**ATTACHMENT 1**
**Technical and Policy Guidelines**

The following guidelines may assist in the preparation of the Environmental Impact Statement. This list is not exhaustive and not all of these guidelines may be relevant to your proposal.

Many of these documents can be found on the following websites:
http://www.planning.nsw.gov.au
http://www.bookshop.nsw.gov.au
http://www.publications.gov.au

## Policies, Guidelines & Plans

| Aspect | Policy /Methodology |
|---|---|
| **Risk Assessment** | |
| | AS/NZS 4360:2004 Risk Management (Standards Australia) |
| | HB 203: 203:2006 Environmental Risk Management – Principles & Process (Standards Australia) |
| **Transport** | |
| | Guide to Traffic Generating Development (RTA) |
| | Road Design Guide (RTA) |
| **Air Quality** | |
| | Protection of the Environment Operations (Clean Air) Regulation 2002 |
| | Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (DEC) |
| | Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (DEC) |
| **Odour** | |
| | Technical Framework: Assessment and Management of Odour from Stationary Sources in NSW (DEC) |
| | Technical Notes: Assessment and Management of Odour from Stationary Sources in NSW (DEC) |
| **Noise** | |
| | NSW Industrial Noise Policy (DECC) |
| | NSW Road Noise Policy (EPA) |
| | Environmental Noise Control Manual (DECC) |
| **Soil and Water** | |
| | Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites (ANZECC & NHMRC) |
| | National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPC) |
| *Soil* | Draft Guidelines for the Assessment & Management if Groundwater Contamination (DECC) |
| | State Environmental Planning Policy No. 55 – Remediation of Land |
| | Managing Land Contamination – Planning Guidelines SEPP 55 – Remediation of Land (DOP) |
| *Surface Water* | National Water Quality Management Strategy: Water quality management - an outline of the policies (ANZECC/ARMCANZ) |
| | National Water Quality Management Strategy: Policies and principles - a reference document (ANZECC/ARMCANZ) |
| | National Water Quality Management Strategy: Implementation guidelines (ANZECC/ARMCANZ) |

| | |
|---|---|
| | National Water Quality Management Strategy: Australian Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ) |
| | National Water Quality Management Strategy: Australian Guidelines for Water Quality Monitoring and Reporting (ANZECC/ARMCANZ) |
| | Using the ANZECC Guideline and Water Quality Objectives in NSW (DEC) |
| | State Water Management Outcomes Plan |
| | NSW Government Water Quality and River Flow Environmental Objectives (DECC) |
| | Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DEC) |
| | Managing Urban Stormwater: Soils & Construction (Landcom) |
| | Managing Urban Stormwater: Treatment Techniques (DECC) |
| | Managing Urban Stormwater: Source Control (DECC) |
| | Technical Guidelines: Bunding & Spill Management (DECC) |
| *Groundwater* | National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia (ARMCANZ/ANZECC) |
| | NSW State Groundwater Policy Framework Document (DLWC) |
| | NSW State Groundwater Quality Protection Policy (DLWC) |
| | NSW State Groundwater Quantity Management Policy (DLWC) Draft |
| | Guidelines for the Assessment and Management of Groundwater Contamination (DECC) |
| **Waste Management** | |
| | Waste Classification Guidelines (DECC) |
| | NSW Waste Avoidance and Resource Recovery Strategy 2007 (EPA) |
| **Biodiversity** | |
| | Draft Guidelines for Threatened Species Assessment under Part 3A of the *Environmental Planning and Assessment Act 1979* (DEC) |
| | DECCW's Threatened Species Assessment Guidelines – Assessment of Significance (2007). |
| | Policy & Guidelines - Aquatic Habitat Management and Fish Conservation (NSW Fisheries) |
| | The NSW State Groundwater Dependent Ecosystem Policy (DLWC) |
| **Greenhouse Gas** | |
| | AGO Factors and Methods Workbook (AGO) |
| | Guidelines for Energy Savings Action Plans (DEUS, 2005) |
| **Hazards** | |
| | State Environmental Planning Policy No. 33 – Hazardous and Offensive Development |
| | Applying SEPP 33 – Hazardous and Offensive Development Application Guidelines (DUAP) |
| | Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis |
| | Multi-level Risk Assessment (DPI 2011) |
| | Planning for Bushfire Protection 2006 (NSW RFS) |
| **Heritage** | |
| *Aboriginal* | Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC) |
| | NSW Heritage Manual (NSW Heritage Office & DUAP) |
| *Non- Aboriginal* | The Burra Charter (The Australia ICOMOS charter for places of cultural significance) |

**ATTACHMENT 2**
**Agency EIS Requirements**

NSW EPA

ENVIRONMENT PROTECTION AUTHORITY

PCU046603



Our reference: DOC13/34540
Your reference: 13/08339-1
Contact: Shelley Nancarrow, ph 9995 6808

Ms Karen Jones
A/Director Infrastructure Projects
Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

Attention: Ms Ingrid Illias

Dear Ms Jones,

**DIRECTOR GENERAL'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS**
**CBD & SE LIGHT RAIL PROJECT**

I refer to your request for the Environment Protection Authority's (EPA's) requirements for the environmental assessment for the above proposal received by the EPA on 4 July 2013.

The EPA has considered the details of the project as provided by the Department of Planning and Infrastructure (DP&I) and has identified the information it requires to assess the project (see **Attachment 1**). The proponent should ensure that the Environmental Impact Assessment (EIS) is sufficiently comprehensive to enable EPA to determine the extent of the impact(s) of the proposal.

The EPA considers that the major environmental issue for this project is noise. Construction noise from works undertaken outside of normal construction hours and operational noise from the stabling and maintenance facilities at Randwick and Rozelle may impact surrounding sensitive receivers. Other issues that the EPA considers must be addressed in the EIS are: erosion and sediment control, contaminated sites, waste and greenhouse gases. The EIS must also include actions that will be taken to avoid or mitigate impacts or compensate for any unavoidable environmental impacts.

In carrying out the assessment, the proponent should refer to the relevant guidelines as listed in **Attachment 2** and any relevant industry codes of practice and best practice management guidelines.

EPA requests one hard copy of the EA for assessment. Please also send an electronic copy to our referral mailbox – planning.matters@environment.nsw.gov.au . If you have any queries regarding this matter please contact Shelley Nancarrow on 9995 6808 or Nicole Jones on 9995 6865.

Yours sincerely

16.07.2013

**MARK HANEMANN**
**A/Unit Head Infrastructure**
**ENVIRONMENT PROTECTION AUTHORITY**

Attachment 1: EPA's Recommended Environmental Assessment Requirements (EARs)
Attachment 2: Guidance Material

PO Box 668 Parramatta NSW 2124
Level 7, 79 George Street Parramatta NSW 2150
Tel: (02) 9995 5000 Fax: (02) 9995 6900
ABN 43 692 285 758
www..epa.nsw.gov.au

## Attachment 1: EPA's Recommended Environmental Assessment Requirements (EARs)

TABLE OF CONTENTS

# 1 Environmental impacts of the project

1. Impacts related to the following environmental issues need to be assessed, quantified and reported on:
   - Air Issues
     - greenhouse gas
   - Noise and vibration
   - Waste
     - General waste – any proposal
   - Water and Soils
     - Acid sulfate soils
     - Contaminated sites
     - Soil issues – general

   Other issues that should be addressed are impacts on the community:
   - Community and Stakeholder Engagement

   Environmental assessments (EAs) should address the specific requirements outlined under each heading below and assess impacts in accordance with the relevant guidelines mentioned. A full list of guidelines is at Attachment 2.

# 2 Licensing requirements

On the basis of the information submitted to date, it appears the proposal is not a scheduled activity under the *Protection of the Environment Operations Act 1997* (POEO Act) and will not therefore require an Environment Protection Licence (EPL) if approval is granted. Under Schedule 1 of the POEO Act an EPL is required for railway systems activities where there is a railway track that forms part of, or consists of, a network of more than 30 kilometres of track. The EPA understands that the construction of this project will result in a network of 27km of light rail track. If the proposal changes and the network becomes more than 30km of track then an EPL will be required.

# SPECIFIC ISSUES

# 3 Air issues

## 3.1 Greenhouse gas

1. The EA should include a comprehensive assessment of, and report on, the project's predicted greenhouse gas emissions (tCO2e). Emissions should be reported broken down by:
   a) direct emissions (scope 1 as defined by the Greenhouse Gas Protocol – see reference below),
   b) indirect emissions from electricity (scope 2), and
   c) upstream and downstream emissions (scope 3)

   before and after implementation of the project, including annual emissions for each year of the project (construction, operation and decommissioning).

2. The EA should include an estimate of the greenhouse emissions intensity (per unit of production). Emissions intensity should be compared with best practice if possible.

3. The emissions should be estimated using an appropriate methodology, in accordance with NSW, Australian and international guidelines (see below).

4. The proponent should also evaluate and report on the feasibility of measures to reduce greenhouse gas emissions associated with the project. This could include a consideration of energy efficiency opportunities or undertaking an energy use audit for the site.

Guidance Material

- The Greenhouse Gas Protocol: Corporate Standard, World Council for Sustainable Business Development & World Resources Institute http://www.ghgprotocol.org/standards/corporate-standard
- National Greenhouse Accounts (NGA) Factors, Australian Department of Climate Change (Latest release), http://www.climatechange.gov.au/publications/greenhouse-acctg/national-greenhouse-factors.aspx
- National Greenhouse and Energy Reporting System, Technical Guidelines (latest release) http://www.climatechange.gov.au/en/government/initiatives/national-greenhouse-energy-reporting/tools-resources.aspx
- National Carbon Accounting Toolbox http://www.climatechange.gov.au/government/initiatives/ncat.aspx
- Australian Greenhouse Emissions Information System (AGEIS) http://ageis.climatechange.gov.au/

# 4 Noise and vibration

1. In relation to noise, the following matters should be addressed (where relevant) as part of the Environmental Assessment.
2. Construction noise associated with the proposed development should be assessed using the *Interim Construction Noise Guideline (*DECC, 2009). http://www.environment.nsw.gov.au/noise/constructnoise.htm
3. Vibration from all activities (including construction and operation) to be undertaken on the premises should be assessed using the guidelines contained in the *Assessing Vibration: a technical guideline* (DEC, 2006). http://www.environment.nsw.gov.au/noise/vibrationguide.htm
4. If blasting is required for any reasons during the construction or operational stage of the proposed development, blast impacts should be demonstrated to be capable of complying with the guidelines contained in *Australian and New Zealand Environment Council – Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration* (ANZEC, 1990). http://www.environment.nsw.gov.au/noise/blasting.htm
5. Operational noise from the rail stabling facilities should be assessed using the guidelines contained in the *NSW Industrial Noise Policy* (EPA, 2000) and *Industrial Noise Policy Application Notes.* http://www.environment.nsw.gov.au/noise/industrial.htm
6. Noise from new or upgraded railways (other than railways on private premises) should be assessed using the *Rail Infrastructure Noise Guideline (EPA, 2013)* http://www.epa.nsw.gov.au/resources/noise/20130018eparing.pdf

# 5 Waste, chemicals and hazardous materials and radiation

## 5.1 General waste – any proposal

The EA should:

1. Include a detailed plan for in-situ classification of waste material, including the sampling locations and sampling regime that will be employed to classify the waste, particularly with regards to the identification of contamination hotspots.

