

22. Visual amenity and landscape character

22.1 Summary

The changed Project will involve elements visible from a wide range of locations within Gladstone due to the nature and scale of the infrastructure and will result in a change to the visual impact on the existing environment.

WEXP1 will result in a change to the visual amenity and landscape character of Reclamation Area B (Stockyard Area B) from an approved reclamation area under the EIS to major infrastructure, including coal stockpiles, stacker-reclaimer conveyors (both elevated and at grade), transfer towers and dust suppression/spray towers.

Vegetated visual amenity screening bunds will be constructed around Stockyard Area B to assist in the amelioration of visual amenity through provision of visual screens. Vegetation used will be endemic to the area.

WEXP2 will alter the appearance of the major infrastructure approved under the EIS on the eastern half of Golding Point, from a bridge stacker / dozer reclaimer yard to a stacker-reclaimer yard, involving an increase in the maximum height of structures from RL50.0 m (approved surge bins) to RL55.0 m (proposed stacker-reclaimers).

The Project changes will cause little to no cumulative lighting impacts as the proposed stacker-reclaimer stockyards in WEXP1 and WEXP2 do not use bulldozers, and will require relatively little artificial lighting.

The Project's infrastructure is not new to the Gladstone landscape, and will be consistent with that of the Project approved under the EIS, existing infrastructure, and the continued industrial focus of the region and the Gladstone.

22.2 Introduction

This chapter of the Change Request describes the existing landscape features, panoramas and views within the proposed Project area that have, or could be expected to have, value to the community whether of local, regional, State-wide, national or international significance.

Impacts to these values by elements of the Project, including coal stockpiles and major infrastructure, have been assessed in the Coordinator-General's (CG) Report (January 2008) and the EPBC Act controlled action approval (EPBC 2005/2374) (April 2008).

The EIS (November 2006) discussed impacts to the visual amenity and landscape character with regards to separate precincts (refer Figure 22.1).

Discussion in this section will be limited to the visual amenity impacts of the changed Project. This will include Stockyard Areas A and B on Golding Point and Reclamation Area B respectively. No new or altered physical development is proposed within the other precincts (which contains the Project's rail loop now managed by QR National).

22.3 Description of Visual Aspect Changes

The changes proposed as part of WEXP1 and WEXP2 will:

- Change the visual amenity and landscape character of Reclamation Area B (Stockyard Area B) from an approved reclamation area under the EIS to major infrastructure, including coal stockpiles, stacker-reclaimer conveyors (both elevated and at grade), transfer towers and dust suppression/spray towers
- Alter the appearance of the major infrastructure approved under the EIS on the eastern half of Golding Point, from a bridge stacker / dozer reclaimer yard to a stacker-reclaimer yard, involving an increase in the maximum height of structures from RL50.0 m (approved surge bins) to RL55.0 m (proposed stacker-reclaimers)



Legend



Project Area



22.4 Description of Environmental Values

The descriptions of the environmental values for this area remain largely unchanged from the EIS / SEIS, and are outlined below.

22.4.1 Land Use Context

Gladstone is a city with a significant number of existing industries and established rail and road networks that serve them. Existing industrial facilities in and around Gladstone include:

- RG Tanna Coal Terminal (RGTCT)
- Queensland Alumina Limited Alumina Refinery
- Yarwun Alumina Refinery (YAR)
- Boyne Smelters Limited Aluminium Smelter
- Gladstone Power Station
- Orica Australia chemical plant
- Cement Australia cement plant
- Queensland Energy Resources Limited shale oil plant
- Fisherman's Landing wharf
- Clinton Coal Wharf
- Auckland Point Wharf
- Theiss-Peabody Mitsui Coal Wharf (Barney Point)
- South Trees Point Wharf
- Callemondah Rail Yard

There are also a number of additional industrial facilities proposed in this area, including the Gladstone Pacific Nickel (GPN) Plant and a number of liquid natural gas projects on the western coast of Curtis Island, including Shell Australia LNG, Gladstone LNG, Queensland Curtis LNG and Australia Pacific LNG.

The Central Queensland Regional Growth Management Framework (CQRGMF) recognises the region for its major contribution to the Australian and Queensland economies, and identifies the regional drivers as future economic growth and the opportunity to capitalise on its competitive advantages.

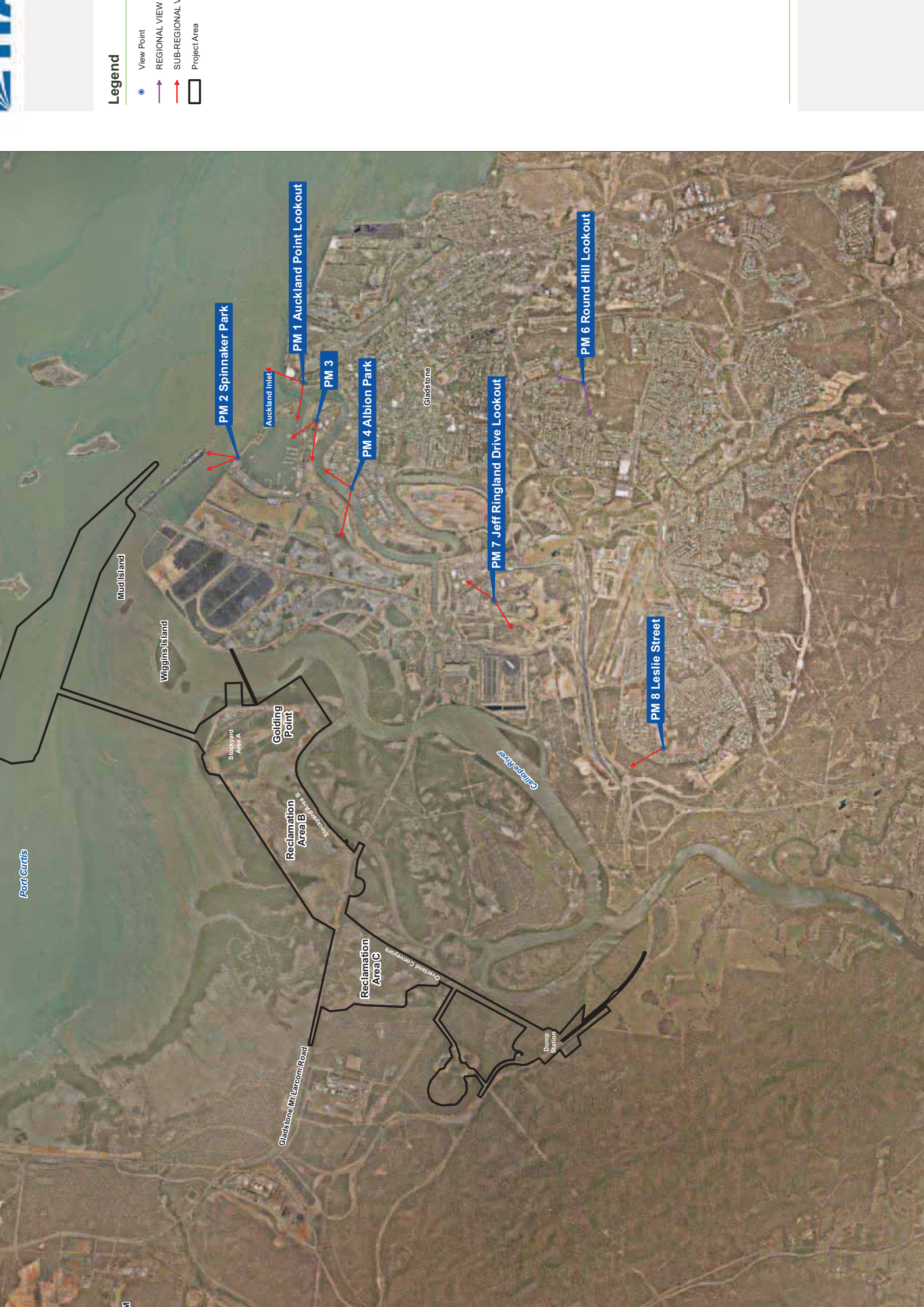
Gladstone is recognised in the CQRGMF as a major urban centre with its future prosperity being generated by its port, infrastructure and the level of major industrial development, both existing and planned.

