

TECHNICAL NOTE

Project Title	SUNSHINE COAST AIRPORT - AIRPORT NORTH MASTER PLAN
Document Title	TECHNICAL REPORT - ELECTRICAL AND TELECOMMUNICATIONS
Revision	Rev B
Issue Date	26 AUGUST 2026
Prepared By	C.LITTLETON B.GRANT



1.0 Introduction

This service report has been prepared in order to provide guidance to the proposed electrical and telecommunications infrastructure provisioning for the Sunshine Coast Airport – Airport North Precinct Master Plan (PMP). This technical summary should be read in conjunction with all other relevant PMP material as referenced or otherwise relevant to the works.

This report will summarise:

- Electrical services considerations, related works and proposed servicing intent. This will be limited to high voltage (HV) network reticulation throughout the precinct, with site-based low voltage (LV) connections to be addressed on a site-specific basis as part of the detailed design of each site.
- Carrier telecommunications provisioning intent.
- Whilst not specifically required under the PMP, this report will also provide a level of guidance / direction for key roadway lighting elements (to be read in conjunction with the associated Lighting Management Plan for the precinct).

The assessment has been based on information provided as part of the broader master planning activities being undertaken for the North Precinct, including:

- RPS 422608 SCA Airport North – Draft UD Plans 25.08.26
- RPS 422608 SCA Airport North Cross Sections

In addition to current master planning works, considerations have also been adapted from previous technical analysis undertaken on this site, together with current parallel/associated works elements including:

- Gateway Precinct Master Plan
- Proposed dedicated HV feeder works
 - Energex Connection Planning Report: Sunshine Coast Airport – Dedicated 11kV (WR8013078)
 - Electro Technical Consultants SCA HV Consumer Concept Drawings (K5447-1)
 - Electro Technical Consultants SCA Concept Design – Internal HV Network (K5675-1)
- Proposed terminal upgrade works
 - Project Horizon
- Previous technical reports
 - Architectus C05_REPT_SCA_GPC - Concept Master Plan Design Report
 - Stantec Engineering Services Report
 - Jacobs Airport Masterplan Investigations Report
 - SCA demand assessment Load Estimates (May V August)

Information contained within this summary report is intended to be used as a guideline for master planning purposes. Specific technical requirements associated with particular development sites and facilities are expected to be refined as part of detailed planning and design for those sites/facilities.

2.0 Electrical Servicing Strategy

2.1 Overview

The electrical servicing strategy has been derived from the following:

- Demand analysis of the proposed sub-precincts based on anticipated land use and allocated land areas developed under the PMP.
- Alignment with the broader intent of the Energex HV customer transition program and associated 11kV feeder upgrade. This program will establish an internal private HV network owned, operated and maintained by Sunshine Coast Airport (SCA) in accordance with Australian Energy Regulator (AER) requirements.
- Consideration of standard alignments and standard reticulation provisions to allow for coordination with other services elements and future flexibility, including interfaces with Gateway Precinct Master Plan.

2.2 Demand Assessment

The methodology for demand analysis is consistent with previous assessment undertaken as part of the Gateway Precinct Master Plan, with guidance from AS/NZS 3000 Appendix C. Assessment for the Airport North Precinct has been undertaken with respect to the most current structures and yield assumptions, determined via typical loadings over the proposed gross floor area. Resultant maximum demands are shown in Table 1, grouped within their expected sub-precincts and sites.

Table 1. Revised Airport North Precinct Maximum Demand

Sub-Precinct	Site	Land Use	kVA
Tourism & Accommodation	A1	Resort Complex	900
		Function Facility	232
		Hotel, Bar, Food & Drink Outlet, Shop	45
	A2	Short Term Accommodation	900
		Bar, Food & Drink Outlet, Shop	125
	A3	Bar, Food & Drink Outlet, Function Facility, Hotel	230
	A4	Multiple Dwelling	875
Mixed Use	B1	Bar, Food & Drink Outlet	78
		Shop, Market	
		Office	54
		Civic Plaza	50
	B2	Bar, Food & Drink Outlet	112
		Shop, Market, Showroom	
		Health Care Services, Office	
		Indoor Sports & Recreation	
	B3	Children's Playcentre, Gym	161
		Bar, Food & Drink Outlet	
		Health Care Services, Office	
		Shop, Market, Showroom	
Employment	C1	Low Impact Industry	758
	C2	Low Impact Industry	1275
Total			5795

