



PREPARED FOR WELLINGTON CITY COUNCIL - CITY SHAPER  
1 SEPTEMBER 2016

**SHELLY BAY, WELLINGTON**  
**SERVICING FEASIBILITY**

## COMMERCIAL IN CONFIDENCE



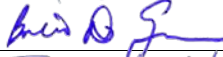

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\\BROWNCAN.LOCAL\NZ\PROJECTS\WLG\709360 WCC - SHELLY BAY - BULK INFRASTRUCTURE COSTINGS\100 GENERAL\709360 RE 20160803 S2P.DOCX

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Issue	Date	Issue Details	Author	Checked	Approved

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## Declaration:

Much of the information contained in this report has been sourced from investigations completed by Calibre Consulting in assessing the costs of providing bulk infrastructure services to Shelly Bay. Those investigations form part of a separate report for Wellington City Council. Calibre Consulting has also been engaged by the developer to provide initial land surveying expertise to assist with the subdivisional aspects of the proposal.

# 1 PURPOSE

The purpose of this report is to confirm the ability of the Shelly Bay development site to be appropriately serviced.

# 2 BACKGROUND & METHODOLOGY

The Wellington Company is preparing a resource consent application for the proposed development of the Shelly Bay site. Schematic plans of the proposed development are attached as Appendix A.

In December 2015 the Shelly Bay site was announced as a Special Housing Area (SHA). For the Council to grant any resource consent under the Housing Accords and Special Housing Areas Act 2013 (the Act) the ability of the development site to be appropriately serviced needs to be considered. Details of the consideration required can be found in section 34 of the Act. An excerpt from the Act is included in Appendix B.

The Act refers to “sufficient and appropriate infrastructure” on several occasions. This phrase has been determined to mean services (such as access, drainage and utilities) that could reasonably be expected to be provided in an urban situation, in a manner and to a standard that would generally be satisfactory to the general public.

To satisfy the Council that “sufficient and appropriate infrastructure” is available or achievable for the proposed development the following steps have been completed:

- Determining the scale and standard of services required
- Assessment of the existing infrastructure
- Considering and developing options for upgrade or replacement of services as required
- Confirming the feasibility and fit of the proposed services

# 3 SUMMARY

Sufficient and appropriate infrastructure is in place, or can reasonably be provided, to support the proposed development of the Shelly Bay area.

The provision of suitable access, drainage and utility services can be achieved using standard civil engineering design and construction methodologies. Relevant authorities and service providers are satisfied that the development site can be adequately provided for. Fanciful, untested or cost-prohibitive solutions are not required to appropriately service the development.

# 4 INFRASTRUCTURE

## 4.1 ACCESS

Based on the proposed number of residential units, Shelly Bay Road would fall under the designation of Collector Road. In a normal “greenfield” situation this would require a carriageway width of 14m plus 8m of footpaths and berms, making 22m in total. Constructing a road to this standard is not feasible due to the cliff face along one side of the road and the sea wall and harbour on the other. Upgrading the current carriageway to fully meet the guidelines of the Council’s Codes would serve to urbanise the road and may have adverse effects overall.

The Council has indicated their expectations for the level of service required by Shelly Bay Road to provide access to the developed site. Calibre has also assessed the level of infrastructure considered necessary to service the proposal. The final design and specifics of the access road will however be confirmed as a result of the overall planning and detailed engineering design processes.

The proposed traffic lanes are consistent for the various options at a minimum carriageway width of 6.0m (two 3m moving lanes). The variations are predominantly around footpath/cycle lane provision and the extent of roadside parking.

The primary function of the route will be to “move”, so only needs to have traffic lanes and appropriately allow for pedestrian/cycle traffic. There is limited need for berm or other parking along the route. Parking on the harbour side of the carriageway is readily available in some places along the route, but will require substantial construction at other points.

A 1.0-1.5m wide pedestrian/cycle lane has been allowed for as a minimum requirement, with additional width the subject of potentially significant construction works. Preliminary investigations and some conceptual design work have been completed to assess the current layout’s ability to accommodate this allowance. In general it is expected that the existing road alignment can largely accommodate a 6.0m carriageway plus 1-1.5m pedestrian/cycle corridor, without need for significant structural works or creating large scale environmental impacts. Sketches indicating the ability of the alignment to accommodate this combined 7-7.5m width are attached in Appendix C.

The final design will need to be a balance between technical requirements and guidelines and retention of the existing natural character and amenity of the coastal route.

Notwithstanding the above the various options and alternatives will all provide roading infrastructure that will adequately service the scale of the development proposed. Whilst the finished result may not be fully compliant with standard Code of Practice requirements or 100 percent satisfactory to all parties, it will be of a scale and standard that sufficiently and appropriately caters for the development proposal.

## 4.2 WATER SUPPLY

Based on the expected population that will be generated by the development the water supply needs have been determined. The current infrastructure is considered to be in poor condition and grossly undersized. Consultation with Wellington Water Limited (WWL) confirmed that a new reservoir and related watermain infrastructure would be required to service this level of development. The major components of the capital works are a new reservoir (Shelly Bay), replacement of the pipeline between the Mt Crawford and Shelly Bay reservoirs, replacement of the pipeline from Shelly Bay reservoir and local reticulation.

