

Parramatta Light Rail Stage 2

Environmental Impact Statement



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Environmental Impact Statement
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Lodgement of Submissions

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Contents

Certification	i
Executive summary	ii
Glossary of terms and abbreviations	xxvii
Part A Introduction and project context	
1. Introduction	1.1
1.1 Parramatta Light Rail	1.1
1.2 Project overview	1.1
1.2.1 Key features	1.2
1.2.2 Operation	1.3
1.2.3 Timing	1.3
1.2.4 Approval requirements	1.3
1.3 Objectives of Parramatta Light Rail and the project	1.5
1.4 Purpose and structure of this environmental impact statement	1.5
2. Location and setting	2.1
2.1 Regional setting	2.1
2.1.1 Planned urban growth precincts	2.1
2.2 The project site	2.3
2.2.1 Land ownership	2.3
2.3 Key features of the study area	2.10
2.3.1 Definition	2.10
2.3.2 Social and cultural environment	2.10
2.3.3 Biophysical environment	2.13
3. Strategic context and need	3.1
3.1 Strategic context	3.1
3.1.1 Strategic planning directions	3.1
3.1.2 The challenges to achieving the future vision for the Central River City and GOP	3.5
3.1.3 Related and complementary projects	3.8
3.2 Project need summary	3.9
3.2.1 How the project addresses the identified needs	3.9
4. Statutory context	4.1
4.1 Approval pathway and permissibility	4.1
4.1.1 Additional declarations	4.1
4.2 Other approvals required	4.2
4.2.1 Approvals under NSW legislation	4.2
4.2.2 Approvals under Commonwealth legislation	4.3
4.3 Pre-conditions and mandatory considerations	4.4

4.4	Assessment process and requirements	4.6
4.4.1	Environmental assessment requirements	4.6
4.4.2	Public exhibition and submissions	4.7
4.4.3	Assessment and approval	4.8

Part B The project and its development

5.	Design development, alternatives and options	5.1
5.1	Overview of the design development process to date	5.1
5.1.1	Background	5.1
5.1.2	Urban design-led	5.2
5.2	Strategic alternatives	5.3
5.2.1	Mode alternatives	5.3
5.2.2	Alternative light rail networks	5.3
5.3	Corridor alternatives	5.5
5.3.1	Phase 1 corridor assessment	5.6
5.3.2	Phase 2 corridor assessment	5.8
5.3.3	Project corridor	5.10
5.4	Design and alignment refinements	5.14
5.4.1	Parramatta CBD	5.14
5.4.2	Camellia	5.15
5.4.3	Rydalmere	5.19
5.4.4	Ermington	5.20
5.4.5	Melrose Park	5.22
5.5	Construction methods for high-risk activities	5.25
5.5.1	Construction methods within the stabling and maintenance facility at Camellia	5.25
5.5.2	Constructing bridges across the Parramatta River	5.26
5.5.3	Holker Busway bridge	5.29
5.6	Design development	5.30
5.6.1	Focus areas for ongoing design consideration	5.30
5.6.2	Approach to achieving good design outcomes	5.33
6.	Project description – infrastructure and operation	6.1
6.1	Overview	6.1
6.1.1	Key project infrastructure and operational details	6.1
6.2	Light rail track	6.9
6.2.1	Track form	6.9
6.2.2	Running corridor	6.11
6.3	Light rail stops	6.13
6.3.1	Stop locations	6.13
6.3.2	Stop infrastructure	6.14
6.4	Active transport links	6.16
6.5	Bridges	6.18
6.5.1	Bridges over the Parramatta River	6.18
6.5.2	Bridge over Silverwater Road	6.19
6.5.3	Bridge in Ken Newman Park	6.20
6.5.4	Bridge works in Sydney Olympic Park	6.20
6.6	Road network changes	6.21
6.6.1	Road realignments and closures	6.21
6.6.2	Adjustments to existing lanes, intersections and access arrangements	6.22

6.6.3	Adjustments to property access	6.22
6.7	Other facilities and infrastructure to support operation	6.22
6.7.1	Turnback facilities	6.22
6.7.2	Stabling and maintenance facility	6.23
6.7.3	Interchange facilities	6.23
6.7.4	Power supply	6.24
6.7.5	Retaining walls	6.25
6.7.6	Communications system	6.26
6.7.7	Driver facilities	6.26
6.8	Public domain works and open space	6.26
6.8.1	Integration works	6.26
6.8.2	Public open space	6.27
6.8.3	Landscaping	6.30
6.9	Land requirements	6.31
6.9.1	Permanent land requirements	6.31
6.9.2	Residual land	6.31
6.9.3	Subdivision	6.32
6.10	Operation	6.32
6.10.1	Service frequency	6.32
6.10.2	Special event operations	6.33
6.10.3	Public transport network changes	6.33
6.10.4	Light rail vehicles	6.35
6.10.5	Ticketing system and passenger information	6.35
6.10.6	Operational control and safety	6.35
6.10.7	Maintenance	6.36
7.	Project description – construction	7.1
7.1	Overview	7.1
7.1.1	Construction overview	7.1
7.1.2	Program	7.2
7.1.3	Preparatory investigations	7.2
7.2	Site establishment	7.3
7.3	Main construction works	7.3
7.3.1	Light rail infrastructure	7.3
7.3.2	Bridges	7.6
7.3.3	Road works	7.9
7.3.4	Active transport links	7.9
7.3.5	Earthworks	7.10
7.3.6	Other infrastructure	7.12
7.4	Finishing, testing and commissioning	7.13
7.4.1	Finishing works	7.13
7.4.2	Testing and commissioning	7.14
7.5	Construction timing	7.14
7.5.1	Working hours	7.14
7.5.2	Work outside the primary project working hours	7.15
7.6	Construction resources and ancillary facilities	7.16
7.6.1	Temporary land requirements	7.16
7.6.2	Construction compounds and ancillary facilities	7.16
7.6.3	Estimated workforce	7.21
7.6.4	Plant and equipment	7.21
7.6.5	Construction materials	7.21
7.7	Transport and access	7.21
7.7.1	Heavy vehicle routes	7.21

7.7.2	Construction traffic volumes	7.22
7.7.3	Construction workforce parking	7.22
7.7.4	Changes to transport networks and facilities	7.25
7.7.5	Changes to maritime infrastructure and navigation	7.26
7.7.6	Special events	7.27
7.8	Utilities and services	7.27
7.8.1	Works to Sydney Water's trunk mains	7.31
8.	Community and stakeholder engagement	8.1
8.1	Engagement approach	8.1
8.1.1	Background	8.1
8.1.2	Approach to engagement	8.1
8.1.3	Engagement objectives	8.2
8.1.4	Community and stakeholder identification	8.3
8.2	Engagement prior to and during preparation of the EIS	8.3
8.2.1	Scope	8.3
8.2.2	Tools and activities	8.4
8.3	Summary of issues raised and responses to feedback received	8.7
8.3.1	Phase 1 feedback	8.7
8.3.2	Phase 2 feedback	8.8
8.3.3	Where issues raised relevant to the EIS have been addressed	8.9
8.3.4	How the project has responded to the inputs received	8.11
8.4	Future engagement	8.12
8.4.1	Phase 3 – Engagement during exhibition of the EIS	8.12
8.4.2	Engagement during design development and delivery	8.12
8.4.3	Enquiries and complaints management	8.14

