

Appendix C Compliance with the Georges River REP principles



Appendix C

Compliance with Georges River
Regional Environmental Plan (REP)
principles

Georges River REP principles	Where considered or addressed in the EIS
General planning principles	
a) the aims, objectives and planning principles of this plan;	As detailed in the following sections of this table, the aims, objectives and planning principles of the REP are considered throughout the EIS – particularly in Chapter 16 – <i>Hydrology, groundwater and water quality</i> (section 16.2 and 16.3) and Technical Paper 6 - <i>Surface Water Assessment</i> (Volume 6), but also in other various other chapters (e.g. Chapters 13 – <i>Biodiversity</i> , 25 – <i>Human health risks and impacts</i> and 26 – <i>Waste and resource management</i>).
b) the likely effect of the proposed plan, development or activity on adjacent or downstream local government areas;	Chapter 16 – <i>Hydrology, groundwater and water quality</i> (section 16.3) and section 3 of Technical Paper 6 – <i>Surface Water Assessment</i> (Volume 6) examine potential impacts on receptors in the immediate vicinity of the Project as well as downstream where possible. Proposed management and mitigation measures as identified in section 16.4 of Chapter 16 – <i>Hydrology, groundwater and water quality</i>) are designed to consider and avoid, minimise or mitigate potential impacts on all receivers.
c) the cumulative impact of the proposed development or activity on the Georges River or its tributaries,	Chapter 16 – <i>Hydrology, groundwater and water quality</i> (section 16.3) and Technical Paper 6 - <i>Surface Water Assessment</i> (Volume 6) and Chapter 13 – <i>Biodiversity</i> (section 13.3) outline the potential impacts of the Project and its activities on the Georges River. The assessment considered the impacts of existing development and the additional, cumulative impact of this Project on the Georges River and its tributaries.
d) any relevant plans of management including any River and Water Management Plans approved by the Minister for Environment and the Minister for Land and Water Conservation and best practice guidelines approved by the Department of Urban Affairs and Planning (all of which are available from the respective offices of those Departments);	<p>Sections 1.7 and 1.8 and Appendices A and B of Technical Paper 6 - <i>Surface Water Assessment</i> (Volume 6), discuss the requirements that were considered or addressed for potential water impacts.</p> <p>The plans and documents considered include but are not limited to:</p> <ul style="list-style-type: none"> • Bewsher Consulting, Georges River Floodplain Risk Management Study, May 2004. • BMT WBM, Anzac Creek Floodplain Risk Management Study and Plan, May 2008. • Georges River Combined Councils Committee (GRCCC), Community River Health Monitoring Program Report Card Autumn 2011, http://www.georgesriver.org.au/. • Healthy Rivers Commission (HRC) Independent Inquiry into the Georges River – Botany Bay System – Final Report 2001. • Liverpool City Council Development Control Plan no. 49 for Amiens, Yulong and DNSDC sites Moorebank international technology park Moorebank Avenue, Moorebank, 2008, http://www.liverpool.nsw.gov.au/developmentcontrolplans.htm. • Liverpool City Council, NSW Development Design Specification D5: Stormwater Drainage Design. January 2003, http://www.liverpool.nsw.gov.au/constructionanddesignspecifications.htm. • Liverpool City Council, NSW Development Design Specification D7: Erosion Control and Stormwater Management. October 2003, http://www.liverpool.nsw.gov.au/constructionanddesignspecifications.htm. • Liverpool City Council On-Site Stormwater Detention Technical Specification, January 2003, http://www.liverpool.nsw.gov.au/constructionanddesignspecifications.htm. • Department of Land & Water Conservation in conjunction with Liverpool City Council, Upper Georges River Flood Study, December 2000.