2. Identify, characterise and classify all waste that will be generated onsite through excavation, demolition or construction activities, including proposed quantities of the waste.
**Note:** All waste must be classified in accordance with *EPA's Waste Classification Guidelines.*

3. Identify, characterise and classify all waste that is proposed to be disposed of to an offsite location, including proposed quantities of the waste and the disposal locations for the waste. This includes waste that is intended for re-use or recycling.
**Note:** All waste must be classified in accordance with *EPA's Classification Guidelines.*

4. Include a commitment to retaining all sampling and classification results for the life of the project to demonstrate compliance with *EPA's Waste Classification Guidelines.*

5. Provide details of how waste will be handled and managed onsite to minimise pollution, including:

   a) Stockpile location and management
      - Labelling of stockpiles for identification, ensuring that all waste is clearly identified and stockpiled separately from other types of material (especially the separation of any contaminated and non-contaminated waste).
      - Proposed height limits for all waste to reduce the potential for dust and odour.
      - Procedures for minimising the movement of waste around the site and double handling.
      - Measures to minimise leaching from stockpiles into the surrounding environment, such as sediment fencing, geofabric liners etc.

   b) Erosion, sediment and leachate control including measures to be implemented to minimise erosion, leachate and sediment mobilisation at the site during works. The EA should show the location of each measure to be implemented. The Proponent should consider measures such as:
      - Sediment traps
      - Diversion banks
      - Sediment fences
      - Bunds (earth, hay, mulch)
      - Geofabric liners
      - Other control measures as appropriate

      The Proponent should also provide details of:
      - how leachate from stockpiled waste material will be kept separate from stormwater runoff;
      - treatment of leachate through a wastewater treatment plant (if applicable); and
      - any proposed transport and disposal of leachate off-site.

6. Provide details of how the waste will be handled and managed during transport to a lawful facility. If the waste possesses hazardous characteristics, the Proponent must provide details of how the waste will be treated or immobilised to render it suitable for transport and disposal.

7. Include details of all procedures and protocols to be implemented to ensure that any waste leaving the site is transported and disposed of lawfully and does not pose a risk to human health or the environment.

8. Include a statement demonstrating that the Proponent is aware of EPA's requirements with respect to notification and tracking of waste.

9. Include a statement demonstrating that the Proponent is aware of the relevant legislative requirements for disposal of the waste, including any relevant Resource Recovery Exemptions, as gazetted by EPA from time to time.

10. Outline contingency plans for any event that affects operations at the site that may result in environmental harm, including: excessive stockpiling of waste, volume of leachate generated exceeds the storage capacity available on-site etc.

# 6 Water and soils

## 6.1 Acid sulfate soils

1. The potential impacts of the development on acid sulfate soils must be assessed in accordance with the relevant guidelines in the *Acid Sulfate Soils Manual* (Stone *et al.* 1998) and the *Acid Sulfate Soils Laboratory Methods Guidelines* (Ahern *et al.* 2004).

2. Describe mitigation and management options that will be used to prevent, control, abate or minimise potential impacts from the disturbance of acid sulfate soils associated with the project and to reduce risks to human health and prevent the degradation of the environment. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.

## 6.2 Contaminated sites assessment and remediation

1. The EA should include an assessment of the contaminated site that is conducted in accordance with the guidelines made or approved under section 105 of the *Contaminated Land Management Act 1997*, for example: *Guidelines for Consultants Reporting on Contaminated Sites (EPA, 2000), Guidelines for the NSW Site Auditor Scheme - 2nd edition (DEC, 2006), Sampling Design Guidelines (EPA, 1995), National Environment Protection (Assessment of Site Contamination) Measure 1999* (or update).

2. The EA should provide the details on how the site contamination will be remediated and/or managed so that the site is, or can be, made suitable for the proposed use.

3. All reports should be prepared in accordance with the *Guidelines for Consultants Reporting on Contaminated Sites* (EPA, 2000).

4. The EA should specify whether or not a site auditor, accredited under the *Contaminated Land Management Act 1997*, has been or will be engaged to issue a site audit statement to certify on the suitability of the current or proposed uses.

## 6.3 Soil issues - general

The EA should include:

1. An assessment of potential impacts on soil and land resources should be undertaken, being guided by *Soil and Landscape Issues in Environmental Impact Assessment* (DLWC 2000). The nature and extent of any significant impacts should be identified. Particular attention should be given to:
   a. Soil erosion and sediment transport - in accordance with *Managing urban stormwater: soils and construction,* vol. 1 (Landcom 2004) and vol. 2 (A. Installation of services; B Waste landfills; C. Unsealed roads; D. Main Roads; E. Mines and quarries) (DECC 2008).

2. A description of the mitigation and management options that will be used to prevent, control, abate or minimise identified soil and land resource impacts associated with the project. This

should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.

# 7 Community and Stakeholder Engagement

The project is predicted to provide significant benefits to the community; however, during construction the project may have significant impacts on the community. The EA should include the following:

- the proposed timing and level of community consultation during the project;
- proposed mechanisms for allowing community feedback;
- proposed mechanisms for updating the community about the project; and
- procedures for actioning community complaints.

## Attachment 2 – Guidance Material

| Title | Web address |
|---|---|
| **Relevant Legislation** | |
| *Contaminated Land Management Act 1997* | http://www.legislation.nsw.gov.au/maintop/view/inforce/act+140+1997+cd+0+N |
| *Environmental Planning and Assessment Act 1979* | http://www.legislation.nsw.gov.au/maintop/view/inforce/act+203+1979+cd+0+N |
| *Protection of the Environment Operations Act 1997* | http://www.legislation.nsw.gov.au/maintop/view/inforce/act+156+1997+cd+0+N |
| **Licensing** | |
| Guide to Licensing | www.environment.nsw.gov.au/licensing/licenceguide.htm |
| **Air Issues** | |
| **Air Quality** | |
| Approved methods for modelling and assessment of air pollutants in NSW (2005) | http://www.environment.nsw.gov.au/resources/air/ammodelling05361.pdf |
| POEO (Clean Air) Regulation 2010 | http://www.legislation.nsw.gov.au/maintop/view/inforce/subordleg+428+2010+cd+0+N |
| **Greenhouse Gas** | |
| The Greenhouse Gas Protocol: Corporate Standard, World Council for Sustainable Business Development & World Resources Institute | http://www.ghgprotocol.org/standards/corporate-standard |
| National Greenhouse Accounts (NGA) Factors, Australian Department of Climate Change (Latest release), | http://www.climatechange.gov.au/publications/greenhouse-acctg/national-greenhouse-factors.aspx |
| National Greenhouse and Energy Reporting System, Technical Guidelines (latest release) | http://www.climatechange.gov.au/en/government/initiatives/national-greenhouse-energy-reporting/tools-resources.aspx |
| National Carbon Accounting Toolbox | http://www.climatechange.gov.au/government/initiatives/ncat.aspx |
| Australian Greenhouse Emissions Information System (AGEIS) | http://ageis.climatechange.gov.au/ |
| **Noise and Vibration** | |
| Interim Construction Noise Guideline (DECC, 2009) | http://www.environment.nsw.gov.au/noise/constructnoise.htm |
| Assessing Vibration: a technical guideline (DEC, 2006) | http://www.environment.nsw.gov.au/noise/vibrationguide.htm |
| Australian and New Zealand Environment Council – Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration (ANZEC, 1990) | http://www.environment.nsw.gov.au/noise/blasting.htm |

| Title | Web address |
|---|---|
| Industrial Noise Policy Application Notes | http://www.environment.nsw.gov.au/noise/traffic.htm |
| Environmental Criteria for Road Traffic Noise (EPA, 1999) | http://www.environment.nsw.gov.au/noise/traffic.htm |
| Rail Infrastructure Noise Guideline (EPA, 2013) | http://www.epa.nsw.gov.au/resources/noise/20130018eparing.pdf |
| Environmental assessment requirements for rail traffic-generating developments | http://www.environment.nsw.gov.au/noise/railnoise.htm |
| **Waste, Chemicals and Hazardous Materials and Radiation** | |
| **Waste** | |
| Waste Classification Guidelines (DECC, 2008) | http://www.environment.nsw.gov.au/waste/envguidlns/index.htm |
| **Water and Soils** | |
| **Acid sulphate soils** | |
| Acid Sulfate Soils Planning Maps | http://canri.nsw.gov.au/download/ |
| Acid Sulfate Soils Manual (Stone et al. 1998) | Manual available for purchase from: http://www.landcom.com.au/whats-new/the-blue-book.aspx<br>Chapters 1 and 2 are on DP&I's Guidelines Register at:<br>Chapter 1 Acid Sulfate Soils Planning Guidelines:<br>http://www.planning.nsw.gov.au/rdaguidelines/documents/NSW%20Acid%20Sulfate%20Soils%20Planning%20Guidelines.pdf<br>Chapter 2 Acid Sulfate Soils Assessment Guidelines:<br>http://www.planning.nsw.gov.au/rdaguidelines/documents/NSW%20Acid%20Sulfate%20Soils%20Assessment%20Guidelines.pdf |
| Acid Sulfate Soils Laboratory Methods Guidelines (Ahern et al. 2004) | http://www.derm.qld.gov.au/land/ass/pdfs/lmg.pdf<br>This replaces Chapter 4 of the Acid Sulfate Soils Manual above. |
| **Contaminated Sites Assessment and Remediation** | |
| Managing land contamination: Planning Guidelines – SEPP 55 Remediation of Land | http://www.planning.nsw.gov.au/DevelopmentAssessments/RegisterofDevelopmentAssessmentGuidelines/tabid/207/language/en-US/Default.aspx |
| Guidelines for Consultants Reporting on Contaminated Sites (EPA, 2000) | http://www.environment.nsw.gov.au/resources/clm/97104consultantsglines.pdf |
| Guidelines for the NSW Site Auditor Scheme - 2nd edition (DEC, 2006) | http://www.environment.nsw.gov.au/resources/clm/auditorglines06121.pdf |
| Sampling Design Guidelines (EPA, 1995) | Available by request from EPA's Environment Line |
| National Environment Protection (Assessment of Site Contamination) Measure 1999 (or update) | http://www.ephc.gov.au/taxonomy/term/44 |
| **Soils – general** | |
| Soil and Landscape Issues in Environmental Impact Assessment (DLWC 2000) | http://www.dnr.nsw.gov.au/care/soil/soil_pubs/pdfs/tech_rep_34_new.pdf |
| Managing urban stormwater: soils and | Vol 1 - Available for purchase at |

| Title | Web address |
|---|---|
| construction, vol. 1 (Landcom 2004) and vol. 2 (A. Installation of services; B Waste landfills; C. Unsealed roads; D. Main Roads; E. Mines and quarries) (DECC 2008) | http://www.landcom.com.au/whats-new/publications-reports/the-blue-book.aspx<br>Vol 2 - http://www.environment.nsw.gov.au/stormwater/publications.htm |
| **Water** | |
| Water Quality Objectives | http://www.environment.nsw.gov.au/ieo/index.htm |
| ANZECC (2000) Guidelines for Fresh and Marine Water Quality | http://www.mincos.gov.au/publications/australian_and_new_zealand_guidelines_for_fresh_and_marine_water_quality |
| Applying Goals for Ambient Water Quality Guidance for Operations Officers – Mixing Zones | http://deccnet/water/resources/AWQGuidance7.pdf |
| Approved Methods for the Sampling and Analysis of Water Pollutant in NSW (2004) | http://www.environment.nsw.gov.au/resources/legislation/approvedmethods-water.pdf |

## 1. DESIGN AND PROCUREMENT PHASE

### 1.1. Concept Design

Works in Central Sydney are to be delivered in accordance with the Concept Design, as modified, and as prepared by the City, with additional details (location of street furniture, lighting plan etc) to be provided by the City.