Part C Impact assessment

9.	Transport and traffic	9.1
9.1	Approach	9.1
9.1.1	Methodology	9.1
9.1.2	How potential impacts have been avoided or minimised	9.2
9.2	Existing environment	9.3
9.2.1	Road network and traffic	9.3
9.2.2	Intersection performance	9.9
9.2.3	Public transport	9.9
9.2.4	Active transport	9.10
9.2.5	Special events	9.12
9.2.6	Parking	9.12
9.2.7	Maritime facilities, navigation and river users	9.14
9.3	Assessment of construction impacts	9.15
9.3.1	Construction vehicle movements	9.15
9.3.2	Road closures and detours	9.16
9.3.3	Public transport	9.16
9.3.4	Active transport	9.18
9.3.5	Special events	9.18
9.3.6	Parking	9.19
9.3.7	Property access	9.20
9.3.8	Maritime facilities, navigation and river access	9.20
9.4	Assessment of operation impacts	9.21

9.4.1	Intersection performance	9.21
9.4.2	Public transport	9.28
9.4.3	Active transport	9.28
9.4.4	Special events	9.28
9.4.5	Parking	9.28
9.4.6	Local trip generation	9.29
9.4.7	Property access	9.30
9.4.8	Maritime facilities, navigation and river access	9.31
9.5	Cumulative impacts	9.32
9.5.1	Construction	9.32
9.5.2	Operation	9.33
9.6	Mitigation and management measures	9.33
9.6.1	Approach to mitigation and management	9.33
9.6.2	List of mitigation measures	9.34

10. Noise and vibration **10.1**

10.1	Approach	10.1
10.1.1	Study area	10.1
10.1.2	Key tasks	10.3
10.1.3	How potential impacts have been avoided or minimised	10.4
10.2	Noise and vibration criteria	10.4
10.2.1	Construction	10.5
10.2.2	Operation	10.7
10.3	Existing environment	10.8
10.3.1	Sensitive receivers	10.8
10.3.2	Existing noise levels	10.8
10.4	Assessment of construction impacts	10.9
10.4.1	Potential noise sources	10.9
10.4.2	Predicted noise levels	10.9
10.4.3	Construction road traffic noise	10.17
10.4.4	Construction vibration	10.18
10.5	Assessment of operation impacts	10.19
10.5.1	Operational airborne noise	10.19
10.5.2	Operational groundborne noise	10.21
10.5.3	Operational road traffic noise	10.22
10.5.4	Operational vibration	10.22
10.6	Cumulative impacts	10.23
10.6.1	Cumulative project impacts	10.23
10.6.2	Cumulative impacts with other projects	10.23
10.6.3	Cumulative operational impacts	10.23
10.7	Mitigation and management measures	10.24
10.7.1	Approach to mitigation and management	10.24
10.7.2	List of mitigation measures	10.25

11. Aboriginal heritage **11.1**

11.1	Approach	11.1
11.1.1	Study area	11.1
11.1.2	Key tasks	11.1
11.1.3	How potential impacts have been avoided or minimised	11.2
11.2	Existing environment	11.3
11.2.1	Aboriginal historical and landscape context	11.3
11.2.2	Recorded Aboriginal sites and places	11.3
11.2.3	Archaeological survey results, potential and significance	11.6

11.3	Preliminary assessment of construction impacts	11.9
11.3.1	Impacts on recorded Aboriginal sites and places	11.9
11.3.2	Impacts on areas with Aboriginal archaeological potential	11.9
11.3.3	Impacts on cultural values	11.10
11.4	Assessment of operation impacts	11.10
11.5	Cumulative impacts	11.11
11.6	Mitigation and management measures	11.11
11.6.1	Approach to mitigation and management	11.11
11.6.2	List of mitigation measures	11.12

12. Non-Aboriginal heritage **12.1**

12.1	Approach	12.1
12.1.1	Study area	12.1
12.1.2	Key tasks	12.2
12.1.3	How potential impacts have been avoided or minimised	12.2
12.2	Existing environment	12.3
12.2.1	Historical context	12.3
12.2.2	Listed heritage items	12.3
12.2.3	Potential heritage items	12.11
12.2.4	Archaeological sites and potential	12.11
12.3	Assessment of construction impacts	12.14
12.3.1	Built heritage	12.14
12.3.2	Land-based archaeology	12.19
12.3.3	Maritime archaeology	12.19
12.4	Assessment of operation impacts	12.21
12.5	Cumulative impacts	12.23
12.6	Mitigation and management measures	12.23
12.6.1	Approach to mitigation and management	12.23
12.6.2	List of mitigation measures	12.24

13. Land use and property **13.1**

13.1	Approach	13.1
13.1.1	Study area	13.1
13.1.2	Key tasks	13.1
13.1.3	How potential impacts have been avoided or minimised	13.2
13.2	Existing environment	13.2
13.2.1	Existing land use	13.2
13.2.2	Property	13.11
13.2.3	Utilities and services	13.12
13.3	Land requirements	13.13
13.3.1	Permanent land requirements	13.13
13.3.2	Temporary land requirements	13.13
13.4	Assessment of construction impacts	13.14
13.4.1	Land use impacts	13.14
13.4.2	Property impacts	13.19
13.4.3	Utilities and services	13.22
13.5	Assessment of operation impacts	13.23
13.5.1	Land use impacts	13.23
13.5.2	Property impacts	13.25
13.6	Cumulative impacts	13.27
13.7	Mitigation and management measures	13.27
13.7.1	Approach to mitigation and management	13.27