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e) the Georges River Catchment Regional Planning Strategy (prepared by, and available from the offices of, the Department of Urban Affairs and Planning);	<p>The NSW Office of Water (NOW) and the NSW Office of Environment and Heritage (OEH) Water Quality Objectives (WQOs) and the River Flow Objectives (RFOs) for the Georges River catchment supersede the Georges River Catchment Strategy (which is an old document). The specific WQOs and the RFOs are identified within section 16.2.2 of Chapter 16 – <i>Hydrology, groundwater and water quality</i>. The impacts of the Project have been assessed against these WQOs as outlined in section 6.3 of Chapter 16 – <i>Hydrology, groundwater and water quality</i>.</p>
f) all relevant State Government policies, manuals and guidelines of which the council, consent authority, public authority or person has notice; and	<p>As detailed in section 1.7 of the Technical Paper 6 - <i>Surface Water Assessment</i> (Volume 6) the assessment of hydrology and water quality impacts has been based on:</p> <ul style="list-style-type: none"> • DoE's EIS Guidelines (refer Appendix B, Volume 2) • Secretary's Environmental Assessment Requirements (NSW SEARs), (refer Appendix B, Volume 2): <ul style="list-style-type: none"> > Liverpool City Council documents including; > LCC Development Control Plan, 2008; > Liverpool District Stormwater Management Plan; > LCC Development Control Plan no.49; > LCC NSW Development Design Specification D5: Stormwater Drainage Design; > LCC, NSW Development Design Specification D7: Erosion Control and Stormwater Management; > LCC Development Control Plan no. 49 for Amiens, Yulong and DNSDC sites Moorebank International Technology Park Moorebank Avenue, Moorebank; and > LCC On-Site Stormwater Detention Technical Specification. • Rail related requirements: <ul style="list-style-type: none"> > stormwater management will be subject to RailCorp and Australian Rail Track Corporation design specifications. RailCorp drainage design standard TMC 421 is particularly relevant. • Other regional planning instruments: <ul style="list-style-type: none"> > Regional Environmental Planning Policy (REP) No.2 – Georges River catchment. > Georges River Strategic Bank Stabilisation Plan (primarily related to river banks downstream of Liverpool weir), Liverpool City Council, 2012. <p>In addition, Chapter 4 – <i>Planning and statutory requirements</i> in the main EIS (Volume 1a) discusses relevant NSW State Government regulations or guidelines applicable to the Project. These include state environmental planning policies, and other legislation.</p>
g) whether there are any feasible alternatives to the development or other proposal concerned.	<p>Chapter 6 – <i>Project development and alternatives</i> in Volume 1a discusses alternatives to the Project.</p>

