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MID Assessment Report

Bundaberg East Levee

Bundaberg Central and Bundaberg East QLD 4670

Queensland Government

Document history

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1.1	22.05.2024	Draft	Document development	LM	NW
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PART A – INTRODUCTION

1 Ministerial Infrastructure Designation

QBuild on behalf of the Department of Housing, Local Government, Planning and Public Works (DHLPPW) Major Projects, is seeking a Ministerial Infrastructure Designation (MID) from the Minister for Housing, Local Government, Planning and Public Works in accordance with:

- The *Planning Act 2016* (PA 2016), Chapter 2 Part 5;
- The 'Minister's Guidelines and Rules under the *Planning Act 2016'* (MGR), Version 1, Chapter 7 Chapter 7 —Process for environmental assessment and consultation for making or amending a Ministerial infrastructure designation; and
- The 'Making or Amending a Ministerial Infrastructure Designation (MID) Operational Guidance'.

This MID proposal relates to the designation of the Bundaberg East Levee (BEL).

The BEL is a flood mitigation project comprising a levee with associated structures, extending for a length of approximately 1.57 kilometres and located generally parallel to the southern bank of the Burnett River, extending through parts of Bundaberg Central and Bundaberg East.

The BEL is proposed to be constructed within nine (9) land parcels as well as involving works within local and state-controlled roads including Quay Street, Quay Street East, Scotland Street, Petersen Street and Cran Street. The BEL also traverses two (2) tidal waterways including Saltwater Creek (Bundaberg Creek) and Distillery Creek.

To enable flexibility with the final footprint of the levee and associated levee structures and encompass areas required for construction, access and maintenance of the project particularly in the tidal environment, the MID boundary extends around the construction area where within the waterways, with the construction and maintenance area being contained within the MID boundary to negate the need for additional approvals to construct and maintain the levee. As detailed design progresses, the form of the levee wall and associated structures including its scour protections will also be refined. For example some sections of the levee where the levee is highest will comprise permanent concrete walls and where the wall is lower, and where it is feasible to do so, the levee wall may consist of temporary structures (for example stop-logs) that are placed only when necessary for a flood event.

The site is within the Bundaberg Local Government Area (LGA) and the relevant local government is the Bundaberg Regional Council (BRC).

The intention of the project is to minimise the risk of flooding of some areas within Bundaberg Central and Bundaberg East. The crest height of the levee is at 9.5m AHD elevation, which is set to achieve the 1% Annual Exceedance Probability (AEP) design flood elevation and a 300mm freeboard.

It is intended that the State will construct the levee and associated levee infrastructure and transfer the completed asset to BRC for ongoing management, operation and maintenance.

The PA 2016, Chapter 2, Part 5 prescribes that a Minister, before designating land for infrastructure, must be satisfied that:

- the infrastructure will satisfy statutory requirements, or budgetary commitments, for the supply of the infrastructure; or
- there is or will be a need for the efficient and timely supply of the infrastructure.

To make a designation the Minister must also be satisfied that adequate environmental assessment, including adequate consultation, has been carried out in relation to the development that is the subject of the designation.

One way in which the requirements for adequate environmental assessment and public consultation may be met is for the assessment of the proposal to be carried out in accordance with the guidelines made by the chief executive under the PA 2016, section 36(3). The applicable guideline is the *Minister's Guidelines and Rules* (July 2023), Chapter 7—Guidelines for the process for environmental assessment and consultation for making or amending a Ministerial designation.

The effect of a MID is described in s 44(6)(b) of the PA 2016. No further planning approvals are required for the scope of works approved in the MID.

1.1 Infrastructure Proposed

The types of community supporting infrastructure that can be designated are set out in Schedule 5 of the *Planning Regulation 2017* (PR 2017). The proposed MID for the BEL project comprises the following infrastructure types as described in Schedule 5, Part 2:

Infrastructure type	Proposed activities
19 water cycle management infrastructure	Water cycle management infrastructure is not a defined term in the Planning Act 2016 (PA) or Planning Regulation 2017. However, water cycle management infrastructure is referred to in the PA 2016 (refer Schedule 2, Development infrastructure) as infrastructure for water supply, sewerage, collecting water, treating water, stream managing, disposing of waters and flood mitigation. Community infrastructure approved under a designation can include State and non-state infrastructure. This is consistent with ownership of the infrastructure will be with BRC. The primary purpose of the BEL project is for flood mitigation and no other purpose. This is consistent with the item 19 infrastructure type. The proposal requires ancillary structures such as equipment buildings and flood gates. These structures support and are integral to the functioning of the levee, hence these are also considered to form part of the water cycle management infrastructure.

1.2 Project Need

As indicated in Section 1 of this MID Assessment Report, for designating infrastructure the Minister must be satisfied that the project achieves one or both of the following requirements:

- the infrastructure will satisfy statutory requirements, or budgetary commitments, for the supply of the infrastructure; or
- there is or will be a need for the efficient and timely supply of the infrastructure.

The proposal achieves the above through the following:

- Funding commitments have been made by the Australian and Queensland Governments for the Project to proceed. The project is supported by BRC. Approval of the project will ensure that statutory requirements associated with funding commitments are achieved. A summary of government commitments and funding is as follows:
    - On 6 June 2017, the Queensland Government launched the Bundaberg 10-year Action Plan, with a commitment to further investigate and consider four (4) shortlisted projects to better prepare and protect Bundaberg against future flood events. This shortlist included the BEL project.
    - In 2019, a Business Case was finalised for the BEL project. This included a concept design, founded on flood studies (hydrological and hydraulic), geotechnical investigations,

desktop studies and community engagement. The primary aim of the levee is to reduce the impacts of flooding from the Burnett River on Bundaberg East and Bundaberg South.

- On 13 October 2020, the Labor State Government committed $42.5 million towards the levee if re-elected.
- On 8 June 2023, the Australian and Queensland Governments publicly announced joint funding of $174.7 million for the BEL Project.

The project will mitigate flooding in events up to the 1% AEP for over 600 buildings, many of which are located within the commercial hub of Bundaberg. Without the project, the area remains susceptible to extreme flooding. Approval of the project through the MID process will assist in ensuring that the necessary infrastructure can be delivered in a timely manner.

1.3 MID Proposal

1.3.1 Design Parameters

The BEL project includes concrete levee structures as well as the possibility for non-permanent levee structures (e.g., stop-logs) as well as associated floodgates, pump structures, and storage facilities to support the operation of the levee.

The levee is designed to have a crest elevation of 9.5m AHD. This level has been set 300mm above the 1% AEP design flood elevation, to allow for a margin of error in the flood modelling and to provide a nominal freeboard allowance. To achieve this height, the BEL will range in height above Natural Ground Level (NGL) in the order of 1m AHD up to 11m AHD at creek crossings.

1.3.2 Alignment

This MID proposal seeks approval for the BEL, comprising an approximately 1.57 kilometre levee and associated structures including pump station, flood gates and flood doors.

The project includes two (2) sections, comprising the City Alignment and the Sugar Mill Alignment. The two (2) sections are separated by an area of high ground where a portion of the levee is not required:

- The City Alignment is approximately 1,000 metres long and extends along the northern edge of Quay Street from the intersection of Walla Street, across Saltwater Creek (Bundaberg Creek) along Quay Street East to the intersection of Scotland Street and Petersen Street, and a short segment along the southern portion of Petersen Street.
- The Sugar Mill Alignment is approximately 570 metres long and commences mid-way along Cran Street before crossing Distillery Creek within the Bundaberg Sugar Mill site. The levee then runs generally parallel to the internal road through the mill site before terminating on the north-western side of the sugar mill at the rear of the buildings near the banks of the Burnett River.

Proposal Plans showing full details of the project alignment are provided in ***Appendix 1.***

Due to the location of the works within tidal areas and in proximity to sensitive marine environments, the MID application also includes nominated access and maintenance footprint areas where typical inspection, access and maintenance activities for the BEL are likely to occur.

Establishing a designated area for such activities ensures ongoing access for maintenance and operational activities can occur within the parameters of the planning approval sought under the infrastructure designation, reducing any need for any additional planning approvals to access and maintain the levee and its associated structures.

1.3.3 Built Features/ Structures

Levee Wall

The levee wall will be constructed with a height of approximately 300mm above the 1% AEP design flood elevation which is established as being +9.5m AHD. The levee wall will largely comprise a concrete structure varying in elevation above NGL of between 1m and 11m at creek crossings. Along sections of the levee less than 2m in height above NGL, the levee may consist of temporary structures to be placed in the event of a flood and removed when the threat is alleviated.

The levee wall requires substantial foundation structures to ensure structural integrity and ensure that water does not pass under the foundations through paleo river channels. The project includes sub-surface foundations comprising a concrete pile-cap footing, approximately 1-1.5m below ground surface, stepped to allow for NGL contouring and supported on piles driven to found on rock. For the majority of the levee length, a sheet pile (or equivalent) cut-off wall will provide protection from water passage under the levee wall.

On waterway crossings, pile driving to establish the BEL will be required, with lengths varying dependent on the elevation of the bottom of the waterway and variations in subsurface conditions along the BEL alignment.

Flood gates and pump station

A flood gate and pump station will be constructed at the Saltwater Creek (Bundaberg Creek) and Distillery Creek crossings. The structure at Saltwater Creek will be more significant than that on Distillery Creek due to the size of Saltwater Creek (Bundaberg Creek) being substantially larger and having a larger contributing upstream catchment.

An associated pump station control and equipment building will be constructed adjacent to, and on, the eastern side of Saltwater Creek and on the southern side of Distillery Creek.

The flood gates and pumps will only be operated during prescribed events to block the flow of water from the Burnett River into the creeks and reduce water level behind the flood gates respectively.

During normal day-to-day operations, the Saltwater Creek (Bundaberg Creek) and Distillery Creek flood gates will remain open, allowing water to pass to and from the Burnett River similar to how they currently pass under pre-project conditions. Due to the substantial structures required on Saltwater Creek (Bundaberg Creek), there is some necessary 'formalisation' of the creek banks and narrowing of waterways at this location. Any potential adverse impact from altered hydrological flows has been considered in the design and impacts described in ***Appendix 10.***

Additional details of the levee structures, pump station, flood gates, pump station buildings associated with each waterway crossing area, the levee system and landside gates are described in detail in the Operation and Maintenance Manual (Draft) provided in ***Appendix 9***.

1.4 MID Assessment Report

This MID Assessment Report has been prepared to address the material required for the MID proposal in accordance with Schedule 3 of the MGR.

Reference should be made to *Part H – Appendices* which includes the Proposal Plans in ***Appendix 1***. Supporting technical assessments as part of this MID application include:

- **Appendix 2** – Contour and Detail Survey
- **Appendix 3** – Surface Water Technical Report (Flood Assessment Report)
- **Appendix 4** – Stormwater Management Plan
- **Appendix 5** – Traffic Impact Assessment

- **Appendix 6** – Heritage Impact Assessment
- **Appendix 7** – Vulnerability and Tolerability Report
- **Appendix 8** – Emergency Response Plan
- **Appendix 9** –Operation and Maintenance Manual Draft
- **Appendix 10** – Ecological Assessment
- **Appendix 11** – Lighting Assessment – Aviation Report
- **Appendix 12** – Geotechnical Assessment
- **Appendix 13** – Contamination Site Investigations
- **Appendix 14** – Services Impact Advice
- **Appendix 15** – State Interest Trigger Mapping
- **Appendix 16** – Contaminated Land Register and Environmental Management Register Search
- **Appendix 17 –** Property List and Property Information
- **Appendix 18** – Extracts from the *Planning Act 2016*
- **Appendix 19** – Designation Flowchart

2 Overview of MID Proposal

The relevant matters about the MID proposal are set out below and addressed further in this MID Assessment Report.

Matter	Proposal details
The site description including the location of the premises proposed to be designated	Refer to Property Materials at ***Appendix 17***
Any existing uses on the premises proposed to be designated	Refer to Property Materials at ***Appendix 17***
Existing uses on adjoining sites	The western portion of the levee west of Saltwater Creek (Bundaberg Creek) is partially located within the commercial centre of Bundaberg. There are a wide range of retail and commercial services/shops located within the project alignment in this area west of the creek. The levee alignment east of Saltwater Creek (Bundaberg Creek) along Quay Street East, Petersen Street, Scotland Street and up to Cran Street includes a mix of residential land uses, primarily detached houses on separate lots, and light industrial and commercial uses. Quay Street East, Scotland Street and School Lane directly interface with the Burnett River, with fishing and marine related industries and activities within this locality, with associated river accesses including pontoons. The eastern portion of the levee interfaces largely with industrial uses requiring larger sites, including the Bundaberg Sugar Mill.
The type of infrastructure	*19 – Water cycle management infrastructure*

<table>
<tr><th>Matter</th><th colspan="2">Proposal details</th></tr>
<tr><td>Information about the nature, scale and intensity of the infrastructure and each use proposed</td><td colspan="2">Proposal Plans are included within Appendix 1 providing information on the nature and scale of the proposal.
The levee will consist of 1.570km of levee, to be constructed to achieve flood immunity to Bundaberg East, Bundaberg South and the CBD during a Burnett River Flood similar to the event that occurred during 2013. The structure will be supported by flood gates, pump station and associated structures for the safe operation of the levee.
The BEL will range in height above Natural Ground Level (NGL) in the order of 1m up to 11m at creek crossings.
The levee is designed to require minimal ongoing maintenance, with a design life of 50 years. The flood gates and doors will remain open when not required to be activated, hence enabling vehicular and pedestrian access when not activated, as well as maintaining the tidal flows through the waterways.
The BEL is not expected to generate visitation as its primary purpose is for flood mitigation. The project is supported with landscaping and remediation of disturbed areas, however this project does not include other substantial land improvements and upgrading of parks, recreation areas and the like. These upgrades are outside the scope and funding for this project.</td></tr>
<tr><td>The intended outcomes of the proposed uses on the site</td><td colspan="2">The objectives of the BEL is as follows:
Increasing flood protection from a Burnett River flood event, similar to the event which occurred in 2013 that resulted in significant damage to buildings and infrastructure in parts of Bundaberg;
Mitigating damage from a Burnett River flood within Bundaberg East, Bundaberg South and the CBD without increasing the risk of flooding in other areas of Bundaberg;
Delivering a flood resilient community for future generations;
Enhancing future economic development and opportunities for Bundaberg;
Improved social amenity and local use in Bundaberg East.
The intended outcome of the BEL is illustrated in the 1% AEP flood mapping for the project provided in the Surface Water Technical Report (refer to Appendix 3).</td></tr>
<tr><td rowspan="3">A list of the applicable state interests as identified by the infrastructure entity and a statement about how they relate to the infrastructure proposal</td><td colspan="2">State Planning Policy (SPP) Report at Appendix 14</td></tr>
<tr><td>AGRICULTURE
Important Agricultural Areas</td><td>Parts of the BEL intersect with Important Agricultural Areas.
The project does not introduce new development that would impact future use of Important Agricultural Areas or result in offsite impacts that could degrade land with potential for future use for agriculture. No further consideration of this SPP matter is required.</td></tr>
<tr><td>BIODIVERSITY
MSES – Wildlife habitat (special least concern animal)
MSES – Regulated vegetation (category R)
MSES – Regulated vegetation (intersecting a watercourse)</td><td>Parts of the BEL intersect with areas containing Biodiversity values. Not all biodiversity values are mapped, including fish habitats and marine plants.
An ecological assessment has been undertaken for the project, which includes an assessment of all biodiversity values relevant to the proposal. This report is provided in Appendix 10.</td></tr>
</table>

Matter	Proposal details	
		A marine plant survey has also been included to identify these non-mapped MSES. The presence of marine plant biodiversity values is included in ***Appendix 10***.
	WATER QUALITY • Climatic regions – stormwater management design objectives (Central Queensland (South))	The site is within the Climatic regions – Stormwater management design objectives (Central Queensland (South). For the BEL, reference should be made with the SPP, including the SPP requirements for Water Quality. A site-based stormwater management plan has been prepared and included in ***Appendix 4.***
	COASTAL ENVIRONMENT • Coastal management district	Parts of the BEL alignment is located within the Coastal management district, with construction and permanent levee footprint occurring in this area. Coastal environments are sensitive to development and require consideration of coastal environmental values and hydrological impacts. This includes impacts to marine plants and fisheries resources. This SPP is addressed through the Ecological Assessment provided in ***Appendix 10*** and the Surface Water Technical Report in ***Appendix 3.***
	CULTURAL HERITAGE • State heritage place	The BEL alignment affects land that is within the State heritage place comprising the Saltwater Creek Railway Bridge. An assessment of BEL impact on the State heritage place Saltwater Creek Railway Bridge is included in the Heritage Impact Assessment (***Appendix 6***).
	NATURAL HAZARDS, RISK AND RESILIENCE – FLOOD • Flood hazard area 1 – Queensland floodplain assessment overlay* • Flood hazard area – local government flood mapping area	The BEL is located within areas that are subject to flood inundation. A comprehensive assessment of flood risks and the necessary Vulnerability and Tolerability Assessment required to be prepared for a levee structure has been undertaken for the project to ensure the BEL operates as intended and does not result in adverse impacts to other areas of Bundaberg. The Surface Water Technical Report t is provided in ***Appendix 3*** and the Vulnerability and Tolerability Report is provided in ***Appendix 7.***
	NATURAL HAZARDS, RISK AND RESILIENCE – EROSION PRONE AREA AND STORM TIDE • Erosion prone area	The BEL is coastal dependent development, with the project footprint including areas that are in the Erosion prone area within Medium and High storm tide inundation areas. These risks are addressed in the Surface Water Technical Report (***Appendix 3***).

Matter	Proposal details	
	• Medium storm tide inundation area • High storm tide inundation area	
	TRANSPORT INFRASTRUCTURE • State-controlled roads • Active transport corridor	The BEL alignment includes State-controlled roads and Active transport corridors. A Traffic Impact Assessment has been included in ***Appendix 5***. This report considers the impact of the development on the transport network and takes into account the existing and future expected conditions as a result of the development. The project includes an assessment of impacts to the Active transport corridors in the locality and a safety assessment of the levee located within roads.
	STRATEGIC AIRPORTS AND AVIATION FACILITIES • Obstacle limitation surface (OLS) area (range 150-182) • Lighting area buffer 6 km • Wildlife hazard buffer zone 8 km	The BEL is located between the 150-182 Obstacle limitation surface contours area and within the Lighting and Wildlife hazard buffer zones. The proposed levee and associated structures will not intrude into the OLS. The project is also not a land use type that is inconsistent with, or presents an increased risk, of hazards to aircraft or aviation. The BEL is being designed to ensure that light sources are not pointed directly upwards and lighting on the levee or during construction will not be installed in long straight lines that may mimic a runway. A lighting assessment has been undertaken to guide requirements for lighting of the project, which includes recommendations for ensuring lighting for the project is in accordance with AS/NZS 1158.1.1 – Lighting for roads and public spaces and AS 4282-1997 – Control of the unobtrusive effects of outdoor lighting. Refer to ***Appendix 11.***
A statement about any relevant regional plans and state development areas that are applicable to the site and how they are relevant to the infrastructure proposal	The relevant regional plan is the *Wide Bay Burnett Regional Plan (2023)*. The site is in the Priority Living Area of the Regional Plan. This is the area within and around larger settlements/towns that is expected to experience growth over the next 25 years. This Regional Plan has no assessment requirements under the PA 2016, with the assessment requirements embedded in the *Regional Planning Interests Act 2014* (RPI Act). As the proposal is not for a resource activity, there are no RPI Act interests that affect he proposed development. The site is not included in a State Development Area or Priority Development Area.	
A proposed consultation strategy for the proposed designation	Refer to *Part F – Consultation* of this MID Assessment Report.	
Any other matter	Nil	

PART B – EXISTING SITE AND CONTEXT

3 Site Information

3.1 Property details and ownership

Property snapshot	
Street address	Refer to Property Materials at ***Appendix 17***
Real property description	Refer to Property Materials at ***Appendix 17***
Site area	Approximately 32,645 square metres
Local Government Authority	BRC
Current land use	Refer to Property Materials at ***Appendix 17***

With reference to *Figure 1*, the BEL alignment, associated structures and construction footprint area is located within the BRC local government area and extends over 8 freehold allotments, including Lot 5 on CP880929, Lot 12-16 on RP24765, Lot 2 on SP193001 and Lot 2 on RP43264, unallocated state land, local and state government road and one Lands Lease, Lot A on AP6958.