13.7.2	List of mitigation measures	13.29
14.	Socio-economic impacts	14.1
14.1	Approach	14.1
14.1.1	Study area	14.1
14.1.2	Key tasks	14.2
14.1.3	How potential impacts have been avoided or minimised	14.4
14.2	Existing environment	14.5
14.2.1	Demographic characteristics	14.5
14.2.2	Community infrastructure	14.7
14.2.3	Local business characteristics	14.8
14.3	Assessment of construction impacts	14.11
14.3.1	Social impacts	14.11
14.3.2	Business impacts	14.16
14.4	Assessment of operation impacts	14.20
14.4.1	Social impacts	14.20
14.4.2	Business impacts	14.25
14.5	Cumulative impacts	14.27
14.6	Mitigation and management measures	14.28
14.6.1	Approach to mitigation and management	14.28
14.6.2	List of mitigation measures	14.29
15.	Landscape and visual impacts	15.1
15.1	Approach	15.1
15.1.1	Study area	15.1
15.1.2	Key tasks	15.4
15.1.3	How potential impacts have been avoided or minimised	15.5
15.2	Existing environment	15.5
15.2.1	General visual environment	15.5
15.2.2	Landscape character zones	15.6
15.2.3	Representative viewpoints	15.7
15.2.4	Trees within and adjacent to the project site	15.9
15.3	Assessment of construction impacts	15.10
15.3.1	Landscape impacts	15.10
15.3.2	Visual impacts	15.11
15.3.3	Tree impacts	15.12
15.4	Assessment of operation impacts	15.13
15.4.1	Landscape impacts	15.13
15.4.2	Visual impacts	15.14
15.5	Cumulative impacts	15.20
15.6	Mitigation and management measures	15.20
15.6.1	Approach to mitigation and management	15.20
15.6.2	List of mitigation measures	15.21
16	Biodiversity	16.1
16.1	Approach	16.1
16.1.1	Study area	16.1
16.1.2	Key tasks	16.1
16.1.3	How potential impacts have been avoided or minimised	16.2
16.2	Existing environment	16.2
16.2.1	Landscape biodiversity features	16.2
16.2.2	Terrestrial flora	16.3
16.2.3	Terrestrial fauna	16.15

16.2.4	Aquatic biodiversity	16.16
16.2.5	Matters of national environmental significance	16.19
16.2.6	Protected and sensitive lands	16.21
16.3	Assessment of construction impacts	16.24
16.3.1	Terrestrial flora and ecological communities	16.24
16.3.2	Terrestrial fauna	16.25
16.3.3	Aquatic habitats	16.27
16.3.4	Groundwater dependent ecosystems	16.28
16.3.5	Key threatening processes	16.28
16.3.6	Indirect impacts	16.29
16.3.7	Protected and sensitive lands	16.30
16.3.8	Additional impacts that require consideration	16.31
16.4	Assessment of operation impacts	16.31
16.4.1	Changes to hydrological process and water quality	16.32
16.4.2	Shading	16.32
16.4.3	Lighting	16.33
16.4.4	Overhead wiring	16.33
16.4.5	Vehicle strike	16.33
16.5	Cumulative impacts	16.33
16.6	Mitigation and management measures	16.33
16.6.1	Approach to mitigation and management	16.33
16.6.2	List of mitigation measures	16.34
16.6.3	Offsetting	16.36

17. Water 17.1

17.1	Approach	17.1
17.1.1	Study area	17.2
17.1.2	Key tasks	17.2
17.1.3	Flood management and water quality objectives	17.3
17.1.4	How potential impacts have been avoided or minimised	17.4
17.2	Existing environment	17.4
17.2.1	Catchment and key watercourses	17.4
17.2.2	Surface water quality	17.8
17.2.3	Groundwater	17.11
17.2.4	Sensitive receiving environments	17.11
17.2.5	Flooding	17.14
17.2.6	Parramatta River – coastal hazards and processes	17.14
17.3	Assessment of construction impacts	17.17
17.3.1	Surface water quality	17.17
17.3.2	Groundwater	17.20
17.3.3	Hydrology and flooding	17.22
17.3.4	Parramatta River impacts – coastal hazards and processes	17.23
17.4	Assessment of operation impacts	17.24
17.4.1	Surface water quality	17.24
17.4.2	Groundwater	17.24
17.4.3	Hydrology and flooding	17.24
17.4.4	Parramatta River impacts – coastal hazards and processes	17.26
17.5	Cumulative impacts	17.26
17.5.1	Hydrology and flooding	17.27
17.5.2	Surface water and groundwater	17.27
17.6	Mitigation and management measures	17.27
17.6.1	Approach to mitigation and management	17.27
17.6.2	List of mitigation measures	17.29

18.	Soils and contamination	18.1
18.1	Approach	18.1
18.1.1	Study area	18.1
18.1.2	Key tasks	18.2
18.1.3	How potential impacts have been avoided or minimised	18.2
18.2	Existing environment	18.5
18.2.1	Topography and geology	18.5
18.2.2	Soils	18.8
18.2.3	Contamination	18.10
18.3	Assessment of construction impacts	18.22
18.3.1	Potential to encounter contamination	18.22
18.3.2	Potential to generate contamination	18.24
18.3.3	Soil impacts	18.25
18.3.4	Need for remediation	18.26
18.4	Assessment of operation impacts	18.27
18.4.1	Potential to encounter contamination	18.27
18.4.2	Potential to generate contamination	18.27
18.4.3	Soil impacts	18.27
18.5	Cumulative impacts	18.28
18.6	Mitigation and management measures	18.29
18.6.1	Approach to mitigation and management	18.29
18.6.2	List of mitigation measures	18.30
19.	Hazards and risk	19.1
19.1	Approach	19.1
19.1.1	Study area	19.1
19.1.2	Key tasks	19.1
19.1.3	How potential impacts have been avoided or minimised	19.3
19.1.4	Consultation with utility providers	19.3
19.2	Existing environment	19.4
19.2.1	Sensitive receivers	19.4
19.2.2	Critical utility infrastructure	19.4
19.3	Assessment of construction impacts	19.4
19.3.1	Storage, handling and transport of dangerous goods and hazardous materials	19.5
19.3.2	Impacts to utilities	19.6
19.3.3	Interaction with potentially hazardous facilities	19.8
19.3.4	Ground subsidence	19.9
19.3.5	Other health and safety risks	19.9
19.4	Assessment of operation impacts	19.10
19.4.1	Storage, handling and transport of dangerous goods and hazardous materials	19.10
19.4.2	Interaction with potentially hazardous facilities	19.10
19.4.3	Customer and public safety and security	19.10
19.4.4	Operation of substations and electrical wiring	19.11
19.5	Cumulative impacts	19.11
19.6	Mitigation and management measures	19.12
19.6.1	Approach to mitigation and management	19.12
19.6.2	List of mitigation measures	19.12
20.	Air quality	20.1
20.1	Approach	20.1
20.1.1	Study area	20.2
20.1.2	Key tasks	20.2
20.1.3	How potential impacts have been avoided or minimised	20.3

20.2	Existing environment	20.4
20.2.1	Ambient air quality	20.4
20.2.2	Local meteorology	20.5
20.2.3	Sensitive receivers	20.6
20.3	Assessment of construction impacts	20.7
20.3.1	Potential emission sources	20.7
20.3.2	Dust generation risk	20.7
20.3.3	Exhaust emissions	20.8
20.3.4	Odours	20.9
20.3.5	Landfill gas	20.9
20.3.6	Greenhouse gases	20.10
20.4	Assessment of operation impacts	20.11
20.4.1	Air quality	20.11
20.4.2	Greenhouse gases	20.11
20.5	Cumulative impacts	20.12
20.5.1	Air quality	20.12
20.5.2	Greenhouse gas	20.13
20.6	Mitigation and management measures	20.13
20.6.1	Approach to mitigation and management	20.13
20.6.2	List of mitigation measures	20.14

