



Dredge Spoil Transfer Pipeline – Review of Environmental Factors

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NORTH EAST BUSINESS PARK - DST PIPELINE REVIEW OF ENVIRONMENTAL FACTORS

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EXECUTIVE SUMMARY

This Review of Environmental Factors (REF) for the Dredge Spoil Transfer Pipeline (DST Pipeline) has been prepared by Cardno (Qld) Pty Ltd (Cardno) and will form part of the Supplementary EIS requested by the Coordinator General (CG) on 18 June 2008. The establishment and operation of the DST Pipeline form part of the NEBP capital dredging program. This dredging program is required to facilitate access, through the lower reaches of the Caboolture River, to the marina and marine facilities at the NEBP site. This dredging program constitutes an Environmentally Relevant Activity (ERA) under the *Environmental Protection Act 1994* (i.e. ERA 19c for dredging 100,000 tonnes or more of dredge material).

The proposed eastern extent of the DST Pipeline route is located within Deception Bay, approximately 1km east of the mouth of the Caboolture River. From that point the route extends for a distance of approximately 6.5km within the marked navigational channel of the Caboolture River bed, and then turns south to traverse the southern bank of the Caboolture River. The proposed overland section of the route will follow the Farry Road reserve, turn west and terminate at the south-eastern corner of the NEBP site.

The capital dredging program within the defined navigation channel of the Caboolture River is anticipated to occur over a period of approximately 2 years. The overland sections of the DST Pipeline will remain in place for the duration of the capital dredging program, whilst the submerged sections will be gradually extended over this time until the eastern limit of the dredging operations is reached. At the completion of the capital dredging operations the submerged and overland sections of the DST Pipeline would be removed.

The land and waters traversed by the route of the DST pipeline have environmental values that are recognised and protected by the provisions of various Local, State and Commonwealth legislation. The route traverses a number of ecologically significant areas including:

- the Moreton Bay Marine Park Habitat Protection Area:
- Moreton Bay RAMSAR wetland;
- Deception Bay Fish Habitat Area A (FHA-013);
- mapped remnant vegetation with a "Not of Concern" status; and
- mapped areas of South East Queensland Wader Bird Sites.

The establishment and operation of the DST Pipeline is not likely to have any significant impacts on the local environment in respect of native flora and fauna, water quality, noise, air quality or acid sulphate soils. However, prior to the establishment and operation of the DST Pipeline it will be necessary to secure a number of development permits/approvals, including the following.

1. A Marine Parks Permit issued under the provisions of the *Marine Parks Act 2004*.
2. An Operational Works Permit, for:
 - disturbance of marine plants; and
 - works within a declared fish habitat area.
3. A Resource Allocation Authority issued by the Department of Primary Industries and Fisheries (DPI&F) for works within a declared Fish Habitat Area.
4. An Operational Works Permit from Department of Natural Resources and Water (DNRW) for the clearance of native vegetation within a road reserve.

5. An Operational Work (Vegetation Clearing) Permit from Moreton Bay Regional Council.
6. A Resource Entitlement issued by DNRW for works in Farry Road Reserve is required in support of an Operational Works application.

In addition to the above, the establishment and operation of the DST Pipeline will also need to be the subject of relevant permits and approvals that are secured for the capital dredging works which:

- constitute an Environmentally Relevant Activity (ERA) under the *EP Act* (i.e. ERA 19c for dredging 100,000 tonnes or more of dredge material); and
- involve Prescribed Tidal Works.

The NEBP development has been deemed a Controlled Action that is the subject of a formal assessment and approvals process under the provisions of the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*. The establishment and operation of the DST Pipeline form part of the NEBP development and will be assessed as part of the accredited process.

1. INTRODUCTION

Northeast Business Park Pty Ltd (the Proponent) propose to develop Northeast Business Park (NEBP), a master planned mixed industry and business park, featuring an associated marina, marine industry precinct and complementary residential, commercial and community uses. NEBP is located on a strategically significant 769 hectare landholding on the southern banks of the Caboolture River at Morayfield, 4.5 km in a direct line upstream from the mouth of the Caboolture River. In order to facilitate a safe navigable passage of the Caboolture River to access the marina and marine facilities of NEBP, the Proponent proposes to dredge the existing navigation channel within the lower reaches of the Caboolture River. The proposed dredging program will:

- address an existing safety concern whereby the safe passage of larger vessels is compromised in adverse weather conditions; and
- increase the outflow of flood waters within the Caboolture River thereby providing substantial mitigation of flood effects for properties located upstream of the proposed dredging area.

The proposed dredging area commences approximately 1km east of the mouth of the Caboolture River and extends 6.5 km upstream. Capital dredging works will extract approximately 545,000 m³ of dredge spoil that is proposed to be reused as construction fill within the NEBP site. Capital dredging will be undertaken using cutter suction dredging equipment and the dredge spoil will be transferred to the designated placement area via a 600 mm diameter polyethylene pipeline that will be aligned as shown in Figure 1.

