

Attorney-General's Department
Port Bonython Code Amendment
Investigations

Final | 31 August 2021

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

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1 Introduction

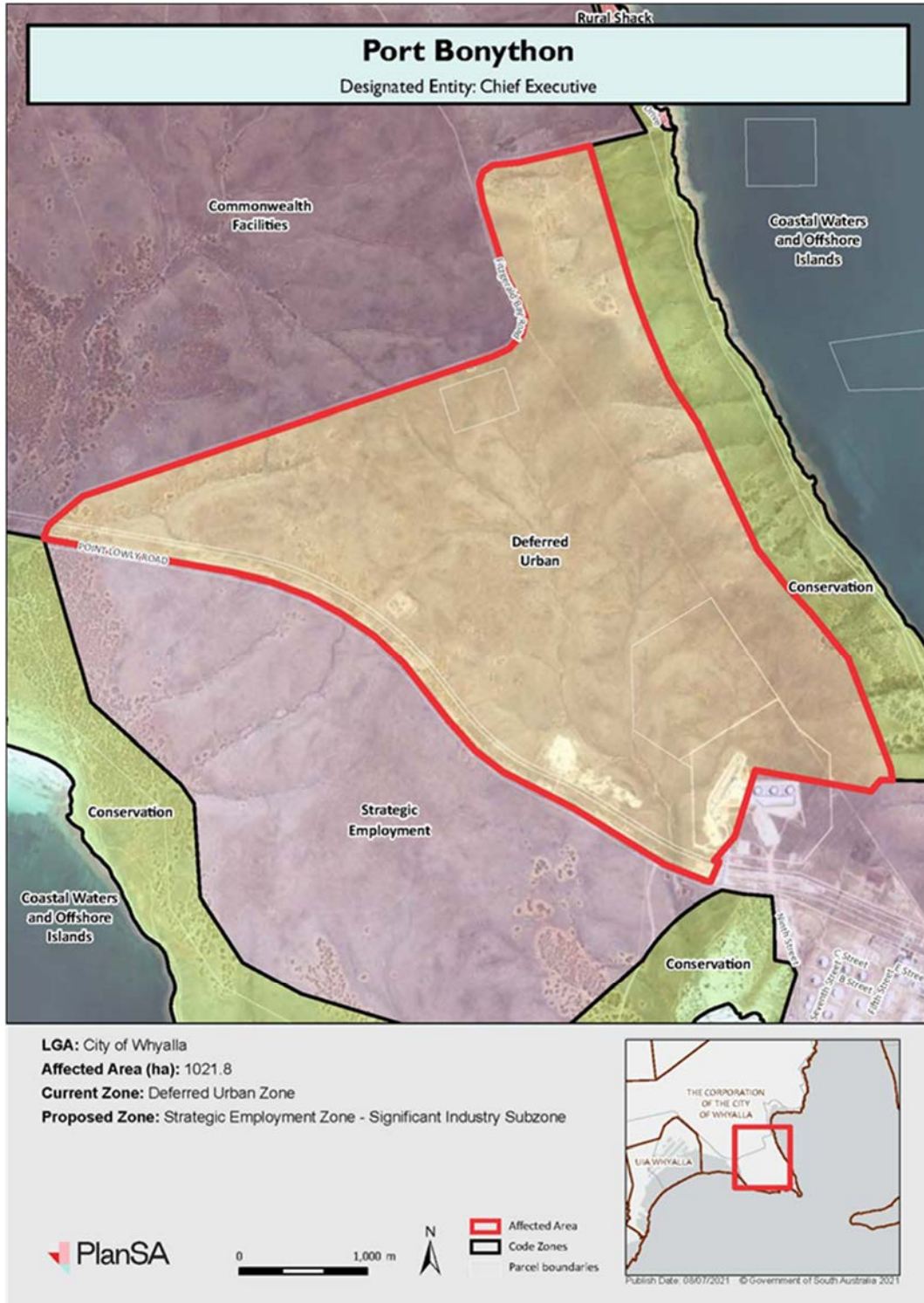
1.1 Rationale for the Code Amendment

It is proposed to rezone 1,020 hectares of land at Port Bonython from the Deferred Urban Zone to the Strategic Employment Zone - Significant Industry Subzone. The land is largely owned by the Minister for Infrastructure and Transport. Prior to implementation of the Code, the affected area was identified within the Deferred Industry Zone in the Whyalla Council Development Plan. The Deferred Industry Zone contained specific local policy to facilitate industrial development in the area where it was associated with hydrocarbons activities in the adjoining Strategic Employment Zone. Under the Code, the affected area has been zoned as Deferred Urban which primarily focuses on safeguarding land for future urban growth. Locally specific policy pertaining to industrial/ hydrocarbons development was not transitioned to the Code as part of the Phase Three Amendment. The result is that immediate industrial development opportunities within the area are unlikely to be approved under the Code. The broader Port Bonython precinct is primarily used for industrial purposes, namely fractional distillation and distribution by Santos of hydrocarbons that have been extracted from the Cooper Basin and sent via pipeline to Port Bonython. There is also an established fuel storage and distribution facility in the precinct which imports fuels to the site using the existing jetty infrastructure. The precinct is of State strategic economic importance, and the affected area has been identified for potential renewable energy and hydrogen industry development occurring over the next five years. This is the principal focus of the State's current efforts to seek to develop the precinct.

Significant work has been undertaken by the Departments of Treasury and Finance, Infrastructure and Transport, Energy and Mining, and Renewal SA to unlock investment in this land. However, investors require confidence in relation to the planning framework that provides the basis for development. A Code Amendment to rezone the affected area from Deferred Urban Zone to the Strategic Employment Zone and Significant Industry Subzone would facilitate the anticipated development of the site, generating significant employment and economic opportunities in the region. This zoning framework reflects that which currently applies to the existing industrial area located directly to the south of the affected area. As the affected area is Crown Land, and would facilitate significant investment, it is appropriate for the Commission to undertake the proposed Code Amendment. Further, the proposal would only involve a spatial change to the Code utilising existing zones from the Code Framework, thus maintaining the integrity of the Code.

2 Scope of the Code Amendment

2.1 Affected Area



Map 1 – Affected Area

2.2 Scope of the Code Amendment

The proposal seeks to amend the Code for the Port Bonython site.

Current Policy	<p>Deferred Urban Zone</p> <ul style="list-style-type: none"> - Gas and Liquid Petroleum Pipelines Overlay - Hazards (Bushfire – Regional) Overlay - Hazards (Flooding – Evidence Required) Overlay - Native Vegetation Overlay - Water Resources Overlay
Amendment Outline	<p>Strategic Employment Zone</p> <ul style="list-style-type: none"> - Significant Industry Subzone - Gas and Liquid Petroleum Pipelines Overlay - Hazards (Bushfire – Regional) Overlay - Hazards (Flooding – Evidence Required) Overlay - Native Vegetation Overlay - Water Resources Overlay
Intended Policy	<p>No new policy, zones or subzones are proposed to be introduced as part of this Code Amendment. The Proposal will spatially amend the Code by applying zones, subzones and overlays from the Code, as follows:</p> <p>Maps:</p> <ul style="list-style-type: none"> - Rezone to the Strategic Employment Zone and the Significant Industry Subzone. - Technical and Numeric Variations (TNV) are not anticipated to apply. - The following overlays will remain over the land: <ul style="list-style-type: none"> o Gas and Liquid Petroleum Pipelines Overlay o Hazards (Bushfire – Regional) Overlay o Hazards (Flooding – Evidence Required) Overlay o Native Vegetation Overlay o Water Resources Overlay

Table 1: Scope of proposed Code Amendment

2.3 Significant Industry Subzone

Desired Outcome: Major special industrial activities requiring large areas of land to manage interfaces with sensitive land uses and the environment that are of significance to the state and regional economy.