There is considerable upgrading work needed to provide the level of service required for the proposal. The provision of a new reservoir and related pipelines is however fairly standard practice for a development at the scale of this proposal. The final details and specifications are yet to be determined, but in consultation with WWL the solutions comprise standard practice subdivisional engineering works, and are not considered unusually onerous or containing unexpected levels of risk.

The proposed infrastructure is considered to adequately meet or comply with the relevant standards for developments of this nature, and will provide sufficient and appropriate water supply infrastructure for the proposal.

## 4.3 WASTEWATER

The necessary wastewater drainage capacity was calculated using the Regional Standard for Water Service and the expected population generated by the development. The existing pipework was determined to be in such a condition as to be unable to cope with increased flows, and there were also issues with the size of the existing gravity feed to the existing pump station.

Consultation with WWL determined that a new wastewater pump station and rising main would be required to service the development. Due to uncertainty regarding the capacity of the existing downstream wastewater infrastructure it was determined that the new rising main would need to be extended so as to connect to the pump station in Salek Street, Kilbirnie. The major components of the capital works are a new wastewater pump station, a new rising main to the Salek Street pump station and local reticulation.

The Salek Street pump station is approximately 3.5km from the development site. Connection to this pump station will require construction of the new pipe alignment along busy roads (including SH1) and through or around large road intersections. Whilst these matters add complexity and cost to the requirements the actual logistics of the construction are within standard operating procedures for this manner of work.

The internal drainage network for the development site will also need to be designed. This will service the individual sites and connect to the public infrastructure or “mains”. The infrastructure design has allowed for the local reticulation. The design of any local reticulation is however subject to the details of the land use proposal and subsequent detailed engineering design.

The proposed infrastructure is considered to adequately meet or comply with the relevant standards for developments of this nature, and will provide sufficient and appropriate wastewater drainage infrastructure for the proposal.

## **4.4 STORMWATER**

Current stormwater disposal for the site is via several discharge points directly feeding into Shelly Bay. Along the access to the site (Shelly Bay Road) there are several additional discharge points from the road directly to the harbour. Given the coastal nature of the site and the access road this is the logical arrangement. Current requirements for disposal, the protection of the coastal environment, discharge specifics and pollutant treatments are considered to be beyond the existing infrastructure.

The proposed development of the site and Shelly Bay Road will require upgrades and/or additions to the current discharge situation. New outfall structures have provisionally been allowed for to service the site and the upgraded Shelly Bay Road. Details of the locations and specifications for the outfalls will need to be confirmed and consented through both Wellington City and Regional Councils.

An internal stormwater network will also need to be designed for the development. This will service individual sites and allow rainfall and sub-surface runoff from above the site to be controlled through the site. The internal network design effectively comprises the positioning and sizing of appropriate catchment (sumps, raingardens etc) and distribution (pipework) networks. These are standard and expected matters for all land development proposals. The discharge points will be designed to allow for this internal network, in addition to the existing stormwater disposal.

The required infrastructure will allow for the sufficient and appropriate drainage of stormwater into, within and thorough the site, along with the appropriate and controlled disposal into the harbour.

## **4.5 POWER**

Wellington Electricity is the infrastructure provider for power services in the Shelly Bay area. Wellington Electricity has assessed the proposal for their likely power servicing requirements. Based on the load proposed the required transformer capacity has been calculated. Upstream reinforcement work would be required to supply the development, and potentially three substations would be required. Wellington Electricity did not raise any issues or concerns regarding their ability to appropriately service the development as proposed.

## **4.6 TELECOMMUNICATIONS**

Chorus Network Services (Chorus) is an infrastructure provider for telecommunication services in the Shelly Bay area. Chorus has confirmed that they will be able to provide telephone reticulation for the proposed development. Chorus' undertakings include the network design, supply of telecommunications specific materials and supervising installation. Chorus did not raise any issues or concerns regarding their ability to appropriately service the development as proposed.

## **4.7 GAS SUPPLY**

PowerCo is an infrastructure provider for reticulated gas services in the Shelly Bay area. PowerCo has assessed the development proposal and determined their likely requirements. They have determined that the development would require the installation of approximately 2.9km of gas main in Shelly Bay Road. Depending on the uptake and investment required for the infrastructure the installation may utilise trenching from other services and be completed through a competitive tendering process.

Reticulated gas is not considered a core infrastructure requirement for new developments. If required for the Shelly Bay proposal PowerCo has indicated that supply to the development is feasible. Any reticulated gas supply would therefore be provided to sufficiently and appropriately service the development.

## 4.8 OTHER INFRASTRUCTURE

The Shelly Bay proposal also includes the potential for options such as a cable car and passenger ferry terminal. These options will potentially add to the amenity values of the area, but are not seen as key to supporting the feasibility of any development. The Act requires the consideration of “*sufficient and appropriate infrastructure*”, and matters such as cable cars and passenger ferries are considered outside of this definition.