The NEBP proposal was nominated to the Department of Infrastructure and Planning as a project of significance under the *State Development and Public Works Organisation Act 1971* (SDPWO Act). NEBP was declared to be a "significant project" pursuant to the *SDPWO Act* by the Coordinator General (CG) on 21 June 2006, and an Environmental Impact Statement (NEBP EIS) for the project has been prepared and released for public consultation.

In respect of the proposed dredging program within the Caboolture River a Dredging Site Based Management Plan (SBMP) is presented as Appendix R3 of the existing NEBP EIS. That SBMP contains all of the relevant engineering drawings, together with further details of the methodology for dredging and for the control of potential environmental impacts associated with dredging operations.

This Review of Environmental Factors (REF) for the Dredge Spoil Transfer Pipeline (DST Pipeline), has been prepared by Cardno (Qld) Pty Ltd (Cardno) in response to public submissions to the NEBP EIS, and provides an assessment of the potential environmental impacts and permitting requirements for the DST Pipeline. This REF will form part of the Supplementary EIS requested by the CG on 18 June 2008.

2. ROUTE DESCRIPTION

The location of the proposed DST Pipeline route (the route) is shown on Figure 1.

The proposed eastern extent of the DST Pipeline route is located within Deception Bay, approximately 1km east of the mouth of the Caboolture River. From that point the route extends for a distance of approximately 6.5km within the marked navigational channel along the Caboolture River bed, and then turns south to traverse the southern bank of the Caboolture River. The proposed overland section of the route will follow the Farry Road reserve adjacent to the eastern property boundary of Lot 25 on S31125, turn west and terminate at the south east corner of the NEBP site at Lot 24 on SP158298.

The location of the route in relation to ecologically significant areas is shown on Figure 2. The route traverses a number of ecologically significant areas including:

- the Moreton Bay Marine Park Habitat Protection Area;
- Moreton Bay RAMSAR wetland;
- Deception Bay Fish Habitat Area A (FHA-013);
- mapped remnant vegetation with a "Not of Concern" status; and
- mapped areas of South East Queensland Wader Bird Sites.

3. DST PIPELINE DESCRIPTION

3.1 Establishment Phase

Prior to commencement of dredging operations, a 600mm diameter polyethylene pipeline will be positioned along the overland sections of the route extending from the NEBP site to the Caboolture River. Where feasible the DST Pipeline will be located within existing clearings that extend along the majority of the overland sections of the route. The DST pipeline will be located on the existing ground surface and will not be buried (or cradled to stand immediately above the ground). The overland section of the DST Pipeline will remain in place for the duration of the capital dredging operations.

The submerged section of the DST Pipeline will be progressively established as the dredging operations are carried out. An initial section of the submerged DST Pipeline will be established to provide a connection between the overland section of the DST Pipeline and the upstream limit of the dredging area. This section of the DST Pipeline will be laid over the natural bed of the Caboolture River, with appropriate community awareness signage to be established up-stream and down-stream of the DST Pipeline. Where required the DST Pipeline will be weighted and/or anchored to the river bed. As dredging operations progress downstream within the defined navigation channel additional sections of the DST Pipeline will be added and will be placed behind the cutter suction dredge within the deepened navigation channel.

The exact methodology for DST Pipeline establishment will be determined at the detail design phase of works.

3.2 Operational Phase

The capital dredging program within the defined navigation channel of the Caboolture River is anticipated to occur over a period of approximately 2 years. The overland sections of the DST Pipeline will remain in place for the duration of the capital dredging program, whilst the submerged sections will be gradually increased over this time until the eastern limit of the dredging operations is reached.

Whilst in operation the DST Pipeline will convey slurry (sediment and water) from the cutter section dredge to the designated dredge spoil disposal site located at NEBP (that is Residential Area 2 as shown on the Structure Plan incorporated into the existing NEBP EIS).

The dredging contractor shall establish a pressure monitoring system for the DST Pipeline to detect any leakages or failures of the pipeline. In the event that the dredging contractor becomes aware of a leakage or failure within the DST Pipeline, as indicated by sediment plumes or changes in pressure, the dredging contractor shall cease dredging immediately and act to prevent further leakages from occurring.

3.3 Decommissioning Phase

The DST Pipeline will be removed at the completion of the dredging activity and disturbed areas rehabilitated. Information regarding the decommissioning and rehabilitation methodology for any disturbed areas will be established at the detailed design phase. In particular, a Rehabilitation and Revegetation Management Plan will be developed at the detail design phase to ensure appropriate rehabilitation of all overland areas disturbed by the DST Pipeline occurs.

The DST Pipeline would not be retained for use in any subsequent maintenance dredging program.

4. POTENTIAL ENVIRONMENTAL IMPACTS AND MANAGEMENT

Potential environmental impacts and mitigation measures associated with establishment and operation of the DST Pipeline are detailed below.

4.1 Native Flora Impacts

The majority of the overland sections of the DST Pipeline is situated within existing clearings within the Farry Road reserve and any disturbance to significant vegetation will be avoided. The final 300 metres of the overland section of the DST Pipeline traverses a mapped area of remnant vegetation comprised of:

- RE 12.1.2 - Saltpan vegetation including grassland and herbland on marine clay plains, which has a Not of concern status pursuant to the *VM Act*; and
- RE 12.1.3 - Mangrove shrubland to low closed forest on marine clay plains and estuaries, which has a Not of concern status pursuant to the *VM Act*.