21. Climate change **21.1**

21.1	Approach	21.1
21.1.1	Study area	21.1
21.1.2	Key tasks	21.1
21.2	Existing and future environment	21.3
21.2.1	Existing climate	21.3
21.2.2	Climate projections	21.3
21.3	Assessment results	21.4
21.4	Mitigation and management measures	21.5
21.4.1	Approach to mitigation and management	21.5
21.4.2	List of mitigation measures	21.6

22. Waste management and resource use **22.1**

22.1	Approach	22.1
22.1.1	Key tasks	22.2
22.2	Assessment of construction impacts	22.2
22.2.1	Waste generation	22.2
22.2.2	Potential impacts if waste not managed appropriately	22.4
22.2.3	Construction waste management	22.5
22.2.4	Resource use	22.10
22.3	Assessment of operation impacts	22.12
22.3.1	Waste generation	22.12
22.3.2	Operation waste management	22.12
22.3.3	Resource use	22.13
22.4	Cumulative impacts	22.14
22.5	Mitigation and management measures	22.14
22.5.1	Approach to mitigation and management	22.14
22.5.2	List of mitigation measures	22.15

Part D Evaluation and conclusion

23.	Approach to environmental management and mitigation	23.1
23.1	Approach to environmental management	23.1
23.1.1	Construction environmental management	23.1
23.1.2	Operational environment management	23.4
23.2	Mitigation measures	23.4
23.3	Project uncertainties and approach to design refinements	23.5
23.3.1	Project uncertainties	23.5
23.3.2	Approach to design refinements	23.8
24.	Justification and conclusion	24.1
24.1	Justification and evaluation	24.1
24.1.1	Biophysical, economic and social considerations	24.1
24.1.2	Summary of the strategic need	24.6
24.1.3	Achieving the project objectives	24.7
24.1.4	Statutory compliance	24.9
24.1.5	Summary of justification	24.10
24.2	Concluding statement	24.10
25.	References	25.1

Tables

Table 4.1	Other approvals required under NSW legislation	4.3
Table 4.2	Pre-conditions and mandatory considerations	4.4
Table 6.1	Summary of project features	6.2
Table 6.2	Proposed light rail stops	6.13
Table 6.3	Possible future light rail stops	6.14
Table 6.4	Road realignments and closures	6.21
Table 6.5	Summary of proposed services	6.33
Table 6.6	Locations where customers can change transport modes or services	6.34
Table 7.1	Estimated volume of cut and fill material by precinct	7.11
Table 7.2	Indicative construction compounds	7.17
Table 7.3	Estimated construction traffic volumes	7.22
Table 7.4	Indicative key utility treatment during construction	7.30
Table 8.1	Summary of engagement activities and tools	8.4
Table 8.2	Concern about potential impacts by survey participants	8.9
Table 8.3	Summary of key issues relevant to the EIS during Phase 2	8.10
Table 9.1	Key roads within and in the vicinity of the project site	9.3
Table 9.2	Heavy vehicle routes	9.7
Table 9.3	Peak traffic volumes on key roads	9.8
Table 9.4	Estimated number of on and off-street parking spaces in the study area	9.12
Table 9.5	Estimate of parking impacts during construction	9.19
Table 9.6	Estimated number of on and off-street parking spaces that would be permanently impacted	9.29
Table 9.7	Summary of property access changes	9.30
Table 9.8	Transport and traffic mitigation measures	9.35
Table 10.1	Project-specific construction noise management levels – residential receivers	10.5
Table 10.2	Project-specific construction noise management levels – non-residential receivers	10.6
Table 10.3	Construction road traffic noise criteria	10.6
Table 10.4	Operational light rail vehicles airborne noise trigger levels	10.7
Table 10.5	Summary of noise monitoring results	10.8
Table 10.6	Predicted number of exceedances of the noise management levels at residential receivers during work period	10.12
Table 10.7	Predicted number of exceedances of the noise management levels in residential noise catchment areas	10.13
Table 10.8	Predicted exceedances of the noise management levels at non-residential receivers for worst-case construction scenarios	10.16
Table 10.9	Summary of number of exceedances of the sleep disturbance criteria in residential noise catchment areas	10.17
Table 10.10	Summary of predicted operational noise levels – Sandown Boulevard to Carter Street – residential receivers	10.19
Table 10.11	Summary of predicted operational light rail vehicles airborne noise levels – Sandown Boulevard to Carter Street – non-residential receivers	10.20
Table 10.12	Summary of predicted operational vibration levels – Sandown Boulevard to Carter Street	10.22
Table 10.13	Noise and vibration mitigation measures	10.25
Table 11.1	Summary of potential impacts on registered Aboriginal sites	11.9
Table 11.2	Summary of potential impacts on Aboriginal sites and areas	11.9
Table 11.3	Aboriginal heritage mitigation measures	11.12
Table 12.1	Listed heritage items within and adjacent to project site	12.4

Table 12.2	Preliminary assessment of significance of potential items within and close to the project site	12.11
Table 12.3	Historical archaeological management units with medium to high archaeological potential	12.12
Table 12.4	Summary of potential impacts (minor or greater) on built heritage items and listed archaeological sites	12.15
Table 12.5	Summary of potential impacts on medium to high potential HAMUs	12.20
Table 12.6	Summary of potential visual impacts on heritage items and their setting	12.21
Table 12.7	Non-Aboriginal heritage mitigation measures	12.24
Table 13.1	Summary estimate of properties in the project site	13.12
Table 13.2	Impacts on community/recreation facilities and use	13.15
Table 13.3	Summary of property impacts (estimate of properties directly affected by the project's land requirement such that acquisition is proposed)	13.19
Table 13.4	Estimate of permanent impacts on zoned land located outside existing transport corridors (based on indicative land requirements)	13.23
Table 13.5	Land use and property mitigation measures	13.29
Table 14.1	Summary of key demographic characteristics that can contribute to vulnerability	14.6
Table 14.2	Community infrastructure and facilities within and close to the project site	14.7
Table 14.3	Business and employment profile	14.8
Table 14.4	Social impacts summary – construction	14.11
Table 14.5	Estimate of industrial, commercial or mixed-use properties which may be affected by the project's land requirements	14.17
Table 14.6	Social impacts summary – operation	14.21
Table 14.7	Social and economic impact mitigation measures	14.29
Table 15.1	Landscape character zones with moderate and high sensitivity	15.6
Table 15.2	List of viewpoints with moderate and high sensitivity	15.8
Table 15.3	Landscape character impact significance – construction	15.11
Table 15.4	Visual impacts at viewpoints with a predicted significance of impact of moderate or lower	15.11
Table 15.5	Key locations for tree removal within Sydney Olympic Park	15.12
Table 15.6	Landscape character zones with moderate to high impacts	15.13
Table 15.7	Landscape character impact significance for impacts less than moderate - operation	15.14
Table 15.8	Summary of impacts at viewpoints assessed as having a more than moderate impact	15.15
Table 15.9	Visual impacts at viewpoints – summary of the predicted significance of impacts	15.19
Table 15.10	Landscape and visual mitigation measures	15.21
Table 16.1	Landscape features within the project site	16.3
Table 16.2	Plant community types within the project site	16.3
Table 16.3	Summary of threatened ecological communities in the project site	16.14
Table 16.4	Threatened fauna species recorded during field surveys or assumed to be present	16.16
Table 16.5	Migratory shorebird species that are known or may occur in the study area	16.20
Table 16.6	Migratory (terrestrial) species that may occur in the study area	16.20
Table 16.7	Summary of protected and sensitive lands within the study area	16.21
Table 16.8	Direct impacts on threatened ecological communities	16.24
Table 16.9	Direct impacts on fauna	16.26
Table 16.10	Impact on groundwater dependent ecosystems	16.28
Table 16.11	Indirect impacts on biodiversity values	16.29
Table 16.12	Summary of impacts on protected and sensitive lands within the study area	16.30
Table 16.13	Biodiversity mitigation measures	16.34
Table 17.1	Project-specific water quality and river flow objectives	17.4
Table 17.2	Key watercourses within the study area	17.6