Notes:

- 1) Sub-precincts and associated area allocations have been derived from RPS SCA Airport North – Draft UD Plans
- 2) Estimated demands have been derived per the *energy demand method for non-domestic installations* as defined in AS/NZS 3000 Appendix C3, based upon sub-precincts and land use within the precinct. Values have been adjusted where applicable to account for assumed facility type and system provisioning and further refined with respect to expected loadings from Energex Joint Supply and Planning Manual.
- 3) Electrical demand associated with road lighting and other miscellaneous site power (eg. CCTV etc) has not been included in the table above as overall loading is expected to have negligible impact on precinct-wide electrical infrastructure.
- 4) The provision of EV charging has not been assessed for any site within the precinct. Specific impacts associated with EV charging will need to be reviewed on a site-by-site basis as part of detailed design activities.

The maximum demand presented in Table 1 is consistent with the previous technical study undertaken on the Gateway Precinct, revised with regards to expected land usage and area allocations within the Airport North Precinct. Further refinement and analysis of demand is recommended as progression of detailed design is undertaken for the precinct..

There is an opportunity for roof mounted PV and BESS installations throughout the Airport North Precinct. The extent and capacity for embedded generation will require coordination with both the expected structures, as well as existing and planned generation within the Gateway and other precincts to ensure aggregate generation is compliant with the supply authority.

2.3 Associated Works

Concurrent upgrade works (at varying stages of completion) are being undertaken across the airport site, with the following specific works having direct implications for the proposed electrical servicing strategy for the Airport North Precinct:

- High Voltage (HV) customer transition. Existing HV network infrastructure across the airport is currently being transitioned to SCA ownership under a HV customer servicing arrangement with Energex. In addition to this asset transition, the following works are also being undertaken:
 - Establishment of a new dedicated 11kV Energex feeder dedicated to the airport site.
 - Construction of a new HV switchroom to act as a HV distribution hub for current and future proposed development across the site.

Planning and design for these activities are currently being undertaken by Electro Technical Consultants (contestable works elements) and Energex (non-contestable works elements). Preliminary design information and Energex reporting has been made available for coordination with master planning works.

- Gateway Precinct delivery. Planning and design for the delivery of the Gateway Precinct has begun with the development of the HV transition works package within the area. Design of LV works is yet to begin, however the details and arrangement is expected to align with the previous investigation and technical analysis undertaken by Webb Australia. It is understood that the broad HV works largely correspond with the details outlined in Webbs technical report, however changes throughout the delivery phase will need to be accounted for to ensure coordination with the Airport North Precinct.
- Project Horizon terminal expansion. This project intends to upgrade and expand the existing terminal facilities. Available information regarding terminal expansion works is outlined within the Project Horizon documentation.

These associated works are being undertaken by SCA concurrently with the master planning for the Gateway Precinct. Available design information has been considered in this service report; however future detailed design of

master plan elements will need to factor in the relevant status of the associated works package at the time of design and adjust requirements to suit any changes as relevant.

2.4 Airport North Precinct Servicing Strategy

The servicing strategy for the Airport North Precinct aligns with the HV distribution intent proposed as part of the Gateway Precinct Master Plan. Extension of the ring main established in the north eastern corner of the Gateway is proposed to be undertaken to service Airport North, with additional padmount transformers situated at key sub-precincts within. The transition to HV customer and commissioning of initial feeder is expected to be complete prior to the development of Airport North. The integration of an additional dedicated 11kV feeder to the SCA Intake switchroom will be critical to the servicing of expected loads within Airport North. The indicative schematic provided in Figure 1 demonstrates the proposed servicing intent, highlighting the extension of the Gateway ring mains and inclusion of secondary feeder to service loads in the Airport North Precinct.