Property information concerning the project is included in ***Appendix 17.***

Figure 1 – Aerial

Legend

Levee alignment

Source: Proposal Plans, ***Appendix 1***

3.2 Surrounding land uses

The BEL project extends for a total length of 1.570 kilometres hence traverses land/water with a variety of purposes. Surrounding land uses are broadly described below:

3.2.1 Western section of Levee – Bundaberg Central to Saltwater Creek

The western-most section of the BEL is located in the suburb of Bundaberg Central. Bundaberg Central is the main commercial centre of Bundaberg and makes up the Bundaberg Central Business District. The western portion of the BEL extends along Quay Street on the eastern side of Bundaberg Central and crosses Saltwater Creek in proximity to the Saltwater Creek Railway Bridge before joining up with Quay Street East in the suburb of Bundaberg East.

Land uses on the southern side of the levee in this section are predominantly a mix of commercial, retail and light industrial uses, the latter predominantly where the CBD extends along Saltwater Creek.

The northern side of the project includes open space land fronting the Burnett River, with some commercial uses and recreational uses such as the Rowing Club site.

3.2.2 Central section of Levee – Bundaberg East to Scotland Street

The central section of the BEL is located in the suburb of Bundaberg East. Bundaberg East including the area on the eastern side of Saltwater Creek (Bundaberg Creek) up to Scotland Street is comprised of a mix of uses including residential dwellings, vacant land, light and medium industry uses, commercial uses and park and recreation uses. This section of the BEL fronts Daphne Geddes Park and the East Rotary Park as key land use features within this section of the project.

3.2.3 Eastern section of Levee – Scotland Street to Bundaberg Sugar Mill

The eastern section of the levee is also within Bundaberg East. The western area of this section includes a mix of commercial and industrial uses on Scotland Street and Petersen Street and the levee fronts residential uses, some with home-based businesses along Cran Street. The BEL continues along Cran Street and enters the Bundaberg Sugar Mill site at the end of Cran Street where the internal road to the Bundaberg Sugar Mill crosses Distillery Creek. The BEL then passes through the Sugar Mill site to the termination of the project close to the Burnett River on the northern side of this site. The Bundaberg Sugar Mill is a large lot heavy industry land use comprising a refinery.

3.3 Easements and encumbrances

Due to the length of the project, eight (8) freehold land parcels, one lands lease parcel, unallocated state land and roads (State and local) are affected either by the BEL footprint or the associated construction and maintenance zone. Bundaberg Sugar Mill holdings include easements affecting the premises which have been detailed in the Property Information provided in ***Appendix 17.*** The easements are not affected by the project.

A key encumbrance for consideration in the project is the Rowing Club lease and tenure at 2 Toonburra Street, Bundaberg Central, formally described as Lot 5 on CP880929. This lease relates to use of the building; however it is acknowledged that the existing tenure on Lot 5 on CP880929 currently comprises a Deed of Grant in Trust for Recreation (Rowing Club) Purposes and for no other purposes whatsoever.

As part of the project, separate arrangements are being entered into to remedy any lease and tenure restrictions to enable the BEL project to utilise a small portion of the eastern part of Lot 5 on CP880929. This is a separate process to the MID being undertaken in consultation with the relevant parties. Other tenure arrangements may need to be entered in to, with discussions with the

Department of Resources (DoR) to finalise any necessary arrangements. For information purposes, the Proposal Plans (refer to ***Appendix 1***) show the indicative future lot that is proposed to be excised from the eastern side of Lot 5 on CP880929. The Lands Lease area, Lot A on AP6958 *may* include scour protection associated with the levee, either initially as identified during detailed design or the potential for future scour protection if/as required.

3.4 Topography

The levee is located in close proximity to the Burnett River and crosses Saltwater Creek (Bundaberg Creek) and Distillery Creek. Hence topography overall is variable.

The topography on the western side of the levee is generally between 5 metres to 10 metres AHD and the central area of the levee along Quay Street is lower, generally in the order of 5 metres AHD. As the levee approaches Petersen Street, the topography is generally in the order of 10 metres AHD, representing an area of higher ground generally and hence the break in the levee alignment before it recommences. Towards the end of Cran Street, elevations return to approximately 5 metres AHD and this elevation is maintained where the levee runs generally parallel to the Burnett River behind the Bundaberg Sugar Refinery.

The project footprint has undergone detailed survey to determine existing ground heights, with a summary of this information provided in ***Appendix 2.***

3.5 Site Contamination

An Environmental Management Register (EMR) and Contaminated Land Register (CLR) search for allotments affected by the project footprint indicates that the following land parcels are directly affected by the BEL alignment and are listed the EMR or CLR register:

- EMR Register: Lot 2 on SP193001 – for possibly high arsenic levels along the rail corridor
- Lot 2 on RP279 (within 10 metres of the project footprint) is also located in close proximity to the project alignment and is listed on the EMR Register for Petroleum product or oil storage.

The EMR and CLR register only includes allotments where site contamination has been reported/identified.

As the project involves work in unallocated state land and roads as well as being a project with substantial ground disturbance for construction, detailed site investigations to identify contamination have been carried out.

This report identifies further areas of likely or potential contamination based on past land uses and activities that may have resulted in land contamination.

Preliminary Site Contamination Investigations are provided in ***Appendix 12,*** providing details of the investigations that have occurred to date. The aim of this reporting is to identify all contamination that may be present throughout the project footprint, determine risks associated with the presence of contamination and provide recommendations for managing contamination.

A copy of the preliminary investigations to date is provided in ***Appendix 12.***

3.6 Development Approval History

A search of BRC's development portal for development application and approval records undertaken on 27 February 2024 yielded no results over land subject to the BEL footprint. This database includes information on development applications since 30 June 2008.

Other development approvals identified in close proximity to the proposal include the following:

- 5E Quay Street (Lot 11 on RP24765) – Development Application for Material Change of Use for Commercial Activity B (Shop), dated 17 October 2013;
- 7E Quay Street (Lot 10 on RP24765) – Development Application for Material Change of Use for Caretaker's Residence, dated 13 July 2015;
- 15E Quay Street (Lot 36 on RP24761) – Development Application for Prescribed Tidal Work for Commercial Pontoon, dated 14 November 2011; and
- 21E Quay Street (Lot 2 on RP182629) – Development Application for Material Change of Use for Lot Impact Industry (Shed), dated 4 October 2019.

The proposed development has been designed to avoid adversely affecting the ongoing use of the land for the land use activities in the area surrounding the levee.

4 Infrastructure characteristics

The below provides a description of the existing infrastructure characteristics relating to the project footprint. Further discussion on potential impacts and mitigation measures from the proposed development are discussed in further detail in *Part E – Environmental Assessment*.

4.1 Transport network

4.1.1 Existing Road Network

The existing road network characteristics are discussed within the Traffic Impact Assessment within ***Appendix 5***. The roads directly on the BEL alignment are listed below, with additional roads in the vicinity of the BEL described in the Traffic Impact Assessment.

Some roads within the assessment area are also B-double routes, reflecting the industrial and semi-industrial nature of the project area as indicated below:

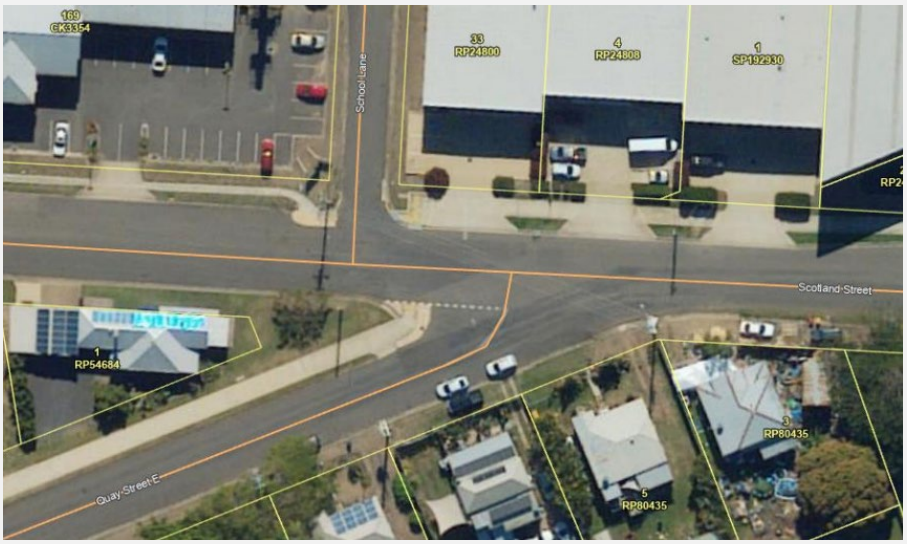
Existing road network	
Quay Street (Toonburra Street)	• District road – State controlled road – Bundaberg-Bargara Road (174) • As the road turns to the south it is known as Toonburra Street • 40m road reserve reducing to 30m on Toonburra Street • 60km / hour (posted speed) • Largely two (2) Lanes (3.5m wide) undivided road • 18m seal narrowing to 10m as it turns into Toonburra Street • Kerb and channel on both sides • Streetlighting to both sides • Pedestrian paths of varying width along the south and north of the road • On-street parking on northern and southern sides of road • Quay Street service road located to the north of Quay Street and partially within the road reserve. The service road has parking along its length • The road is gazetted as up to 26m long B-double route • There are no bus stops • There are several mid-block unsignalized pedestrian crossings protected with centre refuge islands and kerb build-outs • The road is on the Principle Cycle Network. A shared pedestrian/cycle path is provided on the northern side, which connects to Quay Street East via a shared pedestrian/cycle bridge (Saltwater Creek Railway Bridge).
Quay Street East (Kendall Street)	• North of Bourbong Street the road is known as Kendall Street and continues to the east as Quay Street East. A small stub road is located at the intersection of Kendall Street and Quay Street East • Industrial Acess Street, local road

	• Generally 20m road reserve, widening around the Quay Street East/Kendall Street intersection • 2 lanes undivided road, no edge lines or centre linemarking • 9m seal but widens for on-street parking. • Kerb and channel on both sides • 50km/hour (default speed) • 3m pedestrian footpath on northern side of Quay Street with connection west to Saltwater Creek Bridge • Street lighting from the southern and eastern sides of the road • 3 sections of on-street angled parking (45 degrees) and several marked parallel parking areas along the southern side of the road. Parallel parking occurs on the northern side of the road but is un-marked • This road is not gazetted for B-doubles • There are no bus stops on Quay Street East or Kendall Street • Quay Street and Kendall Street are on the Principle Cycle Network. There are no on-street cycle lanes provided. • A 3m wide shared cycle/pedestrian footpath is provided on the northern side of the road, and on the eastern side of Kendall Street. • The northern shared footpath connects to Quay Street to the west over Saltwater Creek via the shared pedestrian/cyclist footbridge (Saltwater Creek Railway Bridge) that is also included in the Principle Cycle Network.
Scotland Street	• Industrial Access Street, local road • 20m road reserve • 2 lanes undivided without line marked on-street parking and no edge lines or centre line-marking • 12.5m seal but narrows east of Quay Street East to 10m • 50km/hour (default speed) • 2.5m wide pedestrian footpath on northern side of road. Footpath width variable i.e. 1.2m and some sections without footpath to the west of the Scotland Street/Quay Street East intersection • Street lighting on both sides • This road is not gazetted for B-doubles • There are no bus stops • The road is on the Principle Cycle Network south east of the intersection with Quay Street East. There are no on-street cycle lanes provided within the section adjacent the proposed levee, with the on-street cycle lanes ending 800m east of Cran Street. In the vicinity of the project site, a shared cycle/pedestrian path is provided on the northern side of the road.
Petersen Street	• Industrial Acess Street, local road • Generally 20m road reserve • 2 lane undivided road with no edge lines or centre marking • 12.5m seal with eastern shoulder not sealed along full length despite kerb and channel on both sides, narrowing to 9m pavement in southern section • 50km/hour (default speed) • Kerb and channel on both sides • No constructed footpaths • No marked on-street parking however parking observed on eastern and western sides of road • This road is not gazetted for B-doubles • There are no bus stops

	• The street is not on the Principle Cycle Network
Cran Street	• Industrial Acess Street, local road • 20m road reserve • 2 lane undivided road with no edge lines or centre marking • 12.5m seal, the shoulders are not sealed along the full length • 50km/hour (default speed) • Kerb and channel on both sides • No constructed footpaths • There are no bus stops • The street is not on the Principle Cycle Network • The road continues as a narrower 4m wide private vehicle access through to the Millaquin Sugar Mill • This road is gazetted for B-double access, presumed to be primarily for trucks associated with the Sugar Mill operation

The BEL alignment also directly interfaces with the following road intersections, noting additional intersections in the vicinity of the development are also described in the Traffic Impact Assessment (refer to ***Appendix 5***):

Existing intersections	
Quay Street/ Toonburra Street	This is not a formal intersection; however Quay Street and Toonburra Street are continuous, and the service road connects onto Quay Street beside the Rowers on the River Rowing Club site. There is no give-way signage or line-marking at the intersection, however no entry signage is provided to prevent entry from Quay Street and Toonburra Street. 
Scotland Street/ Quay Street East/ School Lane	This is a formalised, unsignalized give-way sign-controlled staggered T-intersection. The school Lane intersection with Scotland Street is located offset from the Scotland Street/ Quay Street East intersection by approximately 10m. There is Give Way signage and linemarking on the Quay Street East approach to the intersection. The School Lane approach has no Give Way signage or linemarking.

	
Bourbong Street/ Scotland Street/ Petersen Street	This intersection is in close proximity to the BEL alignment. There are two (2) intersections within approximately 30m. Scotland street intersects with Bourbong Street at an approximately 40-degree angle. There is a short 25m long Channelised Right (CHR(s)) turn treatment on the SCR section of Scotland Street. The Local government section of Scotland Street has separate left and right turn lanes on the approach, approximately 15m long. 
Scotland Street/ Cran Street	This is an unsignalized give-way sign-controlled T-intersection. Scotland Street has a continuous median turning lane that runs from Bourbong Street to Princess Street and is used to provide channelised right turns into Kent Street and Cran Street and accesses along Scotland Street. 

4.1.2 Existing Public Transport Network

The BEL project, being located within the Bundaberg East and Bundaberg Central areas, is well serviced by the existing public transport network, with multiple bus stops located in proximity to the levee alignment but no bus stops directly on the levee alignment. The nearest bus stops are located Bourbong Street and other bus stops within the Quay Street area towards the CBD. Bus services serviced by the stops on Bourbong Street include:

- Route 608 - this service has 49 stops and travels through Innes Park, Bargara, Qunuba, Kalkie, Bundaberg East, Bundaberg Central and Bundaberg West and CQ University at Branyan, with services operating Monday to Friday from 9am to 4.55pm with services hourly to every two hours. A Saturday morning service operates from 8am to 2pm with service every 2 hours.
- Route 609 – this service is a circular line with 28 stops traveling through Bundaberg Central, Bundaberg East, Kalkie, Burnett Heads, returning to Kalkie, Bundaberg East and Bundaberg Central. Services run approximately every 2 hours from 7am till 4.30pm Monday to Friday.

Other bus services in the broader area surrounding the levee include the following services, which are serviced from the bus stops in the CBD:

- Route 607 – this service is a circular line with 24 Stops, travelling through the City (Bundaberg Central) across to North Bundaberg. Services run approximately every 75-120 minutes between 8am and 3.30pm and on Saturdays from 9.30am to 11.30am.
- Route 600 – this service is a circular line with 35 stops and travelling through Bundaberg Central and Bundaberg South. Services operate hourly from approximately 8am to 2.30pm and on Saturdays till approximately 12.30pm.
- Route 602 – this service has 21 stops and departs from Bundaberg Central, travelling west through Bundaberg West, Millbank and Avoca before terminating on Takalvan Street. Services run approximately every hour from 8am to 3pm and Saturday mornings until midday.
- Route 603 – this service has 28 stops and departs from Bundaberg Central, travelling south through Bundaberg South then west through Norville, Svensson Heights and ending at Woongarra Street (Bundaberg Central). Services operate hourly from 7.30am to 3.30pm and on Saturday's until 12.30pm.
- Route 606 – this service has 30 stops and is a circular route starting at Woongarra Street and travelling south through Bundaberg South, Walkervale and Avenell Heights. Services run every 55 – 120 minutes from approximately 8am to 4pm Monday to Friday and Saturdays 8am to 12pm.
- Route 621 – this service has 21 stops and does a circular route from Woongarra Street Bundaberg Central through North Bundaberg, Gooburrum, Welcome Creek and Moore Park Beach. The service takes around 1 hour. Services are infrequently with a morning service departing approximately 7.35am and an afternoon service departing approximately 2pm Monday to Friday. There is a Saturday service departing at 7.35am and 11.05am.
- Route 622 – this service has 31 stops and does a circular route from Bundaberg Central (Woongarra Street) through Bundaberg South then east through Kepnock, Ashfield, Windermere, Innes Park and through to Elliot Heads. Services run approximately every 3.5 hours between 8.45am to 12.15 Monday to Saturday.

Well to the west of the BEL project is the Bundaberg Railway Station which is served by long-distance Traveltrain services. The levee alignment does not affect the railway.

4.1.3 Existing Active Transport Network

The Traffic Impact Assessment (***Appendix 5***) indicates that the BEL alignment is well serviced by the existing active transport network, including pedestrian footpaths on Quay Street that connect through

to the Saltwater Creek Railway Bridge and form part of the mapped Active Transport Corridor, pedestrian footpaths on Quay Street East, Kendall Street and Scotland Street.

4.1.4 Existing carparking arrangements

The BEL project is located on roads, with the following numbers/arrangement of on-street parking:

Existing on-street parking provision	
Quay Street	Car parking is located on the Quay Street Service Road to the north of the road, and partially within the road reserve within this service road. The service road provides significant parking along its length.
Quay Street East	There are three (3) sections of on-street angled, 45 degree parking and several marked parallel parking areas along the southern side of Quay Street East. Parallel parking is also observed to occur along the northern side of the road however this is not marked.
Scotland Street	There are no line-marked on-street parking spaces, although parking is observed to occur on both sides of Scotland Street.
Petersen Street	There are no line-marked on-street parking spaces, although parking is observied on the eastern and western sides of Petersen Street.
Cran Street	This road does not have line marked on-street parking, through parking is observed on both the eastern and western sides of ran Street.

4.2 Services

The BEL project extends along an area of approximately 1.570 kilometres and is located within a well-serviced urban area, hence the project is in proximity and traverses across a range of services infrastructure. These infrastructures are summarised below, with additional information provided in ***Appendix 13*** – Services Impact Advice.

4.2.1 Water Infrastructure

Council owned and operated water mains are present in close proximity to the BEL project alignment, with the project intersecting with water mains at several locations along the project footprint including Quay Street East, Scotland Street and Petersen Street. A Services Assessment has been provided in ***Appendix 13*** showing information on all existing water infrastructure services.

4.2.2 Sewer Infrastructure

Council owned and operated sewer gravity mains are present in close proximity to the BEL project alignment, with the project intersecting with sewer mains at several locations along the project footprint including Quay Street East, Scotland Street and Petersen Street. A Services Assessment has been provided in ***Appendix 13*** showing information on all existing sewer infrastructure services.

4.2.3 Stormwater Infrastructure

Council managed stormwater infrastructure is located along the BEL project alignment, with the project intersecting with existing pipe stormwater infrastructure at Quay Street and Quay Street East.

The Stormwater Management Plan (refer to ***Appendix 4***) provides details of the existing stormwater infrastructure in proximity to the BEL project alignment.