#### 1.1.1. Tram stops

- Nine light rail stops are to be located between Circular Quay and Central. At least one stop must be located in Surry Hills.
- Light rail stops are to be designed to comply with statutory requirements and must allow for maximum pedestrian permeability and be accessible. Where stops cannot comply with all physical disability requirements, an exemption is to be sought under the Disability Discrimination Act following consultation with the disability sector.
- The design of the public domain along the route is to include the dipping of tracks at stops, where feasible, to minimise surrounding level changes; be integrated with the surrounding environment and is to enable universal access.

#### 1.1.2. Public Domain

Any works undertaken within the Central Sydney boundaries are to be in accordance with the City of Sydney's Public Domain Codes (Streets, Signs, Lights, Parks, and Landscape including Technical Specifications) Parts 1 and 2, including materials and furniture palettes.

#### 1.1.3. Parks & open space

Where the construction of light rail affects the condition of any park owned by the City, the proponent is to reasonably upgrade the park to a standard or design approved by the City. This may include:

- Ward Park;
- Wimbo Park;
- Edgley Street Reserve;
- Belmore Park.

In relation to Moore Park:

- Any above ground infrastructure to be located in Moore Park is to be designed with minimal visual impact to its surrounds. Any proposed designs affecting Moore Park are to be approved by the City.
- If construction of the Project affects Moore Park, then it is to be upgraded to an equivalent or better standard to improve surface drainage and to maintain a high level of useable open space.
- The level and quality of the playing fields are to be maintained and high quality WSUD turf is to be used.
- The tunnel under Moore Park is to be designed to a high quality and is to be approved by the City. The design is to take into account public art.

The proponent is to develop on the former site of Olivia Gardens a new open space, park or a space suitable for community use. The site is to be integrated with the existing Wimbo Park and the proposed design is to be approved by the City

### 1.1.4. Access and Connections

- At-grade signalised crossings are to be provided for light rail, pedestrians and cyclists across South Dowling Street.
- A bridge at South Dowling Street over the Eastern Distributor is to be provided for light rail, pedestrian and cyclists. The width of the bridge is to be agreed with the City.
- Light Rail will cross Moore Park through cut and cover tunnel to minimise the impact on the park.
    - The existing level and drainage of the park is to be addressed and the works are not to affect the available playing field or open space.
    - Moore Park is to be re-profiled with fill to ensure 2m of cover on the tunnel over the tunnel roof and be levelled as playing field with new turf.
- Pedestrian and cycle connection (by way of bridge crossing) over Anzac Parade is to be provided to complete the pedestrian link from the Sydney Cricket Ground to Devonshire Street. The width of the bridge is to be agreed with the City. Bridge and pedestrian crossings are to be designed such that they improve connectivity but are integrated with the surrounding environment.
- The proponent is to construct new permanent access between 400 and 420 George Street to serve light vehicles. Acquisition of stratum and easements is to be undertaken by the proponent with assistance from the City.
- Subject to agreement of the owners of No 1 Martin Place, the proponent is to undertake non-structural changes in the basement of the GPO / Westin Building to allow surface vehicular access to Pitt Street.

### 1.1.5. Paving and kerbs

- The proponent is to restore (including subsurface as necessary) and re-surface the full width of footpath along the length of footpath that is impacted by the Project, including utility adjustments.
- Existing pavers are to be removed:
    - from property boundary to property boundary in the pedestrianised area; and/or
    - where kerblines are moved; and/or
    - where levels are altered.
- The proponent is to make good any areas, on both sides of the area, impacted by the works for the Project for the extent of the route.
- Paving and kerbstones are to be used in areas as documented in the City of Sydney's Sydney Streets Design Codes, and/or as specified in the Concept Design. New 60mm pavers are to be utilised in the pedestrianised area of central Sydney.
- Paving and kerbstones are to be sourced as follows:
    - Austral Black paving is to be sourced from Blackhill, South Australia
    - Trachyte kerbstones are to be sourced from the City's stockpile

- Bluestone kerbstones required for repair are to be sourced from an agreed source.
- Other paving materials are to be sourced in accordance with the City's Urban Design Guide.

- Reconstituted or recycled concrete paving units are to be used in areas as documented in the City of Sydney's Sydney Streets Design Codes

#### 1.1.6. Pedestrianised areas

- The light rail corridor is to be constructed without overhead traction wiring (ie, to be catenary free):
  - From the northern side of Bathurst Street to Alfred Street.
  - Overhead wire structures will not be permitted in the pedestrianised area between Bathurst Street and Hunter Street.

#### 1.1.7. Street Furniture

- Public domain furniture (seats, bins, drinking fountains, bollards, tree grates) is to be in accordance with the City's Public Domain Codes and is to be sourced from the City's supplier.
- The proponent is to make allowances to relocate kiosks in accordance with the City's direction, if required and is to make good any damage to tenant improvements.
- Relocated and/or new bus stops and shelters located along the route are to conform to the City's standards and the Federal Government's DDA requirements.
- Any consequential public domain changes necessary for rerouting of traffic onto other streets in CBD and outside the Central Sydney area will be resolved in conjunction and consultation with the City's traffic management staff.

#### 1.1.8. Signage & wayfinding

Wayfinding signs, other than those related to light rail, are to be in accordance with the City's Wayfinding Strategy and integrated with the proponent signage. Interface issues are to be jointly developed during detailed design.

### 1.2. Sustainability

The proponent should, in consultation with City of Sydney, ensure that sustainability is integrated into the project development, design and delivery phases.
Sustainability initiatives should meet the requirements of City of Sydney's Sustainable Sydney 2030 Plan (specific sustainability targets are suggested below).
The following key sustainability themes should be addressed in the implementation of sustainability on the project:

- Governance and management systems
- Community and stakeholder involvement
- Procurement
- Energy use
- Climate change adaptation
- Water (including water use, drainage and flooding)
- Waste and resource recovery
- Noise (during construction and operation)

- Vegetation

The project works program should make appropriate provisions to facilitate City of Sydney's Green infrastructure requirements by making allowances for service corridors to accommodate the Thermal Reticulation and Water Recycling Networks

Any demolished materials from the public domain are to be reused within the proposed works or carefully removed and relocated to a City facility to enable future reuse, at no cost to the City. This includes street furniture, smartpoles, paving and kerbing.

Light Rail design and operations are to:

- Achieve platinum rating under The proponent Sustainable Design Guidelines for Rail Version 2, as amended to incorporate Light Rail specific design opportunities;
- Strive for a leading (>75points) rating and achieve a minimum Excellent rating (50 to 75 points) under the Infrastructure Sustainable Council of Australia (ISCA)sustainability rating tool,;
- Aim to achieve the following targets to align the project with Sustainable Sydney 2030 sustainability objectives:
  - Energy Efficiency
    - achieve 20% reduction in energy demand (including regenerative braking) through design
    - targets should be set for energy efficiency and energy reduction during construction
  - Climate Change Adaptation
    - Implement climate change adaptation measures to address climate change risks such as flooding and power outages during operations
  - Water
    - Achieve 50% of water demand from non-potable water sources during construction and operation
  - Waste
    - 100% of the clean spoil from construction should be beneficially reused
    - 90% of construction and demolition waste to be recycled
    - 100% demolition materials from the public domain should be reused within the proposed works or carefully removed and relocated to a City facility for future reuse at no cost to the City. This includes street furniture, smartpoles, paving and kerbing.
  - Vegetation
    - Increase canopy cover by 20% along the light rail corridor

## 1.3. Services

### 1.3.1. Drainage

- The proponent's designers will liaise with the City of Sydney in relation to all aspects of drainage, especially in the pedestrianised areas. The designers will need to develop solutions for overland flow control where existing kerbs will be lost.
- The proponent is to investigate opportunities for implementing Water Sustainable Urban Design (WSUD) outside of CBD areas.

- If WSUD is to be constructed within the LGA, it is to be in accordance with the City's requirements.
- Subsurface drainage, including inlets, is to be designed to a target of a 1 in 20 year event with an absolute minimum of 1 in 10 year event.
- The route for overland flow during 1 in 100 year event is to be designed with no adverse impacts on property.
- Cross streets to the route should have ducts passing across on both sides of the roads between pits.

#### 1.3.2. Water

Non-potable water pipe network (375mm diameter) is to be laid on both sides of the streets to a design specified by the City. The City will own the system post construction.

#### 1.3.3. Power

- In central Sydney, single phase and 3 phase power outlets (1 x 32amp) are to be provided to each Smartpole.
- For locations where there are overhead power supplies, these are to be converted to underground supplies, and smart poles erected.

#### 1.3.4. Communications

- Wi-Fi is to be provided in the public domain areas via smartpoles (or suitable alternatives).
- National Broadband Network is to be provided along the full length of the route (unless it is not supported by the NBN companies).

#### 1.3.5. Other services

The proponent is to provide for future services (ie, thermal reticulation network) along George and Chalmers Streets.
Five crossings at nominated cross streets are to be provided to enable future connection to thermal reticulation and waste collection networks by the city.
The locations of the crossings are to be:

- Grosvenor Street/Bridge Street
- Margaret St South/Hunter Street North
- Barrack Street/Martin Place
- Park Street
- Liverpool Street

The crossing conduits shall be provided from footpath to footpath at the five crossings to enable City of Sydney to pull TRN pipes through in the future without trenching through the rail.

### 1.4. Lighting

- Lighting in George Street is to comprise road surface, pedestrian walkway, in-ground, tree, heritage façade, and laneway lighting in accordance with the City's Concept Design, Lighting Master Plan and Specifications for luminaires and lighting energy management systems.

- Any street and pedestrian lighting installed along the route is to be LED lighting, as per the City's standard requirements. Lighting is to comply with the City's Light Design Code.

**1.5. Parking**

- The proponent is to explore opportunities to mitigate the loss of car parking, without affecting open space and public domain, as a result of the Project.
- The proponent is to seek agreement with the City on the location, volume, type, design, access, controls applying to parking supply that is both removed and relocated.

**1.6. Trees**

Trees are to be retained wherever possible. However:

- For every tree removed as part of the Project in locations between George and Devonshire Street, the proponent is to replace with an equivalent advanced species with a minimum size as specified in the City's Street Tree Masterplan.
- All other trees on City land that have the potential to be impacted by the Project are to be protected and maintained.