Adverse impacts to this vegetation will be minimised to the extent practicable by locating the DST Pipeline within disturbed areas and by laying the pipeline on the ground surface rather than excavating and burying the pipeline.

The submerged section of the DST Pipeline extending from the banks of the Caboolture River to the upstream end of the dredge area does not traverse any known seagrass beds. There is expected to be a temporary loss of existing benthic micro algae as a result of direct loss of light to the benthos located beneath this section of the DST Pipeline. However benthic microalgae are known for their rapid re-colonisation rates and it is expected that benthic microalgae will rapidly recover following removal and decommissioning of the DST Pipeline.

The majority of the submerged sections of the DST Pipeline will be laid out behind the dredge within dredged sections of the navigation channel. As such no adverse impacts on marine flora are anticipated.

4.2 Native Fauna Impacts

As detailed in the NEBP EIS, the Caboolture River and adjacent land is known to provide habitat resources for a diversity of terrestrial and aquatic fauna including:

- Koala (*Phascolarctos cinereus*), which are known to inhabit the eucalypt dominated open forest and woodland habitats adjacent to the Caboolture River;
- migratory shore birds (waders) such as the Grey-tailed tattler (*Tringa brevipes*), Ruddy turnstone (*Arenaria interpres*) and Sharp tailed sandpiper (*Calidris acuminata*), which forage within the tidal flats of the Caboolture River;
- marine fauna such as Dugong (*Dugong dugon*) and Green turtle (*Chelonia mydas*) which utilise the seagrass meadows of Moreton Bay; and
- a variety of species of recreational and commercial fisheries significance including Yellowfin bream (*Acanthopagrus australis*), Tarwhine bream (*Rhabdosargus sarba*), Flathead (*Platycephalus spp.*) and Mud crabs (*Scylla serrata*).

The potential impacts of the proposed capital and subsequent maintenance dredging programs upon these fauna have been considered in detail within the NEBP EIS, as are measures for the mitigation of these potential impacts.

The establishment and operation of the DST Pipeline, which is ancillary to the actual dredging operations, will not have any additional impacts upon local fauna populations.

4.3 Water Quality

The overland sections of the DST Pipeline are to be laid over the existing ground surface with only minor racking, scrapping and/or spreading of bed material to be required. There would be no large scale excavation or trenching carried out for the purpose of establishing the overland sections of the DST Pipeline. Where required, drainage would be provided, beneath the DST Pipeline, to prevent excessive ponding of water upstream of the DST Pipeline following rainfall events. The placement of the DST Pipeline on the ground surface will also insist in the conduct of regular inspections and maintenance of the DST Pipeline.

The initial placement of the submerged sections of the DST Pipeline will result in a short term disturbance to benthic sediment. The reinforcement of the DST Pipeline to the riverbed will reduce any additional DST Pipeline movement and associated turbidity. The physical interaction of the DST Pipeline with the riverbank has potential to further degrade or alter the already highly disturbed riverbank profile via DST Pipeline movement or pressure on the riverbank and associated erosion/compaction. Appropriate engineering measures will be designed for placement of the DST Pipeline over the riverbank to reduce any impacts to the riverbank that that could result from movement of the DST Pipeline (e.g. erosion). This will occur at the detail design phase of development.

In the event of a DST Pipeline rupture during dredge spoil transfer activities, there is potential for dredge spoil to leak into the Caboolture River. The dredging contractor shall establish a pressure monitoring system within the submerged DST Pipeline to ensure that no leakages or failures occur or if they do occur, the leak or failure can be quickly detected, fixed and the site controlled and remediated. Furthermore, in the event that the dredging contractor becomes aware of a leakage or failure within the DST Pipeline, as indicated by sediment plumes or changes in pressure, the dredging contractor shall cease dredging immediately and act to prevent further leakages from occurring.

4.4 Noise

The establishment and decommissioning of the overland sections of the DST Pipeline will involve the operation of a relatively small number of vehicles that will be used to prepare the ground surface, convey the pipeline to/from the site and lay/remove the pipeline along the route. The initial establishment and eventual decommissioning of the overland sections of the DST Pipeline is anticipated to be completed in a relatively short timeframe (e.g. less than 2 weeks).

The proposed route for the DST Pipeline is located approximately 200m to the north of the closest residential dwellings located off Dunbar Road and High Road. The duration of DST Pipeline establishment and decommissioning phases, the nature and number of noise sources that would be involved are unlikely to have an unacceptable adverse impact upon the acoustic amenity of adjacent residents. It is also anticipated that no emissions of sound from the DST Pipeline would be audible at adjacent residences during the operational phase of the dredging program.

The establishment, operation and decommissioning of the submerged sections of the DST Pipeline will not result in any emission of sound that is likely to be causative of nuisance to nearby residents or disturbance to native wildlife.