4.2.4 Electricity Infrastructure

The BEL project footprint is in close proximity to the overhead electrical infrastructure (poles and overhead mains) that are located on the southern side of Quay Street, the northern side of Quay Street East, the southern side of Scotland Street (the poles are on the northern side of Scotland Street in areas away from the BEL footprint), the northern and southern side of Petersen Street, and the eastern side of Cran Street. The BEL project intersects with electricity infrastructure at over 20

locations along the alignment. A complete list of electricity infrastructure affected by the project is provided in ***Appendix 13***.

4.2.5 Telecommunications Infrastructure

The area is currently serviced by underground telecommunications infrastructure including Powerlink and Telstra/NBNCo. assets. The BEL project will intersect with this infrastructure at several points along the alignment. Specific details of the locations of this infrastructure in relation to the levee alignment is provided in the Services Assessment (refer to ***Appendix 13***).

4.2.6 Other Utilities

The Services Assessment (refer to ***Appendix 13***) indicates that there are two (2) gas service lines located on the levee alignment. One of these is located just to the north of the proposed levee near the Rowers Club on Quay Street and a gas line extends the northern side of Quay Street East, crossing under Quay Street East where it follows Kendall Street.

PART C – MID PROPOSAL

5 Proposal Details

5.1 Designation Purpose

The designation will assist in the delivery of the BEL project, a flood mitigation project that has resulted from progression of the Bundaberg 10-year Action Plan (2017) which sought to reduce flood risk in the Bundaberg Region and improve the safety of the Bundaberg community.

The designation will enable the establishment of the proposed infrastructure, which will assist in meeting the budgetary commitments of the State for the supply of the infrastructure as well as support the community of Bundaberg and provide the public benefits that were sought under the Bundaberg Action Plan.

5.2 Project history

Bundaberg experienced devastating flooding in January 2013 caused by ex-Tropical cyclone Oswald. This affected much of Bundaberg's commercial hub. It is estimated that 2,400 properties were destroyed or damaged, 7,000 people were evacuated and 600 businesses were damaged.

Following from this event, BRC commissioned a Preliminary Options Assessment.to support a Burnett River Floodplain Action Plan. This options assessment was developed by an independent consultant and based on community feedback and technical studies. From this assessment, eight (8) options were considered viable with the East Levee and Floodgates identified as the most viable option.

In 2015, the Queensland Government commissioned a Flood Mitigation Options Assessment Report. This options assessment was developed by an independent consultant and based on community feedback and technical studies. This assessment considered eleven (11) flood mitigation options, selecting four (4) for further detailed assessment.

On 6 June 2017, the Queensland Government launched the Bundaberg 10-Year Action Plan (2017) with four (4) projects to be further considered by government.

These four selected options included:

- Bundaberg North Evacuation Route Improvements - to improve the connection between Bundaberg North and the CBD during a flood event
- Bundaberg East Levee (BEL) – to provide better protection for parts of Bundaberg East, Bundaberg South and the CBD
- Floodway House Purchase Scheme, comprising of a voluntary purchase or relocation through a land-swap of select residential blocks in Bundaberg North that are deemed to be in a floodway with high depths and velocities
- Upper Flood Plain Evacuation Improvements, to reduce the isolation time of Goodnight Scrub, Morganville, Pine Creek, Givelda and Electra

In 2019, a Business Case was finalised for the BEL project. The Business Case included an assessment of alignment options for the BEL and took into account a multicriteria assessment including community feedback to the options.

On 13 October 2020, the Labor State Government committed $42.5 million towards the levee if re-elected.

On 8 June 2023, the Australian and Queensland Governments publicly announced joint funding of $174.7 million for the BEL Project.

Around the same time, the former Department of Energy and Public Works, now part of the Department of Housing, Local Government, Planning and Public Works, was appointed to manage the engineering design consultants for the project and manage approval and construction of the project.

5.3 Proposal description and details

The proposed BEL includes the following:

- A levee will largely comprise a concrete floodwall with a top wall elevation of 9.5 metres AHD including 300mm of freeboard and a length of approximately 1.570 kilometres. There is potential for non-permanent levee structures to be placed where the levee wall is lower, fitted to the alignment at fixed locations when a flood threat arises and removed when the flood threat is alleviated.
- Pump stations and riverine flood gates, as described in detail in the Operations and Maintenance Manual (refer to ***Appendix 9***).
- Approximately 14 landside gates that will likely comprise stop-log gates to maintain road, vehicle, pedestrian and cyclist access and movement generally through the alignment.
- Equipment controls for each pump station and associated infrastructure to operate the pump station and flood gates. Further details of these infrastructures is detailed in the Operations and Maintenance Manual (***Appendix 9***).

Other works for the project are shown in the Proposal Plans and the Landscaping Plans (refer to ***Appendix 1)***.

5.3.1 Levee Ownership

The BEL will be constructed by the State (Public Works Major Projects) and arrangements are being entered into with BRC to formalise asset ownership and ongoing maintenance and operations obligations.

5.3.2 Levee Operations

The BEL will be operated by BRC. To ensure the levee is operated in accordance with an established and agreed protocol, an Emergency Response Plan (ERP) has been prepared and is provided in ***Appendix 8***. This report will outline the roles, responsibilities and actions that will be taken in the event of a flood emergency. The ERP considers and plans the response in the lead up, during and following an emergency event and will allow BRC to act quickly and effectively in a flood emergency situation. The ERP will be further developed in consultation with BRC and other relevant stakeholders during the design process to ensure the ERP is ready to be issued upon completion of levee construction.

A Draft Operations and Maintenance Manual has also been prepared for the project and is provided in ***Appendix 9.*** This manual includes the necessary steps for operating and maintaining the levee and its facilities (i.e. pump stations, flood gate structures and associated support facilities).

5.3.3 Geotechnical Investigations and Design

Geotechnical investigations have been carried out for the project in order to inform the project design geotechnical aspects, in particular the extents of fill, alluvial soils and Elliott Formation. The outputs of these investigations will inform the structural engineering for the project as the concept design progresses to the detailed design phase.

A copy of the Geotechnical Assessments to date are provided ***Appendix 12.***

5.3.4 Vehicle and Traffic Movements

The BEL project provides for permanent levee infrastructure and associated pump and flood gate structures. The use itself is not expected to result in traffic generation and hence require additional infrastructure to cater for increased vehicle and traffic movements, aside from occasional maintenance vehicles. There is likely to be significant traffic generation during construction, however this has not been able to be adequately quantified at this stage of the project and is a matter that will be addressed once detailed design of the project has been completed and addressed prior to construction phase.

As indicated in the Traffic Impact Assessment (***Appendix 5***), it is anticipated that local construction companies will be engaged for construction, with workers primarily coming from Bundaberg or nearby towns. It is also expected that there may be significant heavy vehicle traffic generated during the construction phase, with the vast majority of construction materials transported by 26m B-double trucks. It is expected that concrete batching will occur off-site and be transported to site as required, along with other construction materials to the site such as steel reinforcement, flood gate and door components and the like.

Construction traffic may add to existing turn volumes at some intersections near the BEL alignment, but this will be dependent upon construction staging and other arrangements. Intersections will be further assessed (design and capacity) to ensure construction traffic can be accommodated and to confirm if any intersection upgrading or other permanent or temporary alterations are required.

5.3.5 Vehicle Parking

Vehicle parking associated with the project is expected to be limited to parking required to accommodate maintenance vehicles. As design progresses, parking arrangements for access and servicing to maintain and operate the levee will be refined.

5.3.6 Public Transport

No variance to the existing arrangement for public transport are proposed by the MID nor considered required by the BEL project. The Traffic Impact Assessment (***Appendix 5)*** confirms that the existing public transport arrangements will continue for the construction and operational phase of the project and that no relocation of stops or rerouting of buses is required.

5.3.7 Active Transport

The BEL footprint is located within areas that have good existing pedestrian facilities and footpaths, consistent with the prevailing uses and scale of development within this locality. Pedestrian facilities are as existing in the surrounding area, with no further pedestrian connections to the road network proposed to be provided.

The BEL project has been designed to maintain pedestrian and cyclist connectivity, and where required, flood doors will be designed to maintain these access point/s. Some existing footpaths and crossing points will need to be relocated and redesigned to maintain active transport connections through the project area. The Traffic Impact Assessment (***Appendix 5***) has considered and incorporated recommendations for maintaining adequate and appropriate active transport.

5.3.8 Amenity Impacts

Amenity impacts have not been addressed in the conceptual planning for the project due to the alignment and levee methodology being refined as the design has progressed to avoid impacts on amenity.

It is intended that architectural treatments and finishes will be applied to the levee, with measures to be considered during the design phase. An amenity assessment will also be undertaken during

detailed design to inform the proposed treatments and finishes required to present a reasonable level of amenity to adjoining and nearby land users.

Landscaping is also intended to be included to soften the appearance of the BEL as much as possible, subject to funding and budgetary constraints. Areas for indicative landscaping and rehabilitation post construction are included in the Landscaping Plans within the Proposal Plans, refer to ***Appendix 1***.

5.3.9 Acoustic Impacts

As the project is not a noise generating use during normal day-to-day conditions, an Acoustic Assessment has not been undertaken for the development.

As indicated in the Draft Operational and Maintenance Manual (***Appendix 9***), during normal day-to-day operating conditions, the flood gates and pump stations are in open and inactivated state. Some noise may be generated by ventilation of the pump station and noise from standby equipment, however this is expected to be negligible.

During events when the levee is in operational mode, noise from the project may come from sources such as the on-site generators, the pump station and flood gate support systems. When the levee is in operational mode, the area will have been evacuated with the exception of essential operating staff, hence there is expected to be negligible acoustic impacts as a result of the operations of the mechanical and hydraulic equipment.

The pump stations will be fitted with an electronically operated and supervised security alarm system to ensure operating facilities remain secure. In the event that these are activated, as they are supervised, they will be switched off as soon as practicable to ensure no ongoing alarm nuisance.

5.4 Project benefits

The benefits of the BEL project include the following:

- Increasing flood protection from a Burnett River flood event similar to 2013 levels
- Mitigating damage from a Burnett River Flood within Bundaberg East, Bundaberg South and the Central Business District without increasing flood issues in other areas of Bundaberg
- Delivering a flood resilient community for future generations
- Enhancing future economic development and opportunities for Bundaberg
- Improved social amenity and local use in Bundaberg East

The benefits of the project are well-illustrated through the series of Flood Maps provided in the Surface Water Technical Report, refer to ***Appendix 3.***

PART D – LOCAL & STATE PLANNING PROVISIONS

6 Planning assessment

In terms of development under the PA 2016, the designation is proposed to be undertaken in accordance with Chapter 2, Part 5 of the Act. The effect of the designation, if made, is that the use of the site for the designated infrastructure will be accepted development.

Building works are accepted development in accordance with Schedule 7, Part 1, item 2 of the PR 2017.

6.1 Local planning framework

Although not assessable against the local planning instrument, development subject to a designation should have regard to the requirements of the relevant local planning instrument, being *Sunshine Coast Planning Scheme 2014* (the Planning Scheme).

6.2 Planning scheme provisions

The below table provides a summary of the key Planning Scheme provisions relevant to the site.

Planning scheme information	
Planning Instruments	*Bundaberg Regional Council Planning Scheme 2015 (v6.2)*
Zoning	Principal Centre Zone Industry Zone Limited Development Zone Sport and Recreation Zone Unzoned Land – roads and waterways
Local Plan	Partially within the City Centre Riverfront Precinct of the Principal Centre Zone
Overlays	• Acid sulphate soils overlay: o Area 1 – Land at or below 5m AHD o Area 2 – Land above 5m AHD and below 20m AHD • Steep Land overlay: o Steep Land – BRC Data • Flood Hazard Area overlay: o Flood Hazard Area o Storm Tide Inundation Area o Subject to both riverine DFE & localised DFEs o Riverine defined flood event (DFE) • Airport and aviation facilities overlay: o Operational airspace- Contours 150m up to 182.614m o Runways buffer 6km and o Wildlife Hazard Buffer Zone – 8km o Lighting Area Buffer – 6km • SPP Biodiversity overlay: o Wetland Values – MSES regulated vegetation (defined watercourse) and MSES (BRC) Watercourse buffer o Vegetation and habitat – MSES Wildlife habitat (special least concern animal) and MSES Regulated vegetation (Category R – GBR Riverine) • SPP Coastal Protection overlay:

Planning scheme information	
	○ Erosion Prone Areas and Coastal Management District • SPP Heritage overlay: ○ Qld Heritage Places • SPP Infrastructure overlay ○ State Controlled Road ○ State Controlled Road buffer Planning Scheme Overlay Maps are included in Section 6.4 of this report.
Existing use definition	*Refer to **Appendix 17** with information regarding existing uses within the development footprint.*
Proposed use definition	The proposed use definition is **Undefined Use.** A levee for the purposes of flood mitigation is not considered to meet the planning scheme definition for Utility Installation, as it does not manage stormwater flows and is not a drainage structure. Irrespective of definition, the levee requires impact assessment as per Schedule 10, Part 19, Division 4 and Subdivision 2 of the *Planning Regulation 2017*.

6.3 Zoning

Under the planning scheme the subject site is identified as being within the Principal Centre Zone, Industry Zone, Limited Development Zone, Sport and Recreation Zone and un-zoned land (waterways and roads), as indicated in *Figure 3*.

In accordance with section 1.3.4 of the *Bundaberg Regional Council Planning Scheme 2015*, for roads, closed roads, waterways and reclaimed land, the following zoning provisions apply:

(1) if adjoined on both sides by land in the same zone – the road, closed road, waterway or reclaimed land is in the same zone as the adjoining land; or

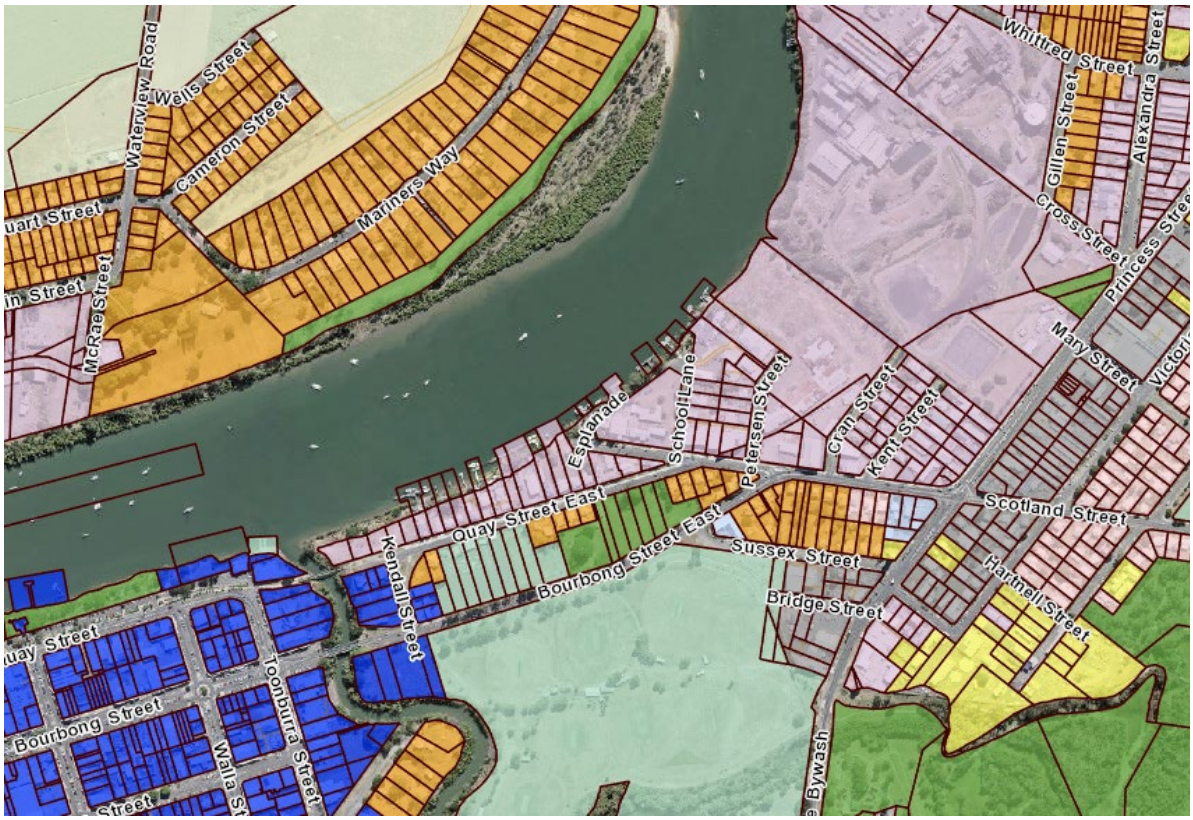
(2) if adjoined on one side by land in a zone and adjoined on the other side by land in another zone – the road, closed road, waterway or reclaimed land is in the same zone as the adjoining land when measured from a point equidistant from the adjoining boundaries; or

(3) if the road, closed road, waterway or reclaimed land is adjoined on one side only by land in a zone-the entire road, waterway or reclaimed land is in the same zone as the adjoining land; or

(4) if the road, closed road, waterway or reclaimed land is covered by a zone then that zone applies.

Hence the applicable zones affected by the levee alignment and to be addresses in this report include the Principal Centre Zone, the Industry Zone, the Limited Development Zone, the Sport and Recreation Zone and the Open Space Zone.

Figure 3 – Planning Scheme – Zone Map



Legend *Source: Bundaberg Regional Council*

Low density residential	Principal centre	Open space	Community facilities
Limited development	Major centre	Sport and recreation	Rural
Emerging community	District centre	Environmental management and conservation	Rural residential
Medium density residential	Local centre	Industry	Special purpose
High density residential	Neighbourhood centre	High impact industry	Specialised centre

6.3.1 Principal Centre Zone

The western portion of the BEL comprising the area to the west of Saltwater Creek (Bundaberg Creek) is located within the Principal Centre Zone.

The purpose of the Principal Centre Zone is to:

> *accommodate a wide range of business uses, entertainment uses, multi-unit residential uses and community uses within an active and vibrant mixed use environment.*
>
> *The scale and intensity of such development should also reinforce the intended role and function of Bundaberg CBD as the principal activity centre for the planning scheme area servicing the whole of the regional council area as well as areas outside of the regional council area.*

The purpose of the BEL project is to support the area to accommodate the uses intended in the Principal Centre Zone by providing flood mitigation infrastructure to improve flood immunity within this part of the Principal Centre Zone affected by flooding issues. Therefore the proposed levee represents infrastructure to supports the purpose of the Principal Centre Zone.

For outcomes of relevance to the project including (a), (d), (e) (f) and (g), the purpose of the Principal Centre Zone is achieved through the following overall outcomes:

(a) development supports the role of the zone as the regional focus and location of the highest order retailing, entertainment, commercial, administrative and government services, and community and cultural activities;

(d) development provides for an efficient pattern of land use with high levels of accessibility and connectivity to transport networks;

(e) development has a built form, height and scale that is compatible with the prevailing character of the principal activity centre, incorporating high quality design elements that protect and respond to important heritage features, and contribute to a cohesive but visually interesting streetscape and skyline;

(f) development facilities the creation of a vibrant and safe activity centre, with attractive and functional buildings that address the street, open space and other public places at a human scale, and provide active, pedestrian friendly frontages, befitting the zone's focus on a regional hub;

(g) development encourages and facilities the efficient provision and use of physical and social infrastructure;

The BEL project responds to the above through the following:

- The development does not introduce uses or activities that would undermine the role / function of the Principal Centre Zone. The BEL project supports these uses from establishing within the zone by ensuring this section of the Principal Centre Zone is attractive to investment and city activation;
- The development supports the ongoing accessibility and connectivity to the transport network, with design elements such as flood doors and realigned footpaths to ensure a similar level of accessibility and connectivity to the existing transport network;
- The development has been designed to achieve the minimum height required to provide the required level of flood immunity. It cannot be built to a lower height otherwise the effectiveness of the levee would be diminished. The levee within the Principal Centre zone will range in height from 1 to 2.8 metres above ground level, which is substantially less than surrounding building heights. As detailed design progresses, design elements and landscaping are intended to be incorporated to enhance the utility form of the structure, create visual interest as well as the levee being designed with future flexibility in mind in regard to supporting additional park and recreational embellishments intended in this area of the City and along the Burnett River;
- The development is infrastructure for flood mitigation and has been designed to be functional and to enable existing infrastructure in the area to continue to operate (this includes social, recreational and transport infrastructure). Overall it is considered that the project will create a foundation for further embellishment of this part of Bundaberg in a way that reflects the overall vision for the area;
- The development includes openings to ensure that transport networks (active and passive) are maintained.
- The development has been sited away from the Saltwater Creek Railway Bridge as much as possible, given it has a functional requirement to be located within this section of the waterway. A Heritage Impact Statement has been provided which addresses project impacts to the State heritage place (refer to ***Appendix 6***).