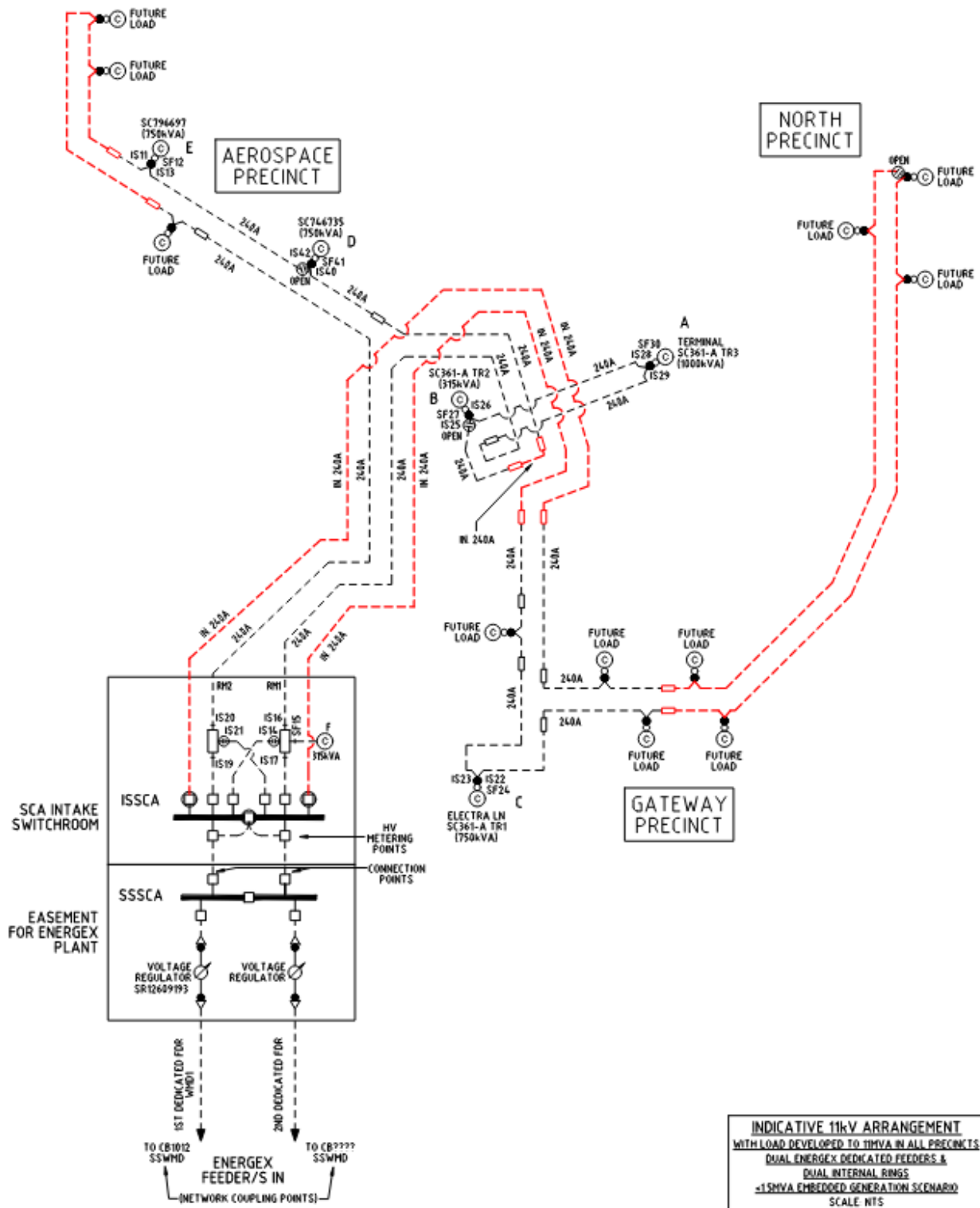


Figure 1. 11kV Schematic – Loading of Airport North, Gateway and Aerospace fully developed
Source: SCA Concept Design – Internal HV Network (K5675-1)

Preliminary transformer allocation has been undertaken to align with anticipated demand profiles associated with nominated sites within the Airport North Precinct. It is recommended that the final location and sizing of transformers be coordinated through detailed design, based on final land use mixes established for each lot. Nominal padmount transformer capacities and groupings with respect to sites are shown in Table 2, with concept drawings provided in Appendix A. It should be noted that transformer provisioning is currently based around square-type padmount transformers. Internal chamber substations could be considered to suit the nature of the particular development.

