

# Toondah Harbour Development Project Description

## Background

In June 2013, the Queensland Government declared Toondah Harbour a Priority Development Area (PDA) under the Economic Development Act 2012 (ED Act) at the request of Redland City Council (RCC). PDAs are parcels of land within Queensland identified for specific accelerated development, with a focus on economic growth. The Minister for Economic Development Queensland (EDQ) manages the planning of the Toondah Harbour PDA.

The location was identified by the state and local government on the basis that the area includes the existing marine facility that serves as the base for water taxi, passenger and vehicular ferry services between the mainland and North Stradbroke Island, as well as a public boat ramp for recreational vessels. More than a million passengers and 200,000 vehicles move through the port annually.

The PDA has a total area of 67.4 hectares, encompassing 17.9 hectares of existing land and 49.5 hectares of marine and tidal environments, of which 42 ha overlaps with the Moreton Bay Ramsar Wetland. The area is of variable ecological quality as Toondah Harbour has undergone historical disturbance with a large portion of the PDA previously reclaimed from the 1960s onwards. The site continues to be disturbed by intermittent maintenance dredging and vessel traffic associated with the existing barge and ferry terminals and public boat ramp.

In May 2014, the Queensland Government approved the Toondah Harbour PDA Development Scheme to guide future land use, planning and development decisions in the PDA. The planning intent for the site is to reinforce Toondah Harbour PDA's role as a community destination and the regional gateway to Moreton Bay and North Stradbroke Island. Further, the Queensland Government has committed to phasing out sand mining on North Stradbroke Island by 2019 and expanding the island's existing industries to ensure a strong, sustainable economy for residents. The revitalisation of Toondah Harbour is important in supporting the economic transition of North Stradbroke Island from sand mining to ecotourism.

The proposed redevelopment of Toondah Harbour is not a market led proposal - it did not originate from the private sector or from the Proponent specifically. In June 2014, EDQ and RCC called for expressions of interest from the private sector to redevelop public lands in the Toondah Harbour PDA. The Expression of Interest Information Memorandum noted that there was 6.9 hectares of key developable land parcels included in the offering at Toondah Harbour, with opportunity to develop land within the PDA below the High Water Mark. The information memorandum stated, *"Development within the PDA provides an opportunity to support economic development and reinforce Toondah Harbour's strong community identity and role as the gateway to Moreton Bay and North Stradbroke Island. Development opportunities include mixed use, medium density residential, marine, tourism and retail based development and the potential for a private berth marina, subject to relevant approvals."*

Additional infrastructure and public realm requirements were detailed as follows: *"Proponents will pay infrastructure charges for the development projects. However, in addition to the commercial elements of the project, proponents will also be expected to contribute to the delivery of additional PDA wide infrastructure or improvements that are required to realise the PDA vision and ensure the effective operating of the area as a transport and tourism hub. The government parties are seeking to upgrade or implement the following items and proponents should consider how they would contribute to the delivery of these items as an integral part of their proposals:*

- *the new waterfront plaza;*
- *provision for ferry terminals (minimum of two vehicle ferry terminals and two passenger ferry terminals);*
- *ticketing and information centre associated with the plaza;*

- *capital dredging to straighten and widen the Fison Channel and extend the swing basin;*
- *contiguous boardwalk promenade along the waterfront;*
- *improvements to GJ Walter Park;*
- *car parks associated with the ferry terminals to be delivered through a combination of at grade parking and managed off-street carparking; and*
- *a bus interchange.”*

The proposed project provides for the delivery of all additional infrastructure and public realm requirements as part of a single integrated proposal at no cost to the ratepayer or taxpayer.

In September 2015, Walker Group Holdings, (the Proponent) was announced as the preferred development partner to redevelop underutilised public land in the PDA. In late 2015, the parties entered into binding commercial agreements for the Toondah Harbour Project (the Project), including a development agreement and an infrastructure agreement. Under the development agreement, the Proponent is responsible for designing, financing and delivering the project including obtaining environmental and development approvals.