Additional outcomes sought for the City Centre Riverfront Precinct includes the following:

(j) development has a building height and form that is compatible with the character of the area and positively contributes to the streetscape, provides for a range of uses that take advantage of the riverfront setting, and is configured in a manner that increases activity levels in the area and enhances public accessibility to, and appreciation of, the Burnett River.

The BEL project responds to this requirement through the following:

- The levee within this zone will generally range in height from 1 to 2.8 metres above ground level, which is substantially less than existing building heights found within this area, which generally range between 1 – 2 storeys. By placing the structure within the street, this provides for ample opportunity for future non-flood sensitive uses and activities to establish on land around the levee levee and to enable utilisation of land available along the riverfront.
- Whilst the levee is not a use that is anticipated to attract visitors, the levee provides the supporting infrastructure for these types of uses to establish. This infrastructure will ultimately improve commercial and business activity levels in this part of the CBD and this will have flow-on effects such as enhancing the use and activity levels along the riverfront and within the surrounding park and open space areas.
- Openings will provided within the levee to ensure pedestrian and vehicle permeability throughout the alignment, maintaining activity levels in the area.
- Whilst the project does not provide additional park/recreational embellishments, the concept plans developed for the project highlight the possibilities as a result of the project. The project is considered to lay a foundation for these types of embellishments to establish in future.

6.3.2 Industry Zone

The majority of the BEL project alignment is located along Quay Street East, Scotland Street, Cran Street and within the Bundaberg Sugar Mill site. Whilst the roads and Burnett River and Saltwater Creek (Bundaberg Creek) waterways are unzoned, the levee alignment is within closest proximity to the Industrial Zone, hence the majority of the project alignment zone should be compatible with Industry Zone requirements. Distillery Creek is also mapped as being within the Industry Zone.

The planning scheme Industry Zones comprises Industry Zone and High Impact Industry Zone. The Industry Zone intends to cater for a wide range of industry uses other than high impact industries or 'special industry' uses that have the potential to generate significant off-site impacts.

The purpose of the Industry Zone is to provide for:

(a) a variety of industrial activities; and

(b) other uses and activities that:

(i) support industry activities; and

(ii) do not compromise the future use of premises for industry activities.

The purpose of the BEL project is to minimise flood impacts for land on the protected side of the levee. By reducing flood risks in this part of Bundaberg for a 1% AEP event, the project will support the uptake and use of land for the purposes in which it is zoned on the inland side of the levee. On the unprotected river-side of the levee, the levee has been designed to ensure no worsening of flood hazards. The reduced flood impacts and benefits that will result from the levee are described in the Surface Water Technical Report included in ***Appendix 3*** and the Vulnerability and Tolerability Report ***(Appendix 7).***

The project has also been carefully designed to protect the function and hierarchy of Quay Street, Quay Street East, Scotland Street, Petersen Street and Cran Street by ensuring that geometrically, the road loop layouts ensure the design vehicle can still be accommodated around bends (without

crossing the centreline) and that design vehicles are accommodated in accordance with the *Schedule 6.3 Planning Scheme Policy for Development Works.*

Given the benefits to the land introduced by improved flood resilience on the inland side of the levee as well as maintaining existing use and access to industrial land, the project supports industry activities and facilitates the ongoing use of the land for industry activities. This is consistent with the purpose of the Industry Zone Code.

These benefits also support the following relevant overall outcomes of the Industry Zone Code:

(d) a limited range of non-industrial uses may be established in the zone where:-

(i) ancillary to and directly supporting the ongoing industrial use of the zone; and/or

(ii) allied and compatible industrial uses;

(e) development in the zone is protected from intrusion by incompatible land uses and land fragmentation;

(f) industry areas are well designed, make efficient use of available industrial land and provide a range of lot sizes and adaptable building configurations that care for a variety of industry needs;

(g) development has a predominantly low-rise built form that is sympathetic to the existing and intended scale and character of the streetscape and surrounding area and provides for a modern, safe and functional industrial environment;

(h) development maintains public health and safety and avoids or mitigates significant adverse environmental or amenity impacts;

(i) development provides for efficient and effective transport networks that maximise accessibility within and to the zone; and

(j) development encourages and facilitates the efficient provision and safe operation of physical and social infrastructure.

The proposal responds to the above outcomes by ensuring:

- Development on surrounding land may continue as anticipated under the zoning of the planning scheme. The project preserves the hierarchy and functionality of the streets in which it is located, with vehicles able to safely manoeuvre though the BEL footprint area, operating under similar conditions to which they currently operate;
- No land is fragmented by the BEL project, with land on the river-side of the levee unimpeded by the alignment and land to the landward side of the project including appropriate access arrangements to ensure ongoing use of the land.
- The BEL project ranges in height above natural ground level of between 1 metres and 4 metres. This is consistent with the heights of development within the area which generally presents as single-storey. The BEL project has been designed to minimise visual intrusiveness as much as possible, whilst still needing to have regard to the height and thickness requirements of a concrete flood levee.
- The BEL project Traffic Impact Assessment (refer to ***Appendix 5***) includes a safety assessment aspect to ensure the project being located within road corridors does not present a hazard to road users.
- The BEL project Traffic Impact Assessment (refer to ***Appendix 5***) includes an assessment of all transport modalities of relevance to the project which includes recommendations for ensuring the design provides for appropriate flood doors to enable pedestrian and vehicle movements to be maintained and to ensure pathway connections are maintained as a result of the development.

- The BEL project does not impede the ongoing use of physical and social infrastructure along the project alignment. The project includes a minimum of 14 openings for ongoing use and access of surrounding lands and facilities. As the design progresses these will be confirmed with all affected landholders.

6.3.3 Limited Development Zone

The BEL footprint is located in close proximity to land within the Limited Development Zone on Quay Street East and fronting Scotland Street. Land in this zone affected by the project includes 12E, 14E, 16E, 18E, 22E, 24E and 26E Quay Street East and 10, 12 and 14 Scotland Street. These lots currently comprise detached dwelling houses.

The eastern properties within the Limited Development Zone including 22E and 26E Quay Street and 10, 12 and 14 Scotland Street area also located within the LDZ1 Limited residential precinct of the planning scheme.

The purpose of the Limited Development Zone is to:

(1) Identify land that is significantly affected by one or more development constraints, for example, constraints relating to defence requirements, flooding, historical subdivisions, land contamination, past or future mining activities or topography.

Such constraints pose severe restriction on the ability of the land to be developed for urban purposes.

More specifically, the purpose of the limited development one code is to limit development on land that is subject to the following circumstances:-

(a) land located in an urban setting but unsuitable for such purposes due to significant flooding constraints, access limitations or exposure to adverse amenity impacts;

(b) land subject to a historical subdivision that is unsuitable for residential purposes in its current configuration due to servicing, physical, environmental or other development constraints.

The BEL Project has been sited due to the known flood hazards located within this area of the City. The levee project is not a development that is itself susceptible to flooding, access limitations or exposure to amenity impacts that are associated with being located close to land in the Industrial Zone or on roads that accommodate heavy vehicles.

The following overall outcomes of the Limited Development Zone are addressed by the development:

(a) development is generally limited to pre-existing uses or new uses of a low-intensity, non-urban or rural nature;

(c) where development is proposed, it is of a low-intensity and scale and is compatible with the nature of the constraints present on the site;

(f) development predominantly has a low-rise built form and maintains the low intensity character of the zone, incorporates a high level of residential amenity, and provides for the personal health of residents and safety and protection of property;

(g) development encourages and facilitates the efficient provision and safe operation of physical and social infrastructure;

(h) development in Precinct LDZ1 (Limited residential precinct) does not materially intensity residential activities on premises located in high flood hazard areas.

The BEL project responds to the above by:

- Being development that has a tangible benefit to land in the Limited Development Zone through reducing the flood hazards present in this locality.

- The BEL project is compatible with the flood hazards and other physical and environmental constraints.
- The BEL project is low-rise, ranging in height above natural ground level of between 1 and 4 metres. This is consistent with the heights of development within the area which generally presents as single-storey and up to two-storeys.
- The BEL project does not impede the ongoing use of physical and social infrastructure along the project alignment. For instance, the project includes flood doors that will be designed to ensure ongoing pedestrian and vehicle connectivity along the alignment for ongoing use and access of surrounding lands and facilities.
- The development does not intensify residential activities on premises in high flood hazard areas. The development does not alter existing planning scheme mapping or other planning scheme requirements for development in this locality. It will be a matter for the BRC to consider, where relevant, any updates to the planning instruments affecting premises as a result of the development.

6.3.4 Sport and Recreation Zone

The BEL footprint adjoins land in the Sport and Recreation Zone which includes the rowing pontoons within the Burnett River adjacent to the Rowing Club on Lot A on AP6958, as well as the seven (7) properties at 8E Quay Street East and forming the Bundaberg On-Road RC Club and the Dog Park. A large portion of Kendall Flats on the southern side of Bourbong Street is also within this zone as well as two allotments also forming part of 8E Quay Street East, accessed via Bourbong Street.

Given the project adjoins 8E Quay Street East, consideration of the Sport and Recreation Zone code performance outcomes and overall outcomes is required.

The purpose of the Sport and Recreation Zone is to provide for:-

(a) a variety of cultural, educational, recreation and sporting uses and activities that require built infrastructure, including, for example, clubhouses, gymnasiums, swimming pools or tennis courts; and

(b) facilities and infrastructure to support the uses and activities stated in paragraph (a).

The BEL project facilitates this outcome through providing flood mitigation infrastructure that will assist existing sport and recreational uses in the area continue to operate as intended and may facilitate new sport and recreational infrastructure to establish in this locality on the basis that improved flood resilience is provided in the area which may attract development and investment opportunities to the Bundaberg Central and Bundaberg East areas.

The BEL project further supports the Sport and Recreation Zone Code though achieving the following outcomes of relevance to the project:

(a) development in the zone provides for a range of recreation activities that meet the active sport and recreational needs of residents and visitors;

(d) development facilitates and encourages the efficient and effective provision and use of indoor and outdoor sport and recreation facilities and their integration with the broader regional open space network;

(e) development in the zone is protected from intrusion by incompatible land uses;

(f) development maintains public health and safety and avoids or mitigates significant adverse environmental or amenity impacts;

(g) development provides for efficient and effective transport networks that maximise accessibility within and to sport and recreation areas;

(h) development encourages and facilitates the efficient provision and safe operation of physical and social infrastructure.

The BEL project responds to the above by:

- Whilst the BEL project is to establish flood mitigation infrastructure, the project has also been designed to ensure it does not preclude the provision of sport and recreational embellishments and activities from occurring in and around the project footprint. This may include the future delivery (to be delivered by others) of pedestrian access links, river viewing decks, rock climbing wall, shared vehicle and pedestrian pathways and landscaped open space/recreational areas. With further enhancements of the levee as a foundation structure, the project has the potential to form part of the broader regional open space network and provide a positive contribution to the suite of sport and recreational infrastructures available within Bundaberg.
- The project provides improved flood immunity, to attract investment and development into a part of the City that has a history of being prone to flooding and hence a detraction to development and investment.
- A suite of assessments have been undertaken to ensure the project maintains public health and safety, including a Surface Water Technical Report (refer to ***Appendix 3***), a Vulnerability and Tolerability Assessment (***Appendix 7***) and Traffic Impact Assessment including safety assessment (***Appendix 5***). Other assessments such as ensuring contamination is appropriately managed through construction phase will also assist in maintaining appropriate public health and safety.

6.3.5 Open Space Zone

The BEL footprint adjoins land in the Open Space Zone, which includes the open space area on Quay Street Bundaberg Central (Lot 1 on SP162005) which includes the carparking and Burnett River foreshore area as well as the open space allotments on Quay Street East to Bourbong Street which encompass seven (7) land parcels east of the dog park and including the East Rotary Park, extending up to the rear of Lot 7 on RP80435 (24E Quay Street East).

The purpose of the Open Space Zone Code is to provide for:-

(a) local, district and regional parks for the use of residents and visitors; and

(b) facilities and infrastructure that support, and are required by, users of the parks.

The purpose is achieved through the following *relevant* overall outcomes:-

(a) development in the zone predominantly provides for the informal active recreational needs of residents and visitors;

(b) limited other uses and facilities that support the use and enjoyment of open space may also be established in the zone;

(d) open space is protected from the intrusion of incompatible uses and land use conflicts are avoided;

(e) development facilitates and encourages the efficient and effective provision and use of open space and its integration with the broader regional open space network;

(f) development provides a high level of amenity and is compatible with the exiting and intended scale and character of the streetscape and surrounding area;

(g) development provides for efficient and effective transport networks that maximise accessibility within and to sport and recreation areas; and

(h) development encourages and facilitates the efficient provision and safe operation of physical and social infrastructure.

The BEL project responds to the above by:

- Providing flood mitigation infrastructure that will protect land behind the levee wall. This includes protecting the lands in the Open Space Zone. This will assist in these lands continuing to provide for informal active recreational needs of residents and visitors during flood events;
- The BEL project does not prejudice the uptake of other intended uses and facilities on the Open space land.
- The BEL project is infrastructure that is compatible with the use of the land for open space functions. Existing use of the land for open space and recreational purposes is maintained and enhanced by the project through ensuring this space is protected from flood events up to the 1% AEP design flood level.
- The BEL project has been designed to include active transport elements such as pathways and connections through the levee which facilitate the integration of the Open Space Zoned land with surrounding lands;
- As detailed design of the levee progresses, it is intended that the project will incorporate architectural elements and features to contribute to the amenity of the area;
- The BEL project has been designed to ensure existing transport networks and facilities (bus stops and the like) can continue to operate, through openings in the levee and through other recommendations as addressed in the Traffic Impact Assessment (refer to ***Appendix 5***).
- The project as a flood mitigation infrastructure is located and designed to protect parts of Bundaberg CBD and Bundaberg South from flood events up to a 1% AEP flood event. This facilitates the ongoing use and operation of physical and social infrastructure located in the benefitted areas.

The MID application and supporting technical reports demonstrate the overarching benefits of a flood mitigation levee that will provide additional flood protection from flood events up to the 1% AEP. This provides enhanced flood immunity and resilience to parts of the city that have been prone to flooding. This will lessen the risk presented by this significant constraint on development and investment in this part of Bundaberg.

6.4 Overlays

Planning schemes identify physical constraints affecting development through the inclusion of overlays. Where a site is affected by an overlay, additional development limitations may be placed over the property by the planning scheme.

The relevant overlays of the BRC Planning Scheme are further discussed below. It is noted that where indicated below, the planning scheme also incorporates and reflects the SPP mapping:

Overlay	Overlay Map
Acid sulfate soils: • Area 1 – Land at or below 5m AHD • Area 2 – Land above 5m AHD and below 20m AHD Initial contamination investigations have identified that the levee alignment is likely to be include disturbance of acid sulfate soils. The development will require a construction environmental management plan which will also include requirements for managing acid sulfate soils when found during construction works.	
Steep land overlay: • Steep Land – BRC Data The project footprint includes land mapped within the steep slopes overlay areas. This includes areas along Saltwater Creek (Bundaberg Creek), Disillery Creek and along the banks of the Burnett River behind the Bundaberg Sugar Mill. Geotechnical investigations are being conducted to inform construction methodologies and practices related to construction works for the project. The Geotechnical findings to date are provided in ***Appendix 12***.	
Flood Hazard Area overlay: • Flood Hazard Area • Storm Tide Inundation Area • Subject to both riverine DFE & localised DFEs • Riverine defined flood event (DFE) The project footprint is located on land and within waterways that are affected by Council's Flood Hazard Area overlay mapping.	Flood Hazard Area:

Overlay	Overlay Map
Due to the purpose of the project and levee status, detailed flood investigations including a Surface Water Technical Report (refer to ***Appendix 3***) and a Vulnerability and Tolerability Assessment (refer to ***Appendix 7***) has been undertaken to consider the flood impacts as a result of the development. To address emergency management procedures, an Emergency Response Plan is provided in ***Appendix 8.***	 Storm Tide Inundation Area:  Riverine DFE and Localised  Riverine Defined Flood Event

Overlay	Overlay Map
	
Airport and aviation facilities overlay: • Operational airspace- Contours 150m up to 182.614m • Runways buffer 6km and 8km • Lighting Area Buffer – 6km The project footprint is affected by the above overlays, however the scale, height and type of development is not expected to impact the safe operation of airports and aviation. Whilst the project involves linear infrastructure, the project will not include long lengths of strip lighting that may impact on aviation. A Lighting Assessment with further recommendations for lighting as part of the detailed design phase has been provided in ***Appendix 11***.	Operational airspace  Runways Buffer 
SPP Biodiversity overlay: • Wetland Values – MSES regulated vegetation (defined watercourse) and MSES (BRC) Watercourse buffer • Vegetation and habitat – MSES Wildlife habitat (special least concern animal) and MSES Regulated vegetation	Wetland Values - MSES regulated vegetation (defined watercourse) and MSES (Watercourse Buffer)

Overlay	Overlay Map
(Category R – GBR Riverine) An Ecological Assessment has been undertaken to assess all relevant ecological matters for the proposed development. The Ecological Assessment Report is provided in ***Appendix 10.***	 Vegetation and habitat - MSES Wildlife habitat and MSES Regulated vegetation 
SPP Coastal Protection overlay: • Erosion Prone Areas and Coastal Management District The proposal interfaces with the coastal environment and is located in areas that are prone to coastal erosion, however the project cannot avoid this area as it is required to be at this location to provide the required flood protection. Hydraulic impacts for the development are addressed in the Surface Water Technical Report ***Appendix 3***. As design progresses, further assessments will be undertaken to determine	

Overlay	Overlay Map
extents of scour protection for the project.	
SPP Heritage overlay: • Qld Heritage Places The proposal interfaces with the Qld Heritage Place – Saltwater Creek Railway Bridge. A Heritage Impact Statement has been undertaken for the project and is included in ***Appendix 6***.	
SPP Infrastructure overlay • State Controlled Road Corridor and Buffer Quay Street is a state-controlled road. The levee alignment also interfaces with State-controlled road intersections. A Traffic Impact Assessment including addressing traffic safety t has been prepared for the project, refer to ***Appendix 5***.	

7 State Planning Framework

7.1 The Planning Act 2016

Under Schedule 2 of the PA, a state interest means an interest that the Minister considers—

- affects an economic or environmental interest of the state or a part of the state; or
- affects the interest of ensuring that the purpose of the Act is achieved.

The State Planning Policy (SPP) is the overarching document which promotes the state's interests in land use planning and development. Under section 8(4) (a) of the PA 2016 the SPP has effect throughout Queensland and sits above regional plans and planning schemes in the hierarchy of planning instruments.

7.2 State Planning Policy

The SPP applies to the extent relevant when designating premises for infrastructure. When making or amending a designation, the Planning Minister must have regard to the relevant parts of the SPP as shown in the table below.