**1.7. Soundproofing**

- Where the light rail passes sensitive noise receivers, including but not limited to all properties on Devonshire Street, the proponent will take all such measures necessary to minimise noise and isolate vibration, including the use of resilient foundation materials or track encapsulations.
- Construction hoardings are to:
    - Meet required City standards, eg, soundproofing, public art.
    - Contain project information, project promotional material and joint organisational branding.

## 2. DELIVERY PHASE

### 2.1. Coordination

Works are to be undertaken to connect or reconnect the City's cycle network following any interruptions caused by light rail works

Road closures are to be agreed in advance with the City.

### 2.2. Traffic management

The proponent will be responsible for all traffic coordination matters within the LGA. The City will provide assistance.

Construction staging of works in Central Sydney is to be developed to clearly demonstrate a balance between efficient construction methods and minimal impact on business operation during works

### 2.3. Other development projects

In developing the program and access requirements for the project, the proponent will consider existing approved developments in the City Of Sydney.

The City will provide the proponent with information of development projects planned to be carried out during the construction phase. The proponent will be responsible for liaising with the developer(s) and managing all interface and coordination issues.

### 2.4. Hours of work

The proponent will consult with hotels and other businesses affected by the construction and will manage any potential noise issues arising from out-of-hours works.

### 2.5. Construction compounds

Areas required by contractors for use as amenities and materials compounds will be fully reinstated on completion of the works related to each compound. Public spaces such as parklands and roads will be reinstated to the City's requirements. The compounds will be suitably screened and will carry project-related information and graphics.

### 2.6. Consultation

The proponent will be responsible for stakeholder management during construction. The communication and consultation strategy will be agreed with the constructing organisation prior to commencement.

## 3. OPERATIONS PHASE

### 3.1. Maintenance

The City's role in undertaking maintenance works on light rail assets are to be agreed with the proponent (currently under development). These will include:

- Cleaning and cleansing;
- Routine and scheduled maintenance;
- Emergency maintenance.

The City will assume routine maintenance, cleansing and cleaning works upon handover of the assets in the public domain. It is expected that this would exclude the overhead catenary, the ticketing infrastructure and the emergency help points.

The proponent will be responsible for maintaining all rolling stock, track work and other light rail infrastructure, including the substructure and its supports.

### 3.2. Hours of operation

The light rail service will operate between the hours of 05:00am and 01:00am, 365 days per year. Service changes may be required for special events including New Year's Eve, Vivid, Anzac Day march, and various fun runs and marathons. These events will be coordinated with the event organisers and the City in conjunction with the light rail operator and other stakeholders.

### 3.3. Service performance parameters

The operator will make available to Council all data on passenger numbers, on-time running, service and vehicle reliability and any other similar information. This will allow the City to form a view as to the success of the system in achieving the service targets.

### 3.4. Asset ownership

- The City is to own all light rail stops within the LGA.
- The City is to own all shelters unless under contract by the City to others.

In addition to the above, the City is to own all of the following items after installation by the proponent as part of the Project:

- Street and public domain furniture (seats, bins, bollards, drinking fountains, tree grates and guards)
- light poles
- in ground lights
- cables, switchboards, etc, associated with the City's street lighting
- toilets
- trees
- paving and kerbs
- non potable water supply network
- empty conduits
- stormwater drainage system
- public art
- roadways
- new parks/ road closures
- kiosks

Items to become City assets are to be handed over to the City at the end of the Project according to agreed asset handover standards, procedures, works-as-executed / built drawings, as specified by the City.

Any land which is compulsorily acquired by the proponent as part of this Project and affects the public domain, existing parks, gardens, open space and infrastructure, for the purpose of installing the light rail, is to be made good to the conditions and designs specified by the City and is to be dedicated to the City

### 3.5. Community Engagement

A Community Engagement Strategy and a Marketing Strategy is to be developed and approved by the City.

- The Community Engagement Strategy is to incorporate the requirements of the City's minimum Engagement Standards and include a customer service protocol.
- The Community Engagement Strategy should also include details of joint activity during construction, such as the development and maintenance of web-based communications tools, and a public education campaign prior to the commencement of the light rail operation.
- The proponent's Marketing Strategy is to include provisions for joint CoS / proponent marketing and branding of the project, where relevant. The Marketing Strategy is also to include details of joint CoS / proponent media activity and ensure that the City has the opportunity to comment on relevant media releases.

### 3.6. Advertising

The City will control all advertising placed in the public domain and/or on public domain assets owned by the City that is provided as part of the Project, including Light Rail stops. Advertising on stops is to occur only in the nominated positions agreed as part of the stop design and the content, quality and amount of advertising will be controlled by the City.

### 3.7. In-car Information Technology

All light rail cars are to be fitted with in-car screens capable of displaying passenger information, including wayfinding and present-location information. The content of the display is to be limited to passenger information and is not to include advertising.

(F2013/00263 – D01845505)
(Contact Officer JH: 9399 0842)

17 July 2013

Ms Karen Jones
Acting Director Infrastructure Projects
NSW Department of Planning and Infrastructure
GPO Box 39
Sydney 2001

Dear Ms Jones,

**State Significant Infrastructure Application SSI 13-6042:**
**CBD and South East Light Rail Project**

Thank you for the opportunity to provide key issues and assessment requirements for input to the Director-General's Requirements (DGRs) for the CBD and South East Light Rail (CSELR) State Significant Infrastructure Application.

The provision of mass public transport to Randwick city has been a major objective of the Council's Community Strategic Plan, and Council appreciates the opportunity for collaborative planning and delivery of state significant infrastructure with the NSW government and other key partners including the University of NSW and the Australian Turf Club. Council looks forward to continuing working together with government, partners and the community to ensure that a world class light rail is delivered to Randwick City.

In relation to the application, the attached suggestions are not intended as a comprehensive set of issues, but as an extension of the issues already identified in the proposed scope of the Environmental Impact Study (EIS), listed in Table 6.1 of the Supporting Document prepared by Parsons Brinckerhoff, dated July 2013.

The proposed scope of the EIS in the above document is generally supported, and the attached comments highlight the issues and considerations most relevant to the potential impacts of the project on Randwick City. For ease of comparison, the working draft DGRs provided by the Department of Planning and Infrastructure at the Planning Focus meeting held on 10 July 2013 are noted in italics.

While the attached table is prepared in the standard DGR format, we note there are also ongoing discussions between the Council, stakeholders and Transport for NSW on major route design, station/interchange and alignment issues that are of key importance to Randwick City.

It is therefore requested that the EIS clearly identify alternative design options (in addition to the definition design) for the following locations that are yet to be finalised:

- High Cross Park interchange and potential station/interchange location on High Street opposite Prince of Wales Hospital
- Wansey Road route alignment within Royal Randwick Racecourse property
- Kingsford interchange location

It is noted that the re-design of bus services to coordinate with the light rail system is not part of this project application, however it is strongly recommended that detailed information about the intended bus operations at interchanges and light rail stations is made publicly available to coincide with exhibition of the Light Rail EIS, and to inform the final design of the light rail system.

This information is especially essential to ensure that the design and location of interchanges, light rail stops and the surrounding pedestrian network is adequate, and should clearly identify:

- Bus services terminating/originating at Randwick and Kingsford interchanges including scheduling
- Bus layover requirements and proposed locations
- Intersection of cross-regional bus services with light rail stations
- Operation of express and limited stop services

The light rail project presents a significant and exciting opportunity to improve the capacity, accessibility, integration and service level of the transport network to and within Randwick City and its key destinations. If you have any questions about this submission, or would like to discuss anything further please contact Joanna Hole, Coordinator Strategic Planning on 9399 0842.

Yours sincerely,

Sima Truuvert
Director City Planning

# CBD and SE Light Rail – SSI Application (SSI 13-6042)
## Randwick City Council Notes on Director General's Requirements: 17 July 2013

**Key Issues**

***1. Access, traffic and transport*** *– including but not limited to*:

*Preparation of a traffic* and transport *impact assessment including modelling of construction and operational impacts upon the* pedestrian, bicycle, *public transport network and the local and regional road traffic network. This must address*:

- Impacts on the overall efficiency, ease, comfort, reliability and convenience of the light rail system, and its integration with other modes of transport
- *Impacts on* vehicular, pedestrian, bicycle and public transport *access in and out of the study area*, including flow-on effects on local streets and wider area (including a specific focus on emergency and critical facilities access to the four hospitals at the Randwick Health Campus)
- Impacts on parking supply and identification of opportunities for the retention of on-street parking provision during off-peak periods, with a specific focus on locations in and near local retail and commercial centres in Kensington, Kingsford and Randwick (Noting that the early indications are that the project will remove ALL on-street parking, in both directions, 24 hours a day, along Anzac Parade, through Kensington and Kingsford; as well as through local streets in Randwick (suburb).
- Impacts of construction staging and interim arrangements to ensure continuity of residential and business access and as well as access to public transport services
- Operation of and modifications to intersections and the impact on travel time for public transport services and private vehicles
- *Impacts to bus services* including changes to south-east buses and coordination with cross-regional and express services
- Details of the operation of interchanges at Randwick and Kingsford including the requirement for 'cross-overs' and the impact on passenger useability.
- Impacts and locations of stabling and maintenance operations/facilities
- Measures to promote active transport, including bicycle integration and provision of end of trip facilities
- Consideration of the demand for light rail services in the short, medium and long term, including potential future extension of the light rail service beyond the proposed termini at Randwick and Kingsford, and any implications for the design and operation of the system, including an assessment of expansion capacity.

Where impacts are identified include strategies to enhance access or measures to minimise or mitigate the effects, including an assessment of available options and the expected effect of the measures proposed.

*A strategy for managing access, traffic and transport impacts, with a particular focus placed on those activities identified as having the greatest potential for adverse traffic flow, access or safety implications.*

*Access to the service, associated property severance and/or displacement impacts and access restrictions, including access across the project at key connection crossing points for all transport modes.*

An analysis of the impact of future residential and employment growth demands over the short and long term within the light rail route catchment and its effect on the capacity and operation of the light rail system, addressing a range of possible growth scenarios including:

- Specific consideration of the impact of future employment growth expected within the Randwick Education and Health Specialised Centre
- Possible additional population increases related to urban renewal investigations
- Taking into account the population and employment forecasts in the draft Sydney Metropolitan Strategy (2013)

Preparation of an access strategy, for people walking or riding bicycles, demonstrating:

- A high level of accessibility of stations/interchanges to key destinations and pedestrian / bike rider desire lines, with a particular emphasis on connections from Randwick and Kingsford interchanges to the surrounding pedestrian and bicycle network and commercial centres
- Coordination of light rail and footpaths at crossing points, including providing suitable cross falls and alignment levels, minimisation of visual/physical barriers, and consideration of opportunities to enhance the quality and amenity of the public domain throughout the route.
- Maintenance of suitable pedestrian and bike rider safety, amenity and sight lines during construction and operation
- Include a pedestrian and bike rider capacity/movement analysis, including the impact on the operation of intersections, and the adequacy and accessibility of footpath widths, kerb crossings, station platforms and interchanges.
- Include a description of the operation of interchanges at Kingsford and Randwick, demonstrating adequate spatial and circulation capacity for the movement of patrons from rail to bus and other modes.
- Include a way-finding and signage strategy demonstrating integration with the overall urban design and public domain elements to minimise visual clutter.