4.5 Air Quality

There is no reasonable expectation of adverse air quality impacts associated with establishment, operation and decommissioning of the DST Pipeline.

4.6 Acid Sulphate Soils

The DST Pipeline route traverses land that is known, or considered likely, to support potential acid sulphate soils. However the establishment, operation and decommissioning of the DST Pipeline would not require disturbance, including excavation, of acid sulphate soils considering the extent of disturbance associated with navigation channel dredging. Navigation channel dredging shall be the subject of an activity specific ASSMP prepared as part of the operational works approval stage and in consultation with the Department of Natural Resources and Water.

5. COMPLIANCE WITH BIODIVERSITY CONSERVATION REGULATIONS

5.1 Environment Protection and Biodiversity Conservation Act 1999

The *EPBC Act* requires that impacts on Matters of NES must be considered when undertaking a project, and if the project is likely to impact on such a matter, an approval is required from the Department of Environment, Water, Heritage and the Arts (DEWHA).

Matters of NES are:

- World Heritage Areas;
- National Heritage Places;
- Ramsar Wetlands of International Significance;
- Nationally Listed Threatened Species and Ecological Communities;
- Nationally Listed Migratory Species;
- Commonwealth Marine Areas; and
- Nuclear Actions.

5.1.1 Recognised Values and Constraints

The land and water traversed by the DST Pipeline are known to contain a number of matters of NES, including:

- Wetlands of international importance (i.e. the Moreton Bay RAMSAR Wetland);
- Listed threatened species and communities; and
- Listed migratory species.

5.1.2 Referral, Approval or Permit Requirements

The NEBP development, including the proposed Caboolture River dredging activity has been referred to the Minister for the DEWHA. A decision was made on the 12 July 2006 by the Minister that the NEBP proposal is a controlled action with the controlling provisions being:

- Wetlands of international importance (i.e. the Moreton Bay RAMSAR Wetland);
- Listed threatened species and communities; and
- Listed migratory species.

In accordance with the Terms of Reference for the NEBP EIS, a separate report titled "*A Report on Matters of Environmental Significance*" (November 2007) has been prepared by Cardno which addresses the potential impacts of the NEBP development including the impact of the dredging on these matters of NES. The NES report identifies mitigation measures that will be adopted in order to minimise potential impacts of the development on matters of NES. The NES report concluded that works associated with the dredging activity is unlikely to have a significant impact on recognised matters of NES.

It is relevant to note that the route for the DST Pipeline was not specified or specifically assessed within the NES report. However, the potential environmental impacts of the DST Pipeline are considered to be minor in comparison to the actual dredging operations and other activities associated with the development of NEBP which were addressed in the NES report. An amended NES report is being prepared and will include consideration of the potential impacts of the DST Pipeline. The amended matters of NES report will form part of the Supplementary EIS.

No additional *EPBC Act* referrals, approvals or permits are required.

5.2 Land Act 1994

The *Land Act 1994* consolidates laws relating to the administration and management of non-freehold land, including land below high water, deeds of grant in trust and the creation of freehold land. The DNRW administers the *Land Act 1994* and is responsible for determining whether a proposed use is suitable under the conditions of the existing lease, provide resource entitlement on State Land and determine appropriate tenure.

5.2.1 Values and Constraints

The section of the DST Pipeline route located within the marked navigation channel of the Caboolture River is considered to occur on unallocated state land under Section 9 of the *Land Act 1994*.

The section of the DST Pipeline route extending from the southern boundary of the marked navigation channel to the Farry Road Reserve occurs in a Declared Fish Habitat Area which is entrusted to the Department of Primary Industries and Fisheries (DPI&F), who are the administering authority of the *Fisheries Act 1994*.

The overland section of the DST Pipeline route is located within a designated road reserve.

5.2.2 Referral, Approval or Permit Requirements

Pursuant to Schedule 10 of the *Integrated Planning Regulation 1998* evidence of a resource entitlement from the DNRW is required to be provided in support of any application for a permit/approval for works on state land.

In respect of resource entitlements required under the *Land Act 1994* for establishment of the DST Pipeline, resource entitlements will be required to locate the DST Pipeline within:

- the marked navigation channel of the Caboolture River; and
- the Farry Road Reserve.

5.3 Marine Parks Act 2004

The *Marine Parks Act 2004* (MP Act) provides for the setting apart of tidal lands and tidal waters as marine parks and for the development, operation and review of zoning plans and management plans. Activities that require permission to occur within the Moreton Bay Marine Park under the *MP Act* are detailed in the *Moreton Bay Marine Park Zoning Plan 1997*.

It is relevant to note that the *Moreton Bay Marine Park Zoning Plan 1997* is due to expire on 1 September 2008 and amendments to the document are currently underway.

5.3.1 Recognised Values and Constraints

The DST Pipeline route traverses an area of the Moreton Bay Marine Park that is currently identified as a Habitat Zone pursuant to the *Moreton Bay Marine Park Zoning Plan 1997*.

