the NGER Act 2007 (e.g., supplier invoices and Contractor NGER reports) as detailed in the CPB Report of Subcontractor Fuel Use Procedure: MSID-2-433.
- Assessments and Reports required by the deed (e.g., Monthly Progress Reports) will be archived in accordance with the CPB Downer JV Records Management Plan.

Documentary evidence required for the IS Design and As-Built Rating submissions will be identified and tracked using the Project's in-house excel-based Sustainability Management Tool and stored on the Project's server.