***2. Noise and vibration*** *– including but not limited to:*

- *Assessment of the noise and vibration impacts of construction activities and sources on and off site*
- *The nature, sensitivity and impact to potentially affected receivers and structures (including heritage items)*
- *A strategy for managing construction noise and vibration and out of hours activities, with a particular focus on those activities identified as having the greatest potential for adverse noise or vibration impacts, and a broader, more generic approach developed fro lower risk activities*
- *Noise and vibration impacts along the corridor associated with light rail operations, including specific consideration of impacts on sensitive receivers,* use of public address systems, and operation of stabling and maintenance activities
- *Take into account the Interim Construction Noise Guidelines (DECC, 2009) and the NSW Industrial Noise Policy (NSW Government, 2000) and Assessing Vibration: A Technical Guideline (DEC, 2006)*

***3. Urban design*****, landscaping and *visual amenity*-** *including but not limited to:*

*Identification and evaluation of the visual impacts* and urban design *of the project on surrounding areas including*:

- Impact on views and vistas, streetscapes, key sites and buildings
- *Privacy and amenity impacts from stops and the light rail corridor in general (ie: overhead wires, support structures and electrical substations) and removal of existing ~~street~~ trees*
- Opportunities to minimise visual clutter though spacing, location and function of support poles, lighting, signage and other obstacles
- Design quality of *stop design*, *civil infrastructure*, structures, urban elements and *landscaping*, including proposed materials palette and performance/quality standards, taking into account Randwick City Council's Urban Elements Manual
- Details of any buildings or structures including stabling and maintenance facilities

- Landscape concept design including amenity/shading effects of landscaping, street trees and planting schedule
- Identification of opportunities for "green tracks" to enhance the public domain, and visual amenity
- Lighting strategy including relevant Australian Standards for pedestrian lighting, decorative/feature lighting opportunities, and measures to manage the obtrusive effects of lighting; both on route and within stabling facilities, and also during construction.
- Measures to minimise the visual impact of overhead wires and other supporting structures including substations, and consideration of alternatives in key locations (eg: heritage areas, near significant trees)
- *Supported by artists impressions and perspective drawings of the proposal from a variety of locations along the routes*

***4. Historic heritage* and archaeology-** *including but not limited to:*

Prepare a Heritage Impact Statement identifying the potential impacts on any state or local heritage items, heritage conservation areas or places of Aboriginal and non-Aboriginal heritage, and historic and Aboriginal archaeological significance on the route and in the surrounding area.

The Heritage Impact statement shall be prepared by a suitably qualified heritage consultant, in accordance with the NSW Heritage Office publication: "Statements of Heritage Impact", and should address the guidelines in relevant policies and guidelines including:

- the draft Royal Randwick Racecourse Conservation Management Plan (Godden Mackay Logan, Dec 2006)
- the draft Prince of Wales Hospital Conservation Management Plan (prepared for NSW Health)
- consideration of the guidelines in the Heritage Section of Randwick DCP 2013.

Where impacts are identified the assessment shall:

- *Outline the proposed mitigation and management measures (including measures to avoid significant impacts and an evaluation of the effectiveness of the measures);*
- Consider construction-related impacts such as vibration, demolition archaeological disturbance, altered historical arrangements and access, and heritage elements such as landscape and vistas;
- *Demonstrate that an appropriate archaeological assessment methodology, including research design (where relevant) has been undertaken including results;*
- *Take into account the guidelines in the NSW Heritage Manual (1996)*

**5. Flora and fauna**

Address impacts on the biodiversity values of the route and adjoining areas, including impacts on threatened species, populations or ecological communities and their habitats, and impact on significant trees and landscape quality.

Where impacts are identified, the EIS shall include measures to mitigate, reduce or manage the impacts to ensure no net loss of biodiversity, including identifying options considered and an evaluation of the effectiveness of the measures proposed.

Include an arborist report on any impact to significant trees, taking into account:

- the requirements of AS 4970-2009: Protection of trees on development sites
- Randwick City Council's Register of Significant Trees, Volumes 1-4, (28 August 2007), Tree Management Technical Manual and Street Tree Masterplan

**6. *Soils,* sediments, contamination and air quality**-*including but not limited to*:

The EIS should address:

- *Geological and soil characteristics (physical and chemical) that may impact on land stability and geological integrity*
- *Quantification of bulk earthworks, and the management and disposal of excess spoil and waste*
- *Land contamination and identification of the need for remediation of contaminated land, having regard to the ecological and human health risks posed by the contamination in the context of the past, existing and future land uses. Where remediation of contaminated land is required, presentation of a remediation strategy taking into account* SEPP 55 *and relevant OEH (EPA) guidelines.*
- *A strategy for managing earth works with a particular focus on those works that have the greatest potential to disturb soils that area contaminated, have a high run-*off hazard and;
- *Management of waste including handling, stockpiling, and transportation, and the classification of waste taking into account the Waste Classification Guidelines (DECCW 2009).*
- Measures and procedures to minimise and manage the generation and off-site transmission of sediment and dust
- Identify activities that have the potential to impact on local and regional air quality and details of the proposed mitigation measures to prevent the generation and emission of air pollutants

**7. Land use, *property and infrastructure*-***including but not limited to:***

- *Details regarding acquisition of public and private properties along the routes*
- *Impacts on affected properties and land uses (during construction and operation), including impacts related to access, land use, future development potential, property acquisition;* and taking into account:
  - maintenance of access for emergency vehicles
  - access to essential facilities and key institutions
  - impacts of loading, servicing, waste collection
- *Impacts of the loss of or modification to* the public domain including footpaths and *existing public open space*
- *Interaction with existing and proposed services and utilities, including any relocation, identification of protection measures,* and clarification of responsibility for affected assets
- Adequacy and need for augmentation of infrastructure and utilities, including new substations, and including measures to ensure a safe, accessible public domain, including footpaths.
- Assessment of the capacity of drainage pipes within the rail corridor, and upgrade of any sections (with capacity less than 5% AEP) that will become inaccessible post-construction of the light rail system
- Any impacts on Council's drainage assets, including measures to ensure suitable access, maintenance and structural soundness and serviceability during construction and operation
- *Revitalisation of existing public spaces and the public domain*

**8. Social and economic impacts**

The EIS shall include:

- An assessment of the economic and social benefits and impacts of a higher capacity, integrated public transport system for residents, visitors and businesses within and beyond the study area, both during construction and long term effects; including
  - an economic analysis of the benefits and impacts on commercial centres (including impact of loss of on-street parking and re-design of bus services), with particular emphasis on Kensington, Kingsford, Randwick Junction and

the Spot, addressing business activities/ trade and patronage during and following construction
- a social impact assessment considering impacts on residents, students, workers, businesses, patients and visitors, and event patrons affected by construction and operation of light rail
- Communication and consultation measures and strategies throughout construction and operational phases, considering the needs of different key demographics;
- Strategies to provide for business continuity, and continuity of services during construction
- Impacts on surrounding residential amenity and uses including (but not limited to) visual and acoustic privacy, hours of operation, stabling and maintenance activities, siting and visual impact.
- Design measures to ensure public safety and security, taking into account the principles of Crime Prevention through Environmental Design
- Opportunities to enhance connections to active uses and integrate with local walking and cycling networks

**9. Water, flooding and drainage**

Identify drainage and flooding impacts including stormwater, drainage infrastructure and groundwater. The relevant catchment should be modelled to assess the potential impacts of the project on flooding, addressing:

- assessment of the potential impacts of the project on flooding up to and including the probable maximum flood
- potential impacts of flooding and major storm events on the light rail, during construction and operation, up to and including the probable maximum flood
- Surface water and stormwater management, including consideration of water quality and local receiving environments, and assessment of the impact on the existing stormwater drainage network within close proximity of the project, and downstream
- A description of measures to minimise water discharges and to mitigate surface and groundwater impacts including hazard mitigation, diversion of flows and transference
- Include a hazard/risk analysis identifying evacuation routes and procedures, during both construction an operation phases

Impacts of the project should be considered by a suitably qualified engineer, and address relevant flood studies, plans and guidelines including:

- NSW Floodplain Development Manual
- Kensington/Centennial Park Flood Study
- Consideration of the Water Management guidelines in Randwick DCP 2013
- Opportunities to integrate water sensitive urban design measures

Where impacts are identified, the EIS shall include measures to mitigate, reduce or manage the impacts, including options considered and an evaluation of the effectiveness of the measures proposed.

**10. General Construction impacts**

Prepare a Construction Management Plan identifying (but not limited to) the following:

- identify construction facilities, site compounds and ancillary construction locations
- a strategy for managing site compounds to address amenity, access and other environmental impacts on surrounding areas, populations and transport network
- Maintenance of safe, adequate pedestrian access/circulation and access to properties

- Staging, including measures to maximise construction efficiencies and minimise impacts on affected streets and localities
- Project timeframe and hours of construction

**11. Ecologically sustainable development**

- Demonstration the project has been assessed against a suitably accredited rating scheme during construction and operational phases, addressing:
  - energy efficiency standards
  - water conservation
  - thermal performance
  - waste minimisation and recycling opportunities
- Communication/information strategy to reinforce and promote the sustainable design and operation of the light rail system, and integrated transport network
- Consideration of design life/lifecycle criteria for elements in the public domain and consistency with local asset management systems
- Consideration of possible future extension to the light rail system, including suitability of station locations, and opportunities for retention and re-use of infrastructure

**12. Other operational matters**

- Servicing and maintenance impacts during operation of light rail (eg: contingency plan for breakdowns, servicing regime of wires, tracks etc and traffic impacts), and responsibility for ongoing maintenance and repair
- Details of the operation of stabling, maintenance and operations facilities
- Identification of any hazards, risks or wastes (eg: chemical waste or dangerous goods in stabling/maintenance areas) and safe management measures

**Notes**

*Text in italics has been reproduced from the draft DGRs provided by the Department of Planning and Infrastructure at the Planning Focus meeting of 10 July 2013.*

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Heritage Council of New South Wales

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Email: Michael.Ellis@heritage.nsw.gov.au
Our File No: 13/11889
Our Ref: A1548998

Department of Planning & Infrastructure
Major Projects Assessment
23-33 Bridge St
SYDNEY NSW 2000

Emailed to: Ms Ingrid Ilias <ingrid.ilias@planning.nsw.gov.au>

Dear Ms Ilias,

**RE: CBD AND SOUTH EAST LIGHT RAIL PROJECT – SSI 13_6042**
**REQUEST FOR INPUT ON THE DIRECTOR-GENERALS ENVIRONMENTAL ASSESSMENT REQUIREMENTS (DGRs)**

Reference is made to your correspondence dated 1 July 2013 and received at the Heritage Division on the 8 July 2013 requesting input on the Director General's environmental assessment requirements (DGRs) for the abovementioned proposal.

