

PARRAMATTA LIGHT RAIL

# Annual Sustainability Report 2019

## Supply, Operate and Maintain

PLR1SOM-GLR-ALL-SB-RPT-000002

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## Foreword

Great River City Light Rail is proud to produce our first Annual Sustainability Report, covering our sustainability progress between February and August 2019.

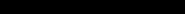
Great River City Light Rail is a joint venture between Transdev and CAF Australia and is responsible for delivering the Supply, Operate and Maintain (SOM) Works for Parramatta Light Rail Stage 1. This includes the design, construction, testing and commissioning of light rail systems, high voltage traction works, stops above slab level, light rail vehicles, and a stabling and maintenance facility at Camellia. After construction has been completed Great River City Light Rail will be responsible for all light rail operations, customer service and asset management and maintenance for an initial term of eight years.

Great River City Light Rail is committed to ensuring a sustainable future for Parramatta Light Rail, our customers and the Greater Parramatta Area. Since Great River City Light Rail was established in early 2019, we have been actively setting up our business structures and systems and advancing the design of the SOM Works. Whilst we are early in our journey, we are taking steps to ensure that sustainability is embedded across all that we do.

Sustainability highlights during this period include:

- Development of Great River City Light Rail's Environment and Sustainability Policy
- Development of a draft Sustainability Management Plan
- Lodgement of the Registration of Interest with the Infrastructure Sustainability Council of Australia
- Formation of the SOM Contract Sustainability Working Group
- Delivery of a series of 'Sustainability in Design' workshops
- Assigned the full suite of sustainability requirements to design disciplines, via the Sustainability Requirements Matrix
- Delivery of a series of Climate Change Risk Assessment workshops, in partnership with the Infrastructure Contractor, CPBDJV.

This Annual Sustainability Report includes details of Great River City Light Rail's key sustainability objectives, progress-to-date, and the outlook moving forward. Future Annual Sustainability Reports will include metrics to demonstrate progress, as we move from design to construction and into operations.

  
Project Director, Great River City Light Rail  
31 August 2019



*Artist's impression of the Parramatta Light Rail on Macquarie Street.*

## Context

### Parramatta Light Rail Project

The Parramatta Light Rail (PLR) is a 12-kilometre two-way light rail track connecting Westmead to Carlingford via Parramatta CBD and Camellia being commissioned by Transport for NSW (TfNSW) as our client. The core travel nodes within the light rail network include Parramatta CBD and train station, Westmead Hospital Precinct, Parramatta North Growth Centre, Camellia Town Centre, Western Sydney University Campuses and suburbs between Camellia and Carlingford.



*Parramatta Light Rail network.*

The key project features include:

- A new dual track light rail network of approximately twelve (12) kilometres in length. Seven (7) kilometres of the track will be located within existing road corridors and five (5) kilometres will replace the existing heavy rail Carlingford Line and Sandown Line.
- Sixteen (16) fully accessible light rail stops with the terminus stops located at Westmead and Carlingford.
- Seven (7) traction power substations to supply electricity to the operation of the light rail vehicles (LRVs).
- The Stabling and Maintenance Facility (SaM Facility) at Camellia for light rail vehicles.

- Thirteen (13) modern and comfortable LRVs with a capacity of at least 250 passengers each.
- High-frequency 'turn-up-and-go' light rail services seven days a week, departing approximately every 7.5 minutes in peak periods.
- Integration with Opal ticketing.
- An Active Transport Link (shared walking and cycling path) between Carlingford and Parramatta.
- Two car-free zones on Church and Macquarie Streets in the Parramatta CBD.
- Wire-free sections between Westmead Station and Cumberland Hospital, and between Prince Alfred Square and Tramway Avenue (a total of 4km).
- Due to be operational in 2023

### Benefits of Light Rail

The PLR will create new communities, connect great places and help locals and visitors move around and explore what the region has to offer. A journey from Carlingford to the Parramatta CBD is expected to take just 18 minutes, six minutes less than by bus.

By 2026 an estimated 130,000 people will be within walking distance of a light rail stop and by 2041 the PLR will carry an estimated 15,000 customers per day, taking 25,000 cars off the road.

The LRVs will be in service in the City of Parramatta for decades, continuing to provide an appealing transport option and enhancing the quality of life of residents and visitors.



*Artist's impression of the Parramatta Light Rail crossing Lennox Bridge.*

## Sustainability Goals

Transport for NSW (TfNSW) has developed six key goals to guide success in achieving sustainability outcomes for the Parramatta Light Rail project.