The changed Project remains consistent with this regional outlook.

22.4.2 Views and View Shed Analysis

The EIS (November 2006) described a number of major viewpoints in the area and the relevant view types (refer Appendix 1). The potential of the Project to impact on view sheds depends on the scale and form of what is proposed, as well as the intervening distance, topography, vegetation and existing built elements which create blinds spots in the view.

Major viewpoints in the area are shown in Figure 22.2. Table 22.1 summarises any changes to the views from these viewpoints as a result of the modified Terminal expansion phases of WEXP1 and WEXP2.



Legend

- View Point
- ↑ REGIONAL VIEW
- ↑ SUB-REGIONAL
- Project Area

Table 22.1 Views towards the Project area

Viewpoint	Change to view		View type
	Approved Project	Changed Project	
Waters of Port Curtis	Coal terminal and marine structures	New / Changed stockyards (partially screened by the approved coal terminal)	Local to regional
Hamilton Point, Curtis Island	Coal terminal and marine structures	New / Changed stockyards (partially screened by the approved coal terminal)	Local to sub-regional
Tide Island	Coal terminal and marine structures	Changed stockyard (partially screened by the approved coal terminal)	Local to sub-regional
Compigne Island, Witt Island, Turtle Island, Picnic Island, Diamantina Island	Coal terminal and marine structures	Changed stockyard (partially screened by the approved coal terminal and RGTCT)	Sub-regional to regional
Quoin Island, Facing Island	Coal terminal and marine structures	Changed stockyard (partially screened by the approved coal terminal and RGTCT)	Regional
Auckland Point Lookout	Coal terminal and marine structures	New / Changed stockyards (partially screened by the approved coal terminal and RGTCT)	Sub-regional
Spinnaker Park	Marine structures	No change (screened by the approved coal terminal and RGTCT)	Sub-regional



Photo 22.2 View from Spinnaker Park toward Project area

Gladstone Marina	Coal terminal	New / Changed stockyards (partially screened by the approved coal terminal, RGTCT and other existing built elements)	Sub-regional
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Viewpoint	Change to view		View type
	Approved Project	Changed Project	

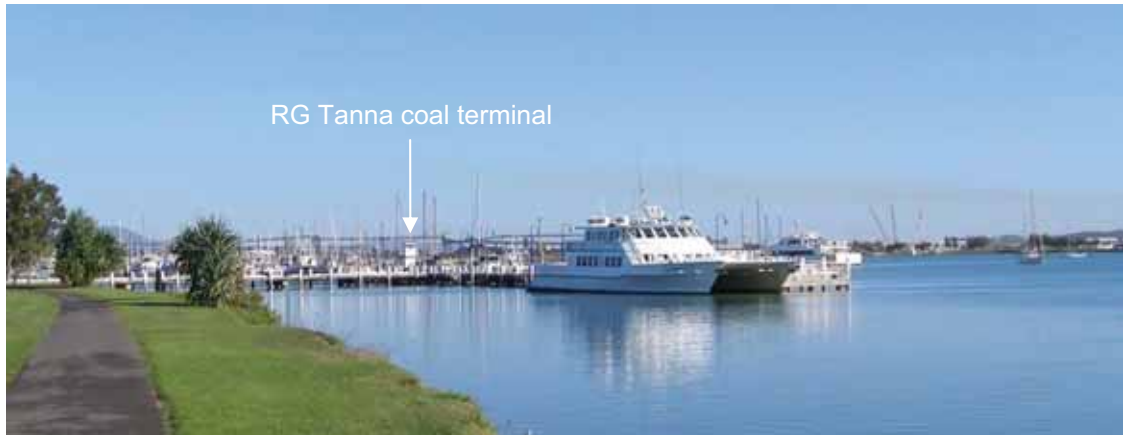


Photo 22.3 View from Gladstone Marina toward Project area

Albion Park	Coal terminal	New / Changed stockyards (partially screened by vegetation and topography)	Sub-regional
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Photo 22.4 View from Albion Park toward Project area

Round Hill Lookout	Coal terminal and marine structures	New stockyard (partially screened by existing built elements)	Regional
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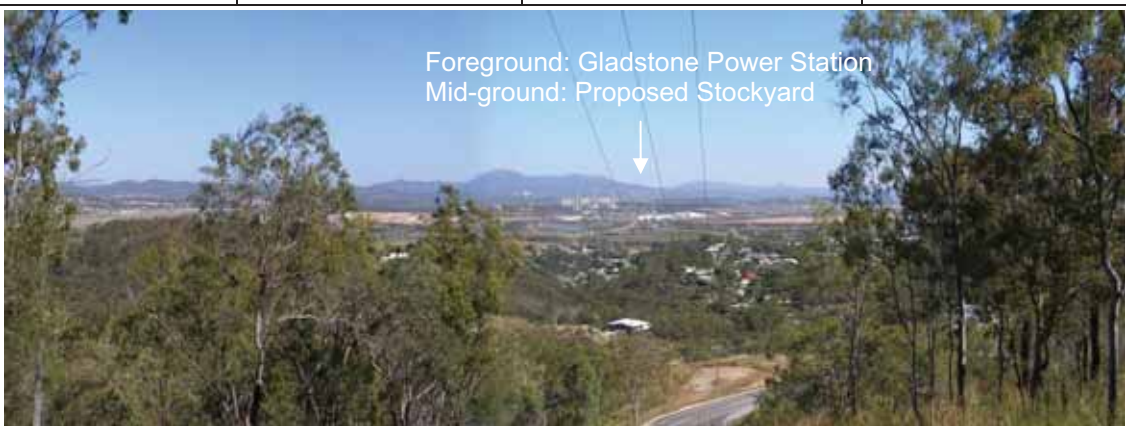


Photo 22.5 View from Round Hill Lookout toward Project area

Jeff Ringland Drive Lookout	Coal terminal and marine structures	New stockyard (partially screened by vegetation and topography)	Sub-regional
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Viewpoint	Change to view		View type
	Approved Project	Changed Project	



Photo 22.6 View from Jeff Ringland Drive Lookout toward Project area

Leslie Street, Clinton	Coal terminal	New stockyard (partially screened by vegetation)	Sub-regional
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Photo 22.7 View from Leslie Street, Clinton toward Project area

Julius Crescent, Clinton	Rail infrastructure	No change	Local
Rural residential area along Boundary Road, Kirkwood	Rail infrastructure	No change	Local
Dawson Highway south of Boundary Road	Rail infrastructure	No change	Local
Rail Loop Precinct	Rail infrastructure	No change	Local
Gladstone-Mount Larcom Road (formerly Hanson Road)	Coal terminal and Rail infrastructure	New stockyard (partially screened by bund wall and vegetation)	Local to sub-regional
Mount Larcom	Coal terminal, marine structures and Rail infrastructure	New stockyard (partially screened by vegetation)	Regional
Aircraft flying into and out of Gladstone Airport	Entire Project Area and infrastructure	New stockyard	Regional

Views of the Terminal, including WEXP1 and WEXP2, from further offshore in the Curtis Channel and the Great Barrier Reef islands of the Capricorn and Bunker Group are shielded by the presence of Curtis and Facing Islands that form the eastern edge of the view shed. View Hill blocks views of the Project area from the settlement at south end on Curtis Island. The O'Connell Ridges form the western boundary of the view shed.