The proposal comprises construction and operation of a light rail service from Circular Quay to Kingsford and Randwick via Surry Hills, including approximately 20 light rail stops; major interchanges at ferry, rail and bus stations along the route; and pedestrianisation of approximately one kilometre of George Street from Bathurst Street to Hunter Street. The proposal is designed to:

- provide a transport system that is best able to satisfy long term customer demand
- improve travel times and reliability on public transport in the CBD
- improve public transport between key destinations in South East Sydney and the CBD, such as the University of NSW (UNSW), the Randwick hospital precinct, Royal Randwick Racecourse, NIDA, Centennial Park, Moore Park (including Sydney Cricket Ground, Sydney Football Stadium and the Entertainment Quarter), Central Station and the CBD
- reduce travel congestion in the CBD
- operate a high-capacity special event service between Moore Park and Central Station
- create opportunities to improve the amenity for workers, visitors and residents
- improve the efficiency and cost effectiveness of public transport
- provide urban renewal opportunities along the proposal route.

The Heritage Council's recommends the following DGRs for the proposal:

**Non-Indigenous Heritage** – including but not limited to:

- The identification of items and areas of heritage significance materially affected by the project, by field survey and research. Including, but not limited to, any buildings, works, relics, gardens, landscapes, views, trees or places of heritage significance. For example, Sydney Opera House (SHR01685) and World Heritage buffer zone, Circular Quay Railway Station group (SHR01112), Tank Stream (SHR00636), Sydney Cove West Archaeological Precinct (SHR01860), National Mutual Building (SHR00234), ANZ Bank (former) (SHR00085), Cenotaph (SHR01799), General Post Office (SHR00763), Westpac Bank (SHR00664), CBC Bank (former) (SHR00428), Strand Arcade (SHR00000), Queen Victoria Building (SHR01814), Sydney Town Hall (SHR01452), St Andrew's Anglican Cathedral and Chapter House (SHR01708), Central Terminal and Central Railway Stations Group (SHR01255), Centennial Park, Moore Park, Queen Park (SHR01384).

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- An assessment of the heritage significance of the heritage sites and impacts the project may have on significance.
- The preparation of a Heritage Interpretation Strategy report.
- The preparation of a Historical Archaeological Assessment report by a suitable qualified and experienced archaeologist to assess whether the proposed works have the potential to impact any archaeology.

If you have any questions regarding the above matter please contact Michael Ellis at the Heritage Division, Office of Environment and Heritage on (02) 9873 8572.

Yours sincerely

25/07/2013

**Vincent Sicari**
Conservation Manager
Heritage Division
Office of Environment & Heritage
Department of Premier and Cabinet
**As Delegate of the Heritage Council of NSW**

Transport
Roads & Maritime
Services

25 July 2013

Our Reference: SYD13/00805
Your Reference: SSI 13_6042

Director Infrastructure Projects
Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

**Attention: Ingrid Ilias**

**CBD and South East Light Rail Project - Request for DGRs**

Dear Ingrid,

I refer to your correspondence dated 1 July 2013 (Ref: SSI 13_6042) with regard to the abovementioned development proposal, which was referred to Roads and Maritime Services (RMS) for comment.

RMS has reviewed the Supporting Document and attached draft DGRs. In addition to those comments already contained within the attachments, it is suggested that the following key issues be considered for inclusion in the DGRs and addressed in the project EIS:

1. The "*Key Issues* (Traffic transport and access)" contained within *Table 6.1* of the *CBD and South East Light Rail Project – State Significant Infrastructure Application Supporting Document*.

2. Daily and peak traffic movements likely to be generated by each aspect of the proposal and assess the cumulative impacts of this traffic on the State and local road network including nearby intersections.

3. Appropriate traffic modelling should be used (ie. mesoscopic modelling, micro and/or nano simulation modelling, corridor models and single intersection models) which is conducted in accordance with the criteria defined within the RMS's Traffic Modelling Guidelines – RMS 13.184. This must examine/model pedestrian impacts at key intersections that will be heavily influenced.

4. The EIS must demonstrate that the surrounding local and state roads are designed and constructed with the objective of minimising adverse changes to the efficiency, accessibility and safety of the road and associated transport networks and where feasible, maintain the existing intersection and mid-block levels of service in relation to permanent changes.

5. Address the need for any upgrade or road improvement works on both the State and local road network for each road based transport mode including appropriate staging of these works (if applicable), cost and funding.

6. The provision of a draft Construction Traffic Management Plan detailing all demolition/construction activities, detailing vehicle routes, number of trucks, hours of operation, access arrangements and traffic control measures. The plan must consider the cumulative effects of other construction activities (ie. infrastructure and developments) in the surrounding areas which would have an impact upon the corridor.

7. Providing details of operational hours.

8. Providing a sufficient buffer between RMS assets and the light rail corridor (especially power) to undertake routine maintenance (refer to detailed supporting information).

9. Maintaining unimpeded maintenance access to RMS assets (ie. for maintaining the existing and future road pavement, drainage, structures or lands/easements – especially road drainage that may lie under the proposed rail corridor).

10. Detailing stormwater drainage modifications / impacts if any due to the new construction.

11. Addressing habitats if trees are removed / trimmed.

12. An interface agreement with RMS and Airport Motorway Limited will need to be established prior to the granting of access to the South Dowling Street/Eastern Distributor environment (refer to detailed supporting information).

Other matters to note in relation to the Supporting Document:

1. Figure 3.2 suggests that south east bus changes would be captured in *Sydney's Bus Future*. Changes required to bus services in the South East will be required due to the light rail project and hence should more logically be considered in the light rail EIS.
2. *NSW 2021* goals relevant to the EIS should also include goals *7 – Reduce Travel Times* and *10 – Improve Road Safety*.
3. The 2020 congestion cost mentioned in Section 3.2 appears to be incorrectly referenced to a *Water Discharge and Re-Use Guideline* document (reference Transport for NSW 2012a) instead of what should presumably be the NSW Government 2012a reference.
4. Pedestrian delays are also likely due to construction, at times, and should be mentioned in the User Experience section of the document on page 31.
5. The last sentence of Section 5.1.3 refers to a congestion figure of $5.6 billion using a reference of BTRE 2007. The same reference is similarly used in Section 3.2 of the document but linked with a congestion figure of $5.1 billion. One of the figures appears to be wrong.
6. Construction impacts on page 33 should also be capturing pedestrian and cyclist impacts. An example of this would relate to the Central to Moore Park corridor being affected in Devonshire Street.

Any inquiries can be directed to Shane Schneider – Manager, Major Projects Liason by telephone on 8588 5614 or by email to Shane.Schneider@rms.nsw.gov.au.

Yours sincerely

25/7/2013

Ken Kanofski
Director, Journey Management

## CBD & South East Light Rail (CSELR)

## Interface with Eastern Distributor and South Dowling Street

## Key Issues and assessment requirements for DG's EIS Requirements

## (Prepared by Motorway Management Branch of RMS)

Airport Motorway Limited (AML) should be identified as a relevant party for the purposes of consultation in relation to the proposed crossing of South Dowling Street and proposed bridge over the Eastern Distributor (ED).

**Ownership of Eastern Distributor**

- RMS owns the land comprising the ED and leases (or has agreed to lease) that land to AML for the purpose of operating the ED.
- The ED is governed by the Eastern Distributor Project Deed between RMS, the Minister for Roads & Ports, Airport Motorway Limited, and Airport Motorway Custodians Pty Limited. Under the Deed:
  - AML operates, maintains and repairs the Eastern Distributor and in return is entitled to levy and keep tolls from Eastern Distributor users
  - Both directions of South Dowling Street (from kerb-to-kerb), between Link Road and Fitzroy Street, form part of the maintenance area of the ED for which AML is responsible.
  - The existing Parkham Street Pedestrian Bridge which crosses the ED forms part of the ED infrastructure.

**Key issues and assessment requirements**

- Prior to granting access rights for the CSELR, RMS and AML would need to consider its respective obligations under the ED Project Deed. The granting of any access rights would form part of an interface agreement between the relevant stakeholders.
- The following issues associated with the construction, operation and maintenance of the CSELR will need to considered:
  - During maintenance closures of the ED, South Dowling Street is used as a detour route for traffic. This will affect the scheduling of CSELR works on South Dowling Street:
  - The proposed route of the CSELR crosses South Dowling Street at the commencement of the northbound on-ramp to the ED. Traffic approaching that ramp will be impacted. Traffic management during periodic closures of that ramp (for ED maintenance purposes) will also be impacted.
  - The risk of driver distraction caused by visual, noise and vibration impacts.
  - The economic impacts of any traffic changes on the ED.

- Any modifications to the ED infrastructure would need to comply with the urban design principles applicable to the ED.

As the zone of influence of the proposed alignment of CBD and South East Light Rail Project is not clearly defined, it is not possible to comment in detail on influence on bridge infrastructure at specific locations.

The following requirements to be adopted for the proposed development:

1. No permanent infrastructure is to be constructed within two metres of the surface of any part of RMS road structures. RMS Sydney Asset Manager is to be consulted as a stakeholder at the preliminary and detailed design stages to ensure that the appropriate clearances from the bridge structure are provided for access for inspection and maintenance.

2. Any activity that directly or indirectly that affects RMS road and infrastructure, its support columns, footings or piers, shall be investigated by qualified practicing bridge structural engineer and geotechnical engineer. These activities must comply with RMS Technical Direction GTD2012/001. RMS Sydney Asset Manager to be consulted as a stakeholder at the preliminary and detailed design stages to ensure that the appropriate systems are incorporated as per the relevant Australian standards.

3. The proposed structures are to be designed to provide noise insulation to a degree that removes the need for RMS to provide noise barriers on the adjacent viaducts.

4. The proposed structures are to be provided with fire protection and exhaust systems such that heat, smoke and exhaust from the proposed development do not endanger RMS structures and vehicles on the structure (a qualified Fire Engineer's Certificate is required). RMS Sydney Asset Manager to be consulted as a stakeholder at the preliminary and detailed design stages to ensure that the appropriate systems are incorporated as per the relevant Australian standards.

5. All external glass on the proposed structures shall be positioned and have a reflectivity that ensures that motorists on the viaduct shall not be blinded or disabled from maintaining control of the vehicles being driven.

6. The proposed development is to be designed to prevent any falling object hazards from the development onto the road below, during construction and in operation.

7. RMS requires appropriate protection screens installed to prevent access to vandals where appropriate.

8. All works associated with the proposed development are to be at no cost to the RMS.

NSW GOVERNMENT | Department of Primary Industries

OUT13/20266

30 JUL 2013

Ms Ingrid Ilias
Major Projects Assessment
NSW Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

Ingrid.Ilias@planning.nsw.gov.au

Dear Ms Ilias,

**CBD and South East Light Rail Project (SSI 13_6042)**
**Request for input into Director General Requirements**

I refer to your email dated 1 July 2013 to the Department of Primary Industries in respect to the above matter and the associated Planning Focus Meeting.

Comment by the NSW Office of Water
The NSW Office of Water advises the following key issues, and the expanded list of assessment requirements detailed in Attachment A:

(i) Compliance with the rules in any relevant Water Sharing Plan (WSP) and legislation.
(ii) An assessment of the impact of the proposal on watercourses and riparian areas, groundwater sources and groundwater dependent ecosystems.
(iii) Adequate mitigating and monitoring requirements to address impacts to surface water and groundwater sources and dependent ecosystems.