Relevant Performance Outcome	Effect on Proposed Industry
PO 1.1 - Development primarily for large scale, high impact special industry uses located on large areas of land to manage impacts on sensitive land uses and the environment.	The site has been earmarked by the SA Government as a hydrogen export hub and may also support a range of other industrial, mining and related projects and development. ¹
PO 2.1 – Substantial visual and acoustic buffers are maintained between development and sensitive land uses	Nearby sensitive uses include the Point Lowly Lighthouse, Point Lowly Beach, Point Lowly Campground, Stony Point Cuttlefish dive site, Freycinet walking trail, Fitzgerald Bay camping/Mariners Retreat, False Bay coastal conservation area/mangroves/samphire etc.
PO 2.2 – Treatment or depositing of hazardous waste materials does not occur in proximity to residential development located in an adjacent zone	There are limited adjacent residential developments in the Point Lowly area, including shack settlements and holiday homes.
PO 2.3 – Development is sited and designed to protect areas of heritage or cultural significance	Area is adjacent to Point Lowly Lighthouse. The Barngarla People may have areas of significance or archaeological objects in the area. The Upper Spencer Gulf Marine Park holds a number of environmental, economic and social values.
PO 3.1 – Development does not produce emissions that would harm human health or the environment	Upper Spencer Gulf Marine Park, giant cuttlefish breeding site is of ecological/cultural significance

¹(Attorney-General's Department, 2021)

PO 3.2 – Development designed and sited to mitigate impacts upon the terrestrial and marine environment in the locality and areas of conservation significance	There are significant terrestrial and marine environments in the Port Bonython vicinity
PO 3.3 – Development and operations designed and sited to avoid discharge of liquid or solid waste from the site or from entering the natural drainage system	Industry in the area must adhere to waste management policies
PO 4.1 – Areas for the storage and handling of hazardous material are bundled to contain spillages and leaks of liquids used, stored or processed on the site of the development	Industry must exclude the entry of external surface stormwater runoff that may pose a risk of pollution to the surrounding environment
PO 4.2 – Adequate separation provided between development and buildings to mitigate on-site impacts in the event of an industrial accident	Buffers and Separation Distances must be adhered to in order to protect interfacing sensitive uses in the vicinity of Port Bonython
PO 4.3 – Development is protected against sea flood risk and sea level rise	Development in the area will predominantly be situated low-lying land in a potentially flood prone area

Table 2: Relevant Performance Outcomes & Impact on Industry

2.4 Previous Zoning

It is worth noting the previous zoning which applied to the affected area prior to the introduction of the Code. Under the Whyalla Council Development Plan, the affected area was in the Deferred Industry Zone:

Objective:

A zone primarily intended for expansion of the industrial area as demand requires.

Principles of development control:

Land Use

1 No development should be undertaken in the Deferred Industry Zone except that ancillary to approved development in the Special Industry (Hydrocarbons) Zone, pending the requirement of the area for industrial development.

2 Development should be designed and sited so as to conserve buildings, structures or sites of natural or man-made heritage or of particular architectural merit, especially those listed as State Heritage Items, of Aboriginal heritage significance, geological monuments or on the Register of the National Estate.

Non-complying developments are listed in the Development Plan and are land uses which are not envisaged or encouraged within a particular area. These uses will generally be inconsistent with the objectives and principles of the zone.

The Deferred Industry Zone had the following uses listed as non-complying:

- Industry - Except that ancillary to approved development in the Special Industry (Hydrocarbons) Zone
- Land division
- Shop
- Stock slaughter works
- Store Warehouse

Strategic Employment Zone

The selected zone for this Code Amendment is the Strategic Employment Zone. This zone anticipates a comprehensive range of industrial, logistical, warehousing, storage, research and training land uses together with compatible business activities, generating wealth and employment for the state.

The subject land has been land set aside for industrial development for at least as long as Development Plans have existed (1994). This proposed rezoning effectively formalises that intention by allowing industrial types uses to occur on the land.

Tables 1-4 in each zone form the 'Classification Tables' which assign development to different assessment pathways and assign the applicable policies/criteria from the Code Library to those pathways. A description of the Classification Tables is provided below:

- Table 1 – Accepted Development: Classification Categorises classes of development as 'Accepted' that do not require planning consent. The relevant criteria are also set out in the table.
- Table 2 – Deemed-to-Satisfy: Development Classification Classifies classes of development as 'Deemed-to-Satisfy,' which must be granted planning consent. Table 2 includes references to the applicable criteria in other parts of the Code.
- Table 3 – Applicable Policies for Performance Assessed Development: Sets out the applicable policies for the listed classes of performance assessed development. Performance assessed development is assessed on its merits against the relevant policies in the Code. Performance assessed development requires public notification unless excluded in Table 5. Note: Table 3 does not 'classify' or 'categorise' development as performance assessed; a development will 'default' to performance assessed if it is not categorised as Accepted or Impact Assessed (including Restricted) and is not classified as Deemed-to-Satisfy.
- Table 4 – Restricted Development Classification Classifies classes of development as 'Restricted.' The State Planning Commission is the relevant authority for restricted development. Note: The Commission will

determine the relevant policies when assessing restricted development against the Code but is not bound by those provisions.

The Classification Tables relevant to the Strategic Employment Zone have the following pathways for the land uses listed.

Table 1 - Accepted Development

- Brush Fence
- Building work on railway land
- Internal building work
- Partial demolition of a building or structure
- Shade sail
- Solar photovoltaic panels (roof mounted)
- Temporary public service depot
- Water tank (above ground)
- Water tank (underground)

Table 2 - Deemed-to-Satisfy:

- Advertisement
- Replacement Building
- Temporary accommodation in an area affected by bushfire

Table 3 - Applicable Policies for Performance Assessed Development:

- Advertisement
- Consulting room
- Demolition (heritage items only)
- Land division
- Light industry
- Office
- Outbuilding
- Retail fuel outlet
- Retaining wall
- Service trade premises
- Shop
- Store
- Telecommunications facility
- Warehouse

Table 4 - Restricted Development:

Shop, except any of the following:

- shop with a gross leasable floor area less than 1000m²
- shop that is a bulky goods outlet
- shop that is a restaurant
- shop that is ancillary to an industry on the same allotment.

Procedural Matters - Notification

Performance assessed development requires public notification unless the type of development is excluded from notification through the Code. The 'procedural matters' table (generally located at the end of each zone) sets out the types of performance assessed development that are excluded from public notification. The exclusion from notification may be conditional on meeting criteria, e.g., a building exceeding a building level specified for a location may trigger a need to notify a class of development that might otherwise be excluded.

The following uses are excluded from public notification in the Strategic Employment Zone:

1. A kind of development which, in the opinion of the relevant authority, is of a minor nature only and will not unreasonably impact on the owners or occupiers of land in the locality of the site of the development.
2. Any development involving any of the following (or of any combination of any of the following) (exceptions apply):
 - a) advertisement
 - b) air handling unit, air conditioning system or exhaust fan
 - c) building work on railway land
 - d) carport
 - e) fence
 - f) outbuilding
 - g) retaining wall
 - h) shade sail
 - i) solar photovoltaic panels (roof mounted)
 - j) telecommunications facility
 - k) temporary public service depot
 - l) verandah
 - m) water tank.
3. Any development involving any of the following (or of any combination of any of the following):
 - a) consulting room
 - b) general industry
 - c) light industry
 - d) office
 - e) motor repair station
 - f) retail fuel outlet
 - g) store
 - h) warehouse.
4. Any development involving any of the following (or of any combination of any of the following):
 - a) internal building works
 - b) land division
 - c) replacement building

- d) temporary accommodation in an area affected by bushfire
 - e) tree damaging activity.
5. Demolition (except heritage items).
 6. Shop (exceptions apply).
 7. Telecommunications facility (exceptions apply).

3 Investigations

3.1 Previous Investigations

A range of investigations have already been undertaken in support of the proposed Code Amendment.