Although permission can be granted to allow dredging within the marked navigational channel, there is currently no provision for establishment of DST Pipelines within the route alignment that is a Habitat Zone. To overcome this, the NEBP EIS sought for the Minister to amend the zoning plan to create a “works area” within the Caboolture River, to allow for establishment of a submerged DST Pipeline, which is included within the definition of the *Moreton Bay Marine Park Zoning Plan 1997* for major works.

5.3.2 Referral, Approval or Permit Requirements

A Marine Park Permit is required to undertake major works within Habitat Zones of the Moreton Bay Marine Park and will be required to establish that part of the DST Pipeline that is located within the Marine Park and outside of the defined navigation channel.

5.4 Nature Conservation Act 1992

The *Nature Conservation Act 1992* (NC Act) and associated *Nature Conservation (Wildlife) Regulation 2006* provide a framework for the conservation of nature. The NC Act and the regulations made pursuant to this Act provide specific protection for Queensland's flora and fauna. It seeks to achieve this through an integrated and comprehensive conservation strategy for Queensland that involves:

- gathering of information and community education;
- dedication and declaration of protected areas;
- management of protected areas;
- protection for native wildlife and its habitat;
- use of protected areas to be ecologically sustainable; and
- recognition of interests of Aborigines and Torres Strait Islanders in nature and their cooperative involvement in its conservation.

5.4.1 Recognised Values and Constraints

The DST Pipeline does not traverse any land or water that forms part of a protected area established under the provisions of the NC Act.

The land and water traversed by the DST Pipeline is known to be utilised by populations of several wildlife species that are of significance pursuant to the NC Act, including:

- Koala (*Phascolarctos cinereus*), which are known to inhabit the eucalypt dominated open forest and woodland habitats adjacent to the Caboolture River;
- migratory shore birds (waders) such as the Grey-tailed tattler (*Tringa brevipes*), Ruddy turnstone (*Arenaria interpres*) and Sharp tailed sandpiper (*Calidris acuminata*), which forage within the tidal flats of the Caboolture River; and
- marine fauna such as Dugong (*Dugong dugon*) and Green turtle (*Chelonia mydas*) which utilise the seagrass meadows of Moreton Bay.

5.4.2 Referral, Approval or Permit Requirements

The establishment, operation and decommissioning of the DST Pipeline would not require any permits or approvals pursuant to the NC Act.

5.5 Fisheries Act 1994

The objective of the *Fisheries Act 1994* and its *Regulation 1995* is to sustain the important contribution that Queensland's commercial and recreational fisheries make to the State's

economy. The *Act* provides for the management, use, development and protection of fisheries resources and fish habitats and the management of aquaculture activities, and related purposes.

One important and relevant mechanism by which this is achieved is the protection of all marine plants (i.e. plants growing within an area that is regularly inundated by tidal waters including mangroves, salt-couch, seagrass etc) from unauthorised disturbance, damage or removal. The primary mechanisms by which protection of fisheries habitat is achieved includes:

- the establishment of declared Fish Habitat Areas, which encompasses over 600,000 hectares of tidal wetlands, within which areas stringent controls are imposed in order to preserve ecological processes upon which the fisheries productivity of the habitats depend;
- the protection of all marine plants (i.e. mangroves, salt-couch, seagrass etc) from unauthorised disturbance, damage or removal; and
- the management of fish passage throughout watercourses.

5.5.1 Recognised Values and Constraints

The DST Pipeline route traverses part of the Deception Bay Declared Fish Habitat Area that is not encompassed by the designated Caboolture River navigation channel. Part of the overland section of the DST Pipeline route also traverses land that supports saltmarsh and mangrove communities.

5.5.2 Referral, Approval or Permit Requirements

Pursuant to the provisions of the *Fisheries Act 1994* and the *Integrated Planning Act*, a development approval is also required to undertake operational works in fish habitat areas and/or remove, destroy or damage any marine plants. Marine Plants are defined in the *Fisheries Act 1994* as:

(1) including:

“(a) a plant (a tidal plant) that usually grows on, or adjacent to, tidal land, whether it is living, dead, standing or fallen;

(b) material of a tidal plant, or other plant material on tidal land;

(c) a plant, or material of a plant, prescribed under a regulation or management plan to be a marine plant.

(2) *Marine plant does not include a plant that is a declared pest under the Land Protection (Pest and Stock Route Management) Act 2002.*”

With respect to the potential disturbance to marine plants and the location of the DST Pipeline route in a Declared Fish Habitat Area, an approval to undertake operational works within a Declared Fish Habitat Area and to disturb marine plants will be required. Applications seeking approval for operational works under the *Fisheries Act 1994* are assessed against a series of relevant Fish Habitat Management Operational Policies (FHMOP).

In seeking an approval to undertake operational works within a Declared Fish Habitat Area, a Resource Allocation Authority is also required to be issued by the DPI&F pursuant to Section 76b of the *Fisheries Act 1994*.

5.6 Environment Protection Act 1994

The object of the *Environmental Protection Act 1994 (EP Act)* is to “Protect Queensland’s environment while allowing for development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends”.

The EP Act contains provisions that allow the regulation of certain activities and matters, obligating all persons into having an environmental duty, creating offences of environmental harm and providing policies relating to certain matters. Current policies relating to waste, noise, air and water exist.