For further information please contact Janne Grose, Planning and Assessment Coordinator (Penrith office) on 4729 8262, or at: Janne.Grose@water.nsw.gov.au.

Comment by Fisheries NSW
Fisheries NSW advise no requirements.

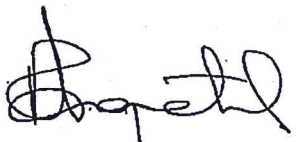
For further information please contact Carla Ganassin, Conservation Manager (Wollongong office) on 4254 5527, or at: carla.ganassin@dpi.nsw.gov.au.

Comment by Crown Lands
It is advised that the current indicative route does not include any Crown land. However should the route change during the course of the environmental

assessment, that assessment should clearly identify any Crown land required or otherwise likely to be affected by the proposal.

For further information please contact Rebecca Johnson, Coordinator Client Services (Newcastle office) on 4920 5040, or: rebecca.johnson@lands.nsw.gov.au.

Yours sincerely



Phil Anquetil
**Executive Director Business Services**

**Attachment A**

**CBD and South East Light Rail Project (SSI 13_6042)**
**Request for Input into Director General Requirements**

**Comment by NSW Office of Water**

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## 1. Relevant Legislation

The Environmental Impact Statement (EIS) should take into account the objects and regulatory requirements of the *Water Act 1912* and *Water Management Act 2000* (WMA 2000), as applicable. Proposals and management plans should be consistent with the Objects (s.3) and Water Management Principles (s.5) of the *WMA*.

## 2. Water Sharing Plans

The proposal is within the area covered by the *Water Sharing Plan for the Greater Metropolitan Region Unregulated River Water Sources* and the *Water Sharing Plan for the Greater Metropolitan Region Groundwater Sources*. The WSP prepared under the provisions of the WMA 2000 establishes the rules for access to, and the sharing of water between the environmental needs of the surface or groundwater source and water users. The EIS needs to:

- Demonstrate how the proposal is consistent with the relevant rules of the WSP including rules for access licences, distance restrictions for water supply works and rules for the management of local impacts in respect of surface water and groundwater sources, ecosystem protection, water quality and surface-groundwater connectivity.
- Provide a description of any site water use (amount of water from each water source) and management including all sediment dams, clear water diversion structures with detail on the location, design specifications and storage capacities for all the existing and proposed water management structures.
- Provide an analysis of the proposed water supply arrangements against the rules for access licences and other applicable requirements of any relevant WSP.

Refer to: http://www.water.nsw.gov.au/Water-Management/Water-sharing/default.aspx .

## 3. Relevant Policies

The EIS should take into account the following policies (as applicable):

- NSW State Rivers and Estuary Policy (1993)
- The NSW Wetlands Management Policy (1996)
- NSW State Groundwater Policy Framework Document (1997)
- NSW State Groundwater Quality Protection Policy (1998)
- NSW State Groundwater Dependent Ecosystems Policy (2002)
- Aquifer Interference Policy (2012)
- Office of Water Guidelines for Controlled Activities (2012).

Refer to:
http://www.water.nsw.gov.au/Water-management/Law-and-policy/Key-policies/default.aspx

## 4. Licensing Considerations

The EIS is required to provide:

- Details of the water supply source(s) for the proposal including any proposed surface water and groundwater extraction and all water supply works to take water.
- Information on the purpose, location, construction and expected annual extraction volumes including details on all existing and proposed water supply works which take surface water, (pumps, dams, diversions, etc).
- Details on all bores and excavations for the purpose of investigation, extraction, dewatering, testing and monitoring and an approval obtained from the Office of Water prior to their installation. All predicted groundwater take must be accounted for through adequate licensing.

Water allocation account management rules, total daily extraction limits and rules governing environmental protection and access licence dealings also need to be considered.

The project may be exempt from the requirement to hold an access licence in relation to water required for the construction or maintenance of rail infrastructure facilities by virtue of Clause 3 of Schedule 5 of the *Water Management (General) Regulation 2011*. This should be examined in the EIS.

**5. Watercourses and Riparian land**

The Supporting Document notes the proposed light rail corridor would not cross any major surface waterways (page 49). It is recommended the EIS provides details on any waterways (creeks, streams, watercourses, wetlands etc) and riparian land potentially affected by the project.

It is recommended the EIS provides details on all watercourses located along the proposed light rail route or potentially affected by the project, including:

- scaled plans showing the location of:
  - the watercourses and top of bank.
  - riparian setbacks (measured from top of bank) to be protected and enhanced.
  - remnant riparian vegetation surrounding the watercourses (identify any areas to be protected and any native riparian vegetation proposed to be removed).
  - the site boundary, the footprint of the proposal in relation to the watercourses and riparian areas.
- photographs of the watercourses.
- Detailed description of all potential environmental impacts in terms of channel stability, riparian areas, sediment movement, hydraulic regime etc.
- Description of the design features and measures to be incorporated into the proposal to mitigate long term actual and potential environmental disturbances, particularly in respect of maintaining the natural hydrological regime, sediment movement patterns and riparian buffers.

**6. Groundwater Assessment**

To ensure the sustainable and integrated management of groundwater sources, the EIS needs to include adequate details to assess the impact of the project on all groundwater sources including:

- the predicted highest groundwater table at the site.
- any works likely to intercept, connect with or infiltrate the groundwater sources.
- any proposed groundwater extraction, including purpose, location and construction details of all proposed bores and expected annual extraction volumes.
- a description of the flow directions and rates and physical and chemical characteristics of the groundwater source.
- the predicted impacts of any final landform on the groundwater regime.
- the existing groundwater users within the area (including the environment), any potential impacts on these users and safeguard measures to mitigate impacts.
- an assessment of the quality of the groundwater for the local groundwater catchment.
- an assessment of groundwater contamination (considering both the impacts of the proposal on groundwater contamination and the impacts of contamination on the proposal).
- how the proposed development will not potentially diminish the current quality of groundwater, both in the short and long term.
- measures for preventing groundwater pollution so that remediation is not required.
- protective measures for any groundwater dependent ecosystems (GDEs).
- proposed methods of the disposal of waste water and approval from the relevant authority.
- the results of any models or predictive tools used.

Where potential impact/s are identified the assessment will need to identify limits to the level of impact and contingency measures that would remediate, reduce or manage potential impacts to

the existing groundwater resource and any dependent groundwater environment or water users, including information on:

- any proposed monitoring programs, including water levels and quality data.
- reporting procedures for any monitoring program including mechanism for transfer of information.
- an assessment of any groundwater source/aquifer that may be sterilised from future use as a water supply as a consequence of the proposal.
- identification of any nominal thresholds as to the level of impact beyond which remedial measures or contingency plans would be initiated (this may entail water level triggers or a beneficial use category).
- description of the remedial measures or contingency plans proposed.
- any funding assurances covering the anticipated post development maintenance cost, for example on-going groundwater monitoring for the nominated period.

<u>Groundwater Dependent Ecosystems</u>

The EIS should provide details on the presence and distribution of Groundwater Dependent Ecosystems (GDEs) in the vicinity of the site and:

- demonstrate that the proposed development would maintain natural patterns of groundwater flow and not disrupt groundwater levels that are critical to GDEs.
- identify any potential impacts on GDEs as a result of the proposal including:
  - the effect of the proposal on the recharge to groundwater systems,
  - the potential to adversely affect the water quality of the underlying groundwater system and adjoining groundwater systems in hydraulic connections, and
  - the effect on the function of GDEs (habitat, groundwater levels, connectivity).
- provide safeguard measures for any GDEs.

GDEs are ecosystems which have their species composition and natural ecological processes wholly or partially determined by groundwater. GDEs represent a vital component of the natural environment and can vary in how they depend on groundwater, from having occasional or no apparent dependence through to being entirely dependent. GDEs occur across both the surface and subsurface landscapes ranging in area from a few metres to many kilometres. Surface and groundwaters are often interlinked and aquatic ecosystems may have a dependence on both.

**End Attachment A**



17 July 2013

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Ms Karen Jones,
Acting Director Infrastructure Projects,
Department of Planning and Infrastructure
23-33 Bridge Street
Sydney NSW 2000

Dear Ms Jones,

**RE: CBD and South East Light Rail Project (SSI 13_6042) Director General's Environmental Assessment Requirements**

Thank you for the invitation to participate in the Planning Focus Meeting for this project, and for the opportunity to submit a written response for consideration in the Director General's Environmental Assessment Requirements.

Ausgrid is working with Transport for NSW to ensure the needs of both authorities are considered during the planning, construction and operational phases of the proposed CBD and eastern suburbs light rail project ("the project")

Ausgrid has a number of significant concerns in relation to the project, both during construction and operation. These concerns include:

- the security of Ausgrid assets during construction of the project;
- ensuring ongoing access to Ausgrid assets for maintenance and future development of the network, during both construction and operation of the project; and
- ensuring there is no adverse impact on Ausgrid's communications and protection systems, which would have the potential to impact on the reliability of the electricity network in the CBD.

Ausgrid's preliminary assessment of impacts from the project indicate there will be a substantial need to relocate numerous existing assets from within, or in proximity to, the track slab to other parts of the roadway. This relocation, which is subject to detailed design and assessment, would cause significant disruption to pedestrian and vehicular traffic, as well as businesses, while works are carried out. These works may, in themselves, require the relocation of other utility services to facilitate Ausgrid works.

**Construction**

Ausgrid would require the following information to understand the impacts of the project on its network during construction:

- restrictions on access to assets along the route to carry out repairs to the electricity network (requiring infrequent, short notice access), or development of the network (usually with longer notice access, potentially of longer duration);

- the exact extent of disturbance along the route, including the absolute maximum depth of any excavation, and details of any potential disturbance to Ausgrid assets outside the immediate excavation zone;
- the extent of disturbance to areas outside the track route from works associated with the project (for example road or footpath level changes in adjacent streets); and
- any possible safety implications for staff working in the vicinity of the project during construction.

**Operation**

Ausgrid would also need to be aware of the following information during operation of the light rail system:

- any change to static and dynamic ground loading (required for the assessment of the impact on underground assets), including any change in vibration characteristics;
- additional electric and magnetic fields (EMF), induced voltage potential and stray currents (for example ground return currents, or measures proposed to prevent these currents);
- restrictions on access to assets along the route that may affect Ausgrid's ability to carry out repairs to the electricity network (infrequent, short notice access), or development of the network (longer notice access, potentially of longer duration); and
- any possible safety implications for Ausgrid staff working in the vicinity of the light rail system when in operation, and any required measures to ensure staff safety.

Provision of the above information will allow Ausgrid to assess the impact on its infrastructure and develop any associated treatment plans for the affected assets. For further information on these issues or clarification on any items, please contact Mr Mark de Lacey via email at mdelacey@ausgrid.com.au .