Table 2. Nominal Transformer Provisioning

Site	Proposed Transformer Sizing (kVA)
A1	1,000
A2	500
A3	1,000
A4	1,000
B1	315
B2	315
B3	1,000
C1	2x 750
C2	3x 750

Underground reticulation is proposed as an extension to the existing infrastructure within the Gateway. The provisioning, arrangement and installation of the extension is to be per Electro Technical Consultants K5675-1 concept drawings (refer Figure 2). Final confirmation of the underground infrastructure arrangement installed as part of the Gateway delivery should be sought as this project progresses through detailed design, to ensure coordination between precincts.

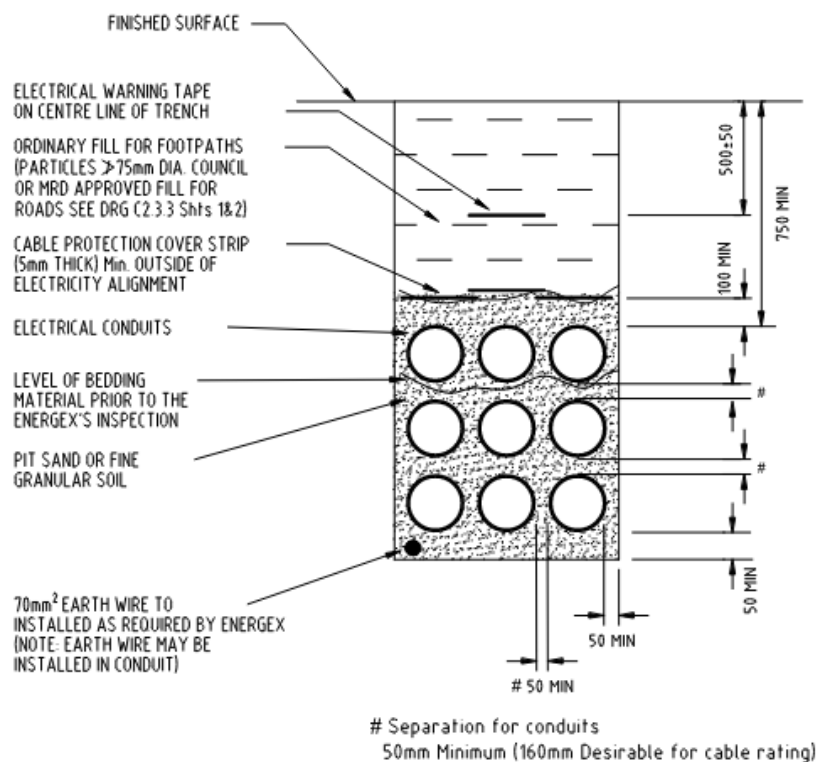


Figure 2. Proposed Trench Profile

Source: SCA Concept Design – Internal HV Network (K5675-1)

2.5 Service Corridor / Alignment

Servicing of the precinct is proposed to consist of three corridors:

- Interconnecting corridor between the existing Gateway Precinct and the Airport North Precinct
- Stage 1 corridor servicing the northern section of the Airport North Precinct
- Stage 2 corridor servicing the southern section of the Airport North Precinct

The alignment of the interconnecting corridor is proposed to occupy the eastern edge of the western drain. Figure 3 below shows the approximate location of the corridor with reference to the surrounding landscape.