## 5 PLANNING ASSESSMENT

The above details have been provided to allow the Council to appropriately assess the pending application for resource consents at Shelly Bay. Section 34 (2) of the Act states that the Council must not grant consent “*unless it is satisfied that sufficient and appropriate infrastructure will be provided to support the qualifying development*”. Section 34 (3) details the considerations that the Council must make.

The proposed infrastructure will be designed and constructed so as to be fully compatible with the existing infrastructure - s34(3)(a). As part of the detailed design process the Council’s satisfaction as to the proposal’s compliance with the applicable Codes and Standards will be obtained – s34(3)(b). Downstream investigations have been undertaken to ensure that the capacity of the proposed and existing infrastructure is sufficient to support the development proposal – s34(3)(c).

## APPENDICES



## APPENDIX A SCHEMATIC PLANS OF THE PROPOSED DEVELOPMENT OF SHELLY BAY



AERIAL VIEW – SOUTH BAY



AERIAL VIEW – NORTH BAY

## APPENDIX B EXCERPT FROM THE HOUSING ACCORDS AND SPECIAL HOUSING AREAS ACT 2013

### *Decisions on applications and commencement of resource consents*

#### **34 Consideration of applications**

- (1) An authorised agency, when considering an application for a resource consent under this Act and any submissions received on that application, must have regard to the following matters, giving weight to them (greater to lesser) in the order listed:
  - (a) the purpose of this Act;
  - (b) the matters in Part 2 of the Resource Management Act 1991;
  - (c) any relevant proposed plan;

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5 January 2015

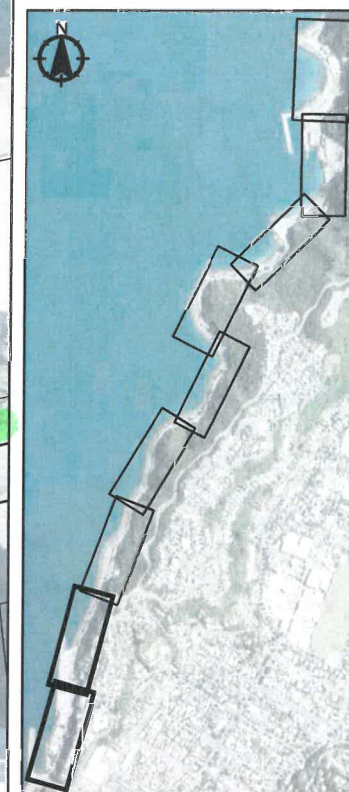
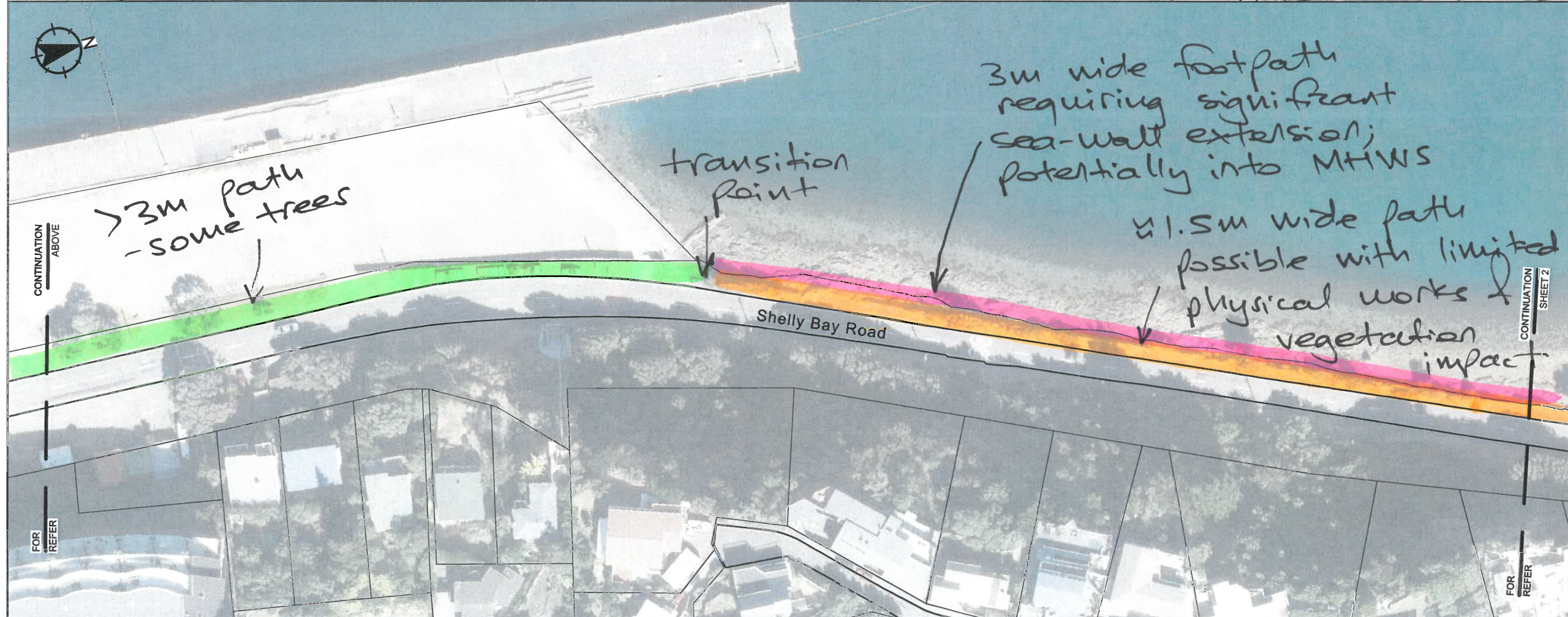
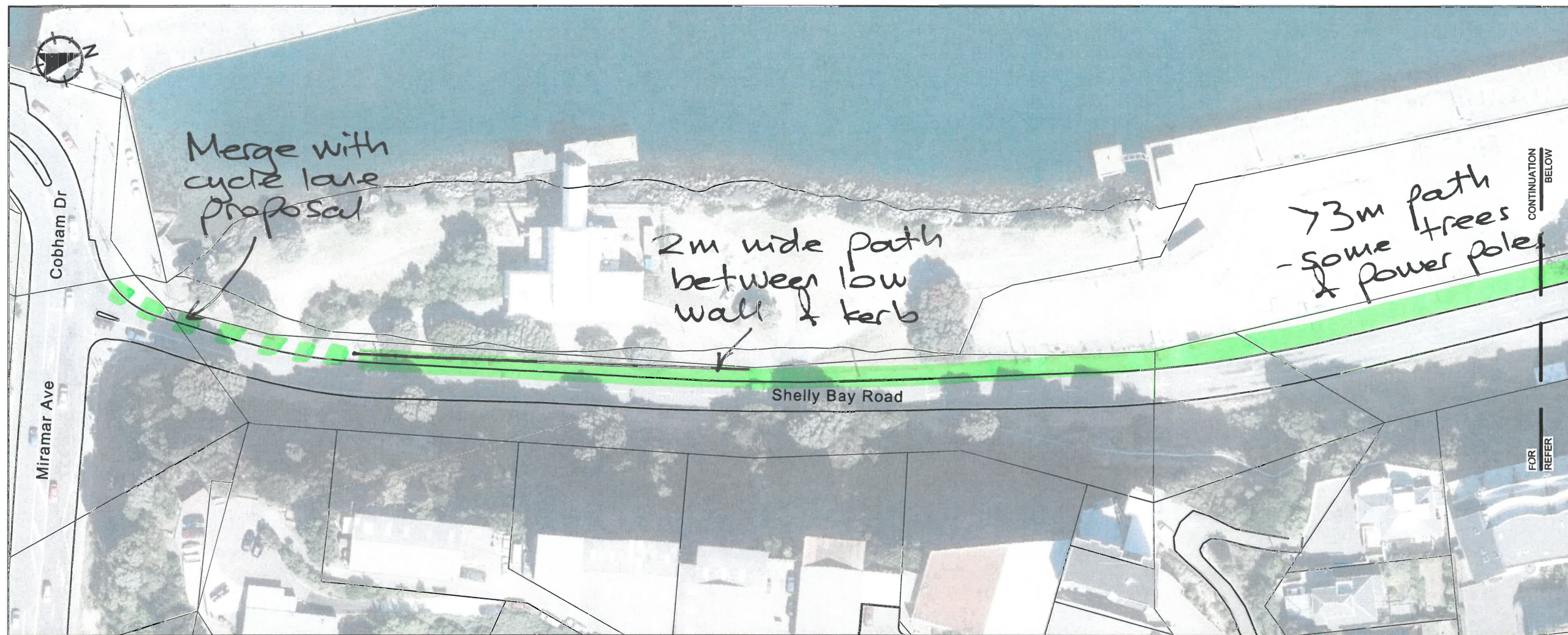
**Housing Accords and Special Housing Areas Act 2013**