Table 17.3	Regional flood events	17.14
Table 17.4	Water mitigation measures	17.29
Table 18.1	Soil landscapes	18.8
Table 18.2	Acid sulfate soil classifications	18.9
Table 18.3	Listed contaminated sites – Parramatta CBD	18.11
Table 18.4	Overview of potential contamination within the Parramatta CBD	18.11
Table 18.5	Listed contaminated sites – Camellia	18.14
Table 18.6	Overview of potential contamination – Camellia	18.16
Table 18.7	Overview of potential contamination – Rydalmere and Ermington	18.17
Table 18.8	Listed contaminated sites – Melrose Park	18.18
Table 18.9	Overview of potential contamination – Melrose Park	18.18
Table 18.10	Listed contaminated sites – Wentworth Point	18.19
Table 18.11	Overview of potential contamination – Wentworth Point	18.19
Table 18.12	Listed contaminated sites – Sydney Olympic Park	18.20
Table 18.13	Overview of potential contamination – Sydney Olympic Park	18.22
Table 18.14	Preliminary contamination risk evaluation (without controls or remediation)	18.23
Table 18.15	Soils and contamination risk mitigation measures	18.30
Table 19.1	Construction dangerous goods volumes and thresholds	19.5
Table 19.2	Construction hazard identification and preliminary hazard analysis	19.7
Table 19.3	Hazards and risk mitigation measures	19.12
Table 20.1	Greenhouse gas emissions categories and emissions relevant to the project	20.3
Table 20.2	Greenhouse gas emissions by emission source and scope - construction	20.10
Table 20.3	Summary of greenhouse gas emissions during operation	20.12
Table 20.4	Air quality and greenhouse gas risk mitigation measures	20.14
Table 21.1	Overview of future climate	21.3
Table 21.2	Number of risks and rating identified across each climate projection scenario	21.4
Table 21.3	Summary of risks rated as high or very high across the climate projection scenarios	21.4
Table 21.4	Climate change mitigation measures	21.6
Table 22.1	Key waste streams and classification – construction	22.3
Table 22.2	Potential impacts associated with waste generation and management	22.4
Table 22.3	Project waste diversion targets	22.5
Table 22.4	Management of other construction waste	22.7
Table 22.5	Potential off-site recycling and disposal facilities	22.9
Table 22.6	Key waste streams and classification – operation	22.12
Table 22.7	Management of operation waste	22.12
Table 22.8	Waste management and resource use mitigation measures	22.15
Table 23.1	Project uncertainties	23.5
Table 24.1	Assessment of project against the objectives for Parramatta Light Rail	24.8

Figures

Figure 1.1	Parramatta Light Rail network	1.2
Figure 1.2	Key features of the project	1.4
Figure 2.1	Regional context	2.2
Figure 2.2	The project site – map 1	2.4
Figure 2.3	The project site – map 2	2.5
Figure 2.4	The project site – map 3	2.6
Figure 2.5	The project site – map 4	2.7
Figure 2.6	The project site – map 5	2.8
Figure 2.7	The project site – map 6	2.9
Figure 3.1	Strategic planning context – key strategies and policies	3.1
Figure 3.2	Central River City in Greater Sydney	3.2
Figure 3.3	Central City District – population and housing growth	3.3
Figure 3.4	Location of GPOP relative to the Central River City	3.5
Figure 3.5	Existing north–south and east–west connections	3.6
Figure 4.1	Assessment and approval process	4.7
Figure 5.1	Project development process	5.1
Figure 5.2	Process used to select the preferred light rail network	5.4
Figure 5.3	Preferred network for Stage 1 and Stage 2 of Parramatta Light Rail	5.5
Figure 5.4	Phase 1 corridor options	5.7
Figure 5.5	Shortlisted phase 2 corridor options	5.8
Figure 5.6	Waratah Street and Wharf Road corridor options	5.10
Figure 5.7	Project corridor and options identified in Scoping Report	5.11
Figure 5.8	Wentworth Point options	5.12
Figure 5.9	Project corridor	5.13
Figure 5.10	Parramatta CBD turnback facility options	5.15
Figure 5.11	Camellia alignment options	5.16
Figure 5.12	Example of box girder bridge	5.17
Figure 5.13	Example of a super-T bridge	5.18
Figure 5.14	Example of a tied-arch bridge	5.18
Figure 5.15	Existing pedestrian bridge over Silverwater Road	5.20
Figure 5.16	Artist’s impression of viaduct in Ken Newman Park	5.21
Figure 5.17	Artist’s impression of at-grade bridge in Ken Newman Park	5.21
Figure 5.18	Alignment between Atkins Road and Hughes Avenue – Option 1	5.23
Figure 5.19	Alignment between Atkins Road and Hughes Avenue – Option 2	5.23
Figure 5.20	Example of a steel truss bridge	5.24
Figure 5.21	Example of a cable-stayed bridge	5.24
Figure 5.22	Example of bridge construction using a barge	5.27
Figure 5.23	Example of bridge construction using a causeway	5.28
Figure 5.24	Example of bridge construction using a temporary platform	5.29
Figure 5.25	Example of potential alternate alignment at Melrose Park	5.31
Figure 5.26	Urban design vision and objectives	5.34
Figure 6.1	Key project infrastructure – map 1	6.3
Figure 6.2	Key project infrastructure – map 2	6.4
Figure 6.3	Key project infrastructure – map 3	6.5
Figure 6.4	Key project infrastructure – map 4	6.6
Figure 6.5	Key project infrastructure – map 5	6.7