Investigation Undertaken	Summary of Scope of Investigations	Summary of Outcomes of Recommendations
Port Bonython Master Planning Report, Connell Wagner (2007)	Undertake a master plan at Port Bonython to ensure that sufficient, well located land is available to meet the requirements of projects, without limiting the ability to provide for other appropriate projects that might arise in the future. The infrastructure available at Port Bonython, in particular, the access to deep water, is particularly suited to resources sector-related development. The master planning study incorporates a land use planning assessment and strategic review of the available land to determine the optimum configuration of super-lot development sites and ensure an appropriate balance between current and future requirements.	<p>The study addressed site opportunities and constraints, identified the critical success factors for the development and incorporated this information into a Master Plan for the site that aims to ensure that future developments at Port Bonython achieves the highest and best, long term use of land, given its access to deep water and other existing infrastructure. This included identification of key development needs such as:</p> <ul style="list-style-type: none"> - Ensuring a viable sea, land and rail transport interface, - Identification of infrastructure corridors and use of existing infrastructure - Allotment configuration options to

		mitigate potential impacts on site and objects of Aboriginal heritage significance
Prefeasibility study – Feasibility of co-locating multiple Hydrogen products at Port Bonython, KPMG (2021)	<p>High-level discussion paper which:</p> <ul style="list-style-type: none"> - Conceptually assesses the technical and safety considerations of co-locating downstream processing and exporting infrastructure for multiple hydrogen product forms - Provides guidance on the mix of hydrogen products that could be safely and feasibly accommodated at Port Bonython, based on existing commodity exports co-located - Provides recommendations on activities/studies that should be carried out as part of further assessment 	The paper has concluded that there are no specific major barriers with respect to the co-location of multiple hydrogen products for export at Port Bonython. However, it does highlight that when master planning a new industrial precinct, consideration should be given to separation of facilities, informed by the risk assessment process required under the relevant legislation and standards. Where close placement of major hazard facilities is required, there may be interaction between their respective safety requirements, and for master planning purposes, should be considered at least at a conceptual level. The separation from existing facilities should also be considered with respect to possible hazard risk.
Technical Advice Note – Port Bonython Jetty – Mott MacDonald (2021)	Assessment of existing jetty infrastructure.	The continued use of the existing jetty will require a significant level of capital expenditure for refurbishment, regardless of the extent of future use. A decreased lifecycle, a change of the energy source or a change of the products handled are unlikely to impact the need and quantum of the necessary repairs.

		<p>Increased volumes of the products currently handled at the jetty appears to be possible, due to the low utilisation of the berth, subject to landside supply and storage capabilities. Handling of non-hydrocarbon products would require the construction of a new jetty or repurposing of the existing jetty to meet safety requirements.</p>
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Table 3: Previous Investigations and Outcomes

This report aims to address the remaining investigations that are required to support the Code Amendment.

3.2 Interfaces

3.2.1 Air Quality

The South Australian Environmental Protection Agency measures air quality at Whyalla (the closest monitoring station to the Project). The monitoring indicates that air quality generally complies with legislative requirements, although some limited exceedances do occur.

Emission sources within the Whyalla region including the Whyalla steelworks, a quarry operation, two wastewater treatment plants and the Santos hydrocarbon distribution facility at Port Bonython. None of these sources are considered to have a significant impact on local air quality².

Code policy exists in the proposed Subzone and the Interface Between Land Uses General Development Policy to mitigate adverse effects on or from neighbouring and proximate land uses on air quality. Code policy, together with EPA legislation and policy, is considered appropriate to ensure air quality will not adversely impacted by the proposed Code Amendment.

As there is no specific proposed development, determining expected impacts to air quality is not pertinent to the Code Amendment. The rezoning of the affected area will allow for the development of major industry, and any proposed development in the Area would need to adhere to the requirements of the Environmental Protection (Air Quality) Policy 2016 by conducting an Ambient Air Quality Assessment 2016 as outlined in the Policy. Any proposed development that will impact air quality must be appropriately assessed to determine and minimize risks

² (Arup Pty Ltd, 2013)

to adjacent sensitive uses such as the shack settlements, tourist facilities, aquaculture practices, and the surrounding natural environment. This will be done through appropriate mitigation and utilising Separation Distances as advised in the EPA Guidelines for Separation Distances. Discharges to the air or water will require a permit from the EPA³.

As of 2013, regional pollution sources were either located a sufficient distance from the Area or are emitting pollutants in sufficiently small quantities as to be unlikely to result in a measurable decrease in the background air quality⁴.

3.2.2 Hazards & Blast Risk

Similarly, with mitigating impacts to air quality, Code policy exists in the proposed Subzone and the Interface Between Land Uses General Development Policy to ensure hazard risks are minimised.

Parts of the affected area are covered by the Gas and Liquid Petroleum Pipelines Overlay. This overlay seeks to manage risk to public safety, the environment and security of energy supply from the encroachment of development on strategic gas and liquid petroleum pipelines. This overlay applies to adjacent high-pressure gas and liquid petroleum pipelines. Referrals are required to the Chief Executive of the Department of the Minister responsible for administering the *Petroleum and Geothermal Energy Act 2000*, except where the development is minor and would not warrant a referral when considering the purpose of the referral. The location of the pipelines and Overlay are clearly identified, and potential development proposals must comply with responding Code policy.

Any proposed industry in the Area should consider the *Local Nuisance and Litter Control Act 2016*. Emission of noise, odour, smoke, fumes, aerosol, dust and any other agent or class of agent declared by Schedule 1 of the *Local Nuisance and Litter Control Act 2016* that causes an adverse effect on an amenity value of an area can result in significant penalties. Proposed industry must also consider the Environment Protection (National Pollutant Inventory) Policy 2008 to determine if there is an obligation to report to the National Pollutant Inventory.

Uses promoted by the proposed Code Amendment would primarily fall under General Industry or Special Industry in the Environment Protection (Noise) Policy 2007 and so any proposed industrial development in the area must consider the requirements of the policy.

3.2.3 Storage and Transportation of Hazardous Materials

Code policy exists to ensure risks are mitigated at the development assessment stage. The Significant Industry Subzone was chosen for this Area as it contains policy relating to the storage and handling of hazardous material. The handling of dangerous and/or incompatible products was identified in the Mott MacDonald technical advice note, where it was considered high risk but

³ (Arup Pty Ltd, 2013)

⁴ (Arup Pty Ltd, 2013)

could be mitigated to medium risk through the operational measures and infrastructure modifications⁵.

The transport of dangerous goods has also been highlighted as high risk and should be mitigated by ensuring all requirements are met for handling and transporting dangerous goods⁶.

In May 2020, Standards Australia developed specific guidance on hydrogen⁷, including:

- Production, Handling and Storage
- Pipeline and Gas Distribution Networks
- End Use Utilisation
- Fuel Cell Applications
- Mobility Applications

Any proposed hydrogen industry operations must appropriately mitigate the risk associated with the storage, handling and transport of dangerous and hazardous materials. All operations involving hazardous materials should refer to SafeWorkSA's guidance on 'Chemical storage, handling & security' and must adhere to the *Work Health and Safety Act 2012 (SA)*.

Proposed industry must also consider the Environment Protection (Movement of Controlled Waste) Policy 2014 if applicable.

3.2.4 Shack Settlements

Shack settlements exist in the adjacent Rural Shack Settlement (RSSZ) and Rural Settlement Zones (RSZ). These occur at Point Lowly, False Bay and Fitzgerald Bay. While a number of people call Point Lowly, False Bay and Fitzgerald Bay their permanent home, most users are transient with owners using their coastal homes as weekend or holiday accommodation. Other visitors rent the lighthouse cottages or coastal homes, stay in motorhomes or are day visitors to the area. Any proposed development must ensure impacts to sensitive receivers is minimised. Code policy relating to this is found specifically in the Significant Industry Subzone and Interface Between Land Uses General Development Policy. As the zoning of the shack settlements do not promote growth and further residential development is not foreseen, it is not considered necessary to introduce the Interface Management Overlay or the Significant Interface Management Overlay to these areas.

The RSSZ aims to limit development within an environment where natural processes such as flooding, sea-level rise, sand drift and erosion occur. The natural environment within this zone is to be protected from inappropriate development and existing development is to be upgraded to incorporate

⁵ (Mott Macdonald, 2019)

⁶ (Mott Macdonald, 2019)

⁷ (Standards Australia, 2020)

environmental improvements. The RSZ aims to incorporate a small mixed-use settlement supporting a limited range of residential development, tourist, recreation and community facilities grouped together to serve the local community and visitors. Development in the RSZ should contribute to and enhances the local context and development pattern comprising the settlement.

3.2.5 Aquaculture and Upper Spencer Gulf Marine Park

To the north of Point Lowly is Fitzgerald Bay, an area zoned for aquaculture. In the 2000's to about 2012, the bay was used for the farming of yellowtail kingfish. Clean Seas Ltd has been approved to resume aquaculture of yellowtail kingfish in Fitzgerald Bay northeast of Port Bonython. The aquaculture zone remains in place and there is an existing oyster farm in the area. There are plans to recommence finfish farming in this area in the near future⁸.

In 1999, a marine sanctuary zone was established to the south-west of the Port Bonython jetty to help protect the Giant Australian Cuttlefish, noting that Port Bonython is the only known site where these cuttlefish form dense spawning aggregations. It should be noted that the cuttlefish range all around Port Bonython and not just in the marine park zone⁹.