Part 2 s 34

- (d) the other matters that would arise for consideration under—
    - (i) sections 104 to 104F of the Resource Management Act 1991, were the application being assessed under that Act;
    - (ii) any other relevant enactment (such as the Waitakere Ranges Heritage Area Act 2008);
  - (e) the key urban design qualities expressed in the Ministry for the Environment's *New Zealand Urban Design Protocol (2005)* and any subsequent editions of that document.
- (2) An authorised agency must not grant a resource consent that relates to a qualifying development unless it is satisfied that sufficient and appropriate infrastructure will be provided to support the qualifying development.
- (3) For the purposes of subsection (2), in order to be satisfied that sufficient and appropriate infrastructure will be provided to support the qualifying development, the matters that the authorised agency must take into account, without limitation, are—
  - (a) compatibility of infrastructure proposed as part of the qualifying development with existing infrastructure; and
  - (b) compliance of the proposed infrastructure with relevant standards for infrastructure published by relevant local authorities and infrastructure companies; and
  - (c) the capacity for the infrastructure proposed as part of the qualifying development and any existing infrastructure to support that development.
- (4) In considering an application for a resource consent under this section, the authorised agency—
  - (a) may direct an affected infrastructure provider to provide any information that the authorised agency considers to be relevant in the circumstances to its consideration of the application; and
  - (b) if the authorised agency is the chief executive, may also direct any local authority to provide any information that the authorised agency considers to be relevant in the circumstances to its consideration of the application.
- (5) If an authorised agency makes a direction under subsection (4), the infrastructure provider or local authority must provide the information requested as soon as is reasonably practicable.
- (6) The Ministry must ensure that a copy of the document referred to in subsection (1)(e), or a link to that document, is on the Ministry's Internet site and that members of the public can easily access the document via that site, free of charge, at all reasonable times.