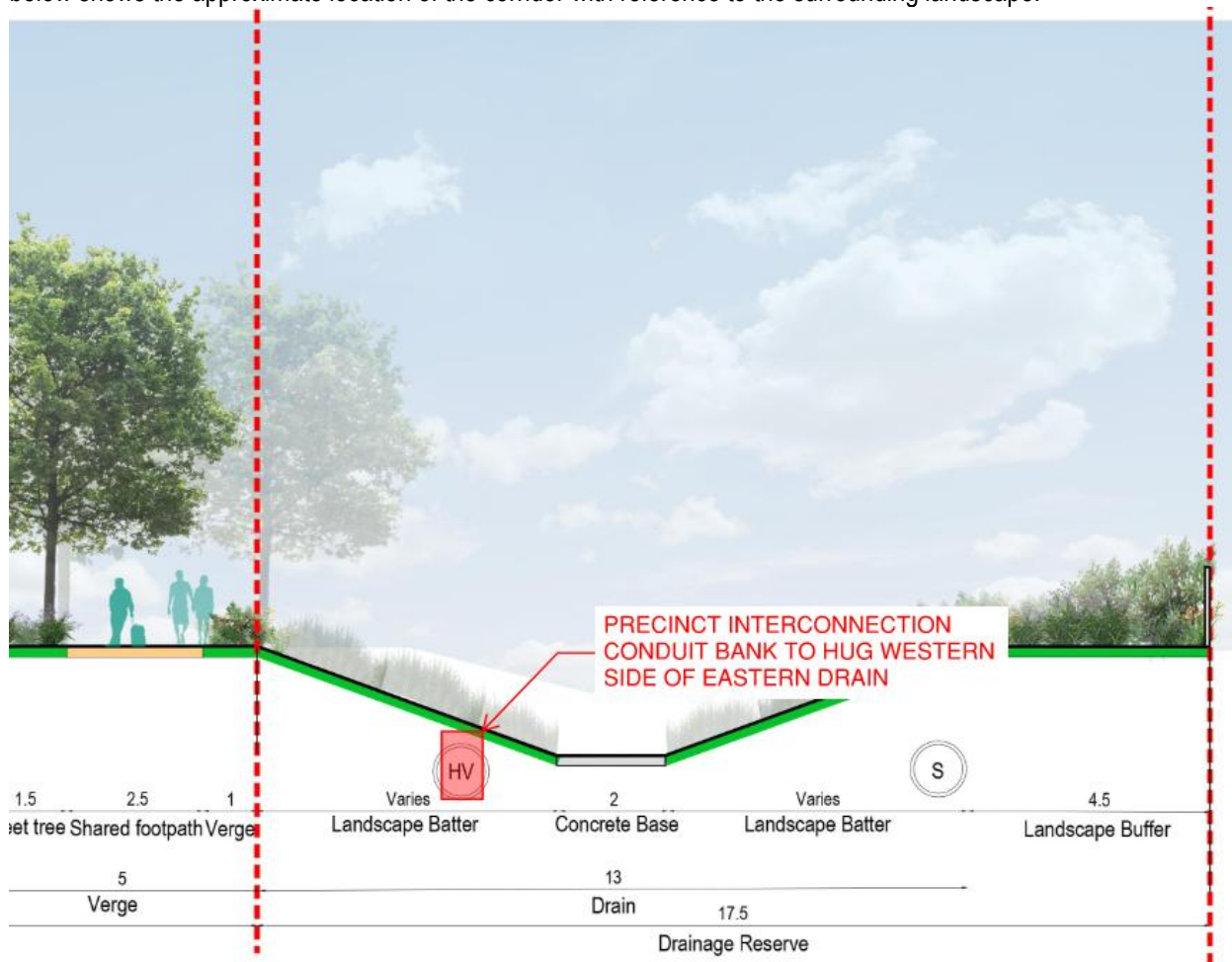


Figure 3. Proposed Interconnecting Corridor Alignment

Source: RPS 422608 SCA Airport North Cross Sections AA

Conduit installations for stage 1 and 2 are proposed to be generally in accordance with the standard alignments outlined in IPWEAQ typical service corridors (RS-100 and RS-101). Figure 4 shows the nominated corridor alignments throughout the stage 1 and 2 sections of the Airport North Precinct.