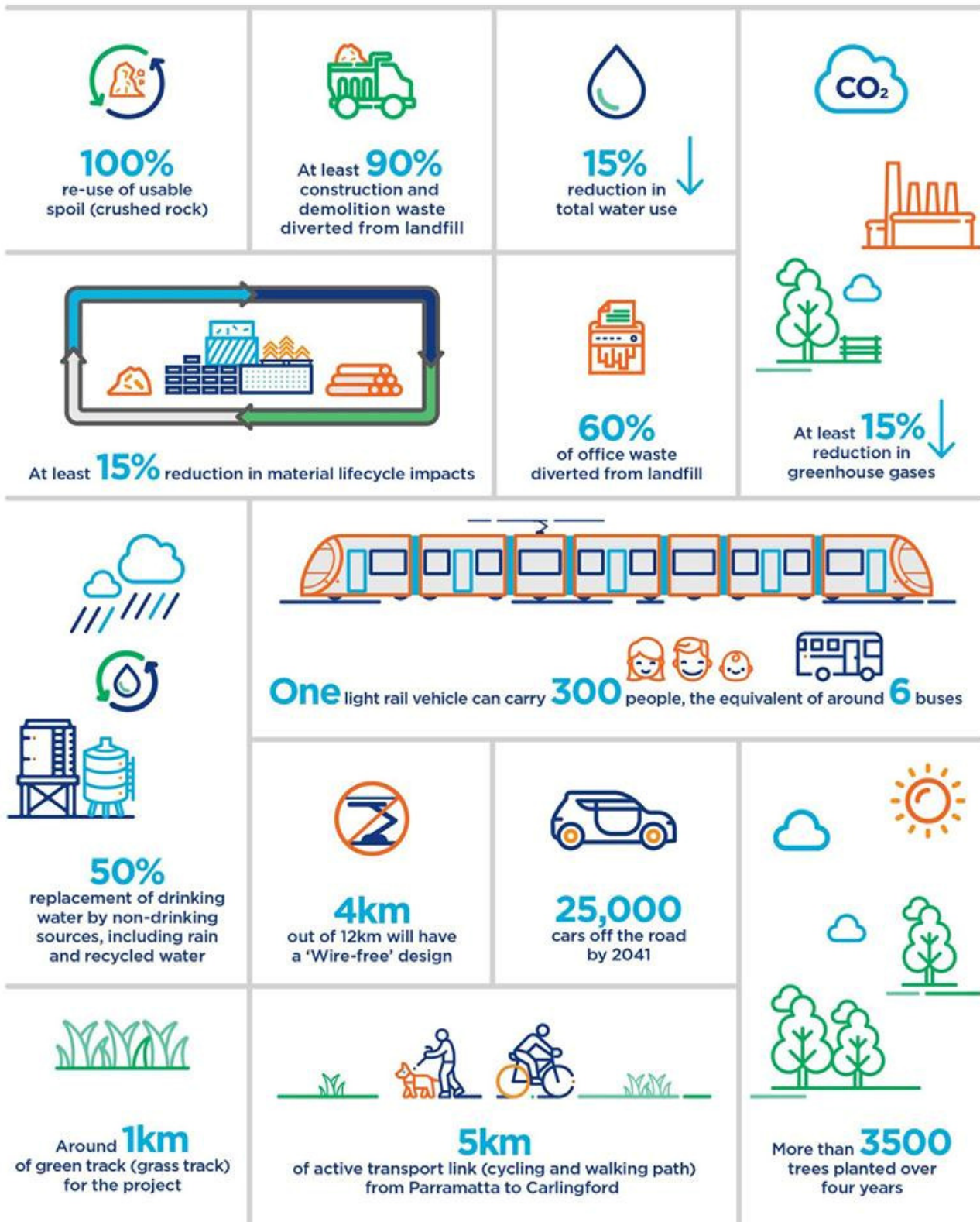
1. **Reinforce the Inherent Sustainability Benefits of the PLR:** The inherent sustainability benefits of the project and the operating asset will be realised through diversion of trips to light rail from less sustainable or efficient modes, considering the needs of current and future communities and integrating transport choices by facilitating increased cycling, walking and other public transport uses within the project corridor.
2. **Benchmark against Recognised Rating Tools:** The PLR project will target an ISCA IS 'Excellent' rating (with a minimum score of 65) for the design and as built phase and a rating for the operational phase of the Project.
3. **Maximise Energy Efficiency, Renewables and Greenhouse Gas Reduction:** PLR has committed to implementation of the energy hierarchy (avoidance, energy efficiency, renewables, low emission and offset), including identification of opportunity for generation of renewable energy and to improve the project energy efficiency and reduce the carbon footprint.
4. **Advocate for Sustainable Communities:** PLR is working with relevant stakeholders along the alignment to realise common goals for sustainable communities, residents, customers, local and regional business. This includes realising opportunities for workforce skills and diversity and planning a resilient asset that strives to meet the challenges of a changing climate
5. **Utilise an Environmental Management System:** PLR has identified that the Environmental Management System, ISO14001 will continue to be used as a framework to enable the project to meet with TfNSW, stakeholder and community expectations.
6. **Report on our Progress:** PLR will create a dashboard of information on relevant and material sustainability issues and report regularly on the progress made in our sustainability journey.

TfNSW's Environment and Sustainability Policy is included in Appendix A.