The Upper Spencer Gulf Marine Park holds a number of environmental, economic and social values as described in the 2012 Upper Spencer Gulf Marine Park Management Plan. These include:

- Unique characteristic as an inverse estuary with higher salinity at the top of the Gulf. Influenced by high temperatures and large tidal ranges
- Recognised as a Wetland of National Importance containing a variety of coastal and marine habitats including saltmarsh, tidal flats and some of the largest stands of mangroves in South Australia
- Important nesting and breeding site for local and migratory shorebirds
- The most extensive seagrass meadows in South Australia
- Aggregation of the Giant Australian Cuttlefish
- Commercial fisheries including Spencer Gulf Prawn Fishery, the Blue Crab Fishery, the Charter Fishery and the Marine Scalefish Fishery
- Fitzgerald Bay aquaculture zone
- Tourism; including recreational and charter fishing, fishing competitions, sightseeing cruises and diving/snorkelling with Cuttlefish
- Commercial shipping from the ports of Whyalla, Port Bonython and Port Pirie supporting a range of industry sectors, including mining development
- Existing coastal infrastructure (e.g. power stations) and proposed infrastructure developments (e.g. desalination plants and port facilities) are of economic importance in the region
- Water and gas submarine cables traversing Spencer Gulf supply valuable essential services to the Eyre Peninsula community¹⁰.

⁸ (Department of Primary Industries and Regions, 2021)

⁹ (Department for Environment and Water, 2021)

¹⁰ (Arup Pty Ltd, 2013)

The envisaged uses in the proposed zoning are not expected to impact the marine sanctuary zone or aquaculture in the area. This is primarily protected through legislation, rather than Code policy, however, impacts of any proposed development will be assessed at development assessment stage.

The Environment Protection (Water Quality) Policy 2015 under the *Environmental Protection Act 1993* is the primary policy that would govern potential industry in the Area. Considering the proximity to recreational/aesthetic and high environmental value waters, any proposed industry must avoid activating a trigger value for the water and must adhere to the guidance presented in *Guidelines for Managing Risks in Recreational Water 2008*¹¹.

Disruption of local marine life was considered a high risk in Mott MacDonald's technical advice note on proposed industrial development in the area. It was proposed to mitigate this risk by scheduling construction outside of critical time periods for marine life and by having operators demonstrate that waste streams from facilities will not adversely affect cuttlefish breeding¹². Industry in the area will need to adhere to guidelines for development interfacing with Marine Parks as outlined in the *Marine Parks Act 2007*.

3.2.6 Cultana Training Area

The Australian Department of Defence Cultana Training Area, which occupies 50,000 hectares has undergone significant growth since the 2011 Environmental Impact Statement and is located to the north of the affected area. Cultana has provisions for mining access and an Indigenous Land Use Agreement with the Barnagarla people.

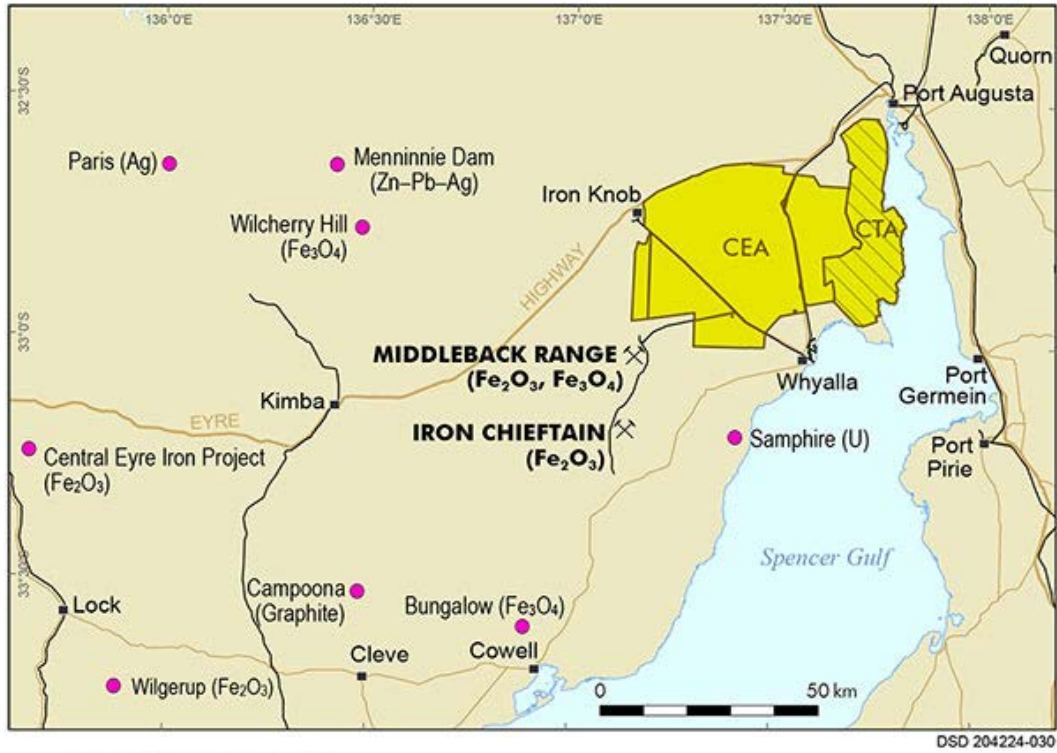
The Cultana Training Area is the largest training area of the Department of Defence in South Australia capable of supporting full combined arms exercises. It consists of the original Commonwealth-owned Cultana Training Area and the Cultana Training Expansion Area. It has been declared a Defence Practice Area pursuant to regulation 58 of Defence Regulation 2016.

The Cultana Training Area is primarily used for Defence training activities or Defence operations such as:

- combined arms manoeuvring training
- live firing of ammunition, including small arms, field and medium artillery weapons and air-delivered weapons
- air mobile and airborne operations including air to ground live firing
- unmanned aerial system training activities, and/or
- electronic warfare training activities.

¹¹ (National Health and Medical Research Council, 2008)

¹² (Mott Macdonald, 2019)



Map 2: Cultana training area (Department for Energy and Mining)

The proposed Code Amendment is not expected to impact the operations and activities within the Cultana Training Area. The Interface Between Land Uses General Development Policy in the Code plays a role in ensuring any proposed development mitigates impacts to adjoining uses.

3.2.7 Tourism Activities

Port Bonython is significant for tourism and recreation and is an important economic contributor to the region. Coastal shacks have been a feature of Port Bonython since long before industrial development and exist at a number of coastal locations in proximity to the Land including Point Lowly and False Bay¹³.

Key activities include recreational and charter fishing, fishing competitions, sightseeing cruises and diving/ snorkelling with Giant Australian Cuttlefish. The

¹³ (Whyalla Council, 2021)

Cuttlefish draw tourists during the aggregation period and the Point Lowly lighthouse and bay are sites of local interest. There is a permanent ban on cephalopod fishing between Whyalla and Point Lowly Lighthouse, with a temporary additional prohibited area extending to the east side of the peninsula. There are also camping sites, other recreational fishing activities, and significant hiking tracks in the area.

Although the proposed Code Amendment is likely to increase activity and traffic in the area, this is not expected to have any material impact on tourism activities. There may be some impact to shack viewpoints, however, impacts of any proposed development will be assessed at development assessment stage.

3.2.8 State Heritage

There are State Heritage Places nearby in Point Lowly outside the proposed Area, including the Point Lowly Lighthouse on Lot 2 Lighthouse Drive, and the surrounding cottages on Lot 1 Lighthouse Drive. The site is within Barngarla Native Title land¹⁴.



Figure 1: Point Lowly Lighthouse

The Point Lowly Lighthouse is covered by the State Heritage Place Overlay in the Code. The Heritage Adjacency Overlay surrounds the lighthouse by 60 metres. This overlay seeks for development adjacent to State and Local Heritage Places to maintain the heritage and cultural values of those Places. The affected area is not within the State Heritage Place Overlay or Heritage Adjacency Overlay, therefore, there are no foreseen impacts of the proposed Code Amendment to the State Heritage Place.

¹⁴ (National Native Title Tribunal, 2018)

protected¹⁵. Cultural heritage is also afforded protection under the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* and *Aboriginal Heritage Act 1988*. Any development will be required to comply with the general duty of care provision outlined in these Acts.