Georges River REP principles	Where considered or addressed in the EIS
Specific planning principles	
<p>(1) Acid sulfate soils (ASSs)</p> <p>Disturbance of acid sulfate soil areas is to be avoided or minimised and those areas are to be protected in accordance with the requirements set out in the Acid Sulfate Soils Assessment and Management Guidelines prepared by the Acid Sulfate Soils Management Advisory Committee. Measures to minimise that disturbance are to take into account the following:</p> <p>(a) verification of the existence, locations and extent of acid sulfate soils,</p> <p>(b) the capacity of land to sustain the proposed land uses, having regard to:</p> <p>(i) potential impacts on surface and groundwater quality and quantity, and</p> <p>(ii) potential impacts on ecosystems and on biodiversity, and</p> <p>(iii) potential impacts on agricultural, fisheries and aquaculture productivity, and</p> <p>(iv) any likely engineering constraints and impacts on infrastructure, and</p> <p>(v) cumulative environmental impacts.</p>	<p>The Project has considered the presence of ASSs (discussed in Chapter 15 – <i>Contamination and soils</i> (section 15.3, 15.4 and 15.5)). Specifically, ASSs have been identified as being potentially present on the Project site, particularly along the Georges River. Mitigation measures to minimise the disturbance or creation of ASSs are covered in section 15.5 (Chapter 15 – <i>Contamination and soils</i>). In particular, further investigation of ASSs is recommended within the Remediation Action Plan prepared for the Project. Should further investigations confirm the presence of ASSs, an ASS management plan (ASSMP) would be developed and implemented in accordance with ASSMAC Guidelines (1998), and any offsite disposal undertaken in accordance with the NSW Department of Environment and Climate Change (2009) <i>Waste Classification Guideline Part 4: Acid Sulfate Soils</i>.</p> <p>The ASSMP would take account of the principles listed here.</p>
<p>(2) Bank disturbance</p> <p>Disturbance of the bank or foreshore along the Georges River and its tributaries is to be avoided and those areas and any adjoining open space or vegetated buffer area must be protected from degradation.</p>	<p>The Project design and mitigation measures have considered and minimised potential disturbance to the riparian corridor along the Georges River. Importantly, a key strategy is to minimise disturbance on the eastern bank of the Georges River through the establishment of a conservation area (discussed in Chapter 7 – <i>Project built form and operations</i> (section 7.10)). The proposed construction footprint (refer Figures 8.12 to 8.14 in Chapter 8- <i>Project development phasing and construction</i>) also avoids riparian vegetation on the western river bank, with the exception of the rail access connection to the Southern Sydney Freight Line, which would require some disturbance of the river bank on both sides for each of the rail access options.</p>
<p>(3) Flooding</p> <p>The following are to be recognised:</p> <p>(a) the benefits of periodic flooding to wetland and other riverine ecosystems,</p> <p>(b) the pollution hazard posed by development on flood liable land in the event of a flood,</p> <p>(c) the cumulative environmental effect of development on the behaviour of flood water and the importance of not filling flood prone land.</p>	<p>The Project has considered the potential flooding impacts to the surrounding area. The main IMT development is outside the 1% annual exceedance probability (AEP) flood zone and does not extend into flood prone land with the exception of:</p> <ul style="list-style-type: none"> • the proposed rail access connection; • stormwater drainage channels to the Georges River; and • a construction laydown area to the west of the Georges River for the northern rail access option only. <p>As discussed in section 16.3, the main potential impacts on regional flooding are associated with the new rail access connection and Georges River crossing. However, preliminary flood modelling indicates that none of the three bridge options would increase the flood risk to upstream properties during a 1% AEP event, and no significant increase in flood extent is predicted. Flow velocities in the river are also unlikely to be affected.</p> <p>As the development largely avoids flood liable land, pollution hazards posed by the development would be largely avoided.</p>