The project will be constructed over a period of 15 – 20 years including the development or replacement of the existing barge and ferry terminals. The marine operations are part of the existing character of the Moreton Bay Ramsar Wetland and support current residential and tourism traffic to North Stradbroke Island and Moreton Bay. Tourism facilities, marina, mixed use, commercial and residential development, car parking, and public open space will support the new destination and the area’s function as a world-class gateway to North Stradbroke Island and Moreton Bay. The project design will also ensure that all components are sympathetic to and support the ecological character of the Moreton Bay Ramsar Wetland to the greatest extent possible. For example, the project will introduce new conservation areas and a wetland and cultural education centre.

## Integration of the Existing Boat Harbour and Operations

As noted above, the public tender process required the successful proponent to deliver, as an integral part of its proposal, capital dredging to straighten and widen the Fison Channel and extend the swing basin. This existing public navigation channel is 2.55km long and typically 45 metres wide. It extends from the swing basin immediately in front of the existing barge berths, via three significant bends to exit into deeper water approximately 1.5km past Cassim Island. The swing basin’s existing diameter is significantly below the accepted minimum of 1.5 times the maximum length of vessels currently utilising the harbour.

Barges travelling to and from North Stradbroke Island are regularly observed ‘bottoming out’ in Fison Channel, generating turbidity plumes and risking damage to the vessels. The Fison Channel is periodically subject to maintenance dredging with the most recent dredging event approved in 2013 and carried out in 2014. This dredging event saw the Department of Transport and Main Roads receive approval for a Material Change of Use for Environmentally Relevant Activity (ERA) 16-(1c) Dredging >100,000 tonnes but <1,000,000 tonnes year, to dredge the channel to a depth of -2.5m Lowest Astronomical Tide (LAT). This previously approved maintenance dredging extended significantly into the Moreton Bay Ramsar wetland with dredge areas shown on Figure 1 and 1a.

The Proponent must also ensure that there is no impediment to the operation of existing ferry services or net loss of public car spaces at any stage during the construction of the Project, which necessitates delivery of a replacement terminal facility and car park area before the existing land assets are available for the Project.

The design approach Walker has adopted in response to this challenge is to:

- appropriately realign the channel to reflect the new terminal location;

- optimise the reduction of channel bends to minimise capital dredging and disturbance of previously undisturbed areas;
- provide an entrance channel width and depth to allow safe navigation for future vessel requirements, including the North Stradbroke Island barges in accordance with recognised and accepted international navigation authority standards;
- provide unimpeded turning basin area with a minimum diameter in accordance with accepted practice;
- provide stable dredge batter slopes for all new dredge area work; and
- consider ambient, prevailing and storm weather conditions, tidal, surge and wave conditions, climate change and sea level rise predictions.

On this basis capital dredging to deepen and widen the channel to a target depth of -3 m LAT with a base width of 75 metres is proposed, however this will be subject to detailed design and operational considerations. For example, greater target depths in areas of high sedimentation, such as channel bends, will be considered to reduce the frequency of maintenance dredging. A preliminary review of existing conditions suggests that the three existing channel bends could be reduced to two; however, this will be subject to detailed coastal processes and environmental investigation as part of the EIS process.

Preliminary engineering analysis indicates that a minimum of 500,000 cubic metres of material would need to be removed from the channel. Removing and disposing of this material at land or marine-based disposal sites outside of the PDA would be costly and presents significant environmental and logistical issues. An existing dredged material disposal pond is located to the south of the harbour; however, it is currently full and had a maximum capacity of 37,000m<sup>3</sup> when empty. If reclamation is not carried out, dredged material would need to be transported offshore or to a new on land facility for disposal.

The National Assessment Guidelines for Dredging 2009 state: *“It is important to recognise the potential value of dredged material as a resource. Possible beneficial uses include engineered uses (land reclamation, beach nourishment, offshore berms, and capping material) agriculture and product uses (aquaculture, construction material, liners) and environmental enhancement (restoration and establishment of wetlands, upland habitats, nesting islands, and fisheries).”*

Beneficial reuse of dredge materials is therefore proposed to reclaim land for development areas and create new intertidal habitat including high tide roosting areas in preference to transporting material to an alternative marine or land-based location. The dredging and land reclamation activities are expected to occur in discrete stages that in aggregate amount to approximately three to five years of intermittent activity. The project is being designed with the intent of achieving a net balance between dredging and reclamation. If an additional dredged material disposal location is required options, including offshore, onshore and beneficial reuse will be investigated as part of the EIS and detailed design processes.