5.6.1 Values and Constraints

The land and waters traversed by the route of the DST Pipeline have ambient environmental values that are recognised and protected by the provisions of the *EP Act*.

The establishment and operation of the DST Pipeline forms part of the NEBP capital dredging program. This dredging program constitutes an Environmentally Relevant Activity (ERA) under the *EP Act* (i.e. ERA 19c for dredging 100,000 tonnes or more of dredge material).

5.6.2 Referral, Approval or Permit Requirements

The DST Pipeline component of the dredging activity will be considered in the assessment of the application for a development approval for an Environmentally Relevant Activity 19(c) (ERA) for dredging. The NEBP EIS seeks approval for the conduct of ERA 19(c) and contains relevant information that addresses the requirements of the EP Act, including a Site Based Management Plan for dredging details management of dredge spoil transfer to ensure compliance with the *EP Act* and its policies.

No additional referrals, approvals or permits would be required for the DST Pipeline under the provisions of the EP Act.

5.7 Coastal Protection and Management Act 1995

The South East Queensland Regional Coastal Management Plan 2005-2006 (SEQ Regional Plan) describes how the coast is to be managed as required by the *Coastal Protection and Management Act 1995 (CPM Act)*. The objectives of the SEQ Coastal Plan are to deliver the objectives of the *CPM Act*, which are to:

- provide for the protection, conservation, rehabilitation and management of the coast, including its resources and biological diversity;
- have regard to the goal, core objectives and guiding principles of the National Strategy for Ecologically Sustainable Development in the use of the coastal zone;
- provide, in conjunction with other legislation, a coordinated and integrated management and administrative framework for the ecologically sustainable development of the coastal zone; and
- encourage the enhancement of knowledge of coastal resources and the effect of human activities on the coastal zone.

The CPM Act and SEQ Regional Plan has jurisdiction over all areas in the Coastal Management District and other identified significant areas within the coastal zone.

5.7.1 Recognised Values and Constraints

All of the submerged sections of the DST Pipeline route are located below HAT and within the defined Coastal Management District, as is part of the section of overland DST Pipeline route that traverses marine plant communities adjacent to the Caboolture River.

5.7.2 Referral, Approval or Permit Requirements

The program of dredging works within the Caboolture River, which the DST Pipeline forms part, is currently being assessed against the provisions of the CPM Act and SEQ Regional Plan as part of the NEBP EIS process. The information contained in this REF is intended to assist in this existing assessment and approvals process.

Ultimately a permit for prescribed tidal works that authorises the establishment of operation of the DST Pipeline will be required for those parts of the pipeline that are to be located within the Coastal Management District. It is envisaged that relevant authorities for the DST Pipeline would be obtained as part of a consolidated permit for prescribed tidal works for the entire dredging program.

5.8 Vegetation Management Act 1999

The *Vegetation Management Act 1999* (VM Act) and Regional Vegetation Management Codes provide a formal framework for the recognition and management of the biodiversity values of vegetation in Queensland.

5.8.1 Values and Constraints

The VM Act regulates the clearance of assessable vegetation within Queensland.

The overland section of the DST Pipeline route is located within the a Road Reserve that contains native vegetation and also traverses an area of mapped remnant Not of Concern vegetation comprised of RE12.1.3 - Mangrove shrubland to low closed forest on marine clay plains and estuaries.

For the purposes of this assessment it is relevant to note the following definition that operate under the provisions of the VM Act:

Vegetation — *is a native tree or plant other than the following—*

(a) grass or non-woody herbage

(b) a plant within a grassland regional ecosystem prescribed under a regulation

(c) a mangrove.

Clear, *for vegetation—*

(a) means remove, cut down, ringbark, push over, poison or destroy in any way including by burning, flooding or draining; but

(b) does not include destroying standing vegetation by stock, or lopping a tree.

Any clearance of vegetation, as defined above, that is undertaken within the Farry Road reserve for the purpose of establishing the DST Pipeline will be assessable vegetation clearance.

5.8.2 Referral, Approval or Permit Requirements

The establishment of the DST Pipeline within Farry Road reserve is likely to require some clearance of native vegetation as defined in the *VM Act*, notwithstanding the presence of existing clearings along Farry Road and the fact that some of the vegetation that would be

disturbed (i.e. mangroves, grasses and non-woody herbage) is not considered to be vegetation for the purposes of the *VM Act*.

Prior to submission of any operational works application for the clearing of assessable native vegetation there is a requirement to obtain written confirmation from the Chief Executive of the *VM Act* that the proposed clearance of remnant vegetation is for a relevant purpose under Section 22A of the *VM Act*. As the installation of the DST Pipeline forms part of the NEBP project, which is a state significant project, it constitutes a relevant purpose pursuant to Section 22A of the *VM Act*.

The appropriate part of the Code against which any application seeking Operational Works to Clear Native Vegetation would be assessed for compliance pursuant to the *VM Act* would be Part S – Requirement for Clearing for Significant Projects.