*Artist's impression of the Parramatta Light Rail green tracks at Robin Thomas Reserve.*

## Sustainability Targets



In future years, progress against these targets will be reported as design is finalised, and construction is progressed.



## Great River City Light Rail

Great River City Light Rail (GRCLR) is a joint venture between Transdev and CAF Australia. GRCLR is responsible for delivering the Supply, Operate and Maintain (SOM) Works for Parramatta Light Rail Stage 1. This includes the design, construction, testing and commissioning of light rail systems, high voltage traction works, stops above slab level, light rail vehicles, and the Stabling and Maintenance facility at Camellia. After construction has been completed GRCLR will be responsible for all light rail operations, customer service and asset management and maintenance for an initial term of eight years.

Other packages of work, being delivered under separate contracts, include:

- **Early Works:** Including remediation of the Stabling and Maintenance (SaM) Facility site (Stage 1 of the Remediation Action Plan) involving the design and construction of hydraulic barrier walls to the perimeter of the SaM site.
- **Enabling Works:** Works including the design and construction of specific local road network improvements and adjustments to maintain performance of the local road network.
- **Infrastructure Works (Infra):** Design and construction of all civil works and light rail track and slab up to road level and stop level, including relocation of underground services, road widening and urban design.
- **ETS Contract:** Includes supply, installation and operation of ETS equipment at Stops.
- **Robin Thomas Reserve Works (RTR):** Includes upgrades to RTR in accordance with the City of Parramatta RTR master plan.

## Program of Works – Design

GRCLR is currently developing and refining the design for the SOM scope of Parramatta Light Rail.



*GRCLR is currently in the design stage*

GRCLR is undertaking the design process in defined stages to ensure that the design is progressively developed, reviewed, refined and finally endorsed by the project team and TfNSW. This includes incorporation of environmental and sustainability requirements.

Key design phases include:

- Design Planning – strategies, tools, resources, methods, deliverables, and personnel are mapped
- Design Initiation – contract obligations and basis of design are communicated, design plan is developed
- System Definition Review (SDR) – very early stage of the design process (~30%) to demonstrate that the system and interface specifications are complete, unambiguous and consistent with the requirements of the Contract, and that the solution provides a best for project outcome. The design works are also progressed to enable procurement and construction planning to proceed and/or continue. GRCLR has primarily worked in the SDR phase since the Contract Award in early 2019.

- Preliminary Design Review (PDR) – demonstrates how the integrated design for Parramatta Light Rail will meet the systems, legal, stakeholder and authority requirements. GRCLR has recently commenced the PDR phase.
- Detailed Design Review (DDR) – ensure that the detailed design fully adheres to the engineering specification, and the requirements of the Contract.



*Artist's impression of Parramatta Light Rail operating alongside the Active Transport Link.*

## Sustainability Framework

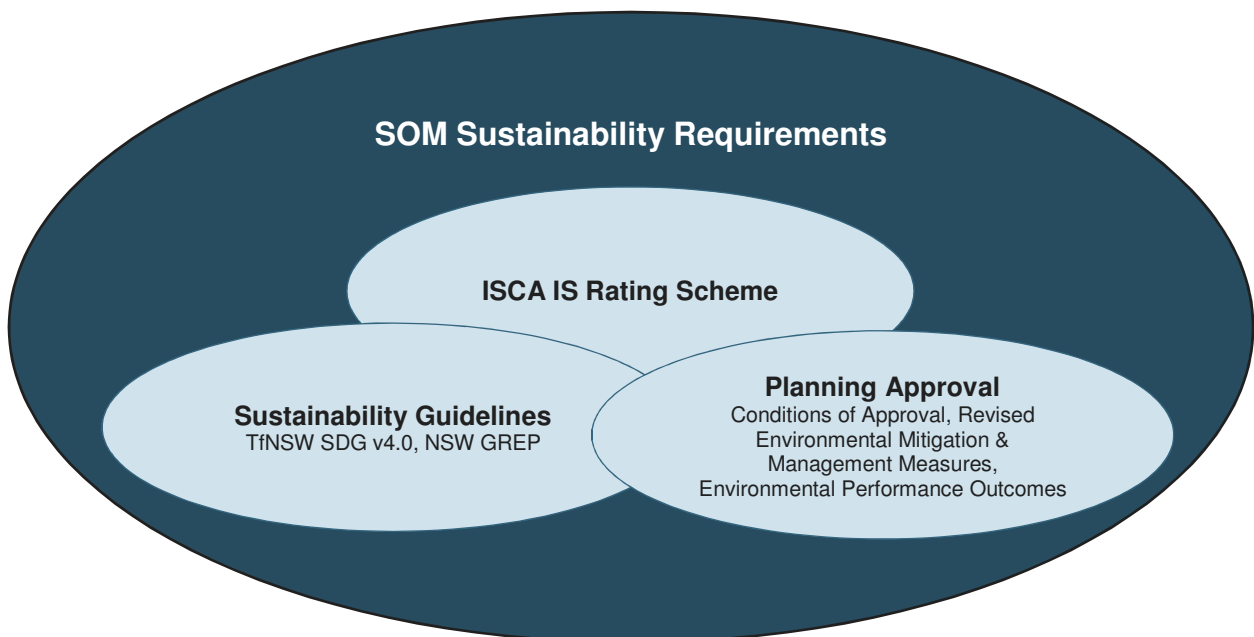
GRCLR will ensure that sustainability is embedded in the delivery and operation of the PLR SOM Contract, utilising the Infrastructure Sustainability Council of Australia (ISCA) Infrastructure Sustainability (IS) Rating Tool. The ISCA IS Rating Tool measures sustainability performance throughout the project lifecycle of design, construction and operation. It provides an external and independent validation and valuation of an infrastructure’s contribution towards improving triple-bottom-line (environmental, social and economic) outcomes. GRCLR’s Environment and Sustainability Policy is included in Appendix B.