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<p>(4) Industrial discharges</p> <p>The discharging of industrial waste into the Georges River or its tributaries must be avoided and the requirements of the relevant consent authority and licensing authority must be met in those instances where industrial discharges into the river and its tributaries occur.</p>	<p>Chapter 16 – <i>Hydrology, groundwater and water quality</i> (section 16.3) and Chapter 26 – <i>Waste and resource management</i> (section 26.3), as well as Technical Paper 6 – <i>Surface Water Assessment</i> (Volume 6), discuss discharges associated with the Project. Management measures include the use of stormwater and wastewater treatment systems (including biofiltration and detention basins to detain flow and control and treat discharges into the river). These systems are proposed to be developed in accordance with relevant regulatory requirements. Should trade wastewater be required to be discharged from the site, this would be undertaken following discussions with Sydney Water with potential discharge subject to a trade waste agreement (permit or licence). There would be no discharge of industrial waste to the Georges River.</p>
<p>(5) Land degradation</p> <p>Land degradation processes, such as:</p> <ul style="list-style-type: none"> (a) erosion, (b) sedimentation, (c) deterioration of soil structure, (d) significant loss of native vegetation, (e) pollution of ground or surface water, (f) soil salinity and acidity, and (g) adverse effects on habitats and sensitive natural environments (aquatic and terrestrial) within the Catchment, must be avoided where possible, and minimised where avoidance is not possible. 	<p>Issues of land degradation and contamination and the recommended management and mitigation measures are discussed in Chapter 15 – <i>Contamination and soils</i> (section 15.4 and 15.5). Key measures include the preparation of construction and operation environmental management plans to ensure that potential impacts are, where possible, avoided then minimised or mitigated. In addition, measures to mitigate the loss of vegetation and impacts on habitats and environments are discussed in Chapter 13 – <i>Biodiversity</i> (section 13.4). As discussed above, management measures focus on avoidance of impacts where possible followed by minimisation, mitigation and then compensatory offsets.</p>
<p>(6) On-site sewage management</p> <p>The potential adverse environmental and health impact associated with effluent disposal is to be recognised and guarded against by meeting the criteria set out in the Environment Health Protection Guidelines: On-site Sewage Management for single households and the provisions of the Local Government (Approvals) Regulation 1993.</p>	<p>On-site sewage management is discussed in Chapter 7 – <i>Project built form and operations</i> (section 7.11.4) and in further detail in Chapter 26 – <i>Waste and resource management</i> (section 26.2.2). A sewerage network would be constructed to service the IMEX and interstate facilities and warehousing. The system would include connections to the Sydney Water sewerage system (subject to Sydney Water consent) as well as a potential on-site sewage treatment and water recycling plant.</p> <p>Sewage waste would be disposed of by a licensed waste contractor in accordance with Sydney Water and NSW Office of Environment and Heritage requirements. Chapters 15 – <i>Contamination and soils</i> (section 15.4), Chapter 16 – <i>Hydrology, groundwater and water quality</i> (section 16.3) and Chapter 25 – <i>Human health risks and impacts</i> (section 25.5), generally recognise and discuss the potential adverse environmental and health impacts associated with effluent disposal.</p>
<p>(7) River-related uses</p> <p>Uses located on immediate foreshore land on the Georges River and its tributaries must be water-related and public access to the foreshore of the river and its tributaries must be provided in order to enhance the environment of the Catchment</p>	<p>As noted above, the Project largely avoids development on riparian land of the Georges River, with the exception of the proposed rail access connection and stormwater drainage channels. Discussion on recreational uses on or near to the Georges River are covered in Chapter 23 – <i>Property and infrastructure</i> (section 23.2.3 and section 23.2.4) and Chapter 24 – <i>Social and economic impacts</i> (section 24.3). The northern and central rail access options would affect some Liverpool City Council land adjacent to the Georges River. It has not yet been confirmed whether public access would be made available to the proposed conservation area, as this requires further consideration of security and conservation issues. This would be further considered by MIC during detailed design. Impacts on recreational and other uses of the Georges River would be considered during detailed design of the Georges River bridge crossing.</p>