5.9 Caboolture Shire Plan

Despite the amalgamation of Caboolture Shire into the Moreton Bay Regional Council, the Caboolture Shire Plan remains relevant for the assessment of the NEBP development.

The Caboolture Shire Plan has been developed in accordance with the *Integrated Planning Act 1997*. The Caboolture Shire Plan provides assessment requirements to ensure the Desired Environmental Outcomes of the shire are maintained through appropriate assessment of proposed developments.

The Caboolture Shire Plan provides a series of overlay maps and corresponding assessment criteria to determine the level of assessment of various aspects of development.

5.9.1 Recognised Values and Constraints

The following overlay maps are traversed by the DST Pipeline route:

- Area 1 (i.e. <5m above AHD) on Central Planning Area Overlay Map CO3 – Acid Sulfate Soils;
- a Catchment Protected Major Waterway and Wetland Protected Area on Central Planning Area Overlay Map CO3 – Catchment Protection; and
- a State Nature Conservation Area and Ecological Corridor on the Central Planning Area Overlay Map CO10 – Nature Conservation.

The Caboolture Shire Plan provides assessment tables that can be used to determine whether the establishment of the DST Pipeline in areas affected by the overlay designations detailed above constitutes exempt, self assessable or code assessable development.

An interrogation of the assessment tables has established that:

- provided there will be no excavations associated with establishment of the DST Pipeline, the DST Pipeline is exempt from requiring assessment against the Acid Sulfate Soils Overlay;
- as the Farry Road Reserve is larger than 3000m² and mapped as a Wetland Protection Area, any works that require clearing of native vegetation (i.e. trees and plants) for the installation of the DST Pipeline will be code assessable development against the Catchment Protection Overlay Code; and

- any clearing of native vegetation to establish the DST Pipeline will occur within areas mapped as State Nature Conservation Areas and as such the DST Pipeline is code assessable development against the Nature Conservation Overlay Code.

5.9.2 Approval Requirements

An Operational Works (Vegetation Clearing) Permit is likely to be required to establish the DST Pipeline within the Farry Road reserve. In this respect it is noted that the Caboolture Shire Plan defines vegetation clearing as removing, cutting down, ringbarking, pushing over, topping, lopping, poisoning, burning, flooding, burying, draining, damaging or destroying in any way native trees or plants. The definition includes thinning or partial clearing such as the removal of understorey native trees or plants.

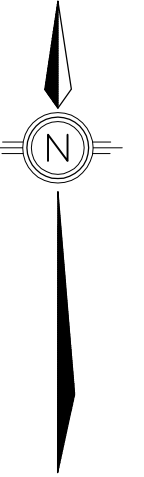
6. APPROVAL AND ENTITLEMENT REQUIREMENTS

	Legislation	Formal Requirements	Advice	Approval Requirements	/Permit	Resource Entitlement/ Allocation Requirements
Commonwealth	<i>Environment Protection and Biodiversity Conservation Act 1999</i>	NEBP project previously referred to the Minister for Environment and Water Resources.		The NEBP project is a designated controlled action currently the subject of an EPBC Act accredited assessment and approvals process.		None
	<i>Marine Parks Act 2004</i>	None		Marine Parks Permit		None
State	<i>Nature Conservation Act 1992</i>	None		None		None
	<i>Fisheries Act 1994</i>	None		Operational works for: <ul style="list-style-type: none"> disturbance of marine plants; and works within a declared fish habitat area. 		Resource Allocation Authority required.
	<i>Land Act 1994</i>	None		None		Resource Entitlement for works in: <ul style="list-style-type: none"> the marked navigation channel; and Farry Road Reserve.
	<i>Environmental Protection Act 1994</i>	None		The DST Pipeline forms part of the ERA 19(c) works within the Caboolture River which are the subject of NEBP EIS assessment and approvals process. No additional permits or approvals are required.		None
	<i>Coastal Protection and Management Act 1995</i>	None		Operational Works approval for Prescribed Tidal Works. It is anticipated that a single Prescribed Tidal Works permit would be sought for all relevant aspects of the dredging operations.		As per the requirements of the <i>Land Act 1994</i> .
	<i>Vegetation Management Act 1999</i>	Confirmation from the Chief Executive of the <i>VM Act</i> that the proposed clearance of assessable vegetation is for a relevant purpose under Section 22A of the <i>VM Act</i> .		Operational Works approval for Clearance of Native Vegetation.		Evidence of a Resource Entitlement for works in Farry Road Reserve is required in support of an Operational Works application.
	Local	<i>Caboolture Shire Plan</i>	None		Operational Work (Vegetation Clearing) Permit	

FIGURES

Figure 1 **Locality Plan**

Figure 2 **Environmentally Significant Areas**



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Aerial Sourced from Google Earth, 2008.

