

6. Nature conservation

6.1 Summary of comments

A summary of the comments received during the JRYUP EIS consultation process relevant to nature conservation issues are outlined below.

- Commitments are required to minimise vegetation clearing within the project area.
- Commitment to maintain Plane Creek riparian buffer zone of 20 m.
- Clearing of Regional Ecosystems (REs).
- Additional information to be provided in relation to the removal of marine plants in the form of an Application for the Disturbance/Removal of Marine Vegetation.
- Revegetation plans required.

6.2 Vegetation clearing mitigation measures

The following mitigation measures will be incorporated, where practicable, to minimise the potential ecological impacts of the Project:

- To avoid an increase in sediment deposition into Willy, Elizabeth and Plane Creeks during construction activities, an Erosion and Sediment Control Sub Plan (ESCSP) will be implemented. This is particularly important due to the sensitivity of the downstream environment (Sarina Inlet and Llewellyn Bay and ultimately the Great Barrier Reef) (refer EIS Figure 6.2). The main objective of the ESCSP is to ensure adequate mitigation strategies are put in place for any construction activities that may negatively impact on these waterways and their associated vegetation (including intertidal wetlands of Plane Creek). Section 17.5.2 and Appendix H contains further mitigation measures relating to soils.
- Where railway lines cross Willy Creek, opportunities to use bridged structures rather than culverts to minimise the clearing of riparian vegetation and disruption to the creek channel will be encouraged during the design phase.
- The clearing of marine vegetation will be minimised to that required for construction purposes only. Clearly marked 'no go' zones will be established especially during the construction phase along with adequate awareness training given to the construction crew regarding the sensitivity of these areas.
- Disturbance to all remnant vegetation (ie REs, marine and wetland vegetation) not in the project's area of direct disturbance will be avoided.
- A Weed Management Sub Plan will be developed based on the Weed Management Strategy (refer Appendix H) and implemented to minimise weed proliferation and edge effects specifically into:
 - Intertidal communities adjacent to Plane Creek
 - Riparian zones within Willy and Elizabeth Creeks
 - The lacustrine wetland and associated unnamed tributaries north of Willy Creek (west of the project area)

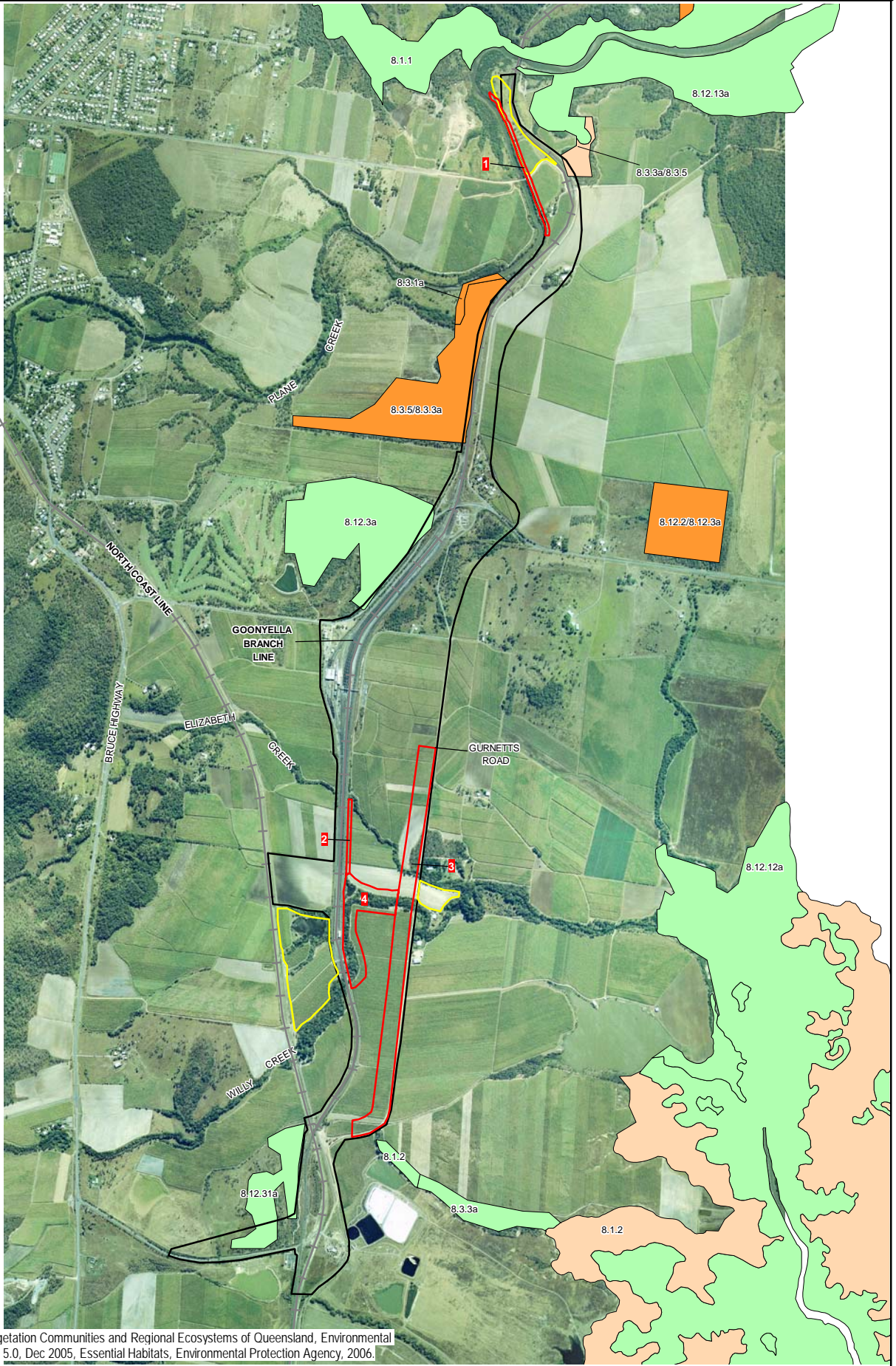
This plan will also include management measures and eradication strategies for existing weed species within the project area where practicable.