Figure 6.6	Key project infrastructure – map 6	6.8
Figure 6.7	Indicative embedded track cross section	6.9
Figure 6.8	Example of green track usage for Parramatta Light Rail Stage 1	6.10
Figure 6.9	Indicative cross section of an on-road (segregated) arrangement with stop adjacent to general traffic lanes	6.11
Figure 6.10	Indicative cross section of an on-road (segregated) arrangement with stop in the centre of the roadway	6.12
Figure 6.11	Indicative cross section of off-road (separated) arrangement with stop	6.12
Figure 6.12	Indicative cross section of light rail and pedestrian only zone at Dawn Fraser Avenue	6.13
Figure 6.13	Indicative image of a Parramatta Light Rail Stage 1 stop	6.15
Figure 6.14	Indicative active transport link types	6.17
Figure 6.15	Indicative elevation of bridge between Camellia and Rydalmere (viewed from the east)	6.18
Figure 6.16	Indicative elevation of bridge between Melrose Park and Wentworth Point (viewed from the west)	6.19
Figure 6.17	Indicative elevation of Silverwater Road bridge (viewed from the south)	6.20
Figure 6.18	Example of traction power substation	6.24
Figure 6.19	Indicative cross section showing retaining walls at Boronia Street	6.25
Figure 6.20	Concept plan for Ken Newman Park improvements	6.28
Figure 6.21	Concept plan for Atkins Road open space	6.29
Figure 6.22	Concept plan for Archer Park improvements	6.30
Figure 6.23	Indicative light rail vehicle	6.35
Figure 7.1	Indicative construction program	7.2
Figure 7.2	Typical construction process for track work	7.4
Figure 7.3	Image showing track installation works for Parramatta Light Rail Stage 1	7.5
Figure 7.4	Image showing light rail track form for a Parramatta Light Rail Stage 1 bridge	7.7
Figure 7.5	Typical process for bridge construction over the Parramatta River	7.8
Figure 7.6	Image showing part of the Parramatta Light Rail Stage 1 active transport link under construction	7.10
Figure 7.7	Image showing earthworks underway for Parramatta Light Rail Stage 1	7.11
Figure 7.8	Proposed compound locations – map 1	7.18
Figure 7.9	Proposed compound locations – map 2	7.19
Figure 7.10	Preliminary heavy vehicle routes – map 1	7.23
Figure 7.11	Preliminary heavy vehicle routes – map 2	7.24
Figure 7.12	Image showing pedestrian detour arrangements during construction of Parramatta Light Rail Stage 1	7.26
Figure 7.13	Location of key utilities – map 1	7.28
Figure 7.14	Location of key utilities – map 2	7.29
Figure 7.15	Image showing the laying of a small diameter water main in Westmead (Parramatta Light Rail Stage 1)	7.31
Figure 7.16	Relocation of Sydney Water trunk mains at Ken Newman Park	7.32
Figure 8.1	Engagement phases	8.2
Figure 8.2	Virtual engagement room	8.7
Figure 8.3	Breakdown of key issues raised during phase 1	8.8
Figure 8.4	Community sentiment	8.8
Figure 9.1	Key transport infrastructure – map 1	9.5
Figure 9.2	Key transport infrastructure – map 2	9.6
Figure 9.3	Walking and cycling routes in the vicinity of the project	9.11
Figure 9.4	Parking occupancy (based on 2018 parking surveys)	9.14
Figure 9.5	Performance of intersections along the project alignment (2031) – map 1	9.23

Figure 9.6	Performance of intersections along the project alignment (2031) – map 2	9.24
Figure 9.7	Performance of intersections adjacent to the project alignment (2031) – map 1	9.25
Figure 9.8	Performance of intersections adjacent to the project alignment (2031) – map 2	9.26
Figure 9.9	Performance of intersections adjacent to the project alignment (2031) – map 3	9.27
Figure 10.1	Noise catchment areas and monitoring locations	10.2
Figure 10.2	Worst-case noise levels for the construction work areas	10.3
Figure 10.3	Noise level comparisons	10.4
Figure 11.1	Registered AHIMS sites within 200 metres of the project site	11.5
Figure 11.2	Potential archaeological deposits – Melrose Park	11.7
Figure 11.3	Potential archaeological deposits – Rydalmere and Ermington	11.7
Figure 11.4	Potential archaeological deposits – Sydney Olympic Park	11.8
Figure 12.1	Listed and potential heritage items – map 1	12.7
Figure 12.2	Listed and potential heritage items – map 2	12.8
Figure 12.3	Listed heritage items (Parramatta CBD)	12.9
Figure 12.4	Photo of the Main House, part of the locally listed Bulla Cream Dairy (Willowmere)	12.9
Figure 12.5	Visible remains of the Ermington Wharf/Wharf/Former Pennant Hills Wharf (immediately adjacent to the Ermington Boat Ramp)	12.10
Figure 12.6	View of Federation era building within the State Abattoir locality	12.10
Figure 12.7	Historical Archaeological Management Units with medium to high potential (Camellia to Ermington)	12.13
Figure 12.8	Historical Archaeological Management Units with medium to high potential (Melrose Park)	12.13
Figure 13.1	Land use and zoning – map 1	13.3
Figure 13.2	Land use and zoning – map 2	13.4
Figure 13.3	Land use and zoning – map 3	13.5
Figure 13.4	Land use and zoning – map 4	13.6
Figure 13.5	Land use and zoning – map 5	13.7
Figure 13.6	Land use and zoning – map 6	13.8
Figure 14.1	Social impact significance rating matrix	14.3
Figure 14.2	Community infrastructure and facilities – map 1	14.9
Figure 14.3	Community infrastructure and facilities – map 2	14.10
Figure 15.1	Landscape character zones and representative viewpoints – map 1	15.2
Figure 15.2	Landscape character zones and representative viewpoints – map 2	15.3
Figure 15.3	Landscape and visual impact significance rating matrix	15.5
Figure 15.4	Views from viewpoints considered to have high sensitivity	15.9
Figure 15.5	Visual representation of the project at viewpoint 5 – Rydalmere Wharf	15.16
Figure 15.6	Visual representation of the project at viewpoint 22 – Ermington Boat Ramp	15.17
Figure 15.7	Visual representation of the project at viewpoint 14 – Tristram Street	15.17
Figure 15.8	Visual representation of the project at viewpoint 15 – Heysen Avenue	15.18
Figure 15.9	Visual representation of the project at viewpoint 12 (view (b)) – South Street at River Road (looking east)	15.18
Figure 15.10	Visual representation of the project at viewpoint 18 – representative of viewpoint 19	15.19
Figure 16.1	Vegetation communities – map 1	16.5
Figure 16.2	Vegetation communities – map 2	16.6
Figure 16.3	Vegetation communities – map 3	16.7
Figure 16.4	Vegetation communities – map 4	16.8
Figure 16.5	Vegetation communities – map 5	16.9
Figure 16.6	Vegetation communities – map 6	16.10
Figure 16.7	Representative patch of estuarine mangrove forest	16.11