3.3 Environmental

3.3.1 Hazards

The corrosive marine environment in Port Bonython was identified as a high risk as it will almost certainly impact asset integrity in operations in or interfacing with the marine environment. This can be mitigated through regular inspections and preventative maintenance¹⁶.

Harsh weather conditions may create a dangerous environment for workers on the Port Bonython jetty. Any proposed work on the jetty must maintain OHS requirements and the provision of shelters to handle bad weather conditions, and first aid stations in case of injury or illness¹⁷.

3.3.2 Stormwater Management

The relevant legislation governing stormwater and groundwater management would include:

- *Environment Protection Act 1993*
- *Environment Protection (Water Quality) Policy 2015*

Under the *Environment Protection Act*, proposed development in Port Bonython would be required to ensure *'all reasonable and practicable measures are taken to protect, restore and enhance the quality of the environment and to prevent, reduce, minimise or where possible, eliminate harm to the environment.'*

The following indicators constitute environmental harm under the Environment Protection (Water Quality) Policy 2015:

- loss of seagrass or other native aquatic vegetation from the waters
- a reduction in numbers of any native species of aquatic animal or insect in or in the vicinity of the waters
- an increase in numbers of any non-native species of aquatic animal or insect in or in the vicinity of the waters
- a reduction in numbers of aquatic organisms necessary to maintain the health of the ecosystem of the waters
- an increase in algal or aquatic plant growth in the waters

¹⁵ (Free Eyre, 2019)

¹⁶ (Mott Macdonald, 2019)

¹⁷ (Mott Macdonald, 2019)

- the waters becoming toxic to vegetation on land
- the waters becoming harmful or offensive to humans, livestock or native animals
- an increase in turbidity or sediment levels of the waters.

Major and special industrial uses in or interfacing with the waters surrounding the Port have a General Environmental Duty (GED) under section 25 of the Act. All persons must comply by minimising environmental harm from undertaking an activity that pollutes or might pollute waters, including by:

- Applying the waste management hierarchy
- Avoiding activating a trigger value for waters with an environmental value of aquatic ecosystems or primary industries
- Complying with the Guidelines for Managing Risk in Recreational Water 2008
- Complying with the Australian Drinking Water Guidelines 2011 for waters with an environmental value of drinking water for human consumption
- Complying with mandatory measures as prescribed in Schedule 4 of the Act
- Regarding all non-mandatory measures as prescribed in Schedule 4 of the Act

There is no current use of surface water for potable, agriculture, aquaculture or industrial purposes within the area. The industrial value of groundwater is on the basis that there are records of two potentially operational bores in the locality (unit nos. 6432-1097 and 6432-1101) which are both within the Santos terminal area at Port Bonython¹⁸. The bores are listed as irrigation bores. They are drilled to a depth of 10 metres and 8 metres respectively into the Simmons Quartzite and no yield or salinity data is recorded.

Information on groundwater in the area is limited, and most of the following account is based on inference. There are no monitoring wells in the area or the immediate hinterland, and limited records of bores in the vicinity with two active irrigation bores identified within the Santos facility.

The Whyalla region is a dry area with an annual average rainfall at Whyalla of 261 mm (1945 – 2021) and an estimated annual potential evaporation of about 2200 mm. Sub-tropical high-pressure systems dominate the weather, and this causes dry continental air to blow over the area for most of the year, although monsoonal lows in summer can bring episodic, heavy rain.¹⁹

The high density of surface drainage on the Cultana Ridge is indicative of low permeability and therefore recharge to the underlying strata is likely to be very limited. The high density of drainage here contrasts with the flat, low-lying Long

¹⁸ (Arup Pty Ltd, 2013)

¹⁹ (Bureau of Meteorology, 2021)

Sleep Plain which has an almost complete absence of obvious surface watercourses. Recharge here is potentially a little higher, but the high annual evaporation is likely to reduce actual recharge to negligible quantities. Due to the very low recharge to groundwater, discharge will be correspondingly small to insignificant. There is no evidence or record of any discharges such as springs or seeps in the area.

Construction in the area should be made aware of the potential impacts of the storage and use of construction materials, plant, processes etc resulting in the release of substances to the groundwater environment.

Operations in the area should be made aware of:

- The potential impact of increasing hard surfaces resulting in reduced rainfall & reduced recharge to groundwater resulting in increased salinity from saltwater intrusion and limited freshwater input
- The risks associated with the storage and use of fuels, oils etc resulting in a release of substances to the groundwater environment
- Runoff from laden and unladen rail wagons introducing pollutants to the groundwater environment (if rail operations are proposed in industrial development).

The Code provides policy relating to stormwater management for non-residential development in the Design General Development Policy, specifically:

- PO 31.1: Development likely to result in significant risk of export of litter, oil or grease includes stormwater management systems designed to minimise pollutants entering stormwater.
- PO 31.2: Water discharged from a development site is of a physical, chemical and biological condition equivalent to or better than its pre-developed state

There are also environmental management policies in the proposed Subzone.

3.3.3 Landscape & Scenic Quality

The Port Bonython & Fitzgerald Bay area have significant landscape and scenic quality that should be considered in the development of significant or special industry in Port Bonython. There are creek beds in the area that likely contain Aboriginal heritage sites, and any operations in areas of Aboriginal heritage will need to comply with the *Aboriginal Heritage Act 1998*.

The shack settlements are another intrinsic part of Port Bonython's landscape, and significant industry will interface extensively with the existing settlements in the area. This will require any proposed development to adhere to the required Separation Distances, buffer areas, and environmental impact mitigation, or to acquire/remove existing settlements.

Point Lowly comprises a cluster of historic buildings, including the heritage listed Point Lowly Lighthouse. There also exists the Freycinet trail loops around the peninsula which may be impacted by the development of significant industry.

The development of significant industry in the area also has implications for the visual catchment of Point Lowly, as it has the potential to impact views of the coastline to the east of the peninsula, views of the Flinders Ranges including Mt Remarkable over the waters, the False Bay saltmarsh and dune landscape, and the iconic industrial landscape of Whyalla which serves as a tourist interest.

Potential development should take mitigation measures such as maintaining vegetation to provide a visual screen, setting equipment back from site boundaries, sensitive colour choice of sheds, sensitive car parking design, storage area setbacks, limited construction work footprint, and sensitive light management.

3.3.4 Fauna and Flora

The area includes fauna habitats, both coastal and those more typical of arid inland environments along with several minor habitats of limited extent:

- Myall and Black oak open woodlands (Vegetation Associations one and two)
- Mallee woodlands (Vegetation Association three)
- Low Chenopod shrublands (Vegetation Association four)
- Samphire shrublands (Vegetation Association five)
- Narrow-leaf Emubush shrublands in rocky gullies (Vegetation Association six)
- Sandhill Wattle open shrubland on low sand dunes (Vegetation Association seven)
- Boobiella open shrubland on rocky beach (Vegetation Association eight)
- Sandy beach and dunes (occurs in Weroona Bay on Santos land to the east of the Project area (Santos Association two))
- Mangrove flats and tidal areas (small groups of mangroves occur along the coast in the area near the False Bay coastal homes).

Many of these habitats are regionally common and extensive. Low Chenopod shrublands are the most widespread habitat in the region and is also important for a protected bird species. Myall and Blackoak open woodlands are the next most represented habitat in the region and also comprise important habitat for the aforementioned protected bird species. The distribution of vegetation cover across the region is relatively consistent, with no significant disturbances that fragments habitats or creates barriers for movement of fauna.

The affected area is covered by the Native Vegetation Overlay in the Code. This overlay seeks to protect, retain and restore areas of native vegetation. To enable better alignment between the land use planning system and native vegetation clearance consent process, where an application involves native vegetation removal, it may trigger the need for expert input into the development assessment process via an accredited consultant's report and/or referral to the Native

Vegetation Council. This overlay applies to areas of the state which are subject to the *Native Vegetation Act 1991* (excluding those areas covered by the State Significant Native Vegetation Overlay). The Overlay creates an assessment trigger so that any development proposal must be assessed against the clearance criteria. If clearance is required, it may trigger a referral to the Native Vegetation Council, subject to a report prepared by an accredited consultant, as prescribed by the *Native Vegetation Act 1991*.