ISCA is the peak industry body in Australia for promoting and facilitating sustainability outcomes in major infrastructure projects. Over \$80 billion of infrastructure and civil projects have been certified or registered under the ISCA rating framework. Under the SOM contract, GRCLR is required to achieve a minimum Design & As-Built ISCA IS Rating of ‘excellent’, with at least 70 points. Points are allocated across the following categories:

- Management Systems
- Procurement & Purchasing
- Climate Change Adaptation
- Energy & Carbon
- Water
- Materials
- Discharges (Air, Land & Water)
- Land
- Waste
- Ecology
- Community Health, Wellbeing & Safety
- Heritage
- Stakeholder Participation
- Urban & Landscape Design
- Innovation

GRCLR’s progress against these categories is noted in the following section, along with the 6-12 month outlook.

In addition to the ISCA IS Rating Scheme, there are further sustainability requirements to be met by GRCLR which are covered under the SOM Contractual requirements, Planning Approval requirements and guidelines such as the TfNSW Sustainable Design Guidelines V4.0 and NSW Government Resource Efficiency Policy.



*GRCLR Sustainability Framework.*

## Sustainability Performance

Sustainability Themes	Objective	Progress to date	Outlook (next 6 12 months)
<b>General</b>	GRCLR will comply with the Sustainability Framework, which comprises of the ISCA IS Rating Scheme, TfNSW SDG v4.0 and NSW GREP. GRCLR will achieve a Design & As-Built ISCA Rating of at least 70 for the SOM Works.	<ul style="list-style-type: none"> <li>• Registration of Interest lodged with ISCA.</li> <li>• ISCA Rating Tracker tool developed and distributed to GRCLR delivery partners.</li> <li>• Interface meetings with the Infrastructure Contractor Sustainability Team.</li> </ul>	<ul style="list-style-type: none"> <li>• ISCA Kick-off Workshop.</li> <li>• ISCA Weightings Assessment Workshop.</li> <li>• Finalise ISCA pathway (in consultation with TfNSW and ISCA).</li> <li>• Develop and verify base-case models (in consultation with TfNSW and ISCA).</li> <li>• Additional training on ISCA evidence compilation delivered to designers.</li> </ul>
<b>Management and Governance</b>	Communication, leadership and robust management systems are core to delivering and operating a sustainable PLR. These elements will be focussed upon heavily in the early stages of the project.	<ul style="list-style-type: none"> <li>• SOM Sustainability Working Group has been formed to discuss priority issues on a regular basis.</li> <li>• GRCLR Environment and Sustainability Policy developed.</li> <li>• Sustainability Requirements Matrix tool developed and distributed to GRCLR delivery partners.</li> <li>• Sustainability Opportunities Register developed and distributed to GRCLR delivery partners.</li> <li>• Environmental Requirements Matrix tool developed.</li> <li>• Independent Sustainability Professional (ISP) engaged.</li> </ul>	<ul style="list-style-type: none"> <li>• Environment and Sustainability Policy to be made publicly viewable (via GRCLR website currently under development).</li> <li>• Compliance against sustainability requirements and targets monitored (monthly).</li> <li>• Monthly evaluation/analysis of sustainability opportunities.</li> </ul>