**APPENDIX C      SCHEMATIC ACCESS LAYOUTS – CALIBRE 709360  
SHEETS C11 – C14**





SHEET LAYOUTS

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Revision	App	Date
Surveyed -		
Designed SP	05/16	
Drawn JWM	05/16	
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Project Title  
**SHELLY BAY BULK INFRASTRUCTURE**

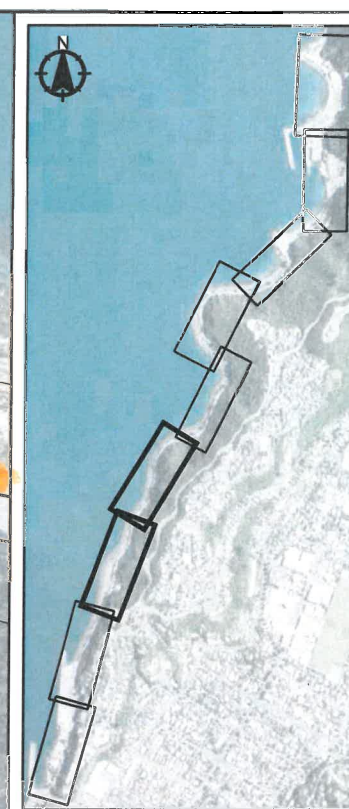
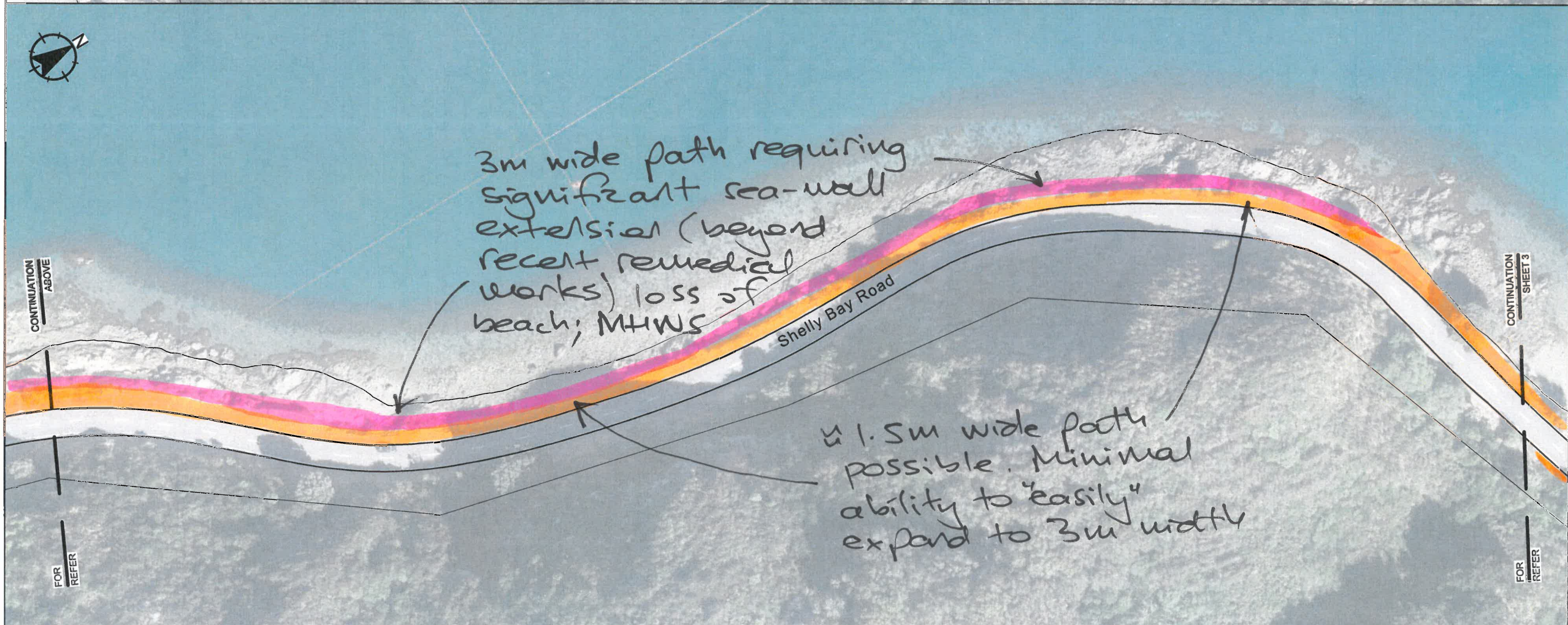
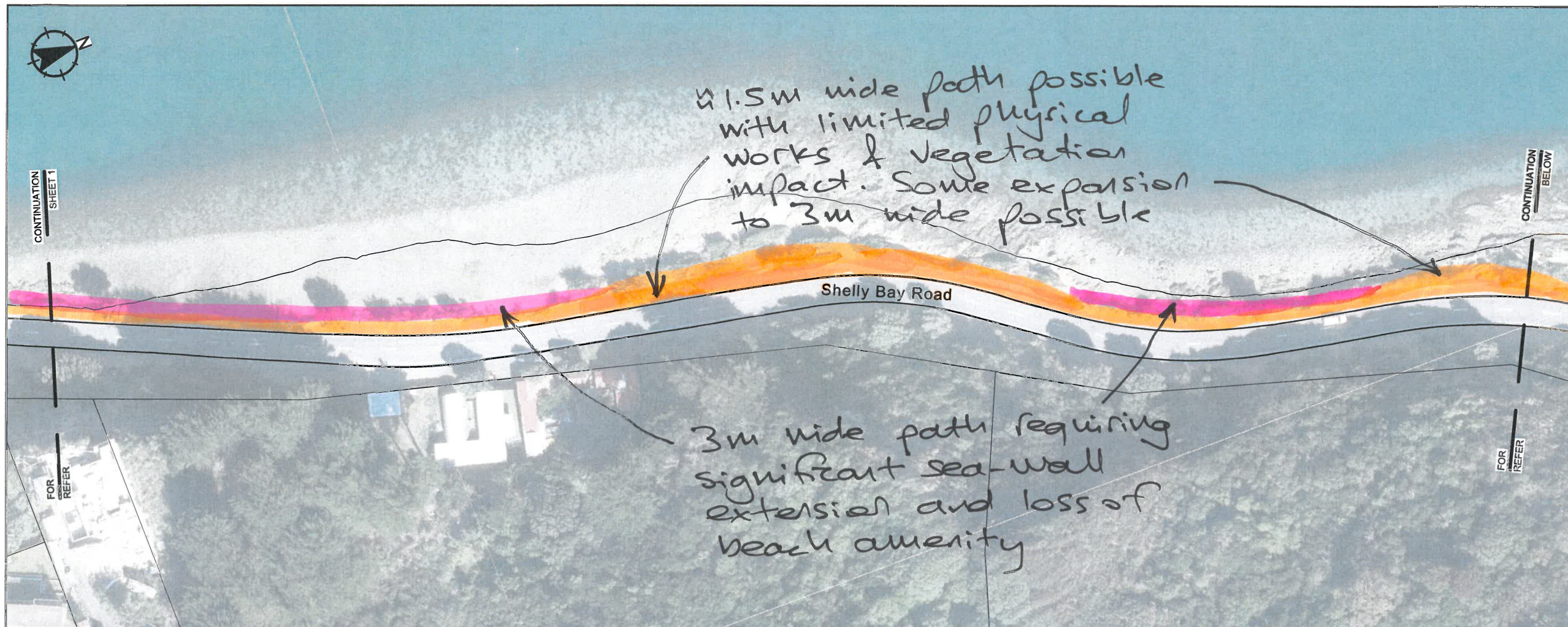
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**PLAN LAYOUT SHEET 1**