Birds

A total of 168 bird species (including shorebirds and migratory species) are recorded for the general Point Lowly region. This includes Slender-billed Thornbill – western subspecies (*Acanthiza iredalei iredalei*) which is listed as Vulnerable under the *Environmental Protection and Biodiversity Conservation Act 1999*.

Mammals

A list of mammal species likely to occur in the area was compiled using data from previous studies in the region spanning a 30 year period and current species databases with a particular focus on similar habitats present in the study area. This list indicated that no species protected under State or Federal legislation are expected to occur in the area.

Surveys were carried out in September 2007 on Tregalana Station (the boundary of which encompasses the western extent of the area) as part of the Olympic Dam Expansion studies²⁰. With respect to the habitats present in the Area:

- Multiple captures of the Stripe-faced Dunnart (*Sminthopsis macroura*) and the introduced House Mouse (*Mus musculus*) from *Maireana sedifolia/Atriplex vesicaria* woodland (comparable to Vegetation Association one and four and regionally common)
- One Stripe-faced Dunnart from *Acacia papyrocarpa/Myporum platycarpum* woodland (comparable to Vegetation Association one)
- Group of Western Grey Kangaroos (*Macropus fuliginosus*) in *Casuarina pauper* woodland (comparable to Vegetation Association two).

Reptiles and Amphibians

A number of detailed studies conducted within, and the region adjacent to, the study area has occurred across the last 32 years which included surveys of reptiles and amphibians associated with:

- Santos EIS and operation (1981 to unknown)
- Cultana Training Area and Expansion Area Public Environment Report (PER) (2005-2010)
- Olympic Dam Expansion EIS; including infrastructure corridor connecting desalination plant at Point Lowly (2007).

Review of these studies, along with searches of South Australian and Federal databases, resulted in only one recorded threatened species; a single record in

²⁰ (BHP Billiton, 2009)

1950 of a Carpet Python (*Morelia spilota*) near the tip of Point Lowly. Two species of frogs are known to occur in the study area, the Spotted Grass Frog (*Limnodynastes tasmaniensis*) and the Trilling Frog (*Neobatrachus centralis*) but are unlikely to be present on or near the affected area. Both are common, widely distributed and may inhabit the swamps behind False Bay. Seven species of lizards and snakes were recorded during two brief surveys undertaken for the Santos EIS in December 1980²¹ (Santos, 1981). In addition to this, it was stated that based on known distributions, the reptilian fauna of the site and near vicinity could include a further 41 species, giving a total of 48. This comprises six Dragon lizards (*Family Agamidae*) eight Geckoes (*Gekkonidae*), five Legless Lizards (*Pygopodidae*), one Goanna (*Varanidae*), 15 Skinks (*Scincidae*), one Blind Snake (*Typhlopidae*), 11 Front-fanged Snakes (*Elapidae*), and one Python (*Boidae*)²².

The most recent surveys in the region were undertaken for the Cultana Expansion Public Environmental Report²³ on land to the north and west of the current study area.²⁴ While these surveys did not target reptiles specifically, they did record opportunistic sightings of Central Bearded Dragon (*Pogona vitticeps*), Peninsula Dragon (*Ctenophorus fionni*), Shingleback (*Tiliqua rugosa*), Common Blue-tongue (*Tiliqua scincoides*) and the Bearded Gecko (*Lucasium damaeum*).

The Eyre Peninsula Coastal Action Plan and Conservation Priority Study²⁵ identifies six reptile species as being recorded in the Port Bonython area; Western Bluetongue (*Tiliqua occipitalis*), Mallee Black-headed Snake (*Parasuta spectabilis*), Adelaide Snake-eye (*Morethia adalaidensis*), Dwarf Skink (*Menetia greyii*), Spiny-tailed Skink (*Egernia stokesii*), Carpet Python (*Morelia spilota*). No amphibians were recorded in the plan.

Listed Rare, Vulnerable or Endangered Fauna

Thirty nine species listed under the *Environmental Protection and Biodiversity Conservation Act 1999* and/or the *National Parks and Wildlife Act 1972* have been noted in searches of relevant databases.

With the exception of the Slender-billed Thornbill, Rainbow Bee-eater and the Neophema sp. parrots, which have terrestrial habitat requirements, the rest of the birds listed are aerial species or shorebirds and waterbirds that generally inhabit tidal mudflats, estuaries, sandy and rocky beaches, salt fields, samphire swamps, sewage ponds and mangroves, though some species have preferential habitat types²⁶. Suitable habitat for these waders and deep water feeders exists in coastal areas surrounding Port Bonython but are generally not found within the direct footprint of the affected area, or within close proximity.

²¹ (Santos, 1981)

²² (Mirtschin, 1981)

²³ (AECOM, 2011)

²⁴ (Arup Pty Ltd, 2013)

²⁵ (Caton, 2011)

²⁶ (Pizzey & Knight, 2013; Marchant, 2002)

3.3.5 Coastal

The *Coastal Protection Act 1972* makes provision for the conservation and protection of the beaches and coast of South Australia, and for other purposes. The purpose of this act is to provide for the management of the key coastal issues of standards applying to new development with regard to coastal flooding and erosion and associated protection works.

Sea level rise is not expected to have any impact on the affected area of the proposed Code Amendment. The Coastal Areas Overlay covers the Conservation Zoned area to the east of the affected area but does not cover the subject land as it is not required.

Data from tide gauges around the world shows global sea level has risen by almost 0.2 meters since 1870. Since 1993, sea level has been more accurately measured by satellites. Both sets of measurements show the rate of sea level rise has accelerated. Sea levels have been projected to rise by a global average of 0.8 metres by 2100, but indications that the rise could be significantly greater cannot be ruled out²⁷.

Global sea levels increased by 1.3mm per year over the 20th century. Over the past 15 years, this trend has increased, with global seal levels now rising approximately 3.7mm per year. The rate of sea level rise varies significantly around Australia with southern Australia experiencing increases of between 2-7mm per year since the early 1990s²⁸. The trend at the Thevenard baseline tidal recording station on Eyre Peninsula is 4.5mm/yr²⁹.

The South Australian Coast Protection Board has reviewed the data and projections regarding sea level rise for South Australia's coastal regions and have adopted the projections from the Intergovernmental Panel on Climate Change (IPCC). These projections form the basis of the Board's policies and standards, which are further reflected in the State Development Plan, through the Regional Coastal Areas Policies Amendment. The projections adopted by the Board are updated as new IPCC projections are released. Currently, the recommendations regarding allowance for sea level rise in South Australia to 2100 are:

- + 0.30 m to 2050
- + 0.70 m to 2100
- Total sea level rise = 1.0 m

These projections are based on the projections for 2050 and 2100 from the Fourth Assessment Report from the IPCC. The total recommended rise also includes a small margin to account for uncertainties in the projections.

²⁷ (Climate Commission, 2013)

²⁸ (IPCC, 2021)

²⁹ (Bureau of Meteorology, 2021)

3.4 Transport

3.4.1 Marine

The marine infrastructure includes the Port Bonython Jetty and all other facilities for berthing of vessels. The Stony Point Indenture comprises Schedule 1 to the *Stony Point (Liquids Project) Ratification Act 1981*. The Stony Point Indenture is an agreement between the State of South Australia, a number of companies (including Santos Ltd) together referred to as the “Producers,” and the Minister for Energy and Mining (formerly the Minister of Mines and Energy). Certain marine facilities were constructed by the Producers and transferred to the State under clause 63 of the Stony Point Indenture (Transferred Facilities).

The State’s jetty facilities include:

- Jetty approach;
- Loading platform; and
- Breasting and Mooring Dolphins.

OneSteel has priority use of the indentured port located at Whyalla. This operation includes facilities for loading and unloading, and OneSteel has commissioned a new barging operation providing access to Cape size vessels for export purposes.

The indentured port at Port Bonython allows Santos priority use for the export of petroleum products. This facility has the significant advantage of a water depth of 20m at the end of the 2.4km long jetty, allowing it to accommodate fuel tankers up to 110,000 tonnes in deadweight and LPG carriers of 75,000 tonnes³⁰.

The Producers have rights to the ongoing use of the marine facilities under the Stony Point Indenture and their licence arrangements with the State Clause 68 of Part XV of the Stony Point Indenture provides that the Producers ‘shall have priority of use of the transferred facilities.’ The manner in which that priority is exercised is further described in the Port Rules. The Port Rules have been prepared in a manner that reflects contractual arrangements between the Minister and the Producers regarding the manner in which priority rights shall be exercised³¹.