## Proposed Uses

The Project context is provided as **Figure 1** with existing approved maintenance dredge areas shown on **Figure 1a**. A reference design and land use plan is also provided as **Figure 2**. This forms the referral area, which covers approximately 56 ha including 17.7 ha of waterways, sheltered coves and wetland edges that will not be reclaimed or permanently impacted by the development. Approximately 42 ha of the referral area is located within the boundary of the Ramsar wetland including 12.5 ha of waterways. It is anticipated this footprint will be further refined through detailed ecological and engineering studies as part of the EIS process.

Key components of the proposed development include:

## Harbour precinct

The proposed new ferry terminal and upgraded harbour precinct will replace the existing dilapidated, industrial facilities. The concept master plan for the proposed development includes:

- three roll on/roll off vessel berths (same number as the existing facility);
- two passenger ferry berths (same number as the existing facility);
- ticket and tourist information centre;
- vehicle queuing areas;
- 1,010 ferry public car parks, with provision for a further 500 in a multi deck car park (the existing facility has 667 car parking spaces);
- public plaza;
- bus-ferry interchange;
- marine services building; and
- opportunity for charter boat berthing to facilitate new ecotourism operations and nature based tourism experiences for the local area, North Stradbroke Island and Moreton Bay.

The detailed technical studies to be undertaken as part of the EIS process will inform the detailed design of proposed marine infrastructure.

The harbour facilities will be designed, funded and constructed by the proponent and handed over to Redland City Council to own and operate.

## Marina

Floating pontoons and berths will be located in waterways and coves within the development to minimise the size of the marina and impact on the wetland. The project will provide approximately 200 new berths for recreational and commercial vessels. This is a substantial reduction in the number of marina berths from the previous proposal. Navigation aids, lights and signage will be provided in compliance with Queensland marine safety requirements.

## Open space and intertidal communities

The proposed master plan for Toondah Harbour reflects its bayside position and improves community access to Moreton Bay by delivering new public open space, conservation areas and community amenities. These include:

- A linear 3.5 ha conservation area, which provides a buffer zone between proposed development and the Cassim Island high tide roost site. This area is not intended for general public access but may have controlled access with supervision and guided walks associated with wetland education and community ranger programs;
- A wetland and cultural education centre, which will operate as the gateway into the conservation area and act as a focal point for promoting public education, community awareness, community ranger program, and Indigenous and nature based tourism experiences. It is anticipated that the centre will be designed in consultation with wetland experts, key local stakeholders including public and not for profit organisations and the registered Aboriginal cultural heritage body for the area. Its design, ownership, governance and programming will be determined during the EIS and detailed design processes;
- A linear 3.5 hectare foreshore parkland, which provides new public parklands, water park and boat launching facilities for recreational vessels;
- A range of boardwalks, plazas, nature trails, pocket parks and bio-retention areas integrated throughout the development; and
- Minor embellishments to GJ Walter Park, the existing public park, which will be retained.

### Mixed uses

The mixed use precinct will include residential, retail (max 5000 m<sup>2</sup> GFA), commercial uses (max 2500 m<sup>2</sup> GFA), and tourism facilities.

### Residential uses

Residential areas will generally comprise small 'village style' precincts of three to four buildings surrounded by walkways, waterways, urban wetlands and communal spaces to allow for integration with and appreciation of the Ramsar wetland. A concept for an urban development precinct is provided as Figure 3.

Up to 3,600 dwellings are proposed which would be delivered over a 15 to 20 year period, staged according to market demand. The maximum building height allowable under the Toondah Harbour PDA Development Scheme is 10 storeys; however, the proposed development will deliver a variety of buildings with heights ranging from two to 10 storeys. The taller buildings will be stepped well back from the roost sites and any buildings directly facing the roost sites will be in the two to three storey range.