- A Vegetation Rehabilitation Strategy for QR owned land within and adjacent to the project area will be produced and implemented. The strategy will outline rehabilitation management strategies for specific locations throughout the project area. As shown in Figure 6.1, specific areas targeted for rehabilitation will be as follows:
 - *Location 1: A vegetation buffer adjacent to Plane Creek.* A 20 m wide vegetation buffer on QR owned land will be planted adjacent to the Plane Creek riparian vegetation to increase the integrity of the existing riparian zone. This buffer zone will increase connectivity between creek systems and provide some protection from sediment loads and nutrients that may result from construction activities. It is anticipated that the buffer will also minimise adverse impacts on the Plane Creek coastal resource and its values.
 - *Location 2: A high flow bypass channel between Elizabeth and Willy Creeks.* As recommended in the Department of Primary Industries and Fisheries (DPIF) comments on the Jilalan EIS dated 26 October 2007, a high flow bypass channel incorporating two to three refuge pools between Elizabeth and Willy Creeks will be incorporated into the final design. These pools will be 50 m long, 15-20 m wide and at least 3 m deep. The riparian zone around the artificial channel will be vegetated with local native vegetation to aid in mimicking a natural system (ie native species identified in the existing riparian zone of Elizabeth and Willy Creeks).
 - *Location 3: A vegetation buffer along Gurnetts Road.* A vegetation buffer to reduce the visual impact of the rail upgrade on residential dwellings directly adjacent the project area will be planted along the western side of Gurnetts Road.
 - *Location 4: An expansion of the existing riparian zone along Willy Creek.* Where practicable the riparian zone on either side of Willy Creek will be expanded to a minimum width of 20 m to increase overall connectivity, habitat value and bank stability. The rehabilitation component of this area will be incorporated with the overall rail design features which include utilising bridged structures over the creek itself and providing suitable instream fisheries habitat which may be lost due to changes in hydrological regimes resulting from construction activities. Measures such as refuge pools and rock ridges will be encouraged for implementation in downstream environs of Willy Creek where practicable.
 - *Potential expansion to vegetation rehabilitation area.* Where practicable and where QR land within and directly adjacent to the project area is not intended to be returned to sugar cane cultivation there is the potential to further expand revegetation areas. This will assist in the protection of and increase in the integrity of existing wetland and riparian vegetation and improve overall connectivity between these areas.

Each of these locations will form a component of the Vegetation Rehabilitation Strategy for the Project. The revegetation design drawings will be prepared during the detailed design phase of the Project with the revegetation associated with Location 2 to be further detailed in the Water Licence application as required under the *Water Act 2000*.

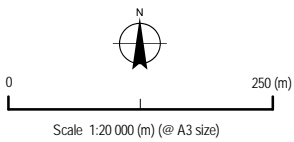
6.3 Clearing of Regional Ecosystems

Outcomes from discussions with representatives from the Department of Natural Resources and Water's (DNRW) Mackay office in November 2007 have resulted in the recommendation that a suitably qualified person ground truth RE8.12.12a and determine if the vegetation community within the area of direct disturbance is remnant. If the area is considered not to be remnant, a Property Map of Assessable Vegetation (PMAV) will be submitted to DNRW for further assessment. If applicable, the PMAV will be submitted outside of the EIS process.



Source: 2003 Remnant Vegetation Communities and Regional Ecosystems of Queensland, Environmental Protection Agency, Version 5.0, Dec 2005, Essential Habitats, Environmental Protection Agency, 2006.

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LEGEND

Project Area

Vegetation Rehabilitation Area

Regional Ecosystem Status

- Of Concern - Dominant
- Of Concern - Sub dominant
- Not of Concern

Potential Expansion to Vegetation Rehabilitation Area

VEGETATION REHABILITATION AREAS

FIGURE 6.1

6.4 Removal of marine plants

The total area of potential direct disturbance to marine vegetation within the project area is approximately 107 m² (refer Appendix G).

An Application for the Disturbance/Removal of Marine Vegetation will be submitted to DPIF in December 2007. The supporting information for this application is provided in Appendix G.

Maintenance activities within the northern extent of the Project that may be carried out during the operational phase will be in accordance with the Code for self-assessable development – Maintenance works on existing lawful structures (other than powerlines and on-farm drains) in a declared fish habitat area or involving the removal, destruction or damage of marine plants (Code number: MP02, March 2006).