22.4.3 Focal Points and Landmarks

Focal points and landmarks in proximity to the Project area include:

- The City of Gladstone
- Existing wharves at Auckland Point, RGTCT and Barney Point
- Queensland Alumina Limited Alumina Refinery
- Gladstone Marina
- The Gladstone Power Station
- The ranges to the west of Gladstone (O'Connell Ridges and Mount Larcom)
- Curtis Island (including construction activities associated with LNG industries)
- Existing Fisherman's Landing and construction activities associated with Western Basin Reclamation Area
- Tide Island, Compigne Island, Witt Island, Turtle Island, Picnic Island, Diamantina Island, Quoin Island and Facing Island (mostly uninhabited)

The major waterway adjoining the Project area is the Calliope River. Gladstone-Mount Larcom Road (formerly Hanson Road) is the arterial road that connects Gladstone to the Bruce Highway and passes through the Project area. This is an over-dimension load route to and from the Port of Gladstone.

22.4.4 Landscape Character

The landscape character of the Project area and adjoining areas have not altered since the development of the EIS (November 2006), and is shown on Figure 22.3 to include a mosaic of:

- Mangrove scrubland
- Open eucalypt / corymbia open forest
- Tidal mudflats
- Reclaimed land
- Rural (grazing and horticulture)
- Open bay
- Gladstone CBD
- Various residential developments
- Rural residential development
- Industrial development and associated infrastructure
- Port facilities

22.4.5 Visual Absorption Capability

Visual absorption capability (VAC) is an indication of the landscape's capacity to absorb visual modification such as roads, residential and other anthropogenic activities. It is a function of existing land use, vegetation cover and type, topography, location and visibility. It is a measure of the degree of the existing visual landscape to absorb contrasting elements.

The methodology adopted for this visual assessment was developed from the following:

- Resource Inventory Committee, British Columbia, 1997
- North Shore City study, undated
- Waitakere City Study, undated
- Department of Natural Resources, State of Alaska, 1978



The methods of calculating the VAC of an area was described in the WICT Project EIS (refer Appendix 1). Essentially, an area with a high VAC score (10-12) has a high capacity to absorb or hide contrasts in the landscape, such as industrial development. An area with a low VAC score (3-6) has little capacity to absorb contrasting visual elements placed within it.

Overall VAC for the project area

The overall VAC scores for the changed Project were calculated from the analysis of the land use, vegetation cover and type, topography, location and visibility within the project area, and are shown in Table 22.2.

Stockyard Area A and B

The Stockyard Areas A and B are undeveloped open land. However, the completion of the WICET Project will introduce major industrial infrastructure to this precinct. The vegetation is mangrove forest to approximately 3 – 4 m tall fringing the area to be developed. The topography is largely flat (<25%). The precinct is visible from the residential area of Gladstone less than 5 km away and from passing boat traffic.

Overland Conveyors

The majority of the Overland Conveyor area is undeveloped open land. The vegetation is predominantly tidal mudflats with mangrove forest to 3 m tall around the fringes. The topography is flat and the precinct is visible from the residential areas of Gladstone less than 5 km away. A high voltage, power transmission line runs parallel and adjacent to Gladstone-Mount Larcom Road (Hanson) on the northern side.

Table 22.2 below shows the scores given to the various attributes for each of the precincts within the Project area to arrive at an overall VAC score.

Table 22.2 WEXP1 and WEXP2 Total VAC

Attribute / Precinct	Stockyard Areas A and B	Overland Conveyors (south of Gladstone-Mount Larcom Rd)
Existing Land Use	3	1
Vegetation Cover and Type	1	0
Topography	1	1
Location and Visibility	2	3
Total VAC	7 (Moderate)	5 (Low)

Stockyard Areas A and B provide a moderate capacity to absorb the changes in stockyard type under the changed Project, while the Overland Conveyors precinct has a low ability to absorb alteration and maintain its visual integrity.

The development of a new stockyard on Reclamation Area B (Stockyard Area B) and changes to the materials handling methods and infrastructure on the eastern half of Golding Point (within Stockyard Area A) will impact on the visual amenity and landscape character of the area.

22.4.6 Visual Screening Value of Existing Vegetation

The ability of the existing vegetation to screen industrial infrastructure has been generally dealt with above in the VAC scoring methodology. It is dependent on the scale of the development to be screened, and the density, depth, extent and height of the screening vegetation.

The screening value rating for vegetation in the Project area is shown in Figure 22.4, and was assessed in the EIS (refer Appendix 1). While there are areas that provide some screening value for the Project area (patches of open forest in the Stockyard Area A and B



Legend

- Low Screening
- Moderate Screening
- No Screening
- Project Area
- Proposed Infra



Wiggins Island

Spinnaker Park

Gladstone Marina

Coking Point

Auckland Point Lookout

Gladstone Power Station

Calliope River

Callemondah Rail Yard

Gladstone Airport

Round Hill Lookout

and Overland Conveyors areas), surrounding vegetation provides little screening value for either the Project approved under the EIS, or the changed Project as proposed.

22.5 Impacts and Mitigation Measures

The Coordinator-General's Report (January 2008) for the WICET Project accepted major changes to the visual amenity and landscape character of the project area, from a greenfield site to a major coal terminal facility, and approved a number of mitigation measures for the WICET Project.

22.5.1 Impacts of Project changes on Visual Amenity and Landscape Character

The Project changes will impact on the visual amenity and landscape character of the area through:

- Changing the visual amenity and landscape character of Reclamation Area B from an approved reclamation area under the EIS to major infrastructure, including coal stockpiles, stacker-reclaimer conveyors (both elevated and at grade), transfer towers and dust suppression/spray towers
- Altering the appearance of the major infrastructure approved on the eastern half of Golding Point from a bridge stacker / dozer reclaimer yard to a stacker-reclaimer yard, involving an increase in the maximum height of structures from RL50.0 m (approved surge bins) to RL55.0 m (proposed stacker-reclaimers)

Views of the site will be partially screened from a number of key viewpoints by the intervening topography, vegetation and existing development, as outlined in Table 22.1.

22.5.2 Impacts of External Lighting

The Project changes will cause little to no cumulative lighting impacts on residents and motorists in the area, as the proposed stacker-reclaimer stockyards do not use dozers, and will require very little artificial lighting relative to the approved bridge-stacker stockyards. The stacker-reclaimer stockyards will be lit using only direct lighting by way of small 70 W High Pressure Sodium (HPS) lights mounted on the stockpile conveyors, to light the internal roads along the bunds, minimising spillage from the Project area and impacts to the surroundings.