Yours sincerely,

Brett Hooper
**General Manager Network Development**

Sydney WATER

26 July 2013

Ms Jones
A/Director Infrastructure Projects
Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

**Director General Requirements – CBD and South East Light Rail Project (SSI_6042)**

Dear Ms Jones,

Thank you for your letter requesting details of key issues and assessment requirements for the development of the CBD and South East Light Rail Project. Sydney Water has reviewed the preliminary environmental assessment and provides the following comments for the Department's consideration.

**Sydney Water requirements for Environmental Assessment**
To provide the developer with detailed servicing advice Sydney Water needs the environmental assessment to include the following:

1. *Infrastructure Management Plan* – the proponent needs to provide Sydney Water with information on the required water and wastewater services, and any augmentation that may be required for the proposed project. This will allow Sydney Water to determine the impact of the proposed project on its existing services and identify any augmentation requirements.

2. When determining landscaping options, the proponent should take into account that certain tree species can cause cracking or blockage of Sydney Water pipes.

**Sydney Water preliminary comments**
1. The light rail design includes a reinforced concrete track foundation pad with an 8.6 metre wide curtilage.

2. It is expected that adjustments will be required to existing Sydney Water assets as a result of the project. To reduce the need for future access for operation, repair or renewal purposes to any Sydney Water asset within the curtilage, assets are required to be made maintenance free or an access agreement between Sydney Water and Transport for NSW needs to be created.

3. Sydney Water requests the proponent to develop a strategy for the adjustment/deviation of any Sydney Water asset that will be impacted by the project. The strategy should be discussed and agreed to by SWC.

4. The strategy will need to include a program for shutdowns so as not to adversely affect Sydney Waters customers.

**Sydney Water Servicing**
Sydney Water will further assess the impact of individual developments when the proponent submits an adjustment application. This assessment will enable Sydney Water to specify any works required as a result of the project and to assess if amplification and/or changes to the system are applicable. The response from the assessment will form Sydney Waters formal requirements for any works.

The proponent must fund any adjustments needed to Sydney Water infrastructure as a result of the project. The proponent should engage a Water Servicing Coordinator to manage the servicing aspects of the project. Details for Water Service Coordinator are available from Sydney Water's website at www.sydneywater.com.au.

During the design and construction phase of the project the applicant will need to provide a program of asset adjustments including staging and timing, as well as developing a plan for system shutdowns to undertake re-connection works so as not to adversely affect Sydney Waters customers.

**Sydney Water e-planning**
Sydney Water has created a new email address for planning authorities to use to submit statutory or strategic planning documents for review. This email address is urbangrowth@sydneywater.com.au. The use of this email will help Sydney Water provide advice on planning projects faster, in line with current planning reforms. It will also reduce the amount of printed material being produced. This email should be used for:

- Section 62 consultations under the Environmental Planning and Assessment Act 1979
- consultations where Sydney Water is an adjoining land owner to a proposed development
- Major Project applications under Part 3A of the *Environmental Planning and Assessment Act 1979*
- consultations and referrals required under any Environmental Planning Instrument
- draft LEPs, SEPPs or other planning controls, such as DCPs
- any proposed development or rezoning within a 400m radius of a Sydney Water Wastewater Treatment Plant
- any proposed planning reforms or other general planning or development inquiries

If you require any further information, please contact Jordan Faeghi of the Urban Growth Branch on 02 8849 4649 or e-mail jordan.faeghi@sydneywater.com.au

Yours Sincerely

Adrian Miller
Manager, Growth Strategy
Urban Growth

# Ingrid Ilias - RE: DGRs for South East Rail.

**From:** "Leone Mcentee" <Leone.Mcentee@hinfra.health.nsw.gov.au>
**To:** "Ingrid Ilias" <Ingrid.Ilias@planning.nsw.gov.au>
**Date:** Tuesday, 30 July 2013 10:50 AM
**Subject:** RE: DGRs for South East Rail.
**CC:** "Diane Sarkies" <Diane.Sarkies@planning.nsw.gov.au>, "David Ballantyne" <David.Ballantyne@hinfra.health.nsw.gov.au>

Hello Ingrid,
We would the following additional points to be included in the DGRs

Access, Traffic and transport:

- How the proposal will impact on Prince of Wales Hospitals' operations, deliveries, parking and vehicle and pedestrian access to the Hospitals and particularly the Childrens hospital;
- How the proposal will impact on emergency service vehicle movements to and from the hospitals;
- Impacts of parking loss along High Street, particularly in respect to short term stopping at emergency facilities;
- Safety issues around light rail and pedestrian conflicts around the hospital; and
- All of the above in respect to construction management taking into consideration the current development proposals for the hospital campus.

Under noise and vibration – under the 4th dot point we would like recognition of the hospital as a key sensitive receiver and the impacts of noise and vibration on equipment and patient amenity.

Under property and infrastructure
An additional dot point addressing the proposals impacts on social infrastructure.

Not sure what you will be incorporating under social but a social impact statement would be recommended.

It would be appreciated if the consultation with relevant parties was amended to state instead of Department of Health, "Ministry of Health including Health Infrastructure".

If you have any questions, please give me a call.
Regards
Leone

**Leone McEntee**

Planning Advisor | **Health Infrastructure**
Level 8, 77 Pacific Highway, North Sydney NSW 2060 | PO Box 1060, North Sydney NSW 2059
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NSW GOVERNMENT | Health Infrastructure

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13/11797
Department Generated Correspondence (Y)

**Memorandum**

**To: Karen Jones, Director Infrastructure, Major Projects Assessment**

**From: Richard Roper, Sydney Region East** **Date: 16 July 2013**

Thank you for the opportunity to raise issues/comments for the issue of Director General Requirements for the CBD and South East Light Rail Project.

In addition to those matters outlined in the draft schedule of Director General's Environmental Assessment Requirements, the following matters are suggested for consideration:

**Strategic and Planning Context**

- Strategic context should reference longer term growth in housing, employment, the economy, services development and population. Light rail increases the opportunities for urban renewal and growth which in turn increases viability of light rail provision.

- Whilst difficult to predict, this in turn may increase exposure (of future development) to impacts.

- In particular, it would be useful to reference the Randwick Urban Activation Projects which lend support to the case for light rail – Anzac Parade and the UNSW/Hospitals precinct are two of Sydney's key areas for growth, urban renewal and regeneration.

- Note that the current planning instrument for Randwick is the 'Randwick Local Environmental Plan 2012' (not 2013 as identified in the June 2013 Supporting document).

- Current and future trips/modes need to be clarified from that in the Supporting Document which provides confusing figure comparisons – eg., comparing existing peak hour trips with future overall trips into the CBD, seemingly comparing an 'all mode' comparison with bus trips.

- Is the removal of 220 peak hour buses in the Long Term Masterplan attributable to the introduction of light rail or is it a combination of this and bus management measures?

**Access, Traffic and Transport**

- As far as possible, there is a need to explain how existing bus services may be affected, especially outside the CBD. This is of keen local interest, especially if potential passengers into the city would need to change from bus to light rail at Kingsford or Randwick.

- The implications for traffic flow and traffic management requirements arising in narrow streets such as Devonshire Street, pinch points caused by light rail stops and areas within the road corridor where tracks change alignment.

- The implications for traffic flow resulting from bus priority lanes continuing to operate along the route of the light rail (construction and operational).

- Operational features to facilitate changes in passenger travel mode between light rail and buses/ferries, including an expression of the need to co-ordinate service timetabling, especially late at night.

- It would be useful to explain the intended level of passenger facilities at stops – shelter, seats, lighting, access safety, where stops run down the centre of roads etc. Presumably there will also need to be operator facilities at termini.

- Consider providing a light rail stop outside the Prince of Wales Hospitals' High Street entrance to ensure ease of access for patients, visitors and staff. This is preferable to passengers alighting at the planned High Cross Park terminus and having to cross major roads/light rail junction to reach the Hospitals' entrance.

- Has an on-site siding/tram stop been considered for Randwick Racecourse, specifically for racegoers on race days, given it is to be the location for stabling and may need to accommodate longer LR vehicles? Any on-site facility (stop or stabling) will need to take account of an approved residential development on the Racecourse (status to be confirmed with Randwick Council), as well as housing in Doncaster Avenue.

- The loss of on-street parking will be a major issue and priority needs to be given to an assessment of alternative arrangements – especially for centres which depend to some degree on passing or short stop trade and servicing/deliveries. This could have significant impact on economic viability of the centres, not altogether offset by increased exposure to the LR route.

- There is a need to address any impact on ambulance access and priority in the vicinity of the PoW Hospitals campus.

- Particular attention and detail, where possible, needs to be given to the termini, especially in the case of Randwick where a public park is to serve the purpose. This is likely to have major impact and will be of keen public interest. The area of the proposed terminus is very tight and it needs to be demonstrated this can be accommodated.

- What is the impact on cycle routes or what are the opportunities for integrating with existing/future cycle routes. Is there any intention to allow people to take cycles on the light rail or to securely 'park' cycles at or near stops?

- Has consideration been given to how some cyclists will be prevented from using the light rail corridor as a fast track route, especially when adjacent traffic routes are 'squeezed' and traffic congestion and delays result? Is there the possibility of a design deterrent, eg., incorporating landscaping or in the slab design?

- Current bus lay-overs in the Circular Quay Precinct have a major negative impact on the public domain. This should not be replicated by stabling light rail vehicles at the Alfred Street terminus for extended periods.

**Hydrology**

- A major local issue in Kensington is the high water table. This needs to be addressed in the context of flooding in this corridor which will presumably be exacerbated by increased run off from the replacement of a grassed median strip with a hard surface slab.

**Noise and Vibration**

- It may be useful to provide a comparison of operational noise levels compared to the existing buses.

- Where buses and light rail co-exist along the route, noise event frequency may increase, depending on timetabling, even if individual noise event levels drop.

**Urban design and visual amenity**

- The Circular Quay Strategic Framework being coordinated by SHFA has identified a need to remove 'clutter' from the Circular Quay Precinct. Many of the existing barriers to pedestrian and visual access to the harbour are created by transport infrastructure. The light rail project should be seen as an opportunity to remove some of this infrastructure and ensure that new infrastructure increases physical and visual connection with the Harbour.

- It would be useful to give an accurate assessment of tree loss in the EIS as this will be a major concern, particularly mature trees in the Moore Park area.

**Construction impacts and management**

- It is understood the EIS will not reflect the lifetime of the construction as this will depend on the construction companies' works schedule. In this case, the EIS should provide a worst case scenario.

- There is a need to detail construction compound locations, general operational requirements and impacts.

- Given the variances in the urban environment along the route, the degree of sensitivity of land use and populations and the intention to start construction work at different places at the same time, individual impact management plans should be tailored to specific locations. These will have generic issues and solutions but will differ in some respects.

- A high level of communication is required prior to and during the construction phase with details well in advance of works, especially give the amount of 'out-of-hours' works. A communications hotline needs to be set up and complaints reporting procedures.

**General requirements**

- There is a need to 'future proof' the known plans of major institutions along the route.

- Need to make clear the operations involved in the stabling and maintenance of vehicles and resultant range of impacts in these localities.

- Strategies to facilitate the continued running of the system in case of breakdowns.

- Furniture at landmark stops such as Town Hall and Circular Quay in the CBD should be kept to a minimum to reduce impact on these important public areas.

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