Sustainability Themes	Objective	Progress to date	Outlook (next 6 12 months)
		<ul style="list-style-type: none"> <li>• Sustainability included GRCLR induction presentation.</li> </ul>	
<p><b>Procurement and Purchasing</b></p>	<p>GRCLR is committed to achieving sustainable procurement throughout project lifecycle of PLR.</p> <p>Core elements will include identification, evaluation and management of sustainable suppliers.</p>	<ul style="list-style-type: none"> <li>• A sustainable procurement strategy is being developed in line with the ISCA IS Pro-1, Pro-2, Pro-3 and Pro-4 credit requirements.</li> </ul>	<ul style="list-style-type: none"> <li>• Sustainable procurement strategy rolled out, including tender requirements and assessment criteria.</li> </ul>
<p><b>Climate Change Adaptation</b></p>	<p>PLR will be designed, built and operated to be resilient against climate change impacts, with mitigation measures implemented for all 'extreme' and 'high' climate change risks and at least 25% of 'medium' climate change risks.</p>	<ul style="list-style-type: none"> <li>• GRCLR has facilitated two (2) Climate Change Risk Assessment Workshops with CPBDJV (Infrastructure Contractor).</li> <li>• A Climate Change Risk Assessment (CCRA) Register has been developed in collaboration with CPBDJV.</li> <li>• The CCRA Register has been distributed to the GRCLR delivery partners.</li> </ul>	<ul style="list-style-type: none"> <li>• Residual risk ratings for climate change risks will be identified and agreed upon.</li> <li>• Follow on workshops will be held to propose mitigation measures for climate change risks.</li> <li>• Regular meetings with designers to monitor progress of developing mitigation measures.</li> </ul>
<p><b>Energy and Carbon</b></p>	<p>GRCLR is committed to a minimum of 15% reduction in GHG emissions across the infrastructure lifecycle.</p>	<ul style="list-style-type: none"> <li>• Preliminary energy modelling was conducted for the design at SDR stage and indicates that the project is on track to achieve the targeted GHG emissions reductions.</li> <li>• The current SaM Facility design has allocated roof area for PV array installation. Total surface area available</li> </ul>	<ul style="list-style-type: none"> <li>• Base-case energy consumption models will be developed and reviewed.</li> <li>• As the design progresses through PDR stage, energy modelling will be refined to ensure the project is still on track to achieve the targeted GHG emissions reductions.</li> </ul>

Sustainability Themes	Objective	Progress to date	Outlook (next 6 12 months)
		will be developed through design refinements. <ul style="list-style-type: none"> <li>• Three renewable energy technologies have been investigated for the SaM Facility.</li> <li>• The current SaM Facility design has allocated adequate area for the provision of future battery storage installation.</li> </ul>	<ul style="list-style-type: none"> <li>• Energy modelling analysis during the PDR stage will be used to inform and influence design outcomes around architecture and building services.</li> </ul>
<b>Water</b>	GRCLR is committed to achieving a minimum of 15% reduction in total water use across the infrastructure lifecycle of the project and a minimum of 50% substitution of total water-use with non-potable water.	<ul style="list-style-type: none"> <li>• Current SaM Facility design substitutes potable operational water-use with non-potable water sources including captured rainwater.</li> <li>• The current wash plant design at the SaM Facility will be partially supplied by captured rainwater.</li> <li>• Irrigation on the SaM Facility will be partially supplied by captured rainwater.</li> <li>• Water meters will be installed on all potable and non-potable water supply sources.</li> <li>• A preliminary water balance study was conducted at SDR stage which indicates the project is on track to achieve the targeted water reduction and replacement.</li> </ul>	<ul style="list-style-type: none"> <li>• As the design progresses through PDR stage the water balance study will be updated with detailed design information and be used to identify further opportunities for water reduction and re-use.</li> <li>• Base-case water balance models will be developed and reviewed.</li> <li>• A water supply connection to the Olympic Park recycled water network will be investigated to offset potable water use for the wash plant, irrigation and other uses.</li> </ul>
<b>Materials</b>	GRCLR is committed to achieving a minimum of 15%	<ul style="list-style-type: none"> <li>• Materials and embodied energy requirements and targets have been</li> </ul>	<ul style="list-style-type: none"> <li>• Training will be provided to designers on the IS Materials Calculator.</li> </ul>

Sustainability Themes	Objective	Progress to date	Outlook (next 6 12 months)
	reduction in embodied energy of materials used.	assigned to relevant design disciplines through the Sustainability Requirements Matrix.	<ul style="list-style-type: none"> <li>• Compliance against materials requirements and targets will be monitored (monthly).</li> <li>• Base-case embodied energy model will be developed and reviewed.</li> <li>• Embodied energy will be modelled through detailed design information.</li> </ul>
<b>Discharges to Air, Land and Water</b>	GRCLR will seek to reduce water quality, noise and vibration, air quality and light pollution impacts to the neighbouring area and sensitive environments during construction and operation of PLR.	<ul style="list-style-type: none"> <li>• The draft Construction Environmental Management Plan has been developed to address water quality, air quality, noise and vibration issues.</li> <li>• An Acoustic Consultant has been engaged to facilitate compliance with noise and vibration requirements.</li> </ul>	<ul style="list-style-type: none"> <li>• The final Construction Environmental Management Plan will be completed to address water quality, air quality, noise and vibration issues during construction.</li> </ul>
<b>Land</b>	GRCLR is committed to making efficient land use decisions by reusing developed land, conserving and reusing soils where feasible and maintaining flood resilience.	<ul style="list-style-type: none"> <li>• A draft Construction Environmental Management Plan has been developed to address flooding issues.</li> <li>• A preliminary flood model was undertaken at SDR stage.</li> </ul>	<ul style="list-style-type: none"> <li>• The final Construction Environmental Management Plan will be completed to address flooding issues during construction.</li> <li>• As the design progresses through PDR stage the flood modelling will be refined and updated with detailed design information and also incorporating outcomes of the climate change risk assessment process.</li> </ul>