22.5.3 Mitigation Measures

In addition to the mitigation measures outlined in the SEIS (August 2007), the following measures are proposed to manage impacts on visual amenity and landscape character from the changed Project:

- Minimise any additional vegetation clearing required for the construction of the proposed outfall to the Anabranch
- Provide vegetated screening bunds around Stockyard Area B to assist in amelioration of visual amenity through provision of visual screens. Vegetation used will be endemic to the area. Indicative extents of the screening bunds and vegetation are shown in Drawing 2B561-C-SK-0002 (Appendix 22), along with line of sight cross-sections from Hanson Road
- Utilise lighting only as required for the safe and efficient operation of the Terminal, in particular minimise lighting where automated equipment is used
- Minimise light spillage to areas outside the areas that need to be lit for operations using suitable fittings and shields consistent with the Project approved under the EIS

22.6 Conclusion

The Project will involve elements visible from a wide range of locations within Gladstone due to the nature and scale of the infrastructure and will have a visual impact on the existing environment.

However, existing remnant vegetation, new landscape plantings and local topographic features and existing development in the area will mitigate to some extent the visual impact of the proposed Project.

Further, the appearance of the Project's style of infrastructure is not new to the Gladstone landscape, and will be consistent with that of the Project approved under the EIS (Appendix 1), existing infrastructure and port function of the area, as well as the continued industrial focus of the region and the city of Gladstone.

Conclusion 1: The Project changes will cause little to no cumulative lighting impacts as the proposed stacker-reclaimer stockyards in WEXP1 and WEXP2 do not use bulldozers, and will require relatively little artificial lighting.

Conclusion 2: The Project's infrastructure is not new to the Gladstone landscape, and will be consistent with that of the Project approved under the EIS, existing infrastructure, and the continued industrial focus of the region and the Gladstone.

23. Coal terminal EMP

23.1 Summary

The EMPs and Management Plans developed for the WICET Project (Stage 1) provide management controls and mitigation measures to minimise potential environmental risks and impacts during design, construction and operation phases of the Project.

These documents will be amended as required to incorporate any additional controls or measures required for WEXP1 and WEXP2. As the proposed WEXP1 and WEXP2 will be wholly contained within the Project footprint approved under the EIS, the construction and operational activities will be similar to that of the Project approved under the EIS and therefore it is unlikely that significant changes to these documents would be required.

23.2 Introduction

This chapter of the Request for Project Change provides an overview of environmental management planning during the design, construction and operation of the Project.

The Coal Terminal Environmental Management Plan (EMP) for the Project will be developed from the following:

- WICT SEIS EMP
- Coordinator-General's evaluation report conditions
- EPBC Act controlled action approval conditions
- WICET CEMP and associated management plans
- WEXP1 and WEXP2 Technical Feasibility Studies (due for release)
- Relevant State Government/Local Government approval conditions (eg Tidal Works, marine plants removal, waterway barrier)

The construction and operation of the Project including expansion phases WEXP1 and WEXP2 will be managed through a series of linked documents as broad, over-arching EMPs to guide appointed contractors and operators in the development of their works-specific EMPs to be implemented during construction and operational phases. These documents will be submitted for approval to the relevant Government agencies where required.

Environmental management for the design, construction and operation of the Project will manage the:

- Stage 1: Development of a bridge stacker/dozer reclaim stockyard on Golding Point with one inloading and one outloading system, consistent with the Project approved under the EIS
- WEXP1: Development of a new stacker-reclaimer yard on Reclamation Area B to utilise available port land, including a new settlement pond at the western end of Reclamation Area B, and a new operational stormwater outfall to the Anabranche
- WEXP2: Development of a stacker-reclaimer yard on the eastern half of Golding Point in lieu of the approved bridge stacker/dozer reclaim yard in this area
- A total ultimate nominal capacity of 84 Mtpa, consistent with the Project approved under the EIS and this Change Request

It is not anticipated that the EMP will require significant amendments to be applicable to the proposed detailed design, construction and operation of WEXP1 and WEXP2, as the construction methods and operational requirements are similar to that of the Project approved under the EIS. Similarly, where any approvals issued regarding WEXP1 and WEXP2 include conditions specific to environmental management of WEXP1 and WEXP2, these requirements will be incorporated into the relevant documents.

23.3 Environmental Management

The following sections outline the documents that will guide the environmental management aspects of the Project and will be amended as required and applied to WEXP1 and WEXP2.

23.3.1 Design

Design Phase EMP – this document will be prepared as part of the detailed design phase of the Project. The Design Phase EMP ensures design mitigation measures contained in this EMP and other supporting documents are incorporated during the detailed design of the Project.

23.3.2 Construction

WICET EMP – the purpose of this document is to define the key responsibilities of WICET and the Construction Management contractor during the construction phase, to document the hazard and risk identification and management process for the construction techniques to be adopted on the Project, and to document the systematic process of implementing controls to minimise the potential impacts of construction methods on the environment (refer Appendix 23.1).

The WICET EMP will be reviewed and amended as required during the WEXP1 and WEXP2 detailed design phases. This review will address any additional impacts identified during the WICET Stage 1 construction as well as peculiarities of WEXP1 and WEXP2.

WICET CEMP – the purpose of this document is to detail the actions to be carried out during the construction phase of the Project in order to mitigate adverse and enhance beneficial environmental and social impacts. Construction contractors shall use the information contained in the CEMP and associated Management Plans to complete a Contractor's EMP specific to their package of works. Contractors will be required to adhere to their Contractor's EMP, as well as the WICET CEMP (refer Appendix 23.2) and associated Management Plans.

Management Plans – a series of issue-specific Management Plans (refer Appendices 23) have been developed to accompany the WICET CEMP. These Management Plans document the minimum level of mitigation measures, monitoring and other requirements for each key environmental element, which Contractors will use to inform their own EMPs, adding task and spatial specific procedures, responsibilities and other issues as relevant. Management Plans for the Project include:

- Acid Sulfate Soil Management Plan (ASSMP)
- Air Quality Management Plan (AQMP)
- Bushfire Management Plan (BMP)
- Community Relations Plan (incorporating Stakeholder Engagement Plan) (CRP)
- Cultural Heritage Management Plan (CHMP) Agreement (offshore)
- Cultural Heritage Management Plan (CHMP) Agreement (onshore)
- Dangerous Goods Management Plan (DGMP)
- Dredge Management Plan (DMP)
- Energy and Water Use Management Plan (EWUMP)
- Species Management Plan (SMP)
- Landscape and Rehabilitation Management Plan (LRMP)
- Noise and Vibration Management Plan (NVMP)
- Pest Management Plan (PMP)
- Soil and Water Quality Management Plan (SWQMP)
- Traffic Management Plan (TMP)
- Waste Management Plan (WMP)

These Management Plans will be reviewed and amended as required during the WEXP1 and WEXP2 detailed design phase. This review will address any additional impacts identified

during the WICET Stage 1 construction. These plans will also be submitted to the relevant government agencies as required prior to implementation.

Contractor CEMP – appointed construction contractors will be required to develop a CEMP specific to the package of works to be undertaken. This Contractor CEMP will be consistent with the requirements and commitments outlined in the WICET CEMP and associated Management Plans, as relevant to the package of works.