Application of the SPP	Who is responsible	Parts of the SPP that are applicable						
		Part A, B & C	Part D	Part E: State interest policies	Part E: Assessment benchmarks	Part F	Part G: Appendix 1	Part G: Appendix 2
Designating premises for infrastructure	**State and local government**	✓	✓	✓	✓	✓	✓	✓

Consideration of how the proposal meets the relevant parts of the SPP are discussed in further detail below:

7.2.1 The Guiding Principles

OUTCOME FOCUSSED
The proposal seeks to designate the site as Item 19 – Water cycle management infrastructure . The designation considers economic, environmental and social needs of current and future generations through the delivery of the infrastructure.
INTEGRATED
Not applicable as the proposal is for an Infrastructure Designation and not for plan making
EFFICIENT
The proposal seeks to designate the site to facilitate the delivery of the BEL. The designation forwards the efficient and timely delivery of infrastructure while ensuring that subsequent works on the site can proceed without assessment against the *Bundaberg Regional Council Planning Scheme.*
POSITIVE
Not applicable as the proposal is for an Infrastructure Designation and not for plan making.
ACCOUNTABLE
The infrastructure designation process is proposed in accordance with Chapter 2 of the PA 2016. Development of plans and assessment of impacts has had due consideration to relevant State and local plans and mapping and consultation with relevant State agency stakeholders, political representatives, and the local government will occur as part of this process.

7.2.2 State Interest Statements

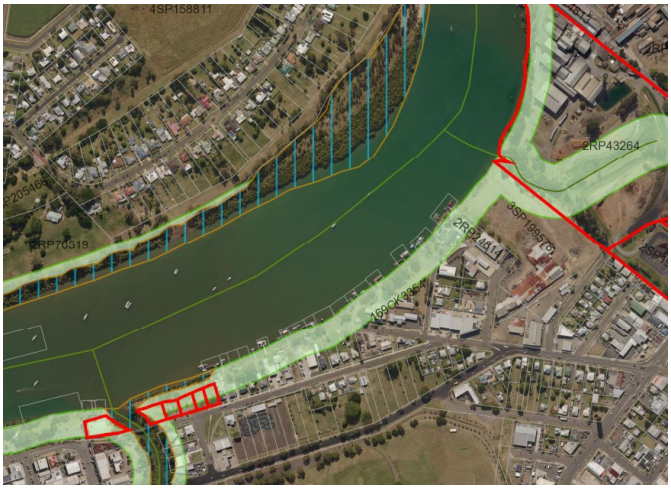
The following table lists the State interests contained in the SPP relevant to the subject site.

State Planning Policy	Applicability
Planning for Liveable Communities and Housing	
Liveable Communities	N/A
Housing Supply and Diversity	N/A
Planning for Economic Growth	
Agriculture	Yes
Development and Construction	N/A
Mining and Extractive Resources	N/A

Tourism	N/A
Planning for the Environment and Heritage	
Biodiversity	Yes
Coastal Environment	Yes
Cultural Heritage	Yes
Water Quality	Yes
Planning for Safety and Resilience to Hazards	
Emissions and Hazardous Activities	N/A
Natural Hazards Risk and Resilience	Yes
Planning for Infrastructure	
Energy and Water Supply	N/A
Infrastructure Integration	N/A
Transport Infrastructure	Yes
Strategic Airports and Aviation Facilities	Yes
Strategic Ports	N/A

Relevant state interests are further described in the following table, as obtained from the SPP Interactive Mapping System.

State Interest	State Interest Map
Agriculture • Important Agricultural Areas The project footprint is located on land mapped as comprising Important Agricultural Areas. As the levee is located in an urban area and included in the Principal Centre zone, Industry zone, Limited development zone and Sport and recreation zone of the planning scheme, the levee will not impact land used or suitable for agricultural purposes. No further consideration of assessment benchmarks for agricultural state interests is required.	

State Interest	State Interest Map
Biodiversity • MSES – Wildlife habitat (special least concern animal) • MSES – Regulated vegetation (category R) • MSES – Regulated vegetation (intersecting a watercourse) The above MSES matters are mapped over the site. It is further identified that the project footprint also includes unmapped/inherent MSES: including marine plants and the development introducing waterway barriers which are also a potential impact to MSES through impacts upon fisheries resources. An Ecological Assessment Report including a marine plant assessment and fish habitat assessment is included in ***Appendix 10*** to address the environmental impacts of the project.	
Coastal Environment • Coastal management district The levee is located on land within the coastal management district and within erosion prone areas. The levee has a functional requirement to be located within this area. A Surface Water Technical Report (***Appendix 3***) and Ecological Assessment Report (***Appendix 10***) has been included in the MID application to address coastal impacts.	

Cultural Heritage

- State heritage place

The levee is located on land that is included as a State heritage place. This includes the Saltwater Creek Railway Bridge (also known as the Millaquin Bridge), Queensland Heritage Place (QHP) 600370.

To address impact to State Heritage, a Heritage Impact Assessment has been prepared for the project ***(Appendix 6)*.**

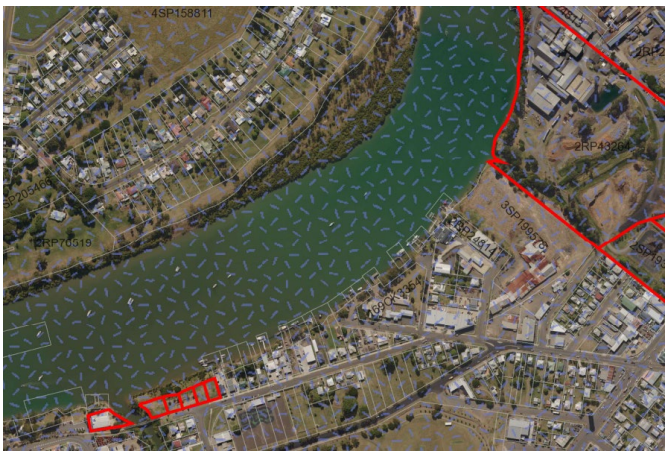
Water Quality

- Climatic regions – stormwater management design objectives

The site is within the Climatic regions – stormwater management design objectives and specifically the Central Queensland (South) region. Reference should be made with the SPP, including the SPP Code: Water Quality.

A Stormwater Management Plan has been prepared for the site and included in ***Appendix 4***.

Details on how the proposed development manages stormwater impacts are discussed in *Part E – Environmental Assessment*.



Natural Hazards, Risk and Resilience

- Flood hazard area – Level 1 – Queensland floodplain assessment overlay
- Flood hazard area – Local government flood mapping area
- Erosion prone area
- Medium storm tide inundation area
- High storm tide inundation area

To address natural hazard risks, the project includes a Surface Water Technical Report (***Appendix 3***). Further assessment will be undertaken during detailed design to confirm project requirements for scour protection.

Transport Infrastructure

- State-controlled road
- Active transport corridor
- Transport Noise corridor – State-controlled road (mandatory)

The project is located on State-controlled roads and includes routes that are Active transport corridors.

To address these matters, a Traffic Impact Assessment including safety assessment has been included in ***Appendix 5.***

The development is located within a transport noise corridor, however a levee is not a noise sensitive development, hence no acoustic assessment is required.

State-controlled road & Active transport corridor

Transport Noise corridor

Strategic Airports and Aviation Facilities

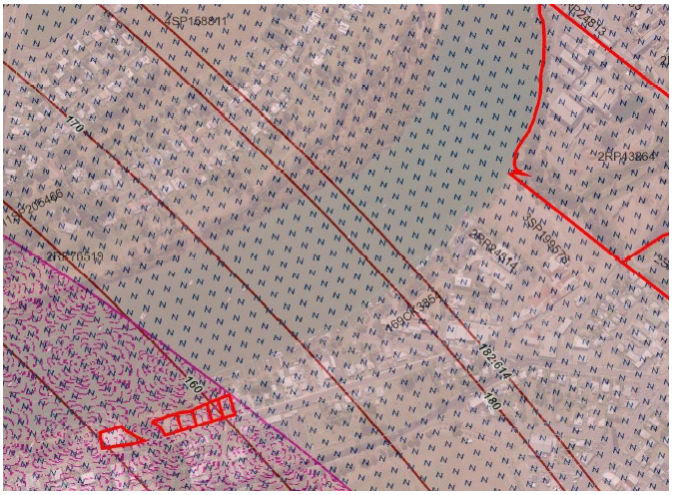
- Obstacle limitation surface area and contours
- Lighting area buffer 6km
- Wildlife hazard buffer zone – 8km

The levee is located on land mapped as including the Obstacle limitation surface (OLS) area with OLS contour heights indicated at or above approximately 150 metres in the vicinity of the levee. This represents the limits to which obstacles (temporary or permanent) can project in the airspace associated with an airport or aviation facility. The site is also in the lighting area buffer 6km and Wildlife hazard buffer zone – 8km.

With a maximum levee wall height of approximately 9.5m AHD, the OLS is not intruded either by the constructed levee wall, construction equipment, or landscaping that at maturity would reach into the OLS.

The project does not involve activities that are a risk to airports or aviation.

The project will not include straight parallel lighting of 500m to 1000m long. A Lighting Assessment – Aviation report is provided in ***Appendix 11***. Lighting requirements will be refined through the detailed design phase and in accordance with any relevant requirements.



7.3 Regional Planning

The site is within the Priority Living Area of *Wide Bay Burnett Regional Plan (2023).* The regional plan is a 25-year statutory document encompassing the local government areas of Bundaberg, Cherbourg, Fraser Coast, Gympie, North Burnett and South Burnett. Mapping showing the site is within Priority Living Area is shown in *Figure 2.*

Priority Living Areas have effect through the *Regional Planning Interests Act 2014* (RPI Act) which considers land use policies in relation to activities such as mining and petroleum that generally occurs outside the Planning Act and local government planning schemes. As the proposal is not for an activity such as mining or petroleum, the RPI Act is not applicable to the project.

Priority living areas are key settlement areas with populations equal to or greater than 200 people that are likely to experience growth over the next 25 years, with a two-kilometre buffer applied around the

settlement area. PLAs do not identify a future settlement pattern for a town and do not have any effects under the Planning Act.

One of the key outcomes of the regional plan is that important regional centres, including Bundaberg, have land available for future development, that is appropriately located and not compromised by natural hazards (e.g. flooding). The project is consistent with the intent of the regional plan to house the growing population within the Priority Living Area. The project benefits the City of Bundaberg through enhancing flood resilience in Bundaberg Central and Bundaberg South area and providing new development opportunities for the benefitted area and flow-on benefits to the wider region.

Figure 2 – Wide Bay Burnett Regional Plan (2023)

Legend

Source: DSDILGP SARA

Levee Alignment (approx.)

Priority Living Area

PART E – ENVIRONMENTAL ASSESSMENT

8 Planning assessment

Before designating land for infrastructure, the Minister must be satisfied that adequate environmental assessment, including adequate consultation, has been carried out in relation to the development that is subject to the designation.

The environmental assessment must have regard to—

- all planning instruments that relate to the premises; and
- any assessment benchmarks, other than in planning instruments, that relate to the development that is the subject of the designation or amendment; and
- if the premises are in a State development area under the State Development Act—any approved development scheme for the premises under that Act; and
- if the premises are in a priority development area under the Economic Development Act 2012—any development scheme for the priority development area under that Act; and
- any properly made submissions made as part of the consultation carried out under section 37; and
- the written submissions of any local government.

This section of the Report provides an environmental assessment of impacts the development or use may generate, and ways in which those environmental impacts are being managed or mitigated. Regard is given to natural and physical resources, as well as short and long-term effects and impacts on the environment and community from both the construction and operational phase of the proposal. The range of matters considered includes:

- soils and geology;
- natural resources and hazards;
- conservation and heritage values;
- health, safety, amenity and social impacts;
- infrastructure, traffic and transport.

Reference should also be made to Part E – Local and State Planning Provisions with regards to mapping relevant to the subject site.

8.1 Road Infrastructure

8.1.1 Roads

Context

The levee extends approximately 1.570 kilometres and is located within road reserves including Quay Street, Quay Street East, Scotland Street, Petersen Street and Cran Street. The levee is also in proximity to several intersections along this route as described below.

Proposal

Reference should be made to the proposal plans in ***Appendix 1*** which outlines the levee alignment in relation to roads.

A Traffic Assessment has been prepared and included in ***Appendix 5*** to consider the impact of the project on the road network. The results of this assessment identifies the following:

- The western section of the levee will be approximately 1 kilometre in length and at its maximum height along roads in this section, the levee will reach a height of approximately 3.9m above the road level. The western section will include at least 14 flood doors for property access and to enable access across roads.
- The eastern section of the levee will be approximately 570 metres in length and is located on Cran Street where it then crosses Distillery Creek and enters the Bundaberg Sugar Mill. This section will require limited gates as the levee runs parallel to Cran Street and does not cross roads or accesses.
- Levee infrastructure will be required within the road reserve and some infrastructure may be required within existing road pavement areas, including levee structures as well as realigned and new infrastructure (e.g. stormwater, lighting, water, sewer, electrical infrastructure).
- Flood doors are required at various locations along the alignment to maintain property access. The width of the doors could impact sight lines for existing vehicles from affected properties and will be required to be designed to meet (at a minimum) A*S2890.1 Parking facilities – off street parking* which requires a minimum sigh distance of 40 metres for a domestic property and 45 metres for a non-domestic property (69 metres is desirable). Sight distances for pedestrians walking along the verge or along the road side of the wall also need to be considered in the design, particularly where the wall is adjacent to footpaths.
- Flood doors crossing roads require minimum sight distances of 90 metres to comply with Austroads Guide to Road Design Safe Intersection Sight Distance (SISD).
- The proximity of the levee to the kerb line requires appropriate clearances for traffic lanes and end treatments in flood gates breaks in the wall may be required. Lighting of the wall will need to consider traffic and pedestrian safety and where the wall is high, it is likely to require additional lighting to ensure adequate lighting for all road users.
- Pedestrian crossing locations should be incorporated into the detailed intersection design of Scotland Street/Quay Street intersection and Scotland Street/Petersen Street intersection.

Reference should be made to the proposal plans in ***Appendix 1*** which outlines the levee alignment in relation to roads.

The design of the project has also considered existing locations of driveways and requirements to maintain existing lawful access points to properties along the levee alignment. The project team engaged with BRC who provided information about approved driveway accesses along the alignment to ensure appropriate access to properties is maintained as a result of the development.

As design progresses, the project infrastructure required within the road and road corridors will be refined and designed to comply with the requirements as detailed in the Traffic Impact Assessment included in ***Appendix 5*** and the information provided by BRC regarding lawful accesses. The design of the project will occur in consultation with the relevant road owners (i.e. Department of Transport and Main Roads and BRC).

8.1.2 Traffic Generation

Context

Development typically has the potential to alter traffic movements and to result in increased traffic generation which may impact on the safety and efficiency of intersections in direct proximity to the development footprint. Significant changes in traffic regimes (number of vehicles, peak periods and vehicle types) may also influence the safety and efficiency of the surrounding road network.

Proposal

The impact of the project to the traffic network is addressed in the Traffic Impact Assessment (refer to ***Appendix 5***). The following is identified:

- Traffic generation for the development's construction phase will need to be more accurately quantified as design progresses. This will be influenced by development staging, direction of travel and size of construction vehicles (influenced by factors such as concrete batching location and other construction methodologies), construction vehicle volumes (materials), worker volumes and altered traffic arrangements (e.g. full or partial road closures) during construction.
- Post-construction traffic volumes are not anticipated to be significantly altered, with the levee wall unlikely to generate additional traffic volumes aside from occasional maintenance vehicles.
- During construction, there is likely to be significant heavy vehicle traffic generated through the local area, however post-construction traffic volumes are not expected to be significantly altered. Specific turn movements at intersections and on roads may be impacted due to potential restrictions introduced by the levee placement and gate locations.
- During construction, heavy vehicle access restrictions may require additional travel through the Bundaberg CBD and using Bundaberg Ring Road to access the construction site.
- Construction will need to be managed to minimise impacts to businesses and residents in the area to minimise traffic impacts.
- Some turn volumes at intersections in proximity to the alignment including Bourbong Street/Kendall Street, Bourbong Street/Scotland Street and Scotland Street/Cran Street may increase to the extent that intersection upgrading is required.
- School Lane may require give-way signage and linemarking and intersection upgrading at School Lane (Scotland Street/Quay Street East/School Lane) may be required, subject to further assessment as detailed design progresses.

As design progresses and construction details become further understood, further assessment of the project impacts to the road network including the intersections on and in close proximity to the development will need to be undertaken. Public Works will continue to liaise with the relevant road owners (i.e. Department of Transport and Main Roads and BRC) and undertake further intersection analysis of intersections and upgrading, if/as required.

8.1.3 Car Parking

Context

Developments are required to accommodate the parking demand generated by the development and to ensure impacts to existing on-street parking are minimised and/or mitigated to the best extent possible.

Proposal

With reference to the Traffic Impact Assessment (***Appendix 5***), the levee is unlikely to result in any significant additional car parking demand, with the exception of a small quantum of parking required for maintenance personnel.

The alignment of the levee is likely to result in the loss of approximately 34 angled car parking spaces along the southern side of Quay Street East. The project team will work with the BRC to find alternative locations to supply some additional on-street parking to alleviate (at least in part) the loss of on-street parking spaces. Public Works is currently considering several options to locate these additional spaces. These locations will be defined further through the project design phase and in consultation with BRC and other relevant stakeholders.

8.1.4 Public Transport Infrastructure

Context

The project is located in an established urban area and buses service the bus stop pair located on Bourbong Street on the southern side of the Remote Control Car Club as well as additional bus services in close proximity to the western side of the levee along Quay Street, within the CBD.

Proposal

The findings of the Traffic Impact Assessment (***Appendix 5***) confirm that the levee will not impact on any bus routes or bus stops during or post construction.

8.1.5 Active Transport Infrastructure

Context

As indicated in section 5.3.10 of this report, the BEL project has been designed to maintain pedestrian and cyclist connectivity.

Quay Street (Toonburra Street), Bourbong Street, Quay Street East and parts of Scotland Street are on the Principle Cycle Network. Footpaths are also located on at least one road frontage on Quay Street, Bourbong Street, Quay Street East and Scotland Street.

Proposal

The proposal has been designed to include flood doors to assist to maintain the active transport network.

As indicated in the Traffic Impact Assessment (***Appendix 5***), some existing footpaths and crossing points will need to be relocated and redesigned to maintain active transport connections through the project area as a result of the levee works and additional flood gates may be required to ensure connectivity is maintained for active transport users:

This and other recommendations outlined in the Traffic Impact Assessment for addressing active transport include:

- Redesign of existing footpath and crossing points on the Quay Street East/Kendall Street intersection if a new on-street parking area is located here (subject to further investigations);
- Potential for additional flood gates along Quay Street East, with a mid-block crossing or means of passing through the wall from the north to the south to be considered during detailed design;
- Pedestrian/cyclist crossing locations should be incorporated into the detailed intersection design of Scotland Street/ Quay Street and Scotland Street / Petersen Street, noting that Scotland Street in this section is part of the Principle Cycle Network connecting Quay Street East to the south;
- Pedestrian/cyclist crossing locations should be incorporated into the detailed intersection design of Scotland Street/Petersen Street to maintain the Principle Cycle Network and pedestrian connectivity;
- Detailed design will need to consider pedestrian movements along Cran Street, albeit low volumes;
- At the Bourbong Street/Quay Street/School Lane intersection, the pedestrian crossing location may need to be shifted to the west towards School Lane to ensure sight distances at the intersection to pedestrians are available;
- The pedestrian/cyclist crossing location across Petersen Street should be incorporated into the detailed intersection design of Scotland Street/Petersen Street, noting the existing shared

footpath is part of the Principle Cycle Network. Appropriate sight distances would need to be considered during the design of this intersection.

Overall the findings of the Traffic Impact Assessment (***Appendix 5***) confirm that the levee largely avoids impacts on the existing active transport network. Where the project may impact the network, the impacts can be mitigated through ensuring the above recommendations are addressed during the detailed design phase for the project.

The above recommendations will be further refined as detailed design progresses and final requirements to maintain the active transport network will be implemented accordingly.

8.2 Services Infrastructure

8.2.1 Water Infrastructure

Context

Council owned and operated water mains are present in close proximity to the BEL project alignment, with the project intersecting with water mains at several locations along the project footprint including Quay Street East, Scotland Street and Petersen Street. A Services Impact Advice has been provided in ***Appendix 14*** showing information on all existing water infrastructure services.