The Stony Point Indenture empowers the Minister to grant third party use of the Transferred Facilities subject to such use being compatible with the Producers’ operations. In exercising their discretion, the Minister shall have regard to:

- The full extent of the impact of the operations of the third parties including the potential for industrial disputes, shipping programmes, the number of workers and operations of any factories or fabrication works upon the Producers' operations.

³⁰ (Connell Wagner, 2007)

³¹ (Government of South Australia, 2021)

- The safety of and potential for damage to the Producers' operations from the third parties' products and operations³².

Common user/multi-commodity jetties are normal industry practice for NH3 and liquid hydrocarbon products, including LPG, but there are no operational precedents for bulk liquid H2 exports on jetties³³.

3.4.2 Air

There are airports receiving scheduled airline services located at Port Augusta, Whyalla, Roxby Downs and Coober Pedy³⁴.

3.4.3 Road

Port Bonython is located 35km from Whyalla and is only accessible from the Lincoln Highway via Port Lowly Road. Port Lowly Road is a shared public use road which provides access to beach areas, camp sites, homes, the Point Lowly Lighthouse and the Australian Army's Cultana Training Area (KPMG, 2019). There is an extensive network of unsealed roads and tracks in the area surrounding Port Bonython, but these roads are not maintained by the Department for Infrastructure and Transport. The area is accessible via roads which are gazetted to accommodate 53.5m road trains (GML and HML)³⁵.

There are no road upgrades currently envisaged to be required, the affected area is covered by the Key Outback and Rural Routes Overlay. This overlay seeks the safe and efficient movement of vehicle and freight traffic on key outback and rural routes, and provision of safe and efficient vehicular access to and from key outback and rural routes. A referral to the Commissioner of Highways will apply in the overlay area in circumstances where Deemed-to-Satisfy requirements in the overlay are not met.

3.4.4 Rail

The nearest rail to Port Bonython is the standard gauge Whyalla - Port Augusta railway line which is approximately 20km away (KPMG, 2019). This is a single standard gauge railway track with an alignment roughly parallel to the Lincoln Highway. The southern end of this line is located at the steelworks facility in Whyalla. The northern end of this line connects to the main east-west rail corridor from New South Wales and Victoria to Western Australia. The main east-west rail corridor is owned by the Australian Rail Track Corporation.

There is currently one active rail level crossing within the study area of relevance to the affected area, located on Port Bonython Road near the intersection with the Lincoln Highway. The current crossing is actively controlled by flashing lights and bells only. Signage and road marking is also provided. This is consistent with

³² (Government of South Australia, 2021)

³³ (WSP, 2021)

³⁴ (Connell Wagner, 2007)

³⁵ (Government of South Australia, 2021)

the minimum requirements from the Australian Rail Track Corporation standard for Level Crossing Design for a single line railway intersected by a public road³⁶.

The State has identified land for an infrastructure corridor (which could include both rail and pipeline infrastructure) from the Whyalla – Port Augusta railway line. This includes an area used by pipeline and power authorities, and an area identified for an extension of the corridor. The parcels of land comprising this infrastructure corridor are set out in the table below.

Crown Record	Description
Vol 5641 Fol 978	Section 244, Hd of Cultana
Vol 5997 Fol 848	Section 241 and 245, Hd of Cultana
Vol 5768 Fol 668	Section 242, Hd of Cultana
Vol 6250 Fol 270	Pieces 1 and 2 in D125055

Table 4: Corridor Land Parcels

The corridor land is subject to certain native title interests and will require an Indigenous Land Use Agreement to be negotiated prior to being utilised for any purpose. A portion of the Land (within Parcel ID 2 and Parcel ID 3) east of the intersection of Point Lowly and Fitzgerald Bay Roads is also currently used for pipeline and power purposes. The potential development of the future railway line will be subject to a Master Planning activity by the State. The line proceeds from the Whyalla-Port Augusta railway line, through the infrastructure corridor, and continues to a loop within Section 248³⁷.

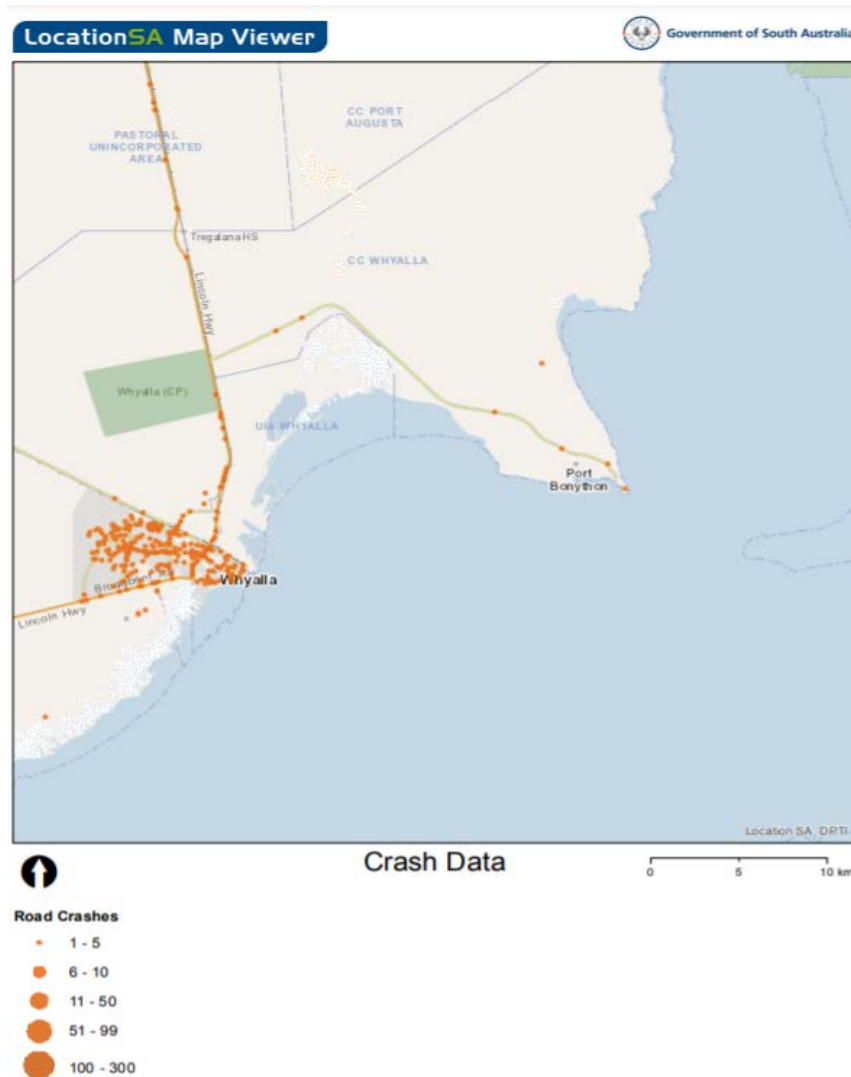
3.4.5 Traffic

Port Bonython Road, Norrie Avenue Extension and the Lincoln Highway have free flowing conditions and operate within their design capacity. Site observations indicate that visibility from Port Bonython Road to oncoming traffic from both directions on Lincoln Highway is acceptable. The Lincoln Highway/Norrie Avenue Extension intersection also has sufficient capacity to accommodate the existing traffic volumes.

An assessment of the crash history for the route between Whyalla and the proposed development site at Port Bonython was undertaken. Road crash data recorded from 2016 to end of 2020 indicates that relatively few crashes have occurred within the area. The assessment suggests that there are no accident black spot locations, as each crash recorded was unrelated to all others in crash type and / or location.

³⁶ (Arup Pty Ltd, 2013)

³⁷ (Government of South Australia, 2021)



Map 4: Road Crash Data³⁸

3.5 Utilities

3.5.1 Electricity

South Australian Power Network (SAPN) connections exist in the area. Port Bonython is serviced by a single circuit, 132 kilovolts (kV) transmission line rated at approximately 140 Mega Volt Ampere (MVA). This line is fed from the Cultana Substation located west of the Lincoln Highway near the Port Bonython Road intersection. The transmission line feeds into the Stony Point Substation which subsequently feeds electricity to the Santos Facility as well as to the coastal homes and facilities at Port Lowly. Constructed in 1983 to service the Santos Petrochemical complex, it consists of two 15MVA transformers³⁹.