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<p>(8) Sewer overflows</p> <p>The adverse impact of sewer overflows, including exfiltration, on the environment within the Catchment, and specifically on the water quality of the river and its tributaries, is to be recognised and that issue is to be addressed through appropriate planning and management of development within the Catchment</p>	<p>As discussed in section 7.11.4 of Chapter 7 – <i>Project built form and operations</i>, the Project site is likely to be serviced through a connection to the existing SWC network. However, capacity issues of the network would be investigated at detailed design and if required, a sewerage treatment plant (STP) would be provided on site.</p> <p>The design of the sewer network for the Project (as developed during detailed design) would take into consideration the potential impacts of sewer overflows on the environment. The sewer system would be design in accordance with relevant standards including the <i>Australia Guidelines for Water Recycling: Managing Health and Environmental Risk</i> (Environment Protection and Heritage Council, the Natural Resource Management Ministerial Council and the Australian Health Ministers’ Conference 2006).</p> <p>As part of the construction process, the Project would ensure that relevant infrastructure has the capacity to manage generated sewage (with upgrades undertaken as necessary).</p>
<p>(9) Urban/stormwater runoff</p> <p>The impacts of stormwater runoff, including sewage contaminated runoff into or near streams within the Catchment, is to be minimised and mitigation measures that address urban stormwater runoff are to be implemented in accordance with the local council requirements and the Managing Urban Stormwater series of documents. Development is also to be in accordance with the NSW State Rivers and Estuaries Policy available from offices of the Department of Urban Affairs and Planning. Stormwater management must be integrated so that quality, quantity and land use aspects are all encompassed.</p>	<p>Impacts on stormwater runoff are discussed in Chapter 16 – <i>Hydrology, groundwater and water quality</i> (particularly section 16.3.3 for impacts and 16.4 for management and mitigation measures), as well as in Technical Paper 6 - <i>Surface Water Assessment</i> (Volume 6). As discussed above, management measures would include the appropriate treatment and controlled release of run-off in accordance with relevant regulatory requirements. Proposed treatment strategies are in accordance with best management practice and include detention basins, subsurface drainage, and sedimentation and biofiltration basins (at detention basin inlets).</p>
<p>(10) Urban development areas</p> <p>The environment within the Catchment is to be protected by ensuring that new or expanding urban development areas are developed in accordance with the Urban Development Program and the Metropolitan Strategy and that the requirements of the NSW Floodplain Development Policy and Manual (prepared by and available from the Department of Land and Water Conservation) are also satisfied. It is important to ensure that the level of nutrients entering the waterways and creeks is not increased by the development.</p>	<p>The Project has considered the Sydney Metropolitan Strategy (refer Chapter 3 – <i>Strategic context and need for the Project</i>) and the <i>NSW Floodplain development policy and manual</i> (refer section 16.3.1 in Chapter 16 - <i>Hydrology, groundwater and water quality</i>) in the development of the Project design and stormwater management plan. The main IMT site development is proposed in a low to no risk flood risk zone. Further details of urban development considerations associated with water are detailed in Chapter 16 – <i>Hydrology, groundwater and surface water</i> and Technical Paper 6 – <i>Surface Water Assessment</i> (Volume 6).</p>
<p>(11) Vegetated buffer areas</p> <p>Appropriate buffer widths (as identified in item 21 relating to Development in Vegetated Buffer Areas in the Planning Control Table in Part 3) must be retained as a means of improving surface runoff entering into the Georges River or its tributaries</p>	<p>The Project proposes the retention of a riparian corridor (conservation area) along the Georges River as part of the Project design. The design of the proposed conservation area has been undertaken in accordance with regulatory requirements for buffer zones.</p>

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<p>(12) Water quality and river flows</p> <p>Water quality and river flows within the Catchment are to be improved through the implementation of environmental objectives for water quality and river flows agreed between the Minister for Environment and the Minister for Land and Water Conservation and by the application of consistent decisions affecting the use and management of land.</p>	<p>As detailed above, water quality would be protected and, where possible, improved through a variety of strategies associated with stormwater and wastewater management, as well as responsible land use and construction and operation practices (e.g. to avoid or minimise erosion and sedimentation or other forms of contamination). The environmental values and water quality guidelines specific to the Georges River, and which have been used for the basis of the assessment of water quality impacts, are identified in section 16.2.2.</p> <p>Strategies to achieve this objective are primarily detailed in Chapter 16 – <i>Hydrology, groundwater and water</i> (section 16.4) and Technical Paper 6 – <i>Surface Water Assessment</i> (Volume 6).</p>
<p>(13) Wetlands</p> <p>Wetlands must be protected through the application of consistent land use and management decisions that take into account the potential impact of surrounding land uses, incorporate measures to mitigate adverse effects and are in accordance with the NSW Wetlands Management Policy (prepared by and available from the Department of Land and Water Conservation). Wetlands must also be protected by requiring adequate provisions where clearing, construction of a levee, draining or landscaping is to be undertaken.</p>	<p>The Project site includes artificial ponds/wetlands as described in Chapter 13 – <i>Biodiversity</i> (section 13.2.6). Potential impacts on these artificial wetlands and associated management and mitigation measures are included in Chapters 13 – <i>Biodiversity</i>. Key management measures include avoidance of potential impacts (e.g. through the creation of a conservation area along the Georges River), followed by reduction then mitigation of impacts, and lastly, compensation or offsets.</p> <p>In addition, the Amiens wetland will be retained and continue to provide a stormwater function.</p>