

Introduction

Central Coast Council (CCC) is proposing to build an extension to the existing walking trail at Terrigal Lagoon (the Proposal).

CCC have investigated multiple design options for the Proposal in order to determine the most appropriate location for the walking trail, have consulted with the community with round 1 consultation to understand community expectations of the proposal and have carried out a suite of preliminary environmental assessments to ensure impacts on the environment are minimised. This letter provides a summary of how the concept design prepared by BG&E (2020), was developed throughout this process. The concept design is provided in Attachment A.

Background

Terrigal Lagoon is situated in the Central Coast region of NSW just over 500 m from the coastline. The suburb of Terrigal itself is approximately 50 km north of Sydney. An existing walking trail is located on the southern side of Terrigal Lagoon near the Central Coast Marine Discovery Centre (CCMDC) and extends north via road bridge over Willoughby Road and west along the northern bank of Terrigal Lagoon before terminating near the most northern tributary of the lagoon.

In 2017, the CCMDC approached CCC to seek support and funding for a walking trail, boardwalk and Waterwatch platform at Terrigal Lagoon. The CCMDC is located next to the south bank of Terrigal Lagoon off Terrigal Drive and is a popular educational and tourism facility on the Central Coast.

The proposal forms part of a larger grant funding application under the RestartNSW program that included an upgrade of the CCMDC. CCC has a separate funding agreement for the provision of the walking trail around the lagoon with a combination of funding from RestartNSW and from Council's own internal budget.

Need for the proposal

There are currently some existing walking trail sections around Terrigal Lagoon, mostly on the southern and northern side of the Lagoon. The proposal would provide additional recreational benefits for the users of the walking trail by providing an upgraded, longer trail which would offer a closed circuit.

The upgrade of the existing trail would also assist in improving accessibility for users. Accessibility considerations (for example, track width and surface, gradient, wayfinding signage and connectivity between amenities) have been incorporated as an important feature into the design of the walking trail.

Overall, the proposal would provide multiple social, health and wellbeing benefits, as well as educational, nature-based tourism and job opportunities.

Description of walking trail

The proposed walking trail consists of the following key elements:

- Construction in five stages as shown in Attachment A, subject to funding
 - Stage 1, 2, 4, 5 involves new trail
 - Stage 3 involves upgrade of existing trail.
- Up to two bridge crossings with the following indicative dimensions
 - Northern bridge spanning 10 m (option for bridge or culvert crossing to be refined in detailed design)
 - Southern bridge spanning 35 m.
- Water watch platform near CCMDC (indicative dimensions 10 m by 5 m)
- Potential viewing platform off the main trail located near the southern bridge.

Environmental legislation

The proposal would be assessed in a future Development Application (DA) under Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act), to be supported by an Environmental Impact Statement (EIS).

The proposal traverses land mapped as Coastal Wetlands and Coastal Wetlands Proximity Area under the State Environmental Planning Policy (Coastal Management) 2018 (Coastal Management SEPP). As such, the proposal is classified as Designated Development pursuant to the provisions of Coastal Management SEPP. The Proposal also requires concurrent approval under the NSW *Water Management Act 2000* (WM Act) and the NSW *Fisheries Management Act 1994* (FM Act).

The Planning Secretary's Environmental Assessment Requirements (SEARs) (SEARs number 1448) were issued on 14 May 2020.

Preliminary investigation

CCC identified two initial walking trail options for assessment. Both options traverse land mapped as Coastal Wetlands and Coastal Wetlands Proximity Area under the Coastal Management SEPP. The key elements of the two initial walking trail options are summarised in Table 1.

Table 1 Summary of option characteristics

	Option 1	Option 2
Length	1.5 km	0.86 km
Installation	Primarily land-based trail	Combination of land-based and water-based
Number of proposed bridges	2	2
Number of proposed viewing platforms	1	1

CCC engaged NGH to prepare a Preliminary Assessment (PA) report (NGH, 2020) to provide an assessment of the environmental constraints associated with the two initial walking trail options. The PA report considered the following assessments for both options:

- Biodiversity assessment
- Accessibility assessment
- Crime Prevention Through Environmental Design
- Desktop geotechnical study
- Land survey
- Quantity surveyor
- Engineering assessment
- Marine assessment.