³⁸ (Data SA, 2021)

³⁹ (Arup Pty Ltd, 2013)

Existing electricity supplies are not suitable for large scale additional development on the affected area.⁴⁰ Should augmentation costs be required, a deed of agreement will be required between the land owners, electricity infrastructure providers and land users.

3.5.2 Water

The major water supply to the Upper Spencer Gulf region is via the Morgan-Whyalla pipeline, with a pipeline owned by the Australian Government distributing the water to Woomera. SA Water has responsibility for water and wastewater systems at Port Pirie, Port Augusta and Whyalla⁴¹.

Potable water is supplied to Port Bonython via a 200mm asbestos cement (AC) pipeline, which runs approximately 15km from the 825mm No. 2 pipeline. There is a pressure break tank located 5km upstream from the Santos facility⁴².

Existing water supplies are not suitable for large scale additional development at the site.⁴³ Should augmentation costs be required, a deed of agreement will be required between the landowners, SA Water and land users.

3.5.3 Gas

The natural gas pipeline (Moomba to Adelaide) links Port Pirie and Whyalla via a lateral connection. Its capacity within these areas is at present fully committed, constraining any major increase in gas consumption by industry at either Port Pirie or Whyalla⁴⁴. There are Petroleum Pipeline Licenses throughout the area.

3.5.4 Waste Management

Wastewater services are limited in the area, and so major operations may consider on-site treatment for reuse as irrigation of landscaping. Use of treated wastewater for irrigation poses contamination risk to groundwater which should be addressed in any proposed development.

⁴⁰ (Government of South Australia, 2021)

⁴¹ (Connell Wagner, 2007)

⁴² (Arup Pty Ltd, 2013)

⁴³ (Government of South Australia, 2021)

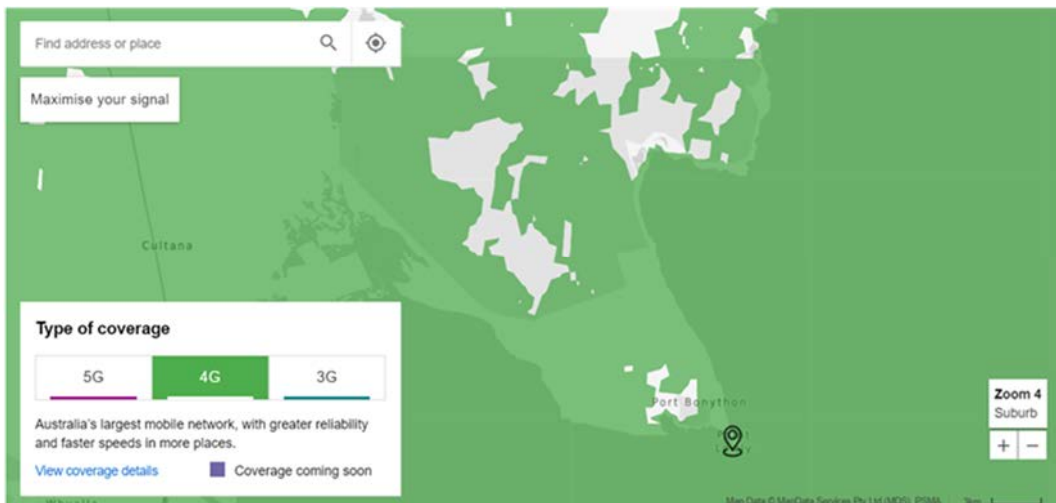
⁴⁴ (Connell Wagner, 2007)



Map 5: Coverage of Utilities in Port Bonython

3.5.5 Communications

There is a Telstra communications tower near the northern limit of the affected area, though satellite coverage in Point Lowly is incomplete in select parts of Point Lowly.



Map 6: Mobile Network Coverage⁴⁵

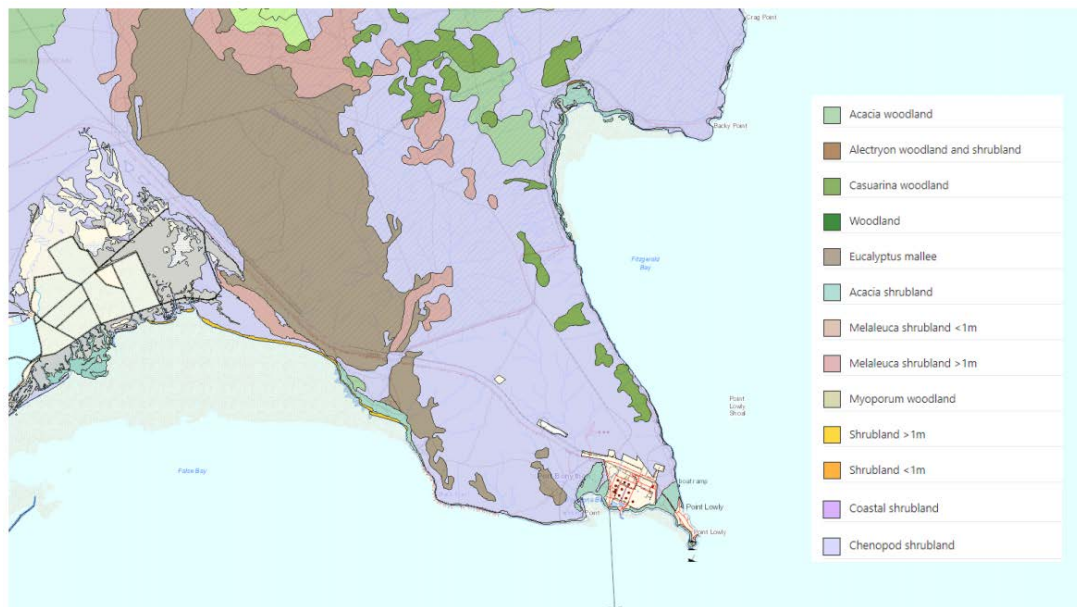
⁴⁵ (Telstra, 2021)

3.6 Bushfire Risk

The Upper Eyre Peninsula Bushfire Management Area Plan (2017) describes the regional climate as semi-arid. Temperatures during summer range between 25-30°C, but extended periods of extreme weather over 40°C can occur. The average winter maximums range between 16-18°C and the winter minimums fall between 5-8°C. The most frequent winds are from the south-east in summer and south-west in winter. Occasionally in summer, strong hot winds blow from the north, increasing the bushfire risk to the region. Thunderstorms associated with lightning usually occur during November to December and March to April each year.

Vegetation in the immediate area is predominantly Association 4: Chenopod Shrubland. This type of vegetation is considered a moderate near-surface fuel hazard⁴⁶.

Vegetation Association 3, Mallee woodland, further north and in patches to the east and west of the Area would be classified as a moderate elevated fuel hazard. The overall fuel hazard would be considered Moderate. The topography of the affected area is generally flat, limiting the risk of increased fire risk with uphill slopes.



Map 7: Vegetation types and coverage in Port Bonython

Proposed developments will be required to prepare their properties and it is recommended that a Bushfire Survival Plan is developed. The Area sits within the Hazards (Bushfire – Regional) Overlay as outlined in the Planning & Design Code. This overlay requires appropriate bushfire preparations and mitigation measures, as well as the provision of adequate access and egress to ensure safe and timely evacuation in the case of a bushfire event. Proposed development must refer to Planning & Design Code requirements for development within this overlay.

⁴⁶ (Environment SA, 2021)

4 Summary

The proposal to rezone 1,020 hectares of land at Port Bonython from the Deferred Urban Zone to the Strategic Employment Zone – Significant Industry Subzone would facilitate the anticipated development of the site, generating significant employment and economic opportunities in the region. This zoning framework reflects that which currently applies to the existing industrial area located directly to the south of the affected area.

In addition to the investigations already undertaken, this report has provided additional investigations to support the Code Amendment relating to interfaces, environment, transport, utilities and bushfire risk. Any development of the land should adhere to the Acts, Polices and Code identified in this report.

Engagement has already been undertaken with the Whyalla City Council, Defence SA and Department of Defence. The Department for Infrastructure and Transport, the Department for Energy and Mining, Renewal SA and the Department of Treasury and Finance have been working in collaboration to facilitate the rezoning and subsequent development of the site. The next stage of the process is to undertake additional engagement as outlined in Section 4.4 of the Proposal to Initiate an Amendment.

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