Figure 16.8	Representative patch of <i>Phragmites australis</i> and <i>Typha orientalis</i> coastal freshwater wetland	16.12
Figure 16.9	Representative patch of estuarine saltmarsh	16.12
Figure 16.10	Representative patch of estuarine Swamp Oak Forest	16.13
Figure 16.11	Representative patch of planted Sydney Turpentine-Ironbark Forest	16.14
Figure 16.12	Parramatta River at Camellia, showing rock walls and mangroves	16.17
Figure 16.13	Haslams Creek (view upstream from Holker Busway bridge)	16.18
Figure 16.14	Narawang Wetland	16.19
Figure 16.15	Protected and sensitive lands within the project site – map 1	16.22
Figure 16.16	Protected and sensitive lands within the project site – map 2	16.23
Figure 17.1	Parramatta River catchment	17.5
Figure 17.2	Watercourses	17.7
Figure 17.3	MUSIC model sub-catchments – map 1	17.9
Figure 17.4	MUSIC model sub-catchments – map 2	17.10
Figure 17.5	Groundwater bores – map 1	17.12
Figure 17.6	Groundwater bores – map 2	17.13
Figure 17.7	View of the northern river bank in the vicinity of the proposed location for the bridge between Camellia and Rydalmere	17.16
Figure 17.8	View of the river banks in the vicinity of the proposed location for the bridge between Melrose Park and Wentworth Point	17.17
Figure 18.1	Contamination sampling locations – map 1	18.3
Figure 18.2	Contamination sampling locations – map 2	18.4
Figure 18.3	Regional geology – map 1	18.6
Figure 18.4	Regional geology – map 2	18.7
Figure 18.5	Acid sulfate soils risk mapping	18.10
Figure 18.6	Areas of contamination concern – map 1	18.12
Figure 18.7	Areas of contamination concern – map 2	18.13
Figure 18.8	Historic landfills and associated infrastructure at Sydney Olympic Park	18.21
Figure 20.1	Five-year wind rose	20.6
Figure 21.1	Climate change assessment – key tasks	21.2
Figure 23.1	Construction environmental management – indicative plans and strategies	23.2

Appendices

Appendix A	SEARs compliance table
Appendix B	Strategic planning review
Appendix C	Statutory context compliance
Appendix D	Camellia foreshore to Rydalmere option – preliminary environmental scoping
Appendix E	Preliminary land requirements
Appendix F	Community and Stakeholder Engagement Report
Appendix G	Preliminary hazard analysis
Appendix H	Air quality background data
Appendix I	Climate change assessment – additional information
Appendix J	Outline Construction Environmental Management Plan
Appendix K	Consolidated mitigation measures

Technical papers

Technical Paper 1 – Design, Place and Movement

Technical Paper 2 – Transport and Traffic

Technical Paper 3 – Noise and Vibration

Technical Paper 4 – Preliminary Aboriginal Cultural Heritage Assessment Report

Technical Paper 5 – Statement of Heritage Impact

Technical Paper 6 – Historical Archaeological Assessment

Technical Paper 7 – Social Impact Assessment

Technical Paper 8 – Business Impact Assessment

Technical Paper 9 – Biodiversity Development Assessment Report

Technical Paper 10 – Hydrology, Flooding and Water Quality

Parramatta Light Rail Stage 2

Environmental impact statement



Certification

Submission of environmental impact statement

Prepared under Division 5.2 of the *Environmental Planning and Assessment Act 1979*.

Environmental impact statement prepared by:

Name:	Amanda Raleigh	Aryel Pyliotis
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Address:	133 Castlereagh Street, Sydney, NSW 2000	
Responsible person:	Gillian Geraghty Chief Development Officer Infrastructure and Place Transport for NSW 231 Elizabeth Street Sydney NSW 2000	
Address of the land to which the statement relates:	Land within the City of Parramatta and City of Ryde local government areas as described within this document.	
Description of the infrastructure to which this statement relates:	Construction and operation of the Parramatta Light Rail Stage 2 project.	
Environmental impact statement:	An environmental impact statement is attached addressing all matters in accordance with Division 5.2 of the <i>Environmental Planning and Assessment Act 1979</i> (NSW) and Schedule 2, Part 3 of the <i>Environmental Planning and Assessment Regulation 2000</i> (NSW).	
Declaration	I certify that I have prepared this environmental impact statement in accordance with the Secretary's Environmental Assessment Requirements dated 12 October 2022. This document contains all available information that is relevant to the environmental assessment of the infrastructure to which the statement relates. To the best of my knowledge, the information contained is neither false nor misleading.	
Signature:		
Name:	Amanda Raleigh	Aryel Pyliotis
Date:	27/10/2022	27/10/2022

Glossary of terms and abbreviations

Term/abbreviation	Definition
Aboriginal object	Defined by the <i>National Parks and Wildlife Act 1974</i> (NSW) as: 'any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains'.
Aboriginal site	A place where physical remains or modification of the natural environment indicate past and 'traditional' activities by Aboriginal people. Includes sites listed on the AHIMS. Also known as 'Aboriginal objects'.
ABS	Australian Bureau of Statistics
Active transport	Non-motorised forms of transport involving physical activity, such as walking and cycling.
Alignment	The location of the track, accurately defined both horizontally and vertically, along which the light rail vehicles operate.
Annual exceedance probability (AEP)	The chance of a flood of a nominated size occurring in a particular year. The chance of the flood occurring is expressed as a percentage and, for large floods, is the reciprocal of the ARI. For example, the one per cent AEP flood event is equivalent to the 100-year ARI flood event.
AHIMS	Aboriginal Heritage Information Management Systems
AS	Australian Standard
Acid sulfate soils (ASS)	Naturally occurring soils, sediments or organic substrates (eg peat) that are formed under waterlogged conditions. These soils contain iron sulfide minerals (predominantly as the mineral pyrite) or their oxidation products. In an undisturbed state below the water table, acid sulfate soils are benign. However if the soils are drained, excavated or exposed to air by a lowering of the water table, the sulfides react with oxygen to form sulfuric acid.
BAM	Biodiversity assessment methodology
BC Act	<i>Biodiversity Conservation Act 2016 (NSW)</i>
BDAR	Biodiversity development assessment report
Biodiversity	The variety of plant and animal life in the world or in a particular habitat.
Biodiversity offsets	Measures that benefit biodiversity by compensating for the adverse impacts elsewhere of an action, such as clearing for development. Biodiversity offsets work by protecting and managing biodiversity values in one area in exchange for impacts on biodiversity values in another.
Biodiversity and Conservation SEPP	<i>State Environmental Planning Policy (Biodiversity and Conservation) 2021</i>
Biophysical environment	The physical environment (water, soil etc) as well as the biological activity within it (plants, animals, etc).
BoM	Bureau of Meteorology
Catchment	The land area draining through the main stream, as well as tributary streams, to a particular site. It always relates to an area above a specific location.
CBD	Central business district
CCTV	Closed circuit television
CEEC	Critically endangered ecological community
Central River City Precinct SEPP	<i>State Environmental Planning Policy (Precincts - Central River City) 2021</i>