Proposal

Ongoing engagement is occurring with BRC, the service provider for the reticulated water network. It is intended that water mains along Quay Street East, Scotland Street and Petersen Street may be relocated to accommodate the project. Some property connections are also likely to require relocation. Public Works and its contractors will continue to engage with BRC to mitigate the project impacts on water infrastructure and confirm the relocation of these services.

8.2.2 Sewer Infrastructure

Context

Council owned and operated sewer gravity mains are present in close proximity to the BEL project alignment, with the project intersecting with sewer mains at several locations along the project footprint including Quay Street East, Scotland Street and Petersen Street. A Services Impact Advice has been provided in ***Appendix 14*** showing information on all existing sewer infrastructure services.

Proposal

Ongoing engagement is occurring with Bundaberg Regional Council, the service provider for the reticulated sewer network. It is intended that gravity sewer mains along Quay Street East, Scotland Street and Petersen Street may be relocated to accommodate the project. Public Works and its contractors will continue to engage with Bundaberg Regional Council to mitigate the project impacts on water infrastructure and confirm the relocation of these services.

8.2.3 Stormwater Infrastructure

Context

Council managed stormwater infrastructure is located along the BEL project alignment, with the project intersecting with existing pipe stormwater infrastructure at Quay Street and Quay Street East.

The Stormwater Management Plan (***Appendix 4***) a provides details of the existing stormwater infrastructure in proximity to the BEL project alignment.

Proposal

With reference to the Stormwater Management Plan in ***Appendix 4***, a concept level plan for the project has been developed to inform the initial drainage design for the project with the aim to ensure

surface runoff flows are managed and water quality objectives are achieved for the development. To date, no hydrologic or hydraulic analysis has been completed to determine pipe or swale sizing, with this assessment to be completed during the next phase of the project. This will include further assessment to ensure no material worsening to roads. The Stormwater Management Plan (***Appendix 4***) identifies the following:

- Stormwater management for the development has been designed to achieve the standard design criteria outlined in the Bundaberg Regional Council Stormwater Management Guidelines, which include achieving the following requirements:
  - Open drain and drainage pipe design events – to achieve 10% AEP criteria
  - Cross drainage – to achieve 2%
  - Climate change factor – 20%
  - Coastal boundaries – to achieve a 0.8m increase in sea level (MHWS = 1.16m AHD)
  - Peak 63% AEP design discharge – to be limited to pre-development peak 63% AEP discharge.
- Stormwater management requirements will vary depending on whether catchments comprise permanent or temporary levee structures. Non-return valves/gates are currently proposed where existing pipes and culverts are maintained through the levee.
- Swale spoon drains are proposed generally along the front of the levee (southern side) to direct flows along the levee towards the existing pits and culverts. Other sections may require catch drains along the northern side of the levee (i.e. stormwater catchments 11-12) to ensure flows can access the existing drainage network. Spoon and catch drains will need to be carefully designed to maintain the footpath connections.
- Rock beaching may be required where flows are being channelised towards the river and creeks, both Saltwater Creek (Bundaberg Creek) and Distillery Creek, to avoid erosion.
- Hard stand areas associated with the Saltwater Creek (Bundaberg Creek) flood gates, control building and levee will require a treatment solution prior to draining into Saltwater Creek (Bundaberg Creek).
- New stormwater pipes and removal of some redundant pipes are likely required along the northern side of Quay Street East to minimise the number of pipes that intersect with the levee. In some areas such as along Quay Street East, regrading of road may be required or additional pits and pipes installed to ensure portions of the road drain towards the levee. Options for ensuring drainage will be further investigated during the next phase of design.
- The need for water quality treatment has been assessed for each stormwater catchment. For all 14 catchments, the levee wall does not alter the catchment area and changes to the impervious area of each catchment is negligible, hence assessment of water quality treatment methods is not deemed to be required as the levee does not present adverse impacts to the existing water quality.

8.2.4 Electricity Infrastructure

Context

The BEL project footprint is in close proximity to the overhead electrical infrastructure including poles and overhead mains that are located on the southern side of Quay Street, the northern side of Quay Street East, the southern side of Scotland Street (the poles are on the northern side of Scotland Street in areas away from the BEL footprint), the northern and southern side of Petersen Street, and the eastern side of Cran Street. The BEL project intersects with electricity infrastructure at over 20 locations along the alignment. A complete list of electricity infrastructure affected by the project is provided in ***Appendix 14***.

Proposal

A complete list of electrical conflicts and description of affected assets is provided in the Services Impact Advice (refer to ***Appendix 14***). This may require the relocation of electricity assets along the levee alignment. Communication with the service provider (Ergon) is ongoing for the project and as design progresses, the mitigation strategy for addressing impacts to these services will be refined and arrangements made with the asset provider for relocation (if required) of services to accommodate the project.

8.2.5 Telecommunications Infrastructure

Context

The area is currently serviced by underground telecommunications infrastructure including Powerlink (Optic Fibre assets) and Telstra/NBNCo. Assets (conduits, cables and property connections). The BEL project will intersect with this infrastructure at several points along the alignment. Specific details of the locations of this infrastructure in relation to the levee alignment is provided in the Services Impact Advice (refer to ***Appendix 14***).

Proposal

The proposed development may require some services to be relocated, pending impacts to be further investigated during the detailed design phase and through discussion with the services providers.

8.2.6 Other Infrastructure

Context

The Services Impact Advice (refer to ***Appendix 14***) indicates that there are two (2) gas service lines located on the levee alignment. One of these is located just to the north of the proposed levee near the Rowers Club on Quay Street and a gas line extends the northern side of Quay Street East, crossing under Quay Street East where it follows Kendall Street.

Proposal

Public Works and its contractors will continue to liaise with the service provider for this infrastructure, APA Gas, to arrange for any required relocation of this infrastructure.

8.3 Flora and Fauna

8.3.1 Environmental Protection and Biodiversity Conservation Act 1999

Context

The purpose of the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) is to ensure the protection and management of nationally and internationally important flora, fauna, ecological communities and heritage places as defined in the EPBC Act.

Proposal

The proposal is largely located within land that has limited environmental value, including within roads and heavily disturbed areas. However parts of the levee alignment intersect with riparian environments, including within tidal waterways and creeks/estuaries. An Ecological Assessment Report involving desktop study and ground surveys (refer to ***Appendix 10***) has been prepared for the project to comprehensively understand and document the environmental values of the levee alignment and directly adjacent lands (the *study area*) that are likely to be impacted by the development during the construction, operational and maintenance phases.

The Ecological Assessment has identified that there are nine (9) conservation significant fauna listed as either Critically Endangered, Endangered or Vulnerable that are considered to be known, likely or possible to occur at the site. This includes *Numenius madagascariensis* (Eastern or Far Eastern

Curlew), *Calidris ferruginea* (Curlew Sandpiper), *Limosa Lapponica Baueri* (Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit), *Tringa nebularia* (Common Greenshank, Greenshank), *Calidris acuminata* (Sharp-tailed Sandpiper), *Charadrius leschenaultii* (Greater Sand Plover, Large Sand Plover), *Xeromys myoides* (Water Mouse, False Water Rat, Yirrkoo), *Hemiaspis damelii* (Grey Snake) and *Egernia rugosa* (Yakka Skink). None of these conservation significant fauna species were identified during the field surveys and based on the results of the assessments it is considered unlikely that any of these species occur at the site on a permanent basis.

The Ecological Assessment Report has identified that the proposal is unlikely to impact on MNES and it is not considered necessary to submit a referral to the Commonwealth for a decision on whether the project is a Controlled Action under the EPBC Act. However to ensure significant impacts are avoided it is necessary for the project to ensure best practice measures are implemented during construction and operation to ensure impacts to water quality and hydrology are avoided so that impacts to the Great Barrier Reef Marine Park and the Threatened Ecological Communities upstream of the site are avoided.

8.3.2 Nature Conservation Act 1992

Context

The *Nature Conservation Act 1992* (NCA) protects all plants that are native to Australia. The *Nature Conservation (Wildlife Management) Regulation 2006* regulates the clearing of protected plants in Queensland.

Proposal

A Protected Plants Flora Survey Trigger Map which identifies 'high risk areas' where endangered, vulnerable or near threatened plants are known to exist or likely to exist is provided in the Ecological Assessment Report (***Appendix 10***).

The trigger map identifies that Saltwater Creek (Bundaberg Creek) and parts of the Burnett River foreshore are mapped as a 'high risk' area for protected plants.

A protected plants flora survey was conducted for the development footprint including a 100m buffer, except where areas could be reasonably excluded due to the environment being highly modified.

The flora field assessment for the study area showed that there were no threatened flora species encountered during the field assessment, with 74 species recorded during the field assessment and 54 of these species being introduced species and the remaining being species of Least Concern under the provisions of the NCA.

As no protected plants were found, the Ecological Assessment Report (***Appendix 10***) identifies that the development is unlikely to impact on any NCA listed species and habitats. Public Works and its contractors will be required to ensure the Construction Environmental Management Plan for the development incorporates the recommendations of the Ecological Assessment Report, including (but not limited to):

- A suitably qualified fauna spotter-catchers must be engaged to undertake pre-clearance habitat searches and be present during vegetation clearing activities to minimise harm;
- Auxiliary construction activities (laydowns and access and the like) are to be located within the permanent disturbance footprint;
- Identify and clearly delineate no-go zones to avoid unauthorised disturbance of areas of sensitive vegetation and habitat;
- Retention of felled trees and hollows where practicable for reuse within the site;

- A Fauna Management Plan should be prepared to provide clear guidance on areas to be cleared and retained, methods for clearing, role of the spotter-catcher and other relevant environmental protection matters;

8.3.3 Vegetation Management Act 1999

Context

Vegetation clearing is predominantly regulated under the *Vegetation Management Act 1999* (VMA) and the *Planning Regulation 2017*. A development permit is required to clear where the clearing is not exempt clearing work through the *Planning Regulation 2017*, or where it cannot be carried out under a self-assessable vegetation clearing code or an area management plan under the VMA.

Many routine vegetation management activities can be carried out as exempt clearing work listed in the *Planning Regulation 2017*, or through a self-assessable vegetation clearing code or an area management plan (AMP). The need for a development approval depends on the type of vegetation; the land tenure of the land (e.g. freehold or Indigenous land); the location, extent and purpose of the proposed clearing; and who is proposing to do the clearing (e.g. state government body, landholder).

Proposal

With reference to the State Interest Mapping for vegetation and the Ecological Assessment Report in ***Appendix 10***, the development footprint is mapped as being Category X vegetation, Category R vegetation (regrowth watercourse) and Category B least concern vegetation. The Category R vegetation being regrowth watercourse vegetation is found within 50m of the Burnett River and Saltwater and Distillery Creek. The Category B least concern vegetation is confined to the area along Saltwater Creek and the confluence of Saltwater Creek (Bundaberg Creek) and the Burnett River.

The proposed works will ensure a high level of retention with limited clearing of native vegetation required due to a general lack of such vegetation within the project footprint. Notwithstanding, this vegetation can be cleared in accordance with the exemptions under the VMA and the PA 2016 for the purposes identified within Schedule 5 of the PR 2017. Public Works and its contractors will ensure the Construction Environmental Management Plan for the development includes the following provisions, as recommended through the Ecological Assessment Report:

- Vegetation clearing will be minimised within the intertidal zone;
- A Vegetation Management Plan should form part of the Project Environmental Management Plans. This document should then identify specific vegetation management measures to be followed during construction;
- Clear guidance should be provided within the VMP on areas to be cleared or retained, methods for clearing and other relevant environmental protection measures;
- Clear delineation of no-go zones to avoid unauthorised disturbance of areas of sensitive vegetation and habitat;
- A rehabilitation management plan should be prepared for the project. This plan should focus on restoration and rehabilitation of the marine plant and riparian communities with a goal of improving overall river bank resilience and connectivity.

A review of stormwater and hydraulic information has also been undertaken that considers the indirect impacts on vegetation communities that may occur through altered hydraulic and stormwater regimes/arrangements. The assessment identifies that approximately 2 kilometres upstream of the site within the Baldwin Swamp Environmental Park there are patches of regional ecosystems consistent with endangered Subtropical eucalypt floodplain forest and the Coastal Swamp Sclerophyll Forest however these patches occur upstream of a small weir located towards the north-eastern

extent of the parklands and as such are considered hydrologically disconnected from the normal tidal fluctuations of Saltwater Creek presently.

8.3.4 Fisheries Act 1994 – Marine Plants

Context

Marine Plants including mangroves, saltmarsh, seagrass, algae and other materials (see definition below) are protected under the *Fisheries Act 2014* (Fisheries Act). Where a development is located within areas that may contain inherent marine plants and/or involve works below highest astronomical tide (HAT), marine plant surveys are required in order to determine the permanent and temporary impacts on marine plants as a result of development.

Marine plants are defined in the Fisheries Act, section 8:

Meaning of marine plant

(1) Marine plant includes the following-

(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 by regulation to be a marine plant.

(2) Marine plant does not include a plant that is-

(a) a prohibited matter or restricted matter under the Biosecurity Act 2014; or

(b) controlled biosecurity matter or regulated biosecurity matter under the Biosecurity Act 2014.

Marine plants also have the potential to be indirectly impacted as a result of development through altered hydraulic and stormwater regimes which can alter the physical conditions and salinity of ground and water conditions.

Proposal

Marine plant surveys have been undertaken to determine the extent of marine plants that will be temporarily disturbed during the construction phase or as a result of the permanent development footprint of the levee. The Ecological Assessment Report (***Appendix 10***) describes the marine plant community identified during the field surveys. Direct and indirect impacts to the vegetation communities including marine plants comprising Grey Mangrove forest is calculated at 0.6 hectares.

The desktop assessment and ground survey identified this narrow, typically less than 5m wide, but reasonably well-developed grey mangrove forest lining all the tidal estuaries and creeks within the site. This marine plant community is expected to provide value to both terrestrial and intertidal species for both foraging and roosting purposes.

Other marine plants identified within the study area include salt couch, sea purslane, ruby saltbush and rusty sedge, as well as weed species.

The Ecological Assessment Report recommends the following actions for mitigating impacts to marine plant removal, destruction or damage as a result of the project:

- Minimising vegetation clearing within the intertidal zone;
- Minimising in-stream scour protection;
- A rehabilitation management plan should be prepared for the project, focusing on restoration and rehabilitation of the marine plant and riparian communities with the goal of improving overall river bank resilience and connectivity;

- Incorporating a Vegetation Management Plan (VMP) into the environmental management plans for the project.

On completion of works for the relevant stage, disturbed areas will be either rehabilitated or landscaped in accordance with the landscaping plans included in ***Appendix 1*** and as per any recommendations for rehabilitation in the Ecological Assessment Report (***Appendix 10***). Detailed landscaping plans will be prepared for the development in subsequent phases of the project.

8.3.5 Fisheries Act 1994 – Water Barriers

Context

Saltwater Creek (Bundaberg Creek) and the Burnett River are mapped major tidal waterways under the Fisheries Act. Distillery Creek is mapped as a low (green) waterway; however Distillery Creek has the characteristics of a tidal waterway for the purposes of considering development impacts upon fish passage and requirements for waterway barrier works. The Queensland waterways for waterway barrier works mapping is a guidance tool that classifies waterways; however the on-ground physical conditions and hydrological attributes establish whether a feature is a defined waterway and the waterway barrier work requirements that apply to development within that waterway.

Waterway barrier works is defined in the Fisheries Act, schedule 1:

means a dam, weir or other barrier across a waterway if the barrier limits fish stock access and movement along a waterway.

Introducing waterway barriers, including permanent barriers or temporary barriers during construction or maintenance, have the potential to disrupt the natural lifecycle of native fish species, particularly during spawning, injure fish or affect their overall health, damage fish habitats, and prevent fish movements between waterways.

Levees and flood gates are designed to stop the flow of water in a particular direction, only allowing fish passage when the gate is open. These structures can also impact fish passage when open, due to waterways being narrowed or hydraulic regimes altered by the introduction of these structures and associated works (i.e revetment and abutment works) within the banks of the waterway. Hence the need to address these potential issues as part of the project design.

Proposal

The proposed development includes a large, permanent flood gate and pump structures on Saltwater Creek (Bundaberg Creek) and floodgate and pumps at Distillery Creek. Details of these structures are included in ***Appendix 1 – Proposal Plans.***

Due to the potential for these structures to alter fish passage during normal operating conditions i.e. when the flood gates are not in an activated/stand up state, as well as when closed/activated state, Fish Community and Passage Assessment was undertaken as part of the Ecological Assessment Report (refer to Appendix D within ***Appendix 10*** – Ecological Assessment Report).

This assessment identifies the project has the potential to impact on fish communities unless suitable and safe upstream and downstream fish passage is provided over all tidal and freshwater flows when the floodgates are open and to reinstate suitable and safe fish passage immediately upon the re-opening of the floodgates after closure. The assessment also considers the requirements for pump intake screens so as to avoid fish injury or mortality.

The assessment recommends that the existing modelling and gate operating procedures for the floodgates have been designed to ensure that there will be no change to the inundation duration upstream and downstream of the levee. This will be achieved through the pumps being engaged at the point of gate closure to maintain catchment inflow levels in Saltwater Creek at the design levels with pumping ceasing once water levels in the river and the creek align.

Gate sills have also been designed so that the invert more closely aligns within the bathymetry of Saltwater Creek (Bundaberg Creek), with two of the four gates lowered to provide for fish passage during mean low water spring tide events and lower. The pump intake screens are also recommended to achieve a maximum aperture of 2mm and a maximum approach velocity of 0.1m/sec to ensure fish do not become entrained.

As the project is still in early design phase, additional modelling will be undertaken to inform design refinement to avoid and mitigate impacts to fish passage. Depending on the outcomes of the modelling, this may include provision for dedicated fish movement infrastructure.

8.3.6 Coastal Resources

Context

The levee footprint, construction areas and associated ongoing access and maintenance areas are located in the coastal zone, including the airspace above and the subsoil below, on state coastal land, and within the coastal management district and erosion prone areas. The project involves the construction of structures that are tidal works.

The *Planning Regulation 2017* incorporates the requirements of the Coastal Protection and Management Act 1999 (CPM Act) in the Schedule 10, Part 17 development triggers. As the proposal is being progressed under a MID, the EAR will consider relevant matters associated with Tidal works or works in a coastal management district and address them as part of the MID which will negate the need for subsequent approvals that may be required under Schedule 10, Part 17.

Proposal

The development has been supported by an Ecological Assessment (refer to ***Appendix 10***) and Surface Water Technical Report (refer to ***Appendix 3***) which demonstrates that coastal values can remain intact as a result of the development. As detailed design progresses, stormwater quality and quantity outcomes can also be achieved as required to ensure that appropriate water quality objectives are met. This is addressed in the Stormwater Management Plan for the development (refer to ***Appendix 4***). Acid sulfate soils and other potential contaminants are also proposed to be managed as required through the construction phase of the development, in accordance with all relevant requirements and as guided by the Contamination Site Investigation (refer to ***Appendix 13***).

Climate change factors have been considered in the design of the project and are considered in the Surface Water Technical Report. This assessment (refer to ***Appendix 3***) found that future sea levels is unlikely to have a significant impact on the levels of large floods at Bundaberg, however rainfall intensity could raise peak water surface elevations by 0.4 metres to 0.5 metres between Saltwater Creek (Bundaberg Creek) and the Sugar Mill. This rise exceeds the design freeboard allowance by 0.3 metres, indicating that under this future climate scenario, the levee will provide less immunity than it does at the time of construction.

Regardless of the above, the levee itself is not susceptible to climate change impacts that may result in higher peak water surface elevations. As the Surface Water Technical Report demonstrates, the project does not result in substantially higher velocities along the river and creeks that would be expected to result in increased risks of coastal erosion (refer to velocity maps in ***Appendix 3***). For ensuring the levee and associated structures are protected from existing and future coastal erosion, refined modelling will be undertaken to identify areas that require scour protection to be added to prevent erosion and a generous MID boundary has been identified to ensure that future scour protection can be included if/as required.