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**BULK INFRASTRUCTURE**

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**PLAN LAYOUT**  
**SHEET 2**

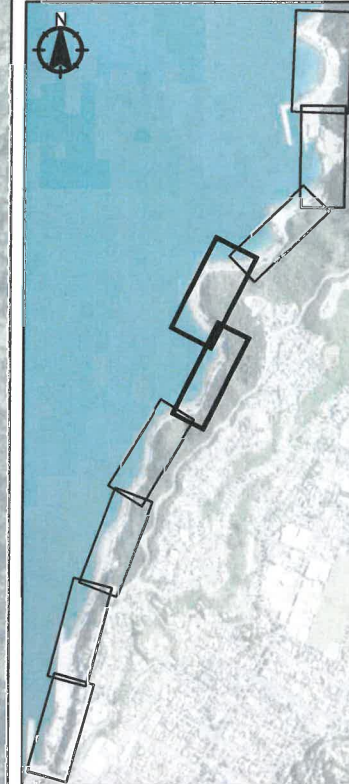
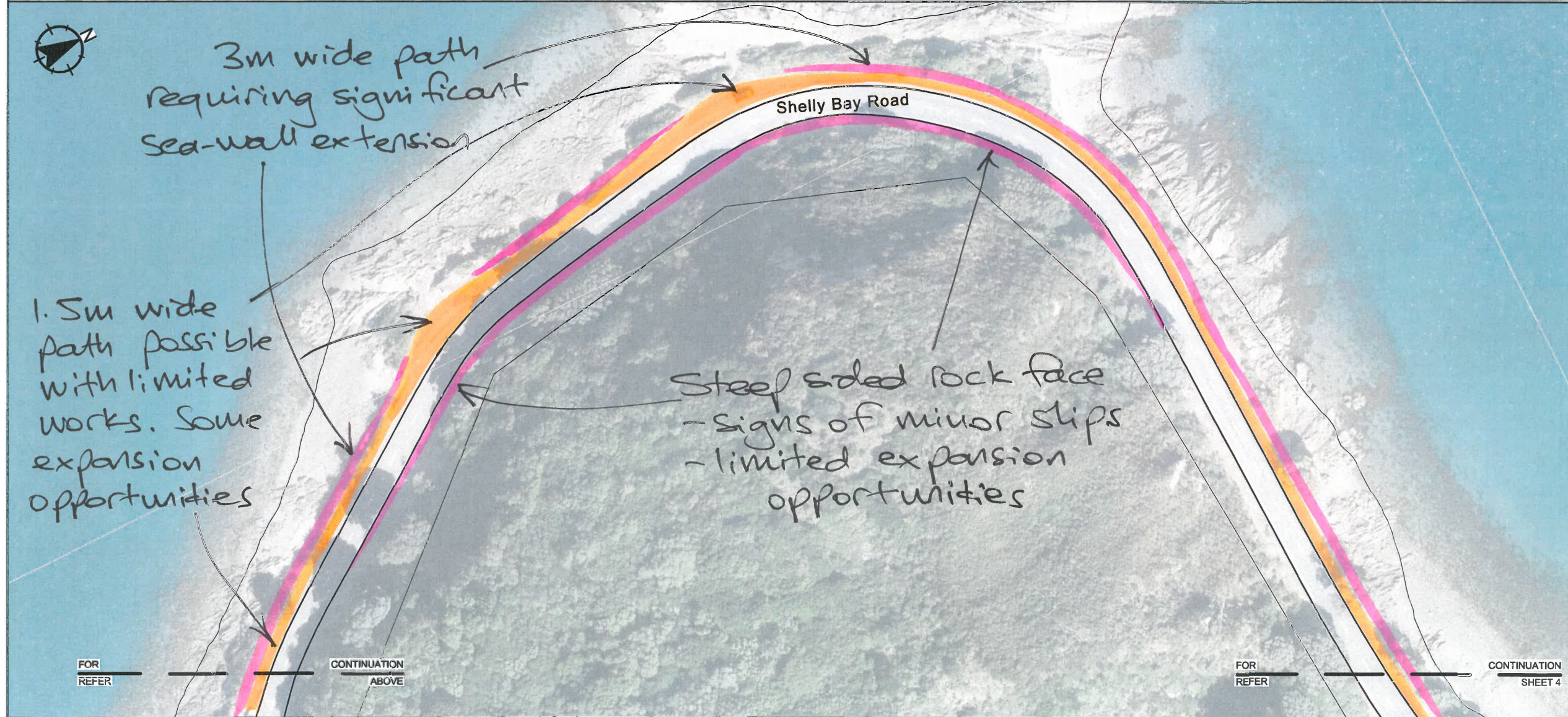
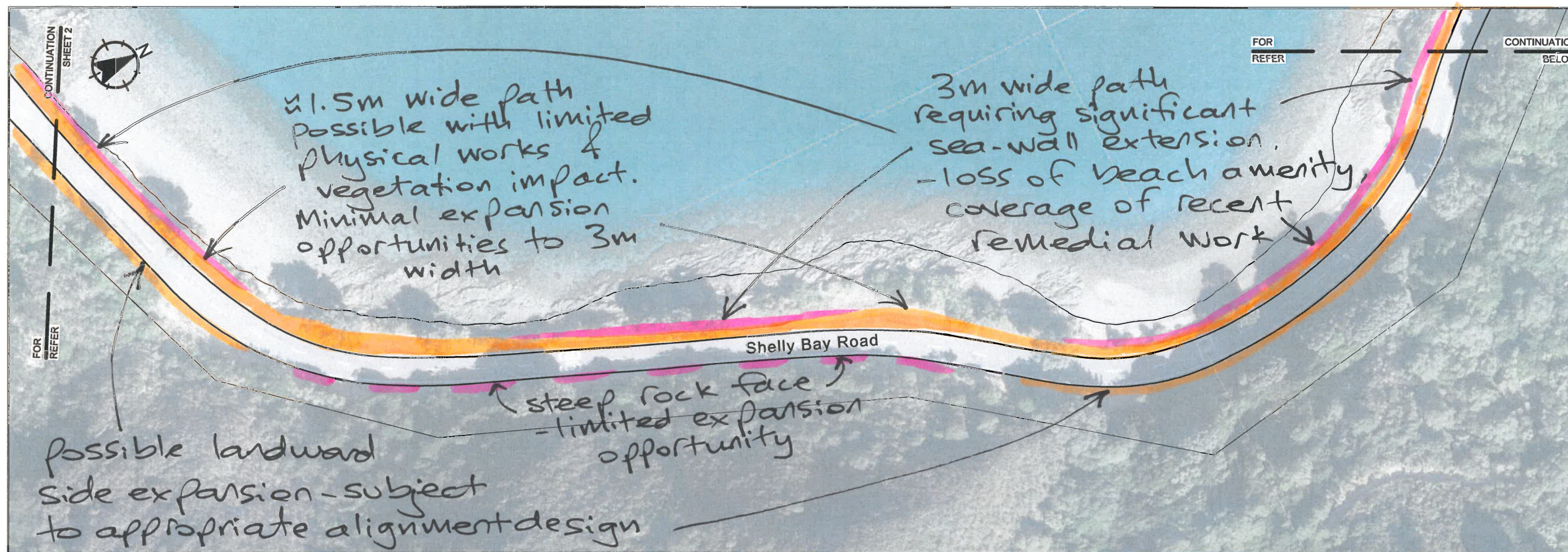
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SHEET 3**