23.3.3 Operation

Operational EMP – Operational environmental management will be outlined in an Operational EMP (OEMP) to be developed prior to the commencement of operations. This will incorporate the requirements for Site Based Management Plans associated with the Environmentally Relevant Activity approvals for the WICET Project.

23.4 Environmental Management Strategies

This section identifies the mitigation measures to be implemented during the design, construction and operation of the Project.

23.4.1 Topography, Geology and Soils

Design Phase

The detailed design phase will address the following:

- Consideration of detailed geotechnical investigations relating to stability assessments, foundation design parameter requirements and potential settlement of fill embankments and foundations
- Consideration of further assessment of the contaminant status of sites where soil is required to be relocated onto or off of land parcels within the Project area

Construction Phase

Implement the SWQMP and the Acid Sulfate Soils Management Plan (ASSMP) developed for the WICET Project which outlines environmental management requirements addressing the following:

- Bulk earthworks
- Excavation works
- Stockpiling
- Contaminated spoil management
- Vegetation clearing
- ASS management

Operation Phase

An OEMP will be developed for the WICET Project incorporating geology and soil management requirements and procedures that apply to the operation of the Terminal.

23.4.2 Land Use

Design Phase

The detailed design phase will address the following:

- Ensure that detailed design of the WICET Project considers the potential for a cumulative increase in impacts associated with the following environmental elements:
 - Noise and vibration impacts
 - Dust / air quality impacts

- Light spillage impacts
- Traffic impacts (temporary road closures, permanent road closures, construction traffic)
- Visual amenity impacts

Refer to the relevant sections of this EMP for Design Phase measures proposed to prevent a cumulative increase in impacts associated with the WICET Project.

Operation Phase

Implement the OEMP to minimise cumulative increases in potential impacts associated with each environmental element outlined above.

23.4.3 Transport and Traffic

Design Phase

The detailed design phase will address the following:

- Identification of potential impacts on the Department of Transport and Main Roads road network, and assessment of the need to enter into an infrastructure agreement with the Department
- Implementation of a WICET Traffic Management Plan (TMP)

Construction Phase

- Implement the WICET TMP developed for the WICET Project works on the local transport network and traffic

23.4.4 Sustainability and Climate Change

Design Phase

The detailed design phase will address the following:

- Measures to reduce energy demand and minimise energy consumption
 - Determining site energy use across the life of the Project by undertaking an energy use assessment. An energy report will be prepared for each expansion phase of the Terminal's development
 - Investigation of energy efficiency measures in temporary site offices during construction and permanent office buildings during operation, including opportunities to utilise energy saving technologies such as energy saving lighting and air conditioning
 - Implementation of energy efficiency measures during construction phase activities
- Measures to ensure water reduction and efficiency is maximised throughout the Project, by minimising use of potable water during construction and operational phases, and protecting the quality of existing resources through:
 - Assessing the potential for treated stormwater to wet down stockpiles on site, particularly during extreme weather events or on windy days
 - Adoption of groundwater and surface water quality mitigation measures as detailed in this Change Request and the CEMP
 - Investigation of potential water efficiency measures and review all designs in order to incorporate these measures
- Measures that protect existing and proposed Project assets from the risk of sea level rise and storm tide inundation through:
 - Designing the Project to take account for the risk of sea level rise and storm tide inundation, including climate change allowance
 - All Project infrastructure to meet the 0.8 m 2100 sea level rise scenario
- Measures that promote the use of sustainably sourced materials and minimise the use of materials required for the design through:

- The use of supply contracts to source materials as close as possible to the Project area
- Pre-fabricate segments used for the Project, wherever possible
- Re-use of dredged material onsite
- Actions that promote effective waste management beyond regulatory compliance by applying the principles of the waste management hierarchy by:
 - Identifying the waste streams applicable to the Project and developing a waste management plan which complies with the waste management hierarchy
- Actions that allow for infrastructure upgrades which are beneficial for wider community use by:
 - Undertaking an upgrade of Gladstone-Mt Larcom Road as part of the Project
- Measures which increase health and wellbeing of residents on site and sensitive receptors within proximity to the Project by:
 - Implementing coal terminal lighting that minimises visual impact on adjoining sensitive receptors (eg directional lighting, low pressure sodium bulbs, shrouding, low glare lighting etc)
 - Implementing the use of low noise alarms across the site
- Measures which minimise the Project's contributions towards climate change by reducing GHG emissions through:
 - Undertaking a preliminary GHG emissions assessment for construction and operation of the Project
 - Undertaking a preliminary climate change risk assessment to identify risks and management options
- Investigate feasible renewable energy alternatives to determine their suitability for implementation during construction and operation of the Project
- Local suppliers will be assessed and selected on the basis of cost-competitiveness (must occur prior to procurement)
- Avoid/reduce consumption of materials during construction and operation, by finding alternatives appropriate for the same use
- Identify suitable locations for revegetation of native vegetation (ie where it will not interfere with Project facilities, operations etc)
- Biodiversity values incorporated into landscape designs (if required)
- Comply with the relevant components of the carbon price mechanism (once implemented)

Construction Phase

The construction phase will address the following:

- Use supply contracts to source sustainably accredited materials
- Prior to construction, review and update as required the existing WICET WMP for implementation during WEXP1 and WEXP2 construction and operation of the Project
- Implement all fauna protection measures presented in the WICET Management Plans and this Change Request
- Implement all vegetation mitigation measures presented in the WICET Management Plans and this Change Request
- Implement all nuisance avoidance measures presented in the WICET Management Plans and this Change Request
- Ensure that site supervision is provided during construction to minimise risk of damage to cultural heritage items within the Project area
- Undertake a revised GHG emissions assessment with updated diesel and electricity consumptions details for the construction phase of the Project, to ensure that the Construction Contractor complies with the relevant legislation
- Comply with the relevant components of the carbon price mechanism (when implemented)
- Use local workforce where possible
- Develop and implement a local procurement policy for goods and services

- Generate economic benefits for the local community, providing access to employment opportunities on the Project

Operation Phase

An OEMP will be developed for the WICET Project incorporating sustainability and climate change management requirements and procedures that apply to the operation of the Terminal, including:

- Undertaking a revised GHG emissions assessment with updated diesel and electricity consumption details for the operational phase of the Project, to ensure that the Operator complies with the relevant legislation
- Complying with the relevant components of the carbon price mechanism (once implemented)
- Preparing and implementing a Carbon Management Plan for the operational phase of the Project
- Seeking accreditation for the Carbon Management Plan (if deemed necessary)

23.4.5 Coastal Environment, Water Quality, Hydrology and Hydraulics

Design Phase

The detailed design phase will address the following:

- Areas of riparian vegetation and flow-dependent ecosystems as well as mangroves and seagrass communities are to be left undisturbed where possible
- The need and timing of conveyor infrastructure construction works and bank stabilisation works to protect all infrastructure from fluvial processes will need to be investigated during detailed design
- Detailed design will consider and avoid areas of protected vegetation not approved for disturbance
- Implementation of the WICET SWQMP
- Implementation of the WICET ASSMP
- Implementation of the WICET DMP

Construction Phase

Implement the SWQMP developed for the WICET Project which outlines environmental management requirements to address potential impacts of construction works on water quality within or surrounding the site, including:

- Dredge spoil / reclamation activities
- Drainage works and runoff
- Dewatering practices
- Monitoring raises in water levels upstream to ensure bank erosion and scouring does not occur

A draft DMP has been developed outlining environmental management requirements with regard to water quality during dredging operations. WICET DMP (RevE, 21 September 2011) which has been approved by DEHP.