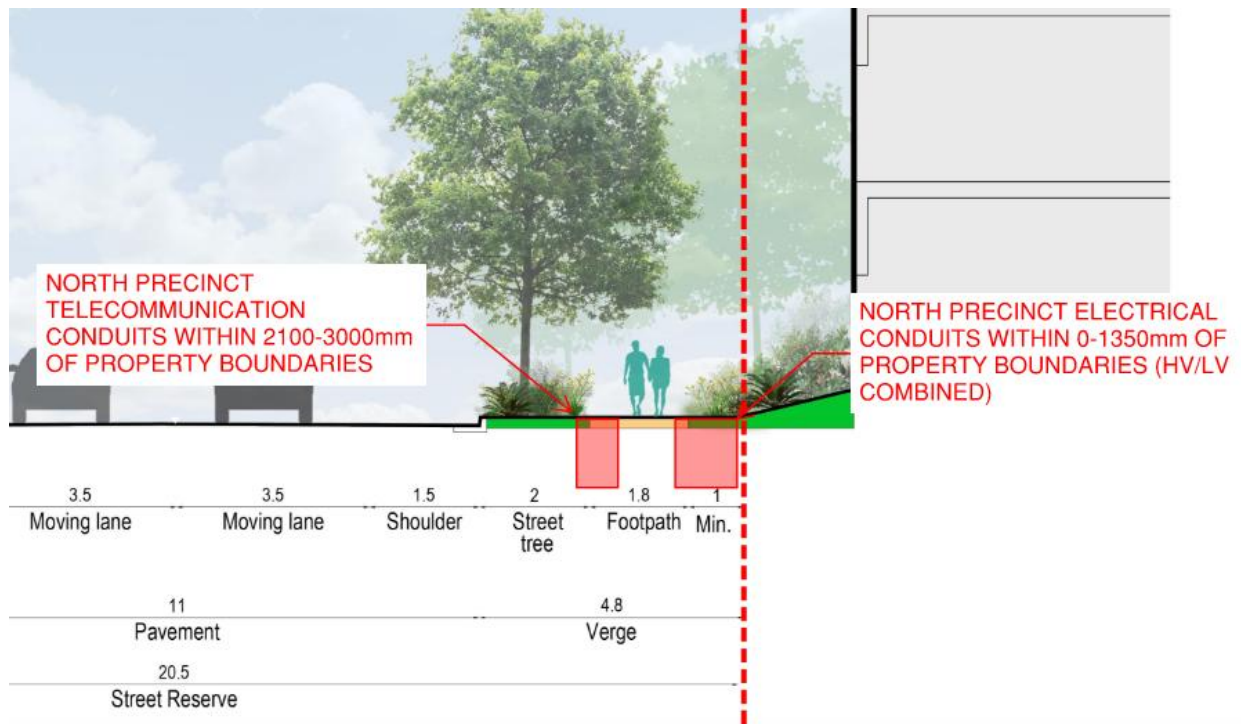


Figure 4. Proposed Stage 1 and 2 Corridor Alignments
Source: RPS 422608 SCA Airport North Cross Sections CC

Indicative routes for proposed conduit banks are shown in the concept drawings in Appendix A.

2.6 LV Reticulation

Spatial coordination of the HV infrastructure has been undertaken with intention to limit the scale of required LV distribution as much as practical. LV distribution itself will be supported through the installation of master switchboards and local LV pillars, where required.

3.0 Roadway Lighting

Roadway lighting throughout the precinct is proposed to be privately owned and maintained infrastructure, serviced by the local LV network. Lighting is intended to be designed in accordance with AS/NZS 3000, the AS/NZS 1158 suite of standards and the Lighting Management Plan. Pole selections are to be coordinated with selections made within the Gateway Precinct to preserve continuity – to be streamlined, architectural poles with black finish.

4.0 Telecommunications Servicing Strategy

New telecommunications services proposed within the Airport North Precinct include the following:

- Carrier provisioning:
 - NBN (or similar) pit and conduit provisions. To be installed in accordance with NBN guidelines.
 - Sunshine Coast Council pit and conduit provisions to facilitate Council carrier service provisions as an alternative to NBN. Council provisioning is intended to be implemented in accordance with the Sunshine Coast Smart Infrastructure Manual.
- Private capability provisioning for the purposes of internal smart cities deployment, CCTV, etc.

Corridors and alignments for telecommunications conduits are proposed to match HV servicing as per section 2.5. The interconnecting corridor is to be aligned with the interconnecting HV, adjacent to the eastern side of the western drain.