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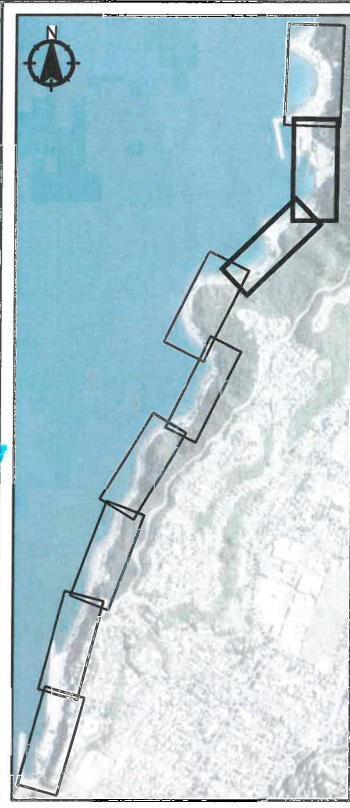
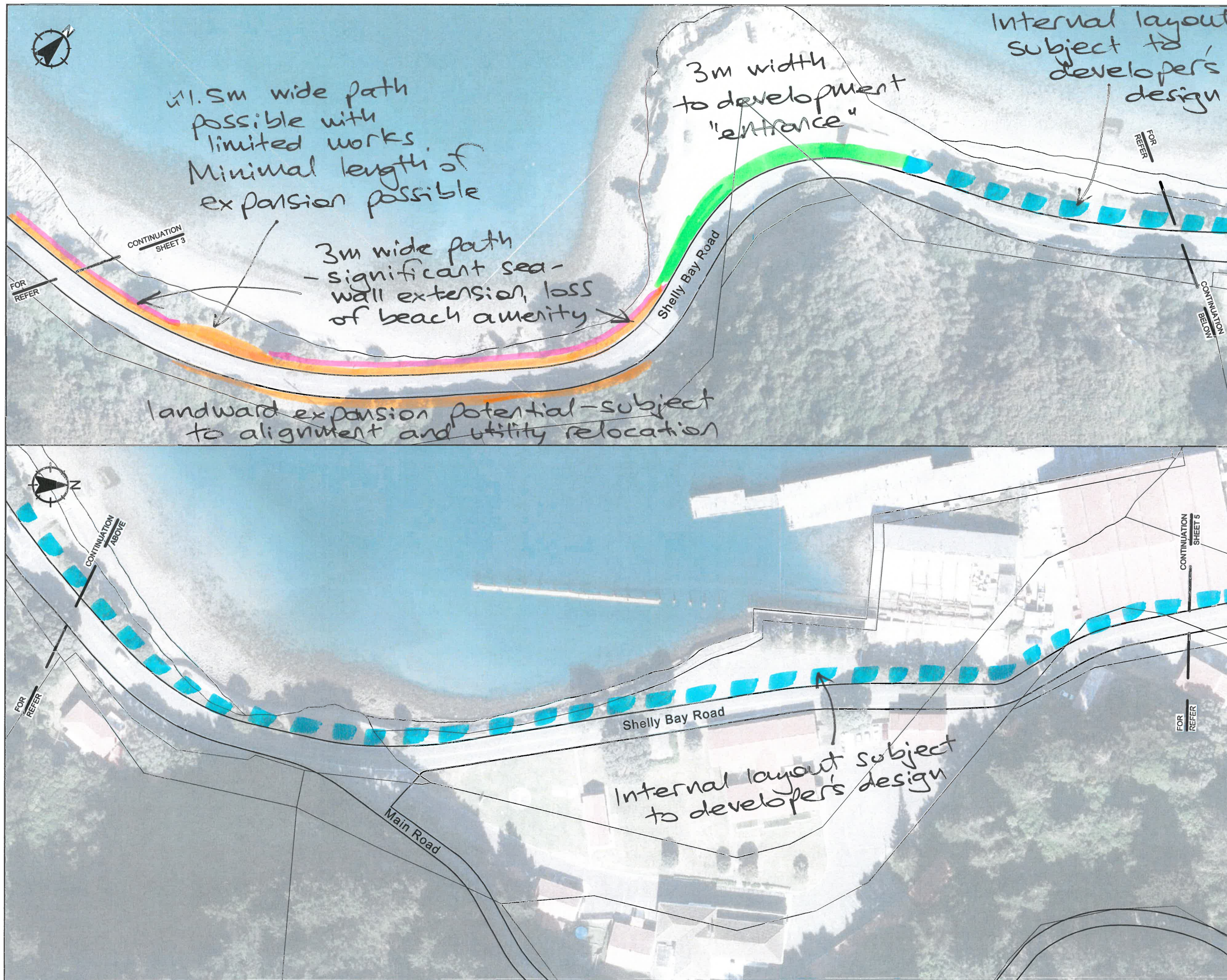


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