Sustainability Themes	Objective	Progress to date	Outlook (next 6 12 months)
<b>Waste</b>	GRCLR is committed to diverting 90% of construction and demolition waste and 60% of office waste from landfill during construction, and reusing 100% of useable spoil.	<ul style="list-style-type: none"> <li>• A draft Construction Environmental Management Plan has been developed to address waste management.</li> <li>• Waste requirements and targets have been assigned to relevant design disciplines through the Environmental &amp; Sustainability Requirements Matrices.</li> </ul>	<ul style="list-style-type: none"> <li>• The final Construction Environmental Management Plan will be completed to address waste management.</li> <li>• Compliance against waste requirements and targets will be monitored (monthly).</li> </ul>
<b>Ecology</b>	The ecological value of the PLR site will be maintained.	<ul style="list-style-type: none"> <li>• A draft Construction Environmental Management Plan has been developed to address flora and fauna management.</li> <li>• Ecological requirements and targets have been assigned to relevant design disciplines through the Environmental Requirements Matrix.</li> </ul>	<ul style="list-style-type: none"> <li>• The final Construction Environmental Management Plan will be completed to address flora and fauna management.</li> <li>• Compliance against ecological requirements and targets in design will be monitored (monthly).</li> </ul>
<b>Community, Health, Wellbeing and Safety</b>	GRCLR is committed to building an infrastructure that is beneficial to solving key community health, wellbeing and social issues.	<ul style="list-style-type: none"> <li>• A wide range of initiatives are being developed to enhance the benefit of the project to the local community. These include:                             <ul style="list-style-type: none"> <li>▪ direct investment into Aboriginal participation, social enterprises and small to medium enterprises;</li> <li>▪ training for young workers and apprentices; inclusion of disadvantaged,</li> <li>▪ disabled and underrepresented groups; and</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Initiatives to be implemented and progress monitored.</li> </ul>



Sustainability Themes	Objective	Progress to date	Outlook (next 6 12 months)
		<ul style="list-style-type: none"> <li>▪ employing women in non-traditional roles.</li> </ul>	
<b>Heritage</b>	<p>Aboriginal and European cultural heritage values at Parramatta will be enhanced through interpretation strategies and architectural / urban design treatment.</p>	<ul style="list-style-type: none"> <li>• Heritage requirements have been assigned to relevant design disciplines through the Environmental Requirements Matrix.</li> <li>• Heritage Interpretation Strategy Workshop held in June 2019 with regulators, key stakeholders, contractors and TfNSW. Presentations from various experts on Heritage in Parramatta, Newcastle Light Rail representative and TfNSW.</li> <li>• The design team are reviewing SaM Facility archival records as part of the remediation works for the project by the Enabling Works contractor. This includes the Former Air Rail Shelter at 6 Grand Avenue, Camellia. The items are currently in storage whilst design progresses.</li> </ul>	<ul style="list-style-type: none"> <li>• Collaborative workshops to be held with Infrastructure contractor to ensure the heritage interpretation aligns across the contract packages.</li> <li>• Compliance will be monitored through the design review process which includes the Environmental Design Review Report, outlining how the design complies with environmental aspects including heritage.</li> </ul>
<b>Stakeholder Participation</b>	<p>GRCLR is undertaking stakeholder engagement activities to understand and address stakeholder and community issues. GRCLR aspires to form a collaborative relationship with</p>	<ul style="list-style-type: none"> <li>• A series of introductory meetings with major stakeholders have been undertaken to establish points of contact and understand key issues on both sides.</li> <li>• GRCLR is an active member of the Parramatta Light Rail Business Reference</li> </ul>	<ul style="list-style-type: none"> <li>• GRCLR will actively manage major stakeholders for PLR on commencement of construction and during operation.</li> <li>• GRCLR will join the Parramatta Chamber of Commerce (in progress).</li> <li>• Stakeholders will be invited to trial the prototype LRV and light rail stop.</li> </ul>