The proposed construction of the levee and associated creek infrastructure including the flood gates also requires an Environmental Authority (EA) for Extractive activities – 16 Extracting and screening activities and it is likely that item (1(a) Dredging material: 1,000-10,000t/yr is the applicable item. An application for EA is currently being prepared for separately to this MID application and an application

will be made directly to the Department of Environment, Science and Innovation (DESI) for this and any other EAs that may be required.

8.3.7 Koala Conservation

Context

The *State Government Supported Community Infrastructure Koala Conservation Policy 2023* (The Koala Conservation Policy) regulates the planning and delivery of all Queensland Government supported infrastructure projects, as listed under Schedule 5 of the *Planning Regulation 2017* and applies to land within the South East Queensland Koala Protection Area (SEQKPA) which meets certain development parameters.

Where a proposed development is located within the SEQKPA and meets any of the above criteria, then a Koala Self-Assessment and Management Plan needs to be prepared.

Proposal

For the purposes of the Koala Conservation Policy, the development footprint is not within the South East Queensland Koala Protection Area (SEQKPA). No koala habitat values are mapped over the site.

The Ecological Assessment Report (***Appendix 10***) also indicated that there was no evidence of conservation significant fauna such as koalas or koala habitat present within the area. As such, a Koala Self-Assessment and Management Plan is not required to be prepared for the project.

8.3.8 Invasive Species

Context

The *Queensland Biosecurity Act 2014* refers to 'Designated Biosecurity Matter' which includes pest plants and animals. These are further classified as either 'Prohibited' or 'Restricted':

- Prohibited Matter is biosecurity matter not currently present or known to be present in Queensland. It is prohibited because it may have a significant adverse effect on a biosecurity consideration if it did enter Queensland.
- Restricted Matter is biosecurity matter found in Queensland that may have adverse effects on biosecurity consideration if conditions or restrictions under the Act were not imposed.

Prohibited Plants are listed in Schedule 1 Part 3 and Prohibited Animals are listed in Schedule 1 Part 4 of the *Biosecurity Act 2014*. Restricted Plants and Restricted Animals are also listed in Schedule 2 Part 2 of the *Biosecurity Act 2014*.

Proposal

The project footprint is largely located within developed urban areas. The presence of prohibited or restricted plants is considered unlikely, however the Ecological Assessment Report (***Appendix 10***) has identified a range of exotic weed species that are either present in the area or likely to be present. In the event that any designated biosecurity matters are identified during construction works, Public Works and its contractors will be responsible for taking all reasonable and practical steps to minimise the risks associated with invasive plants under their control.

Prior to works commencing for the project, Public Works will ensure the Contractor undertakes a site inspection to confirm presence of any invasive plants and/ or animals. If found, the obligations under the *Biosecurity Act 2014* will apply.

8.4 Queensland Heritage

Context

Part of the project footprint is located within a State Heritage Place, the Saltwater Creek Railway Bridge, Queensland Heritage Register (QHR) 600370. This bridge was constructed in 1894 to facilitate the Millaquin Branch Line and is the second oldest extant bridge with screw piles in Queensland. There is a Conservation Management Plan (CMP) in place for the bridge. According to the Queensland Heritage Register statement of significance, the Saltwater Creek Railway Bridge is significant because it satisfies the following criterion:

Criterion A: The place is important in demonstrating the evolution or pattern of Queensland's history:

- *A late 19th century bridge which is the second oldest extant with screw piles in Queensland, on what was constructed as a private railway to government standards*

Criterion C: The place has potential to yield information that will contribute to an understanding of Queensland's history:

- *Criterion under review*

Criterion D – The place is important in demonstrating the principal characteristics of a particular class of cultural places:

- *A late 19th century bridge which is the second oldest extant with screw piles in Queensland, on what was constructed as a private railway to government standards*

Criterion F – The place is important in demonstrating a high degree of creative or technical achievement at a particular period:

- *Criterion under review*

Proposal

A Heritage Impact Statement (HIS) has been prepared for the project and is included in ***Appendix 6.***

A small portion of the proposed development is located within the QHR boundary for the Saltwater Creek Railway Bridge. As part of initial design options analysis for the levee and associated structures in Saltwater Creek, care was taken to ensure the development was sited and designed so that no works directly impact upon the existing bridge fabric and that impacts to other values are minimised to the best extent possible.

With reference to the Heritage Impact Statement (refer to ***Appendix 6*** and specifically ***Table 9***), the following is identified:

- The proposal has a moderate impact on the setting – The setting of the bridge on the former Millaquin Branch Line remains somewhat legible, although the rail infrastructure adjacent to the bridge has been removed and replaced with concrete pathways. The connection with the former Millaquin Sugar Mill, now Bundaberg Sugar Company, can still be made.
- The proposal has a moderate (overall) impact to the views – The views to the north and north east from the Bridge looking towards the Burnett River will receive a major impact by the proposed works, however views south of the bridge are not affected, hence a moderate 'overall' impact.
- The impact is moderate overall due to the proposed levee height in relation to the place's setting.
- The proposed activities have been assessed and no works are proposed to directly impact upon the Bridge fabric.

- The Bridge fabric as a whole and bridge fabric items including screw piles, plate girders, timber components (original, extant and replaced), railway bars/ sleepers, decking and handrails will not be impacted upon by the project.
- Vegetation at the creek embankments may be impacted by the proposed works, however this vegetation is considered to be intrusive and holds no heritage significance and impact to them would enhance the heritage values of the Bridge. Overgrown creek embankments pose a threat to the Bridge through increased fire risk and pest infestation, and the unkempt appearance negatively impacts the aesthetic of the place.
- Appropriate management measures have been proposed to ensure harm caused by the project is minimised, including measures during construction.

Further details of how the development addresses the outcomes sought for the State Heritage Place Saltwater Creek Railway Bridge and guidelines and mitigation measures for the next phases of design and construction are included in the Heritage Impact Statement (***Appendix 6***).

8.5 Transport and Marine Infrastructure

Context

The *Transport Infrastructure Act 1994* establishes the regime for the effective planning and efficient management of State transport infrastructure (roads and rail) as well as encompassing the use of navigable waterways. Where undertaking works affecting State transport infrastructure including works within navigable waterways, the objectives of the Act pertaining to protection of these networks must be complied. The *Transport Infrastructure Act 1994* is administered by the Department of Transport and Main Roads. Other Acts including the *Transport Operations (Marine Safety) Act 1994* support the outcomes sought within navigable waterways.

Proposal

The permanent levee footprint intersects and interfaces with State transport infrastructure, including the following:

- Quay Street – Quay Street is a State-controlled road
- Quay Street/Walla Street Intersection - the levee is located within 100m of a State-controlled intersection
- Scotland Street/Petersen Street Intersection – the levee is located within 100m of a State-controlled intersection
- Saltwater Creek – the levee and associated structures are located within a High risk maritime development zone
- Burnett River – The levee and associated scour protection works will extend into the southern bank of the Burnett River which is a High risk maritime development zone
- The Active Transport Corridor along Quay Street, the Saltwater Creek Railway Bridge, Quay Street East and Scotland Street

To ensure protection of maritime/marine safety interests, the levee and associated structures are intended to be lit as required, designed to ensure visibility to mariners, retain sight lines for navigation and ensure the development minimises any obstruction to vessels navigating waterways. The location and design of marine safety requirements will be refined as the design progresses, and in accordance with any requirements outlined by MSQ for the development and the relevant Australian Standards.

The Traffic Impact Assessment (***Appendix 5***) has also addressed Active Transport corridor and maintaining connectivity throughout the levee alignment to ensure pedestrian and cyclist infrastructure

is maintained. The assessment also addresses impacts to the State controlled road and intersections.

Public Works will also engage with DTMR as required for obtaining a Road Corridor Permit for the project.

8.6 Soils and Geology

8.6.1 Erosion Risk

Context

The release of sediments or other contaminants to water is an offence under the *Environmental Protection Act 1994*. All activities that expose soil have the potential to result in release of sediment to waterways or stormwater systems.

Proposal

To minimise the risk of releasing sediment (and other contaminants) to waters during construction and to the meet the General Environmental Duty under the EPA 1994, a site Erosion and Sediment Control Plan (ESCP) is to be prepared in accordance with the IECA Best Practice Erosion and Sediment Control prior to commencing construction.

Public Work's contractor will ensure preparation of an ESCP thatl appropriately address the erosion risks identified for the site, and that the Plan is implemented and monitored throughout the construction phase for the proposed development.

8.6.2 Contaminated Land

Context

With reference to ***Appendix 13***, the site is not mapped as an area with potential for unexploded ordnance (UXO) however some sites within and proximity to the levee footprint are listed on the Environmental Management Register (EMR) or Contaminated land Register (CLR). The Contaminated Land Assessment indicates that contaminants may be present based on past land uses and current business activities.

Acid sulfate soils are also identified as having a high probability of occurrence in the western portion of the alignment (near Toonburra Street) and sediments to be dredged for construction area also likely to include Acid Sulfate Soils and potentially other contaminants.

Proposal

The Contamination Site Investigations (***Appendix 13***) indicates that there are several pollutant pathways that may be present within and in close proximity to the project site that have the potential to have caused contamination to the project site and that these have a moderate to high risk of impacting the proposed works.

As detailed design progresses and as recommended in the Contaminated Land Assessment (***Appendix 13***), further targeted site investigations will be conducted and the suitability of reusing disturbed soils for reuse, off-site placement or landfill disposal will be investigated.

A CEMP will be prepared by Public Works to manage the construction phase of the development and may require the following plans/protocols to be developed:

- The formation of a spoil management plan (SMP) and/or Acid Sulfate Soils Management Plan
- An unexpected finds protocol that would outline the procedures to be followed in the event of unexpected contamination being encountered during construction work
- Management procedures of regulated waste during excavation.

All necessary further investigations and plans will be proposed as detailed design and prior to construction work commencing.

8.7 Heritage and Native Title

8.7.1 Cultural Heritage

Context

The *Aboriginal Cultural Heritage Act 2003* (ACHA) requires that a person must exercise Due Diligence and reasonable precaution before undertaking an activity which may harm Aboriginal Cultural Heritage. The ACHA – Duty of Care Guidelines (the Guidelines) were gazetted in April 2004 to provide guidance on actions required to demonstrate compliance with this Act.

Proposal

For the project to meet its obligations under the *Native Title Act 1993* and the ACHA, Public Works is currently in negotiations with the Native Title representative for the area, the Port Curtis Coral Coast Trust (PCCCT), as part of the preparation of a Cultural Heritage Management Plan (CHMP) for the project. Through this negotiation, Public Works will, in consultation with the PCCCT, be undertaking to address Aboriginal Cultural Heritage requirements.

8.7.2 Native Title

Context

Native title recognises the traditional rights and interests to land and waters of Aboriginal and Torres Strait Islander people in accordance with the *Native Title Act 1993*.

Proposal

The proposed development requires confirmation of native title prior to works proceeding. A Native Title investigation has been carried out for the project which has determined that native title has been extinguished over the majority of the project area, with the exception of the watercourses. Any requirements for issuing a future act notice under s 24HA of the *Native Title Act 1993* (Cth) will be further investigated as well as requirements to enter into a Cultural Heritage Management Agreement (CHMA) over the project area.

Public Works is working closely with the PCCCT to ensure any requirements under the *Native Title Act 1993* are complied with.

8.8 Natural Hazards

8.8.1 Flooding

Context

The proposed levee is located in areas that are mapped as flood hazard areas (Local and SPP Mapping). The levee is also a structure that must be supported by a thorough flood assessment to inform the Vulnerability and Tolerability Assessment (refer to ***Appendix 7)***, to ensure the community's resilience to the impacts of flood events, levee failure or levee overtopping is maintained or enhanced.

A Surface Water Technical Report (a Flood Assessment) has been prepared for the project and is included in ***Appendix 3.*** This assessment has been used to inform the levee design including to validate previous work undertaken as part of the Concept Design for the project and validate flood modelling.

Proposal

The impact of the levee on flood behaviour has been modelled in the Surface Water Technical Report (refer to ***Appendix 3***) for a range of AEPs as well as the 2013 flood at a range of locations on both

the southern and northern sides of the Burnett River. Hydraulic modelling has been undertaken to justify the proposed levee crest elevation, consider the impact of the levee on flood behaviour, incorporate climate change considerations, consider levee wall failure scenarios, consider coincident interior flooding occurring alongside a riverine flood event and analyse the hydraulic impact of the flood gates. Detailed information for this hydraulic modelling is provided in Section 4.3 of the Surface Water Technical Report (refer to ***Appendix 3***). Key conclusions from this assessment include:

- For the design flood levels, the levee results in almost no change in the peak water surface elevation during a 1% AEP (1 in 100 year) design flood event. The levee results in some “pile-up” effect where superelevated water on the outside bend of the river interacts with high roughness obstructions such as large industrial buildings, however this is unrelated to the levee construction and would occur regardless of its presence. This allows the levee crest to be set at a uniform height while maintaining the nominal freeboard of 0.3 metres;
- The 1% AEP plus 0.3 metres freeboard is a commonly accepted level of immunity. This elevations ensures protection against an event similar to the 2013 flood event. Aesthetics and hydraulic effects of a higher levee were considered and justification for the levee crest level is provided in section 4.3.2 of the Surface Water Technical Report. This includes that a wall of 4.5 metres or more above natural ground would greatly change the viewshed for nearby properties. Also the proposed crest height of 9.5 metres plus 0.3 metre freeboard limits the flood impact of the levee to properties to amounts that are not defined as resulting in a ‘significant impact’;
- Climate change impacts may result in increased peak water surface elevations of between 0.4 metres and 0.5 metres on Saltwater Creek (Bundaberg Creek) which exceeds the proposed freeboard allowance of 0.3 metres. Hence it is possible that under this future climate scenario, the levee will provide less immunity than it does at time of construction;
- For a levee failure event, flood conditions are no worse than those that would be experienced in the absence of the levee;
- Houses being the levee will still be subject to regional flood risk. Alterations to pumps can be undertaken to reduce this risk, however this needs to be considered on a cost-benefit basis; and
- As a result of the hydraulic impact of the flood gates on Saltwater Creek, seven (7) private properties are identified as having 1% AEP flood impacts. Of these, only two (2) had impacts above the building flood level that are considered “significant”. Floor levels in these instances are based on LiDAR, which may not accurately capture the building slab level.

8.9 Socio-economic Impacts

8.9.1 Socio-economic Profile

Context

Consideration should be given to the social and economic impacts from the proposed development, which includes matters such as employment opportunities, access to services, advantage/disadvantage to the community, community views, and direct and indirect benefits to the community.

Proposal

The proposed levee will have positive socio-economic impacts, including:

- Employment opportunities during the construction phase of the development;
- Ongoing opportunities for employment for ongoing operation and maintenance of the project;
- The benefits to Bundaberg East, Bundaberg South and the CBD from improved flood resilience without increasing flood issues in other areas of Bundaberg;

- Improved flood resilience to the community, anticipated to have associated benefits to the economy, for example attracting business and investment to the area;
- Establishment of a key piece of city infrastructure that can provide a focal point for renewal and facilitate further investment and development opportunities for improving surrounding public open space and recreation areas;
- Potential for financial benefits to asset holders (including owners of buildings) in the risk zone attributable to reductions in insurance premiums and the financial and social benefits that may result from less disruption to access to services in the CBD.

Community views on the project have also been canvassed through the MID pre-consultation phase as well as prior to this during the preliminary design phase for the project. In summary, community views on the project have been canvassed through the following activities:

November 2023

- Community stakeholder engagement with the distribution of 1000 A4 printed project updates to East Bundaberg
- A door knock along the proposed levee alignment to speak with residents
- Meetings with Council officers, the PCCCT, Bundaberg Sugar and the Bundaberg Flood Protection Group.

April 2024

- Updates to the community on the project, additional information on how the levee alignment was being explored and opportunity for community to discuss key areas of interest or concern
- This included a series of three (3) community information sessions held in Bundaberg over a period of 25 hours (Monday 22 April 2024 – Wednesday 24 April 2024
- 8000 invitations to the surrounding area to attend the sessions and emails to registered subscribers on a project mailing list
- Updates on project website, advertisements in the Bundaberg Today newspaper, media release and radio coverage.

More than 150 people attended the April drop-in sessions, with 54 completed surveys.

The drop-in session findings were that:

- 68% of respondents agree or strongly agree that the levee will provide benefits for Bundaberg East, Bundaberg South and the CBD
- 58% of respondents support the Bundaberg East Levee project.

Separate Stakeholder meetings have also occurred with Bundaberg Regional Council elected representatives and the Chief Executive Officer, the PCCCT to progress the CHMA, the Bundaberg Flood Protection Group and the Bundaberg Rowing Club.

For the MID pre-consultation phase, 248 letters were sent to landowners, residents, businesses and other key stakeholders including local, State and Federal elected representatives, the Native Title representative (PCCCT) and Bundaberg Regional Council. Emails were also sent to those whose email addresses were known. This pre-consultation phase was for a minimum of ten (10) business days and included the broader area encompassing all properties within proximity to the proposed levee alignment.

During this phase, six (6) submissions were received. All submissions expressed some concerns and objections about the proposal, but overall the lack of responses indicates that the level of overall concern in the community about the project is low.

All submissions, including the pre-engagement submissions and the earlier engagement activities have been considered and addressed by the project design team and have been used to assist in informing the design to ensure that community expectations can be met for the project where possible.

Stakeholders and community members will continue to be engaged through subsequent project stages including the formal community consultation phase required for the MID and beyond.

8.10 Construction Impacts

8.10.1 Construction Management

Context

Environmental management plans describe how an action might impact on the natural environment in which it occurs and set out clear commitments from the person taking the action on how those impacts will be avoided, minimised and managed so that they are environmentally acceptable.

Proposal

Construction impacts may arise during the development. The project construction is to be in accordance with the Construction Environmental Management Plan to be prepared as part of the project.

8.11 Operational Impacts

8.11.1 Traffic

Context

Traffic associated with the project operational phase is not anticipated to be significantly altered, with the levee unlikely to generate additional traffic volumes in itself, apart from the occasional maintenance vehicles. Specific turn movements at intersections on roads may be impacted due to potential restrictions imposed by the wall's placement and gate locations. During the levee 'lean forward or activation phase', traffic flows will need to be managed through traffic management plans prepared for the project which will address road closure requirements.

Proposal

As noted in section 8.1-8.4 of this Report, the proposed development will impact on traffic movements through the project area and modifications to roads and intersections as well as the levee are likely to be required to address these impacts. This occurs as a result of the levee in its operational state, which is the static state and not the activated/lean forward state. During the inactive operational state, some intersections may require upgrading due to the location of the levee and flood gates will need to be designed to ensure sufficient sight lines. Clearances from traffic lanes will need to be ensured during the detailed design edge lines may be needed to control parking. Several other recommended safety measures as described in the Traffic Impact Assessment (refer to Appendix 5) are likely to be required to ensure that traffic impacts during the operational phase are appropriately managed and mitigated.

These potential operational impacts will be further assessed and addressed as ongoing design progresses and Public Works will continue to work with the road operator on addressing these impacts.

For the active or lean forward state, traffic management plans and procedures will be developed and form part of the Emergency Response Plan procedures. The requirements for traffic management

plans to be developed to address road closures and routes for provision of materials, fuel, access and the like is included in the Emergency Response Plan (refer to ***Appendix 8***).

8.11.2 Air Quality

8.11.2.1 Context

The project is located within close proximity to urban land uses including commercial, residential and industrial premises as well as outdoor open space and sport and recreational areas and environmentally sensitive areas such as riparian / waterway environments. The project has the potential to result in adverse air quality impacts, particularly during the construction phase of the project.

8.11.2.2 Proposal

Air quality impacts are unlikely to be generated by the development given that the levee comprises static infrastructure that will largely be in a non-operational/stood down state i.e. flood gates open and no pumps activated. The pumps and generators would only be activated during a flood event or when necessary for routine testing and maintenance. During such times, the diesel generators would be activated and these have the potential to result in impacts to air quality.