Operation Phase

The OEMP will address the following:

- Maintenance dredging and associated spoil disposal will be undertaken in accordance with the relevant DMP, guidelines and approvals
- Where suitable, water will be recycled and reused onsite, for example in dust control, as washdown water, or for irrigation of vegetation

- Regular clearing of sediment build-up from the culverts / drainage lines as required and appropriate disposal of waste
- Monitoring and reporting on water quality during operation will be undertaken as required under the ERA approval conditions and will be incorporated into an OEMP as required
- Other relevant operational ERA approval conditions

23.4.6 Groundwater

Design Phase

The detailed design phase will address the following:

- Consideration of baseline groundwater level and quality data in the detailed design and development of construction methodology
- Implementation of the WICET SWQMP

Construction Phase

Implement the SWQMP developed for the WICET Project which outlines environmental management requirements to address potential impacts of construction works on groundwater within or surrounding the site, including:

- Excavation
- Dewatering practices
- Hazardous goods storage

23.4.7 Air Quality

Design Phase

The detailed design phase will address the following:

- Incorporation of dust mitigation measures, including water cannons and mist curtains to maintain optimal moisture content of the product
- Infrastructure design to minimise rehandling of product and exposure of product to wind, reducing dust generation, including partial or full enclosure of infrastructure, dust shrouds on stackers and strategic placement of product
- Implementation of the WICET AQMP

Construction Phase

Implement the AQMP developed for this Project which outlines environmental management requirements to address potential impacts of construction works on air quality surrounding the site, including:

- Excavation
- Bulk earthworks
- Abrasive blasting
- Stockpiling and reclamation spoil
- Transportation on unsealed tracks
- Concrete batching

Operation Phase

An OEMP will be developed for the WICET Project incorporating air quality management requirements and procedures that apply to the operation of the Terminal, including:

- Maintaining an appropriate level of moisture within the coal to minimise dust emission from the transported or stockpiled coal

- Monitoring the moisture content of coal at rail receipt, linking to calibrated water sprays to raise moisture content as required
- Use of misting sprays on the gantry stackers and reclaimers during adverse meteorological conditions (such as high wind speeds)
- Use of conveyor belt scraping and washing systems
- Use of a mobile spray tanker to apply water at regular intervals to areas outside the radius of water sprays, empty stockpile areas and ground areas subject to coal spillage
- Use of a mobile road sweeper / cleaner for roads and other sealed areas subject to coal spillage
- Other relevant operational ERA approval conditions

23.4.8 Waste

Construction Phase

Implement the WMP developed for the WICET Project which outlines environmental management requirements to address potential impacts of waste generation and management associated with construction works, including:

- Site clearing
- Site earthworks
- Batch plant operation
- Concreting
- Abrasive blasting
- Various construction activities
- Plant and equipment maintenance
- General office / staff activities
- Commissioning and decommissioning activities

Operation Phase

An OEMP will be developed for the WICET Project incorporating waste management requirements and procedures that apply to the operation of the Terminal, including:

- Wastes generated will be minimised
- Onsite reuse of wastes will be undertaken where feasible eg green waste, pond sediment, concrete, bitumen and timber
- Where suitable, wastes will be recycled or treated onsite, with non-recyclable items sent to Council's landfill
- Any regulated wastes generated will be managed in accordance with the relevant legislative requirements and /or approval conditions
- Sewage from the proposed coal terminal will be treated onsite and effluent used for landscape irrigation
- Other relevant operational ERA approval conditions

23.4.9 Noise and Vibration

Construction Phase

Implement the NVMP developed for the WICET Project which outlines environmental management requirements to address potential impacts of noise and vibration generated and management associated with construction works, including:

- Site clearing
- Bulk earthworks
- Increased traffic / vehicles
- Dredging
- Constructing structures and plant

Operations Phase

An OEMP will be developed for the WICET Project incorporating noise and vibration management requirements and procedures that apply to the operation of the Terminal, including:

- Design and implement a public complaint system to deal with operational noise and other impacts from operational traffic movements
- Investigation of noise levels post-commissioning will be carried out as confirmation of operational noise levels
- Monitoring and reporting on noise and vibration as required by the operational ERA requirements will be incorporated into the OEMP as required
- Other relevant operational ERA approval conditions

23.4.10 Terrestrial and Aquatic Flora and Fauna

Design Phase

The detailed design phase will address the following:

- Incorporation of terminal lighting that is located and designed to minimise visual impact on adjoining habitats
- Consideration of fauna movement in the design of conveyors, particularly in the Forest Precinct
- Minimising terrestrial vegetation and marine plant clearing required for the Terminal
- Maximising retention of existing habitats and wildlife corridors especially in the Forest Precinct
- Maximising use of local native species in landscape / buffer design
- Implementation of the WICET SMP
- Implementation of the WICET LRMP

Construction Phase

Implement the SMP developed for the WICET Project which will incorporate the management of activities that may impact on terrestrial flora and fauna and aquatic ecology, including:

- Vegetation clearing (including significant species)
- Bulk earthworks
- Night lighting
- Noise
- Chemical use
- Filling of intertidal areas
- Dredging
- Construction in the marine zone
- General disturbance

A draft Dredge Management Plan has been developed for approval by the Department of Environment and Heritage Protection (DEHP) and SEWPaC, outlining environmental management requirements with regard to terrestrial and marine flora and fauna during dredging and dredge material handling operations. Approval will be obtained prior to the commencement of dredging works.

Operation Phase

An OEMP will be developed for the WICET Project incorporating terrestrial and marine flora and fauna management requirements and procedures to mitigate potential impacts on terrestrial flora and fauna and aquatic ecology as a result of the operation of the Terminal and ongoing maintenance dredging of the approved berth pockets, approach channel and swing basin, including:

- Access, maintenance and operations associated with the coal terminal and conveyor facilities will be restricted to designated tracks to avoid disturbance of surrounding vegetation or habitats
- Heavy machinery, equipment and vehicles will be stored within designated areas only, away from surrounding vegetation
- Staff will be educated with regards to the protection of native flora and fauna and ongoing operations
- Material disposal arrangements will be established for maintenance dredging to minimise long-term impacts
- Future maintenance dredging will be undertaken in accordance with relevant approvals, guidelines and plans
- Monitoring and reporting on water quality during operation will comply with the relevant ERA approval conditions
- Other relevant operational ERA approval conditions

23.4.11 Cultural Heritage

A Cultural Heritage Management Plan (offshore) Agreement and Cultural Heritage Management Plan (onshore) Agreement have been developed for this Project, and agreed to between the proponent and the Aboriginal Group. These plans incorporate the relevant management and mitigation measures required during the construction and operation of the Project.

Further, the requirements of the *Aboriginal Cultural Heritage Act 2003* (Qld) and responsibilities under the Duty of Care will continue to be applicable to the works.