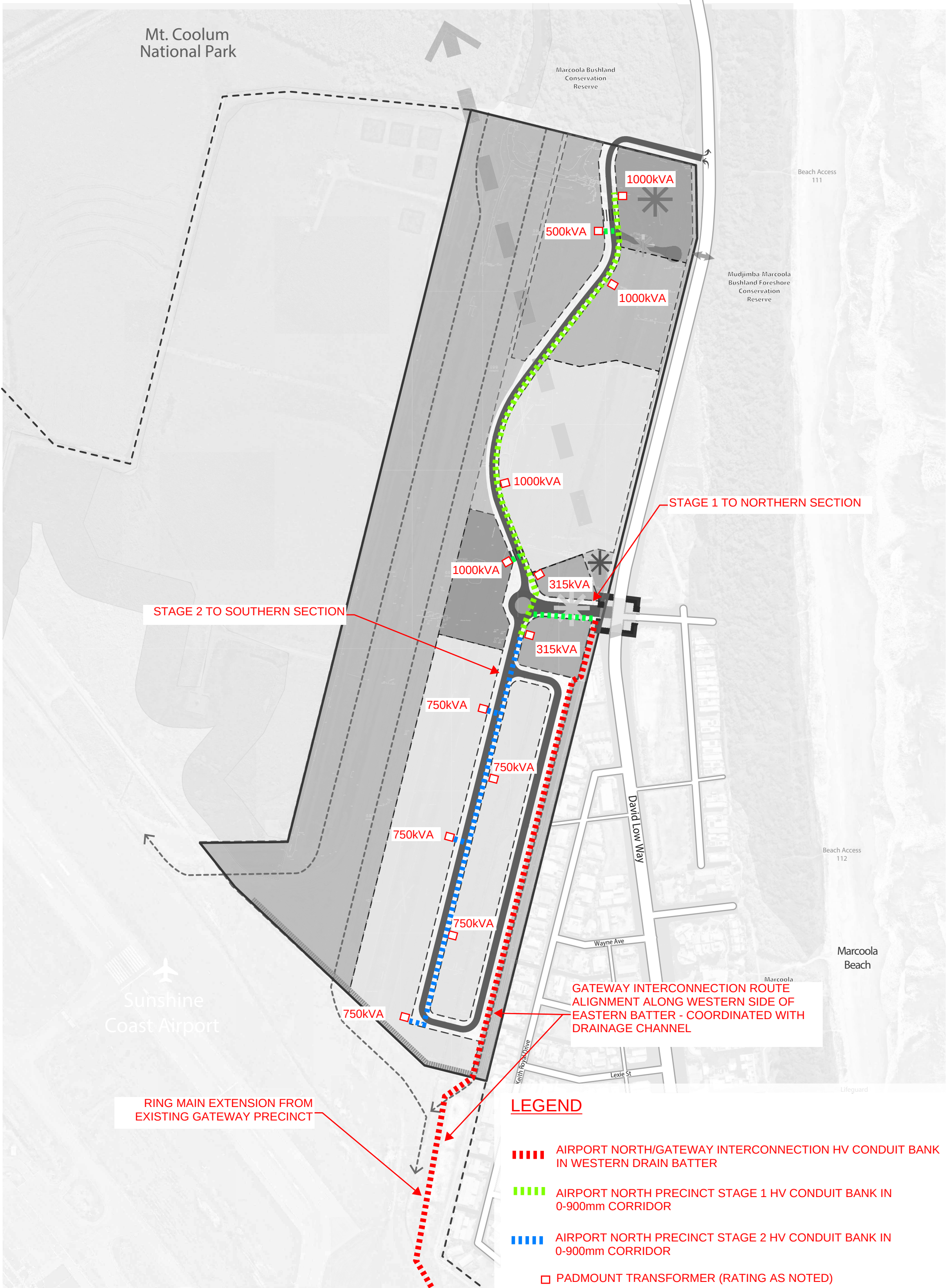
Nominal alignment of telecommunication services through stage 1 and 2 is similarly proposed to adhere to IPWEAQ typical service corridors, to be coordinated with adjacent services during detailed design. Figure 4 in section 2.5 shows the telecommunications alignment with regards to the surrounding landscape and HV conduits.

A secondary NBN lead in is proposed to meet the northern most section of the interconnecting corridor, providing redundancy from David Low Way to the east of Airport North.