During a flood event when the generators are active, the surrounding area would be evacuated in preparation for road closures. Hence there will be no impact to nearby sensitive receivers such as residences and businesses. The generators are only active during the flood event; therefore any air quality impacts are expected to be localised and short-term. Hence no air quality assessment has been prepared for the project.

Air quality impacts during the construction phase of the project are likely to be associated with the following activities:

- Site preparation activities including ground disturbance, vegetation removal
- Stockpiling of construction materials and excavated soil
- Wind erosion from stockpiles
- Vehicle and equipment movements over access tracks and work sites where the ground is exposed
- Exhaust emissions from vehicle and machinery operations

A Construction Environmental Management Plan will be prepared for the construction phase of the project, with this plan including air quality management and mitigation measures. It is recommended that the CEMP include requirements to address the following:

- Location, orientation and duration of materials stockpiles, watering, covering or other recommended dust suppression regimes to minimise wind-borne dust
- Covering for vehicles transporting materials to and from the site
- Watering of unsealed working areas/access tracks
- Siting access tracks away from sensitive receivers, where possible
- Restricting vehicle movements within designated access tracks and introducing speed limits to minimise dust
- Limiting dust producing activities on windy days, checking forecasts and making arrangements in advance of windy days to prevent dust generation

- Appropriate disposal of all waste materials, including removed vegetation (e.g. removal off-site to appropriate waste treatment facility)
- Stabilising bare earth and revegetation/landscaping within a reasonable time of work being completed, including minimising the extent of bare earth e.g., through appropriate staging of works/activities
- Ensuring all vehicles, machinery and equipment are well-maintained as per manufacturer recommendations;
- Running vehicles, equipment and machinery only as required and switching equipment off as soon as practicable to do so;
- Minimising queuing of construction vehicles to limit vehicles idling.

8.11.3 Noise

Context

The project is located within close proximity to urban land uses including commercial, residential and industrial premises as well as outdoor open space and sport and recreational areas and environmentally sensitive areas such as riparian / waterway environments. The project has the potential to result in adverse noise impacts, particularly during the construction phase of the project.

Proposal

Noise impacts are generally not expected from the project during the operational phase as the development comprises static infrastructure that will largely be in a non-operational/stood down state i.e. flood gates open and no pumps activated. The flood gates, pumps and generators would only be activated during a flood event or when necessary for routine testing and maintenance which will be of short-term duration.

During a flood event, the surrounding area would be evacuated in preparation for gates closing and pumps becoming operational. During this time, impacts would be localised and short-term. Hence no noise impact assessment has been prepared for the project.

The ecological assessment report (***Appendix 10***) has made recommendations for noise and vibration measures as they may impact on fauna and flora in proximity to the development, particularly during the construction phase. This assessment recommends that noise and vibration measures be included within a project specific Construction Environment Management Plan for the project and include measures such as:

- Ensuring all machinery used is maintained in good running order
- Machinery is fitted with noise dampening devices where possible
- Avoiding operating machinery between dusk and dawn

Noise activities during the construction phase of the project are likely to be associated with the following activities:

- Construction phase traffic movements
- Pile driving / sheet piling activities
- Operation of machinery
- Clearing and excavation activities

A Construction Environmental Management Plan (CEMP) will be prepared for the construction phase of the project, with this plan including noise management and mitigation measures. It is recommended that the CEMP include requirements to address the following:

A Noise Management Plan for the construction phase of the project, prior to works commencing, and referencing:

- the necessary noise limits as required under the *Environmental Protection (Noise) Policy 2019;*
- any limits for working hours including for specific plant and equipment and including to manage vibration impact from pile driving;
- recommendations for any particular equipment to assist in reducing noise impacts, e.g. non-tonal reversing alarms; and
- recommendations for limiting noise and vibration impacts to the environment, as recommended by the ecological assessment report (refer to ***Appendix 10***).

8.11.4 Light

Context

Minimal lighting currently exists on the subject site and surrounding area. Lighting within the area largely consists of urban lighting including streetlighting, lighting associated with residential, commercial, industrial uses and outdoor sport and recreation uses and activities, and pontoon lighting associated with boating and maritime structures within the Burnett River.

Proposal

Lighting and security lighting will be installed in compliance with the relevant Australian Standards. Lighting of the project will be limited to the extent required to ensure visibility for pedestrians and vehicles and to ensure maritime safety is maintained where the levee intersects with the Burnett River and Saltwater Creek (Bundaberg Creek), which are both navigable waterways.

All lighting associated with the project will predominantly be used during nighttime only and in accordance with the minimum requirements as required above. A Lighting Assessment for Aviation has been included in ***Appendix 11*** which provides further guidance for the project as design progresses on addressing aviation safety requirements.

PART F – CONSULTATION

9 Consultation Strategy

9.1 Stakeholders

The stakeholders relevant for consultation with regards to the proposed designation includes:

Local Government

Bundaberg Regional Council

State Government Departments

Department of Housing, Local Government, Planning and Public Works (DHLGPPW), representing relevant State Agencies

Elected Representatives

Mr Thomas (Tom) Smith - State Member for Bundaberg

Mr Stephen Bennett - State Member for Burnett – check if doing and add to spreadsheet

Mr Keith John Pitt MP – Federal Member for Hinkler

Mayor Helen Blackburn, Bundaberg Regional Council

Councillor Jason Bartels – Division 1, Bundaberg Regional Council

Councillor William (Bill) Trevor – Division 2, Bundaberg Regional Council

Councillor Deb Keslake – Division 3, Bundaberg Regional Council

Councillor Tracey McPhee, Deputy Mayor – Division 4, Bundaberg Regional Council

Councillor Larine Statham-Blair – Division 5, Bundaberg Regional Council

Councillor Carmen McEneany – Division 6, Bundaberg Regional Council

Councillor Gary Kirk – Division 7, Bundaberg Regional Council

Councillor Steve Cooper – Division 8, Bundaberg Regional Council

Councillor May Mitchell – Division 9, Bundaberg Regional Council

Councillor John Learmonth – Division 10, Bundaberg Regional Council

Community

Adjoining and surrounding landowners and residents.

Cultural Heritage Party

Bailai, Gurang, Gooreng Gooreng, Taribelang Bunda People

9.2 Community Engagement Plan

The following community engagement plan has been adopted as part of this Infrastructure Designation process.

Activity		Stakeholder Group	Action
Prior to Public Notification			
Email	Email seeking advice about infrastructure requirements.	• State Government Departments • Local Government	Email Telephone call
Preliminary community engagement	Provide information flyer to community and letter with same flyer to Elected Representatives and Cultural Heritage Party with information on the proposed project and provide details for comments to the project team for consideration.	• Elected Representatives • Community • Cultural Heritage Party	Letters and information flyer or information flyer only to community
Meeting	If stakeholder requests a meeting, a meeting will be conducted to present the project and discuss matters of interest to the stakeholder—in particular impacts on local government infrastructure.	• State Government Departments • Local Government • Elected Representatives • Cultural Heritage Party	Meet if requested.
During Public Notification			
Public notice	Place public notice in local newspaper	• State Government Departments • Local Government • Elected Representatives • Community • Cultural Heritage Party	Prepare and book public notice
Street signage	Place street signage on the road frontages at five (5) key locations in accordance with DHGLPPW requirements	• State Government Departments • Local Government • Elected Representatives • Community • Cultural Heritage Party	Prepare and erect public notice signage to street
Update web content	DHLGPPW web page with information about the Infrastructure Designation proposal, including the MID Assessment Report and details about the engagement process.	• Community	Prepare content and provide to DSDILGP for website publication
Letters to stakeholders	Prepare letters that outline the Infrastructure Designation proposal and the engagement process. Distribute the letters.	• Elected Representatives • Community • Cultural Heritage Party	Prepare letter Distribute

Email address and telephone contact	Email: infrastructuredesignation@dsdilgp.qld.gov.au Phone: 1300 967 433 Submissions during public notification can be made online or by infrastructuredesignation@dsdilgp.qld.gov.au	• State Government Departments • Local Government • Elected Representatives • Community • Cultural Heritage Party	Publish contact information in relevant public notices, signs, and letters

9.3 Initial Consultation

A number of consultation activities took place prior to, and during, preparation of the designation reporting materials. The below table provides a summary of consultation activities in accordance with the community engagement plan.

Stakeholder Group	Date	Description
Bundaberg Regional Council	17/11/2023	• Email pre-lodgement request to BRC with information on Infrastructure Designation Proposal.
	14/12/2023	• Pre-lodgement advice was provided by BRC: • Project should consider Council master-planning activities occurring in the area • Council can provide flood models upon request • Project to consider impacts on property access and the road network (local and State roads) • Project to avoid worsening of flooding and overland/stormwater flows • Project to avoid conflicts with council infrastructure • Pedestrian connectivity to be maintained • Amenity impacts to be addressed and design to reflect zoning intent of surrounding land • Potential for pump and/or levee wall failure to be addressed • Levee height to take into account climate change and be minimum 300mm above January 2013 flood event • Design to consider Kendall Flat sporting fields flood storage capacity and ensure no worsening in that part of the city.
DHLGPPW	11/09/2023	• Provide correspondence to DHLGPPW with information on Infrastructure Designation Proposal.
	25/10/2023	• Pre-lodgement advice was provided by DHLGPPW. • Confirm technical reporting requirements, including: • Heritage Impact Assessment • Ecological Assessment • Marine Plant Ecology Assessment • Flood Risk Assessment • Stormwater Management Plan • Traffic Impact Assessment • Vulnerability and Tolerability Assessment Report and information detailing the benefits and impacts to people and property under pre and post category 3 levee conditions across a range of flood event scenarios • Confirm preliminary stakeholder requirements and consultation areas.

Elected Representatives Community Cultural Heritage Party	22/04/2024 – 10/02/2024	• Provide correspondence to adjoining and surrounding residents/businesses and landowners, elected representatives and the cultural heritage party about proposed development seeking any preliminary feedback on design. • The results of this pre-consultation activity are summarised in section 9.9 below:

In addition to the above, the following additional consultation activities were conducted as part of an overall communication and engagement action plan for the project:

- June 2023 - Project announcement: This included a media event and release, establishment of new website with project information, new email address for project communications and establishment of a project update subscriber list;
- June 2023 – October 2023: Engagement with expert stakeholders: This included information meetings and emails to Bundaberg Regional Council, Sunwater and the Department of Regional Development, Manufacturing and Water for sharing information and confirming key project stakeholders and establishing communication channels;
- October 2023 – Ongoing: First Nations engagement including meeting with the Port Curtis Coral Coast Trust to establish relationships for ongoing information sharing and participation;
- October 2023: Community engagement including a project update flyer on website, flyer printed in Council venues and shared via Councillors. Flyer included a project update and information for subscribing to further updates and invitations for future involvement;
- November 2023: Local groups and businesses, and interested individuals were emailed copies of project update flyer. A meeting was held with the Bundaberg Flood Protection Group (a local group);
- November 2023: Engagement with residents/businesses on project alignment via door-knocking and leaving contact details, to engage directly with project neighbours and confirm contact details for ongoing engagement;
- 14 March 2024: Project team meeting with Bundaberg Local Disaster Management Group to discuss the levee operations manual and discuss integration with local and region-wide emergency management processes.
- 22-24 April 2024: Project team visit to Bundaberg for stakeholder engagement, with three (3) community information sessions. These sessions included project team staff as well as consultant technical experts engaged for the project. The sessions included updates to the community on the project, providing additional information on how the levee is now progressing through a more detailed design phase and how the alignment would be explored/refined to take into account planning requirements and stakeholder expectations. This engagement including opportunity to ask questions, discuss and document key areas of interest or concern from locals and for the project team to provide information to stakeholders about how they can keep up to date about the project. These sessions were promoted through 8,000 letterbox drops, invitation emails to project information subscribers, webpage updates, newspaper advertisements, a media release and radio coverage of the sessions.

9.4 Summary of Matters Raised – initial consultation

A number of matters were realised during initial MID consultation activities undertaken between 22 April 2024 – 10 May 2024, with submitter matters and project responses summarised herein.

Submitter Matters	Project Response
Access to properties	Submitters registered concerns with ongoing access to properties and needing to maintain vehicle and pedestrian access to properties and facilities. The project is being carefully designed to ensure appropriate levels of access to properties (residents, businesses, community facilities and parks and open space) is maintained as best as possible. With measures including flood doors to some properties where required to ensure ongoing access can be maintained. The design team will work with residents, businesses and community groups and road owners (BRC and the State) to ensure existing access to properties is maintained. This engagement will continue as the design progresses. The project team will also work with the rowing club during the design phase of the project to ensure that use of facilities is maintained to the best extent possible. Staging of construction works and construction management planning will also be used to minimise construction impacts. The project team will work closely with affected parties, road owners and the local government to ensure appropriate arrangements are in place to maintain a reasonable level of access and parking to properties.
Pump and equipment failure	Submitters identified concerns with what happens if equipment fails. An Operation and Maintenance Manual (Draft) has been prepared for the project to ensure operations and maintenance requirements are well understood and planned, to address potential issues such as pump failure or equipment malfunction. A draft of this document is provided in this MID application. It will also be refined as the project progresses and in consultation with Bundaberg Regional Council who will be responsible for operating the levee. The Surface Water Technical Report includes an assessment of two potential levee failure scenarios. Flood impacts as a result of failure are identified as being no worse than the flood impacts that would arise from no levee.
Who pays for rebuilding if flooding is worse	Submitters identified that flooding could be worse as a result of the levee, hence cost of rebuilding may be worse. A Surface Water Technical Report has been prepared for the development that addresses flood impacts as a result of the levee. As the levee is designed to minimise the risk of flooding for up to a 1% AEP event, it is not expected that flooding will be worsened by the project. A vulnerability and tolerability assessment report has also been prepared for the project, with report identifying no worsening for the remote control car track and for others in the project area. Both the Surface Water Technical Report and the Vulnerability and Tolerability Assessment are provided with the MID application.

Amenity Impacts	Submitters identified potential for issues such as creating a derelict scene, attracting drug users, potential attaches and criminal offences and a lack of consideration for the placement of the wall. The alignment of the levee is subject to many land and other constraints which affect where it can be located, including topography, river alignment, infrastructure and services constraints, state heritage, tenure constraints and the requirements for placement to achieve the required flood mitigation. Options to move the alignment are limited. As design progresses, the measures to ensure an appropriate level of amenity for the project will be refined. This will include engagement with Bundaberg Regional Council, directly impacted parties and community members regarding landscaping and visual amenity treatments and an amenity impact assessment to be undertaken for the project.
Not an appropriate flood mitigation strategy	Submitters expressed concern that some people's properties should not be sacrificed for the betterment of others and that a levee is not an appropriate way to mitigate flooding. The submission includes a Surface Water Technical Report and a Vulnerability and Tolerability Report which consider the impacts of the introduction of the levee adjacent the Burnett River stream flow. The flood modelling demonstrates that unprotected parties will not be in a worse flood risk position (i.e. no significant impact) due to the levee as a result of Burnett River flood flows.
Evacuation timeframes	Submitters expressed concern around inadequate time to save people and properties in the event of equipment failure and flooding. An Emergency Response Plan has been prepared to address project requirements for evacuation measures as required. The Emergency Response Plan includes communication strategies and evacuation responses to specific actions to be undertaken prior to, during and following a flood event. A Draft Operations and Maintenance Manual is also being prepared for the project to ensure procedures are in place to avoid and minimise the risk of equipment failure. The Emergency Response Plan and Draft Operations and Maintenance Manual are included in the MID application.
Reduced property values	Submitters expressed concern about impact to property values. The proposal has been designed to mitigate flood impacts and the MID application is supported with the necessary Surface Water Technical Report and Vulnerability and Tolerability Assessment. These documents indicates that there will be no substantial worsening of flood impacts where properties are on the unprotected side of the levee and there are substantial benefits to properties on the protected side.

Detrimental impact to the environment and lack of comprehensive EAR	The MID application includes EAR report and supporting documents that address the environmental impacts of the development. The proposal has been approved for funding by both the Federal and State government on the basis that the proposal will have wide-ranging benefits to the Bundaberg community and the region. The proposal is now supported by a range of supporting technical documents and information detailing and quantifying project impacts.
Levee compliance with Statutory requirements pertaining to the Transport Infrastructure Act and entities responsibilities under the Act.	The MID application will include an EAR report which details requirements for works in maritime zones and how the proposed development will be undertaken to achieve TIA requirements as they relate to maritime uses. As design progresses, ongoing consultation about the project will occur with Maritime Safety Queensland / the regional harbour master to ensure that maritime access and safety is not adversely affected by the proposal during the construction and operational phases of the development.

PART G – CONCLUSION

10 Conclusion and recommendations

This MID Assessment Report has been prepared by QBuild, seeking an Infrastructure Designation of land for the Bundaberg East Levee. The proposed designation applies to land located within the identified MID boundary shown on the Proposal Plans (refer to ***Appendix 1***) and as summarised the Property Details (***Appendix 17***).

The PA 2016 prescribes the way in which a designation can be undertaken. Chapter 2, Part 5 of the PA 2016 prescribes that a Minister, before designating land for infrastructure, must be satisfied that for development the subject of the proposed designation:

- the infrastructure will satisfy statutory requirements, or budgetary commitments, for the supply of the infrastructure; or
- there is or will be a need for the efficient and timely supply of the infrastructure.

The proposed development is defined as infrastructure under Schedule 5, Part 2 of the PR 2017:

Item 19 Water cycle management infrastructure

The designation will facilitate delivery of the proposed development and designation of the land ensures the efficient and timely supply of infrastructure; and satisfies statutory requirements and budgetary commitments of the State for the supply of the infrastructure.

The assessment provided within this MID Assessment Report provides details with respect to the proposed works and has undertaken an assessment of the proposed infrastructure against the relevant statutory frameworks, incorporating local and state assessment criteria and Commonwealth legislation.

The proposed development of the land for the Bundaberg East Levee is to be subject to the proposal deliverables as listed identified in *Part E – Environmental Assessment* of this Report.

PART H – APPENDICES

The following is a list of appendices to this MID Assessment Report:

Appendix 1	Proposal Plans
Appendix 2	Contour and Detail Survey
Appendix 3	Surface Water Technical Report (Flood Assessment Report)
Appendix 4	Stormwater Management Plan
Appendix 5	Traffic Impact Assessment
Appendix 6	Heritage Impact Assessment
Appendix 7	Vulnerability and Tolerability Report
Appendix 8	Emergency Response Plan
Appendix 9	Operation and Maintenance Manual (Draft)
Appendix 10	Ecological Assessment
Appendix 11	Lighting Assessment – Aviation Report
Appendix 12	Geotechnical Assessment
Appendix 13	Contamination Site Investigations
Appendix 14	Services Impact Advice
Appendix 15	State Interest Trigger Mapping
Appendix 16	Contaminated Land Register and Environmental Management Register Search
Appendix 17	Property List and Property Information
Appendix 18	Extracts from the *Planning Act 2016*
Appendix 19	Designation Flowchart

Appendix 1 – Proposal Plans

Appendix 2 – Contour and Detail Survey

Appendix 3 – Surface Water Technical Report (Flood Assessment)

Appendix 4 – Stormwater Management Plan

Appendix 5 – Traffic Impact Assessment

Appendix 6 – Heritage Impact Assessment

Appendix 7 – Vulnerability and Tolerability Report

Appendix 8 – Emergency Response Plan

Appendix 9 – Operation and Maintenance Manual (Draft)

Appendix 10 – Ecological Assessment

Appendix 11 – Lighting Assessment – Aviation Report

Appendix 12 – Geotechnical Assessment

Appendix 13 – Contamination Site Investigations

Appendix 14 – Services Impact Advice

Appendix 15 – State Interest Trigger Mapping

Appendix 16 – Contaminated Land Register and Environmental Management Register Search

Appendix 17 – Property List and Property Information

Appendix 18 – Extracts from the *Planning Act 2016*

Appendix 19 – Designation Flowchart