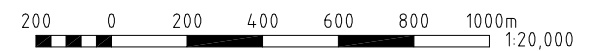
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North East Business Park Pty Ltd
CAD FILE: I:\7800-40\ACAD\Dredge Spoil Transfer Pipeline\Figure 1 - Locality Plan.dwg
XREF's: X-Caboolture_mga94, X-Base-Design 3, X-Road Outline Res A and B

LEGEND

- North East Business Park Site Boundary
- Spoil Transfer Pipeline Alignment - Overland
- - - Spoil Transfer Pipeline Alignment - Submerged

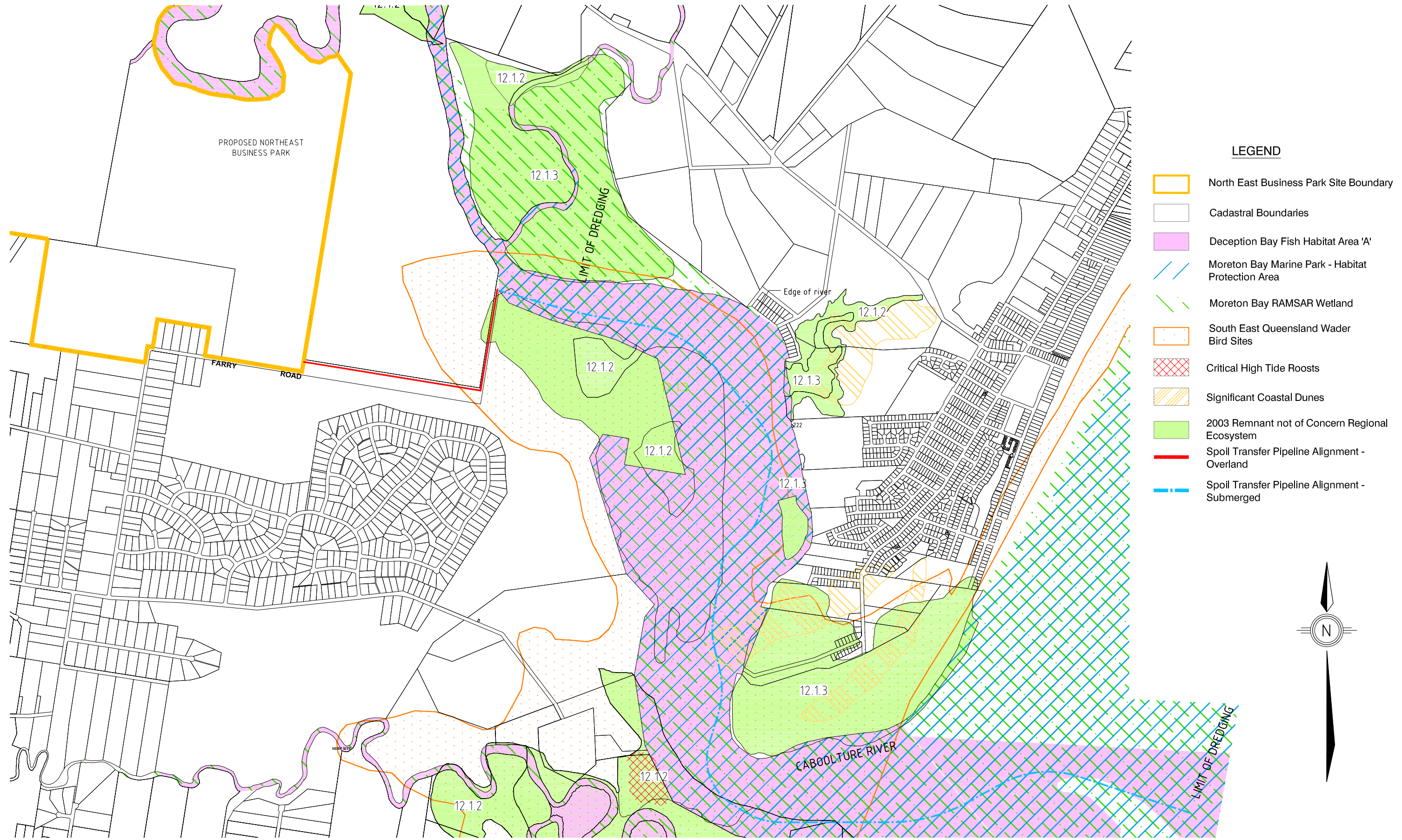


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**FIGURE 1
LOCALITY PLAN**

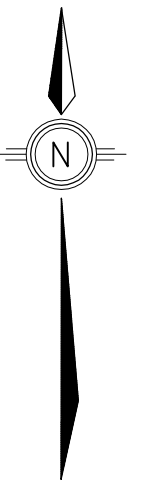
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LEGEND

-  North East Business Park Site Boundary
-  Cadastral Boundaries
-  Deception Bay Fish Habitat Area 'A'
-  Moreton Bay Marine Park - Habitat Protection Area
-  Moreton Bay RAMSAR Wetland
-  South East Queensland Wader Bird Sites
-  Critical High Tide Roosts
-  Significant Coastal Dunes
-  2003 Remnant not of Concern Regional Ecosystem
-  Spoil Transfer Pipeline Alignment - Overland
-  Spoil Transfer Pipeline Alignment - Submerged



200 0 200 400 600 800 1000m
1:20,000

Scale 1:20,000 (A3)

**FIGURE 2
ENVIRONMENTALLY SIGNIFICANT AREAS**

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