### Dredging and reclamation

Dredging will be carried out in two locations during the initial construction phase:

- Capital dredging within the marina basin and marina access channel; and
- Maintenance and capital dredging for expansion of the existing Toondah Harbour marine access (Fison Channel) to allow for safe navigation.

Material will be dredged using suitable equipment, such as a cutter suction dredger (CSD) or barge-mounted backhoe dredger. The preferred type of dredger will be selected based on the material properties of the dredged material. Dredged material will be transported directly to the reclamation areas through a pipeline or barges. A perimeter bund will be established around reclamation areas to contain the fill, and limit the amount of fine material to be released to the environment.

The current masterplan includes approximately 32 ha of reclaimed land, 10 ha of which is new parklands and conservation areas. The project has been designed to balance cut and fill with all dredged material to be used for the reclamation.

Maintenance dredging will also be considered as part of the EIS process. Options to be considered include the incorporation of an onshore material rehandling area into the project to provide temporary storage for maintenance dredged material or offshore disposal, for example, at the existing Mud Island material disposal area, subject to relevant permissions.

## Wise Use of the Ramsar Wetland

It is noted that the development was previously referred in 2017 (Referral No. 2017/7939) however the proposal has undergone design changes to better integrate with the ecological character and demonstrate 'wise use' of this part of the Moreton Bay Ramsar Wetland.

The mission of the Ramsar Convention is *"the conservation and wise use of all wetlands through local, regional and national actions and international cooperation, as a contribution towards achieving sustainable development throughout the world."* Under the Ramsar Convention, projects and developments may occur in Ramsar wetlands, but they must maintain or enhance the ecological character of the site, and be in accordance with 'wise use'.

In Australia, ecological character is considered to be the critical components, processes and services of the Ramsar wetland. For the Moreton Bay Ramsar site, these will be set out in the Ecological Character Description (ECD), which

is currently in draft format and has not been released publically. The wise use concept refers to maintaining wetland values and functions, while at the same time delivering services and benefits now and into the future, for human well-being. Wise use, in promoting maintenance of environmental, economic and social sustainability, encourages compromise (or trade-offs) between individual and collective interests. The Toondah Harbour project must ultimately meet the test of compatibility of the wise use and conservation purposes.

The Ramsar Convention identifies environmental impact assessment as a tool for Contracting Parties to work with developers to reduce the impact of development proposals with potential to alter the ecological character of wetlands on the Ramsar list, and to implement the wise use principle. Resolution VII.16 of the convention calls upon the Contracting Parties to ensure that such projects are subject to rigorous impact assessment procedures, with appropriate measures to address adverse impacts and monitoring to detect unforeseen impacts.

The project footprint has been modified to better reflect the ecological character and wise use of the wetland. This includes a minimum 250 m buffer between the high tide roost sites and any urban or tourism uses, reduction of the development footprint being entirely contained within the PDA (aside from the Fison Channel works) and a wetland education and cultural centre. Additional changes, including integration of wetlands and other habitats into the urban footprint, are addressed through this referral and summarised in section 4.1 of the referral.

The proposed development incorporates a number of land uses that are generally considered 'wise use' in the context of sustainable development in a Ramsar setting, including harbour, navigation channel, marina, public open space, conservation areas and recreational facilities.

Residential uses are considered necessary to provide a vibrant and financially sustainable destination and to ensure that the benefits in terms of employment, education and conservation will accrue from the project. The development and implementation of compensation measures for loss of wetland resources will be addressed as part of the EIS process.

By virtue of the PDA location, which has been established by regulation based on the siting of the existing harbour facility the Project cannot progress without some interaction with the Ramsar wetland. Effort has been invested in the planning and design of the project to minimise impacts and integrate the development with the aesthetic and environmental values of the wetland. This is achieved through the adoption of 'wise use' principles and modelling itself on successful wetland developments globally by incorporating world leading best practice wetland conservation, education and eco-tourism. This process is further detailed in section 4 – measures to avoid or reduce impacts – of this referral.