23.4.12 Social

Design Phase

The detailed design phase will address the following:

- Implementation of the WICET Communications Plan (2011) detailing the communications process to be utilised during the WICET development

Construction Phase

The construction phase of the WICET will address the following:

- Implementation of the WICET Communications Plan (2011) detailing the communications process to be utilised during the WICET development
- Implementation of the WICET Community Relations Plan (2011) which addresses communication issues relating to site establishment and construction of the WICET including the following sub plans:
 - The Stakeholder Engagement Plan
 - Social and Community Support Plan
 - Local Industry Participation Plan
 - Obligations Database Plan
- Implementation of the WICET TMP to manage traffic related issues within the Gladstone area

- Implementation of an Emergency and Disaster Management Plan (EDMP) to minimise social impacts in the event of an emergency situation

23.4.13 Health, Safety, Hazard and Risk

Design Phase

The detailed design phase will address the following:

- Implement the requirements of the '*Guidelines to minimise mosquito and biting midge problems in new development areas*' (Queensland Health 2002)
- Consider the design requirements outlined in '*The Australian Mosquito Control Manual*' (Morris et al. 2002) during detailed design

Construction Phase

Implement the Health and Safety Management Plan (HSMP) (to be produced by WICET) for all the construction and operational activities relating to the WICET Project including:

- Preventing mosquito breeding onsite by implementing the following:
 - Guidelines to minimise mosquito and biting midge problems in new development areas (Queensland Health 2002)
 - The Australian Mosquito Control Manual (Morris et al. 2002)
- Safe working procedures associated with the following:
 - Working in extreme weather conditions (eg heat, cold, storms)
 - Working at height
 - Working in confined spaces
 - Ergonomics
- Reporting and auditing all incidents (including near miss incidents)

Operation Phase

An OEMP will be developed for the WICET Project incorporating Workplace Health and Safety management requirements and procedures to mitigate potential harm to staff and the public onsite as a result of the operation of the Terminal and will include the following:

- All structures associated with storage or treatment of recycled water, such as the settlement ponds, should be regularly maintained to minimise mosquito breeding
- If using recycled water for irrigation, surface ponding should be prevented by appropriate irrigation scheduling
- Open recycled water storages should be monitored regularly to assess the presence of mosquito larvae
- Biological control methods using native predators, such as aquatic invertebrates or native fish, may be considered if there is a potential health risk from mosquito breeding

23.4.14 Visual Amenity and Landscape Character

The detailed design phase will address the following:

- Provision / maintenance of landscape buffers
- Minimising vegetation clearing
- Use of visually neutral colours for buildings and structures where possible
- Designing lighting to minimise light spillage from the site
- Prepare a more detailed LRMP during design
- Implementation of the WICET LRMP during construction and operational activities to maintain the landscape

23.4.15 Economics

As it is foreseen that there will be only positive impacts to the Queensland economy as a result of the Project, including the proposed changes documented herein, no mitigation measures have been proposed regarding Economic issues.

23.4.16 Decommissioning and Rehabilitation

A Decommissioning, Closure and Rehabilitation Plan (DCRP) has been developed for the WICET which describes a schedule, closure measures, and a closure action plan for the following aspects of closure:

- Decommissioning
- Closure research and improvement
- Rehabilitation
- Closure implementation and monitoring

A closure cost estimate was developed during the final stages of the DCRP, to ensure that sufficient funding is set aside for decommissioning, closure and rehabilitation activities described within the DCRP. This amount will be updated during the operational phase.

Significant closure improvement activities have also been identified and responsibility, priority and timing have been assigned to each of the closure improvement tasks. The scenario assumes that the Terminal will close in 2058.

23.5 Conclusion

The EMPs and Management Plans developed for the WICET Project provide management controls and mitigation measures to minimise potential environmental risks and impacts during design, construction and operation phases of the Project.

These documents will be amended as required to incorporate any additional controls or measures required for WEXP1 and WEXP2. As the proposed WEXP1 and WEXP2 will be wholly contained within the Project footprint approved under the EIS, the construction and operational activities will be similar to that of the Project approved under the EIS and therefore it is unlikely that significant changes to these documents would be required.

24. Abbreviations

AASS	Actual Acid Sulfate Soils
ABARES	Australian Bureau of Agricultural and Resource Economics and Sciences
ABS	Australian Bureau of Statistics
ACH Act	<i>Aboriginal Cultural Heritage Act 2003</i>
AHD	Australian Height Datum
ALARP	As Low As Reasonably Practicable
AMS	Accommodation Management Strategy
ANZECC	Australian and New Zealand Environment and Conservation Council
APLNG	Australia Pacific LNG
AQMP	Air Quality Management Plan
AR4	Fourth Assessment Report
ARI	Average Recurrence Interval
AS	Australian Standard
ASS	Acid Sulfate Soils
ASSMP	Acid Sulfate Soil Management Plan
AUD	Australian Dollars
AWG	Accommodation Working Group
BF	Belt Feeder
BICET	Balaclava Island Coal Export Terminal
BMA	BHP Billiton Mitsubishi Alliance
BMP	Bushfire Management Plan
BoM	Bureau of Meteorology
BPCT	Barney Point Coal Terminal
CAR	Comalco Alumina Refinery
CBD	Central Business District
CCIS	Climate Change Impact Statement
CEMP	Construction Environmental Management Plan
CG	Coordinator-General
CHMP	Cultural Heritage Management Plan
CIE	Commission Internationale de l'Eclairage
cm	Centimetre
CO ₂ -e	Carbon Dioxide Equivalent
Coastal Act	<i>Coastal Protection and Management Act 1995</i>
CPT	Cone Penetration Test
CQPA	Central Queensland Ports Authority
CQRGMF	Central Queensland Regional Growth Management Framework 2002

CQRP	Central Queensland Regional Plan
CQU	Central Queensland University
CRP	Community Relations Plan
CSC	Calliope Shire Council
CSD	Cutter Suction Dredge
CSIRO	Commonwealth Scientific and Industrial Research Organisation
dBA	A-weighted decibel
DAFF	Department of Agriculture, Forestry and Fisheries
DCCEE	Department of Climate Change and Energy Efficiency
DCRP	Decommissioning, Closure and Rehabilitation Plan
DEEDI	Department of Employment, Economic Development and Innovation
DEHP	Department of Environment and Heritage Protection
DERM	Department of Environment and Resource Management
DGMP	Dangerous Goods Management Plan
DIP	Department of Infrastructure and Planning
DLGP	Department of Local Government and Planning
DM Act	<i>Disaster Management Act 2003</i>
DMP	Dredge Management Plan
DMR	Department of Main Roads
DNPRSR	Department of National Parks, Recreation, Sport and Racing
DNRM	Department of Natural Resources and Mines
DNRMW	Department of Natural Resources, Mines and Water
DOTARS	Department of Transport and Regional Services
DPI	Department of Primary Industries
DPIF	Department of Primary Industries and Fisheries
DSDIP	Department of State Development, Infrastructure and Planning
DTMR	Department of Transport and Main Roads
DWT	Dead Weight Tonnage
EBSDS	East Banks Sea Disposal Site
EC	Electrical Conductivity
EDMP	Emergency Disaster Management Plan
EEO Act	<i>Energy Efficiency Opportunities Act 2006</i>
EIL	Environmental Investigation Level
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
ENSO	El Nino Southern Oscillation
EP Act	<i>Environment Protection Act 1994</i>
EPA	Environmental Protection Agency

EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPP (Waste)	<i>Environmental Protection (Waste Management) Policy 2000</i>
EPP(Air)	<i>Environmental Protection (Air) Policy 2008</i>
EPP(Water)	<i>Environmental Protection (Water) Policy 2009</i>
EPs	Equator Principles
ERA	Environmentally Relevant Activity
ERP	Estimated Resident Population
ESD	Ecologically Sustainable Development
EV	Environmental Value
EVNT	Endangered, Vulnerable or Near Threatened
EWUMP	Energy and Water Use Management Plan
FDILG	Future Direction Indigenous liaison Group
FFMP	Flora and Fauna Management Plan
g	Grams
GAPDL	Gladstone Area Promotion and Development Limited
GAWB	Gladstone Area Water Board
GBRMP	Great Barrier Reef Marine Park
GBRWHA	Great Barrier Reef World Heritage Area
GCC	Gladstone City Council
GEIDB	Gladstone Economic and Industry Development Board
GHG	Greenhouse Gas
GJ	Gigajoules
GLNG	Gladstone LNG
GPC	Gladstone Ports Corporation
GPN	Gladstone Pacific Nickel Limited
GQAL	Good Quality Agricultural Land
GRC	Gladstone Regional Council
GSDA	Gladstone State Development Area
GSP	Gross State Product
Gt	Giga tonnes
h	Hour
ha	Hectare
HACC	Home and Community Care
HAT	Highest Astronomical Tide
HERBRECS	Queensland Herbarium Records System
HIL	Health Investigation Level
HPS	High Pressure Sodium
HSEC	Health, Safety, Environment and Community

HSMP	Health and Safety Management Plan
Hz	Hertz
IAIA	International Association for Impact Assessment
ID	Identification
IDAS	Integrated Development Approval System
IEMS	Integrated Environmental Management System
IPCC	Intergovernmental Panel on Climate Change
JC	Jetty Conveyor
kg	Kilogram
kL	Kilolitre
km	Kilometre
km ²	Square Kilometre
kt	Kilotonnes
kV	Kilovolt
kW	Kilowatt
kWh	Kilowatt Hour
L	Litre
L _{Aeq}	Average A-weighted sound pressure level
LAT	Lowest Astronomical Tide
LDMP	Local Disaster Management Plan
LGA	Local Government Area
LGAQ	Local Government Association of Queensland
LNG	Liquefied Natural Gas
LOA	Length Over All
LOR	Level of Reporting
LRMP	Landscape and Rehabilitation Management Plan
LUP	Land Use Plan
m	Metre
m ²	Square metre
m ³	Cubic metre
MCU	Material Change of Use
mg	Milligram
ML	Megalitre
MLWS	Mean Low Water Springs
mm	Millimetre
Mm ³	Cubic mega metre
MRPHP	Major Resource Projects Housing Policy
MSIC	Maritime Security Identification Card

Mt	Mega tonnes
Mtpa	Million tonnes per annum
NC Act	<i>Nature Conservation Act 1992</i>
NC Regulation	<i>Nature Conservation (Wildlife) Regulation 1994</i>
NCL	North Coast Line
NEPC	National Environment Protection Council
NES	National Environmental Significance
NGA	National Greenhouse Accounts
NGER Act	<i>National Greenhouse and Energy Reporting Act 2007</i>
NGER Regulation	<i>National Greenhouse and Energy Reporting Regulation 2008</i>
NODGDM	National Ocean Disposal Guidelines for Dredged Material
NPI	National Pollutant Inventory
NSESD	National Strategy for Ecologically Sustainable Development
NTU	Nephelometric Turbidity Unit
NVMP	Noise and Vibration Management Plan
OC	Overland Unloading Conveyor
OD	Outside Diameter
OEH	Office of Environment and Heritage
OEMP	Operational Environmental Management Plan
OESR	Office of Economic and Statistical Research
PAH	Polynuclear Aromatic Hydrocarbons
PAR	Photosynthetically Active Radiation
PASS	Potential Acid Sulfate Soils
PCB	Polychlorinated Biphenyls
PCM	Procurement and Construction Management
PE	Polyethylene
PLC	Programmable logical controller
PM ₁₀	Particulate matter less than 10 µm in aerodynamic diameter
PM _{2.5}	Particulate matter less than 2.5 µm in aerodynamic diameter
PMAV	Property Map of Assessable Vegetation
PMP	Pest Management Plan
PPE	Personal Protective Equipment
QCLNG	Queensland Curtis LNG
QCP	Queensland Coast Plan
QOCC	Queensland Office of Climate Change
QR	Queensland Rail
QWQG	Queensland Water Quality Guidelines
RC	Reclaim Conveyor

RE	Regional Ecosystem
RGTCT	RG Tanna Coal Terminal
RL	Relative Level
RR	Dumpstation (Rail Receiving)
RTA	Residential Tenancies Authority
s	Second
SB	Surge Bin
SD	Statistical Division
SDPWO Act	<i>State Development and Public Works Organisation Act 1971</i>
SEIS	Supplementary Environmental Impact Statement
SES	State Emergency Services
SEWPaC	Department of Sustainability, Environment, Water, Population and Communities
SHS	State High School
SIA	Social Impact Assessment
SIMP	Social Impact Management Plan
SKM	Sinclair Knights Merz
SMP	Species Management Plan
Sn	Tin
SPA	<i>Sustainable Planning Act 2009</i>
SPL	Strategic Port Land
SPP	State Planning Policy
SPP 1/03	State Planning Policy SPP1/03 Mitigating the Adverse Impacts of Flood, Bushfire and Landslide
SPP1/92	State Planning Policy SPP1/92 Development and Conservation of Agricultural Land
SPR	<i>Sustainable Planning Regulation 2009</i>
SPRP	State Planning Regulatory Provision
SR	Stacker Reclaimer
SS	State School
STP	Sewage Treatment Plant
SWQMP	Soil and Water Quality Management Plan
t	Tonne
TBA	To be advised
TBT	Tributyltin
TC	Transfer Conveyor
TFS	Technical Feasibility Study
TJ	Tera joules
TMP	Traffic Management Plan

TO	Traditional Owners
TOC	Total Organic Carbon
tph	Tonnes per hour
TSHD	Trailer Suction Hopper Dredge
TSP	Total Suspended Particulates
TSS	Total Suspended Solids
TT	Transfer Tower
URS	URS Corporation
VAC	Visual Absorption Capability
VMA	<i>Vegetation Management Act 1999</i>
W	Watt
WBDDP	Western Basin Dredging and Disposal Project
WC	Wharf Conveyor
WEXP1	WICET Expansion Phase 1
WEXP2	WICET Expansion Phase 2
WHS Act 1995	<i>Workplace Health and Safety Act 1995</i>
WHS Act 2011	<i>Work Health and Safety Act 2011</i>
WHS Reg	<i>Workplace Health and Safety Regulation 2008</i>
WICET	Wiggins Island Coal Export Terminal
WICT	Wiggins Island Coal Terminal
WMP	Waste Management Plan
WQMP	Water Quality Management Plan
WQO	Water Quality Objectives
WTP	Water Treatment Plant
YAR	Yarwun Alumina Refinery
YC	Yard Conveyor
µg	Microgram
µm	Micrometre
µS	Micro Siemens

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