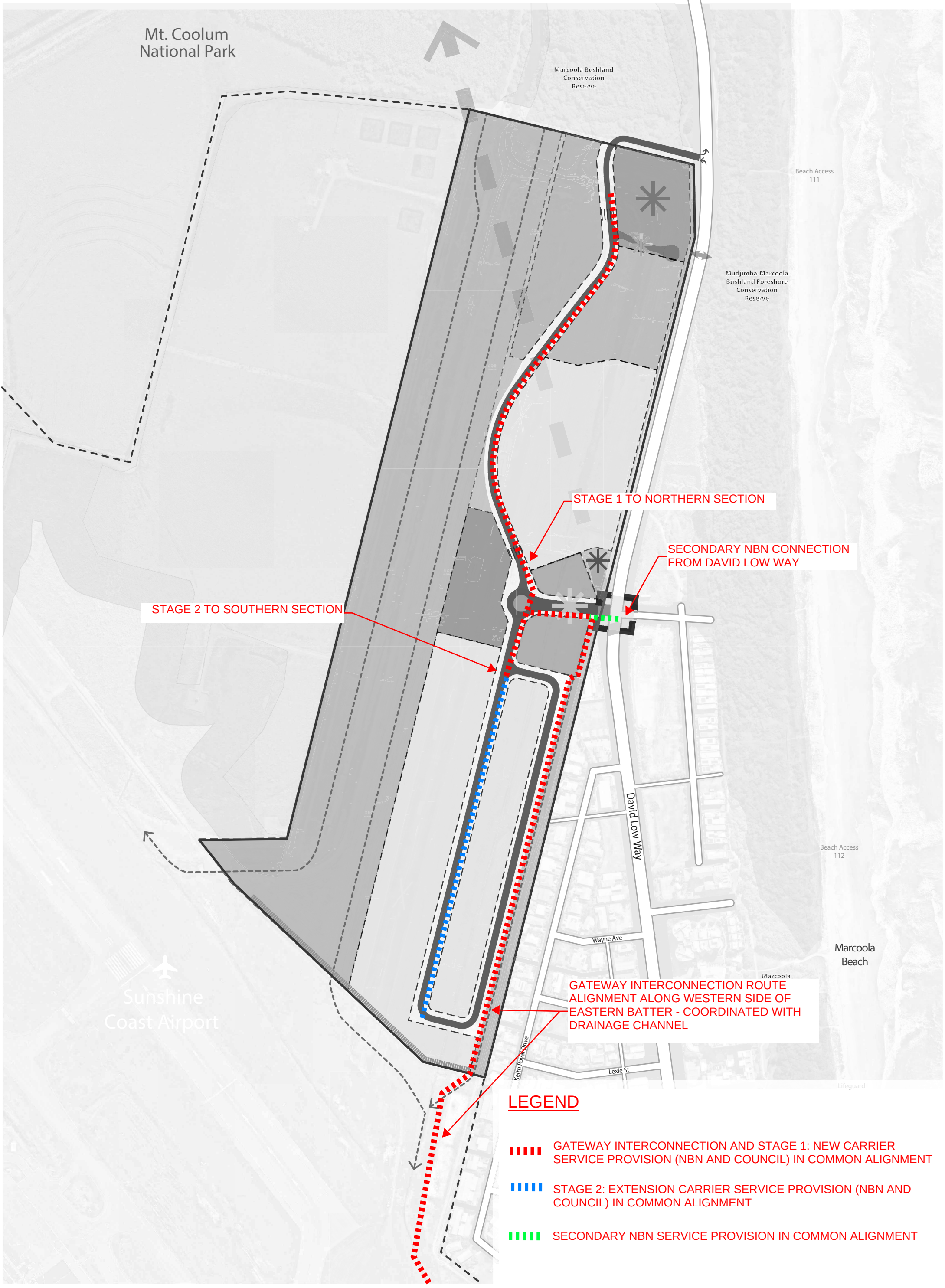
Proposed telecommunications servicing routes can be seen in Appendix B.

5.0 Appendices

- A) SCA Airport North Concept HV Markup
- B) SCA Airport North Concept Communications Markup



CONCEPT ELECTRICAL RETICULATION AIRPORT NORTH



CONCEPT TELECOMMUNICATIONS RETICULATION AIRPORT NORTH

WEBB AUSTRALIA GROUP (QLD) PTY LTD ABN 30 010 733 561
sunshinecoast@webbaustralia.com.au
www.webbaustralia.com.au
CAPITAL ONE COMPLEX, SUITE 13A 9 CAPITAL PLACE BIRTINYA QLD 4575 AUSTRALIA
T +61 7 5438 8800 F +61 7 3870 4100

Copyright © 2018 Webb Australia Group (Qld) Pty Ltd. All rights reserved.
This specification may not be reproduced or transmitted in any
form or by any means in part or in whole without written permission of
Webb Australia Group (Qld) Pty Ltd ABN 30 010 733 561.

REVISION HISTORY

REV	DESCRIPTION	BY	DATE
A	Draft	B.G C.L	29.06.26
B	Final	B.G C.L	26.08.26