Term/abbreviation	Definition
Classified road	A road that meets the definition of a classified road and is listed as such under the <i>Roads Act 1993</i> (NSW) includes main roads, highways, freeways, etc.
Climate	The average weather experienced at a site or region over a period of many years, ranging from months to many thousands of years. The relevant measured quantities are most often surface variables such as temperature, rainfall and wind.
CLM Act	<i>Contaminated Land Management Act 1995</i> (NSW)
CNVS	Construction Noise and Vibration Strategy
CO ₂	Carbon dioxide
Construction	Includes all physical work required to construct the project.
Construction compound	An area used as the base for construction activities, usually for the storage of plant, equipment and materials and/or construction site offices and worker facilities.
Construction environmental management plan (CEMP)	A project-specific plan developed for the construction phase of a project, to ensure that all contractors and sub-contractors comply with all environmental requirements, including the conditions of approval for the project, and that the environmental risks are properly managed.
Crown land	Land that is owned by the NSW Government.
Cth	Commonwealth
Cumulative impacts	Impacts that, when considered together, have different and/or more substantial impacts than a single impact assessed on its own.
dB	Decibels
dBA	Used as a measure of A-frequency weighed sound levels
DPE	Department of Planning and Environment
DPIE	(former) NSW Department of Planning, Industry and Environment
EEC	Endangered ecological community
EIS	Environmental Impact Statement
Emission	A substance discharged into the air.
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i> (NSW)
EPBC Act	<i>Environment Protection and Biodiversity Act 1999</i> (Commonwealth)
EPL	Environment Protection Licence
Erosion	A natural process where wind or water detaches a soil particle and provides energy to move the particle.
ESD	Ecologically sustainable development
FM Act	<i>Fisheries Management Act 1994</i> (NSW)
GANSW	Government Architect NSW
Greenhouse gas	Greenhouse gases are those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of terrestrial radiation emitted by the Earth's surface, the atmosphere itself, and by clouds. Water vapour (H ₂ O), carbon dioxide (CO ₂), nitrous oxide (N ₂ O), methane (CH ₄) and ozone (O ₃) are the primary greenhouse gases in the Earth's atmosphere (CSIRO and BoM, 2015).
GPOP	Greater Parramatta and the Olympic Peninsula
ha	Hectare
HAMU	Historical archaeological management unit
Heritage listed	An item, building or place included on statutory heritage lists maintained by local, State and/or the Australian Government.
Hydrology	The study of rainfall and surface water runoff processes.
ICNG	Interim Construction Noise Guideline
Interchange	A location where it is possible to change within or between transport modes

Term/abbreviation	Definition
ISCA	Infrastructure Sustainability Council Australia
L _{Aeq}	Equivalent continuous sound level
L _{Amax}	A-weighted maximum sound level
Landscape	The overall character and function of a place and includes all elements within the public realm, and the interrelationship between these elements and the people who use it.
LEP	Local environmental plan
Level of service	Defined by Austroads as a measure for ranking operating road and intersection conditions, based on factors such as speed, travel time, freedom to manoeuvre, interruptions, comfort and convenience.
LGA	Local government area
Magnitude	The physical size and scale of an impact at a location.
MAMU	Maritime archaeological management unit
MCA	Multi-criteria analysis
Minor construction ancillary facilities	Temporary facilities during construction that would include, but not be limited to, laydown areas, worker parking, mobile site sheds/offices, toilets and storage facilities.
MUSIC	Model for Urban Stormwater Improvement Conceptualisation
NCA	Noise catchment area
NO ₂	Nitrogen dioxide
NO _x	Nitrogen oxides
NPI	National Pollutant Inventory
NPW Act	<i>National Parks and Wildlife Act 1974 (NSW)</i>
NSW	New South Wales
NSW EPA	NSW Environment Protection Authority
OOHW	Out of hours work
PA system	Public address system
PAD	Potential archaeological deposit
PAH	Polycyclic aromatic hydrocarbons
Parramatta LEP	Parramatta Local Environmental Plan 2012
PASS	Potential acid sulfate soils
Placemaking	A multi-faceted approach to the planning, design, and management of public spaces, which aims to create public spaces that promote people's health, happiness, and well-being.
Planning Systems SEPP	<i>State Environmental Planning Policy (Planning Systems) 2021</i>
PCT	Plant community type
PM ₁₀	Particulate matter 10 micrometres or less in diameter. Particles in this size range make up a large proportion of dust that can be drawn deep into the lungs. This is a classification of particles by size rather than chemical properties.
PMF	Probable maximum flood
Podzolic soils	Soils that are usually formed in a broadleaf forest and are mostly characterised by average leaching, but also highly susceptible to compaction.
POEO Act	<i>Protection of the Environment Operations Act 1997 (NSW)</i>
Project	The construction and operation of Stage 2 of Parramatta Light Rail

Term/abbreviation	Definition
Project site	The area that would be directly affected by construction works (also known as the construction footprint). It includes the location of project infrastructure, the area that would be directly disturbed by the movement of construction plant and machinery, and the location of the storage areas, compounds sites, etc., that would be used to construct that infrastructure.
RAP	Remediation Action Plan
Rating background level	The underlying level of noise present in an area once transient and short-term noise events are filtered out.
Residual land	Land acquired to construct the project that is surplus to the operational requirements of the project
Resilience and Hazards SEPP	<i>State Environmental Planning Policy (Resilience and Hazards) 2021</i>
Road reserve	A legally defined area of land within which facilities such as roads, footpaths and associated features may be constructed for public travel.
Roads Act	<i>Roads Act 1993 (NSW)</i>
SEARs	Secretary's environmental assessment requirements
Sensitivity	How sensitive the existing character of a setting is to a proposed change.
SEPP	State Environmental Planning Policy
SHR	State heritage register
SIA	Social impact assessment
SIMP	Social impact management plan
SO ₂	Sulphur dioxide
Social locality	The social locality refers to the project site and surrounding communities that may be affected by the project.
Soloths	Soils formed from saline material for which the surface layer is soft and friable.
SOPA	Sydney Olympic Park Authority
SREP	Sydney Regional Environmental Plan
Stabling	The act of taking a light rail vehicle out of service and parking it in a siding or stabling facility, usually overnight or longer.
State significant infrastructure	Major transport and services infrastructure considered to have State significance as a result of size, economic value or potential impacts.
Study area	The study area is defined as the wider area including and surrounding the project site, with the potential to be directly or indirectly affected by the project (e.g. by noise and vibration, visual or traffic impacts). The actual size and extent of the study area varies according to the nature and requirements of each impact assessment technical report.
t CO ₂ -e	Tonnes of carbon dioxide equivalent
Transport and Infrastructure SEPP	<i>State Environment Planning Policy (Transport and Infrastructure) 2021</i>
Turnback	A junction point where a light rail vehicle can change between two routes/travel directions.
VC	Vibration curves
Visual amenity	The value of a particular area or view in terms of what is seen.
Visual envelope	The area from where the project could be visible.
VOC	Volatile organic compounds
Waste	Includes any matter (whether liquid, solid, gaseous or radioactive) that is discharged, emitted or deposited in the environment in such volume, constituency, or manner as to cause an alteration to the environment.
Work area	Individual areas within the project site that are subject to construction at any one time.