Sustainability Themes	Objective	Progress to date	Outlook (next 6 12 months)
	stakeholders to build a PLR that satisfies their needs.	<p>Group and actively supporting TfNSW in their business activation strategy.</p> <ul style="list-style-type: none"> <li>GRCLR has initiated relationships with the Health Administration Corporation, Western Sydney University, Urban Growth and Australian Turf Club.</li> </ul>	
<b>Urban and Landscape Design</b>	PLR will improve the landscape and setting of the surrounding community and environment through planning, design and consideration of aesthetics, arrangement and function.	<ul style="list-style-type: none"> <li>Urban design workshops are currently in progress. Workshops include the Infrastructure Contractor, City of Parramatta Council and GRCLR designers.</li> <li>A strategy for developing and implementing public art has been outlined and is under discussion with City of Parramatta Council.</li> </ul>	<ul style="list-style-type: none"> <li>Compliance will be monitored through design review process which involves ongoing liaison with the Design Review Panel.</li> <li>GRCLR will incorporate recommendations and advice received by the Design Review Panel.</li> <li>Submission of the Urban Design Report, to the Design Review Panel and the Department, in collaboration with the Infrastructure contractor.</li> </ul>
<b>Innovation</b>	GRCLR is actively looking to pioneer sustainability initiatives during design and delivery to address key environmental, economic and social issues.	<ul style="list-style-type: none"> <li>A number of ISCA IS Innovation Challenges are being investigated including the Site Facilities Innovation Challenge and piloting the IS v2.0 Workforce, Energy and Carbon, and Resilience Categories.</li> </ul>	<ul style="list-style-type: none"> <li>Further development of the Innovation Challenges, and identification and implementation of innovation opportunities.</li> </ul>

## NSW Government Resource Efficiency Policy Reporting

The NSW Government Resource Efficiency Policy (GREP) aims to reduce the operating cost of NSW Government agencies by requiring facilities to meet sustainable requirements in areas of energy, water, air emissions and more. GRCLR will ensure that all staffed facilities during PLR operations comply with the relevant requirements of the GREP. These facilities will include the Stabling and Maintenance Facility and the Back-up Operational Control Centre.

The Stabling and Maintenance Facility will be located at Grand Avenue, Rosehill, and will be used for LRV stabling, cleaning and maintenance during PLR operation. The facility will include the stabling area, maintenance workshop, Operational Control Centre, LRV wash plant, administration offices and staff/driver facilities.

The Back-up Operational Control Centre will be located adjacent to the Dundas Stop and will provide back-up services if the Operational Control Centre is not usable.

The annual sustainability report will cover the performance of the above facilities in achieving the related GREP requirements. The related GREP requirements to the facilities are:

- Requirement A2 – Low-VOC surface coatings.
- Requirement E3 – Minimum standards for new electrical appliances and equipment.
- Requirement W3 – Minimum standards for new water using appliances.

### Requirement A2 – Low-VOC surface coatings

*All surface coatings and other VOC emitting products will comply with the Property NSW Guidance Note on Low-VOC Emission Materials.*

These requirements will be communicated to the relevant GRCLR delivery partners during design, procurement and construction phases

### Requirement E3: Minimum standards for new electrical appliances and equipment

*All new electrical equipment purchased by Government must be at least 0.5 stars above the market average star rating or comply with high efficiency standards specified by this measure.*

*GREP requirements for electrical appliances and equipment.*

Appliances and equipment	NSW GREP Requirement	Compliance
<b>Greenhouse and Energy Minimum Standards (GEMS)</b>		
Refrigerators	2 Star GEMS	To be addressed during procurement
Clothes dryers	2.5 Star GEMS	N/A
Washing machines	3 Star GEMS	N/A
Dishwashers	4 Star GEMS	To be addressed during procurement

Appliances and equipment	NSW GREP Requirement	Compliance
Pool pumps	5 Star GEMS	N/A
Fridge/freezes	2.5 Star GEMS	To be addressed during procurement
Freezers	2.5 Star GEMS	To be addressed during procurement
Air-to-air heat pumps and air conditioners	3.5 Star GEMS if < 4kW / 2.5 Star GEMS if > 4KW	To be addressed during procurement
Televisions	4 Star GEMS	To be addressed during procurement
Refrigerated commercial display cabinets (AS1731.14)	High efficiency	N/A
Distribution transformers (AS2374.1.2)	High efficiency	To be addressed during procurement
Electric motors (AS1359.5)	High efficiency	To be addressed during procurement
External power supplies (AS4879.2)	High efficiency	To be addressed during procurement
<b>ENERGY STAR® in Australia</b>		
Computers (i.e. desktops, notebooks and tablets, workstations, small-scale servers and thin clients)	High efficiency	To be addressed during procurement
Printers / fax machines	High efficiency	To be addressed during procurement
Photocopiers	High efficiency	To be addressed during procurement
DVD players	High efficiency	To be addressed during procurement
<b>Other</b>		
Air-cooled liquid chilling packages	IPLV of 5.1	N/A
Water-cooled liquid chilling packages	IPLV of 9.6	N/A
Closed-control air-conditioners	AEER of 3.3	To be addressed during procurement

### Requirement W3: Minimum standards for new water using appliances

All new water-using appliances purchased by agencies must be at least 0.5 stars above the average Water Efficiency Labelling and Standards (WELS) star rating by product type, except toilets and urinals, which must be purchased at the average WELS star rating.

The below table provides a compliance summary of the requirements against the proposed design at current.

*Proposed performance of water appliances and equipment at SDR against GREP requirements.*

Appliances and equipment	NSW GREP Requirement	Proposed Design (SDR)	Compliance
Showerheads	3 Star WELS	3 Star WELS	✓
Toilets	4 Star WELS	4 Stars	✓
Urinals	4 Star WELS	6 Star WELS	✓
Washing Machines	4.5 Star WELS	N/A	N/A
Dishwashers	5 Star WELS	5 Star WELS	✓
Taps and flow controllers	5 Star WELS	6 Star WELS	✓

## Appendix A – TfNSW PLR Environment and Sustainability Policy

Parramatta Light Rail

### Parramatta Light Rail Environment and Sustainability Policy

This policy relates to the delivery of the Parramatta Light Rail (PLR) project and is aligned with the Transport for New South Wales (TfNSW) Environment and Sustainability Policy approved by the Secretary in August 2015.

The PLR project will not only deliver a sustainable transport outcome but will also contribute to the urban renewal, sustainable growth and transformation of the Greater Parramatta to Olympic Peninsula Priority Growth area including Westmead Health Precinct, Greater Parramatta, Sydney Olympic Park and Camelia.

**This policy outlines the commitment to:**

- Develop effective and appropriate responses to sustainability including climate resilience, urban place making and integration of public and active transport modes.
- Minimising environmental impacts of the project and embedding sustainability principals into the planning, construction and operational phases of the project.
- Proactively comply with all applicable environmental laws, regulations and statutory obligations in both domestic and international jurisdictions where they apply.

**To deliver on policy commitments the PLR team will work in the following areas:**

**Leadership**

- Encourage innovation through design and procurement in the areas of sustainability and climate resilience.
- Explore new benchmarks for sustainability in the transport infrastructure sector by expecting quality, value for money and benefit maximisation (environment, economic and social) from our designers, contractors, and suppliers.
- Implement coordinated and transparent decision-making, through collaboration across government departments, stakeholders and suppliers.

**Customers, Community and Stakeholders**

- Deliver our customers an efficient accessible and convenient transport service.
- Establish positive relationships with the local community to maximise opportunities to create places our customers are drawn to by enhancing liveability, community and economic outcomes.
- Work with the community and our stakeholders to develop workforce skills and diversity.
- Develop and maintain collaborative relationships with our key stakeholders and other important partnerships in order to obtain mutually beneficial sustainability outcomes.

**Embedding Sustainability**

- Establish, monitor, measure and report on sustainability objectives and targets.
- Develop and integrate an environmental and sustainability management system throughout the project lifecycle.
- Apply assurance processes to monitor performance and identify appropriate rewards and corrective actions.
- Be responsible in the sourcing of goods and services by implementing best practice sustainable procurement protocols.
- Hold project employees and contractors accountable for proactively meeting their environmental, sustainability and climate resilience responsibilities and provide appropriate training, information and resources for all project personnel.

Project Director

*23 March 2017*

Date

# GREAT RIVER CITY LIGHT RAIL ENVIRONMENT AND SUSTAINABILITY POLICY

## Intent

Great River City Light Rail Pty Ltd (GRCLR) is the Supply, Operate and Maintain (SOM) Contractor for Parramatta Light Rail Stage 1. We understand what goes into making every journey an exceptional customer experience that is safe, reliable and integrated with other modes of transport.

GRCLR will design, construct, operate and maintain a world-class light rail network that empowers prosperity for the Greater Parramatta Area and supports the realisation of the Future Transport 2056 Strategy.

GRCLR is committed to ensuring an environmentally sustainable future for Parramatta Light Rail, our customers and the Greater Parramatta Area.

## Policy

To achieve this, GRCLR will:

1. Lead effectively and live our accountabilities and responsibilities at all levels of the organisation, starting with the Directors through to employees and Subcontractors. This includes all upholding the principles of social sustainability and social accountability across our workforce, our activities and our supply chain;
2. Comply with all environmental requirements included in relevant legislation, the Conditions of Approval, Preferred Infrastructure Report and the Environmental Impact Statement;
3. Integrate sustainability principals across all GRCLR activities, including design, construction, procurement, commissioning, operations and maintenance;
4. Collaborate with and proactively engage with all stakeholders at all levels;
5. Create a culture of continuous improvement for environment and sustainability management;
6. Understand, comply with and embrace our environment and sustainability compliance obligations;
7. Establish annual objectives for environmental management and regularly verify the compliance and effectiveness of the measures to ensure that objectives are met;
8. Promote an environmentally aware, sustainability-focused culture within GRCLR, stakeholders, customers and the Greater Parramatta Community;
9. Commit to the prevention of pollution, protection of biodiversity, implementation of restorative actions, minimisation of resource use and waste, reduction of greenhouse gas emissions, and enhancement of climate change resilience through adaptation and mitigation across the delivery of works and during operations; and
10. Plan effectively, and provide and use the necessary resources to meet environmental objectives.

To support this policy, GRCLR has established an Integrated Management System (IMS), with appropriate policies, procedures and practices in place, which captures the requirements of AS/NZS ISO 14001:2016.

This Policy will be communicated to and applies to all GRCLR employees and Subcontractors, and will be made publicly available.

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**Project Director**



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