Constraints identified

For Option 1, the following key constraints were identified:

- Based on the engineering assessment, Option 1 requires additional bridge/board walk areas, compared to those originally indicated on CCC's alignment
- From the results of the biodiversity assessment, Option 1 would incur a greater area and length of terrestrial biodiversity impact as it is predominantly land based.

For Option 2, the following key constraints were identified:

- Based on the marine assessment, Option 2 would incur greater offset costs due to the presence of mangroves
- The boardwalk (water based) component of Option 2 is very expensive to build based on engineering input and cost estimate, and the construction methodology is more complex.

Based on the assessment outcomes of the PA report, NGH recommended that a predominantly land-based option be selected. In this regard, Option 1 was recommended in favour of Option 2 due to the following:

- Avoidance of mangrove vegetation along the edge of lagoon and in the waterway
- Construction and maintenance costs
- Maximise enjoyment of users due to increased length of trail
- Opportunities for revegetation adjacent to the track post-construction.

NGH also recommended that CCC consider investigating a third option which would require less bridges than Option 1, and less boardwalk length than Option 2. Such an option would result in a reduced cost outcome and avoid localised impact to areas of mangrove vegetation. This approach would offer future users of the walking trail a suitable outcome, where users would be granted access to both the forested walkway and to views of the Terrigal Lagoon, while still maximising enjoyment and appeal to the community.

Alternate option

CCC began investigating Option 3 (the proposed concept design) based on the outcomes of the assessment and recommendations provided in the PA report. The alignment of the proposed walking trail in Option 3 avoids mangroves and has been designed to minimise terrestrial biodiversity impacts. Placement of the proposed bridges have been strategically placed, upon consideration of existing site constraints.

As indicated in the concept design, the walking trail may be constructed in stages subject to funding. The stages may not be completed in numerical order.

Outcome

Based on the outcomes of the PA report and consideration of Option 3, CCC is progressing Option 3 as the proposed concept design for the walking trail. The proposal is anticipated to provide positive benefits such as job opportunities during construction, educational benefits through the water watch platform for the CCMDC, being a nature based tourism drawcard for the Central Coast and being an upgraded recreational area for exercise and leisure.

Current status

CCC invites feedback on the concept design (Option 3) by the community. The community are invited to fill out the online feedback form. All feedback would be reviewed by CCC prior to progressing the concept design to final design.

Once in final design stage, the proposal would be subject to a DA under Part 4 of the EP&A Act and further assessed by an EIS.

Attachment A – Concept design



- LEGEND**
- EXISTING TRACK
 - PROPOSED TRACK
 - EXISTING CHANNEL
 - EXISTING DRAINAGE
 - PROPOSED BOARDWALK
 - (A) ACCESS
 - (X) TREES WITH TRUNK DIA > 300mm WITHIN 20m OF ROUTE

NOTE:
STAGES MAY NOT BE COMPLETED IN NUMERICAL ORDER. ALL STAGES ARE SUBJECT TO PENDING AVAILABLE FUNDING.

PLAN
SCALE 1:1000

IMAGE COURTESY OF NEARMAP, OCTOBER 2020

REV	DATE	DESCRIPTION	RVD	REV	DATE	DESCRIPTION	RVD
B	04.11.2020	ISSUE FOR CONCEPT DESIGN	BC				
A	30.10.2020	ISSUED FOR INFORMATION	BC				
REVISIONS							

CLIENT	PROJECT	TITLE

Newcastle Office
L1, 163 King St, Newcastle NSW 2300
P / +61 2 4902 3000
E / info@bgeeng.com
bgeeng.com



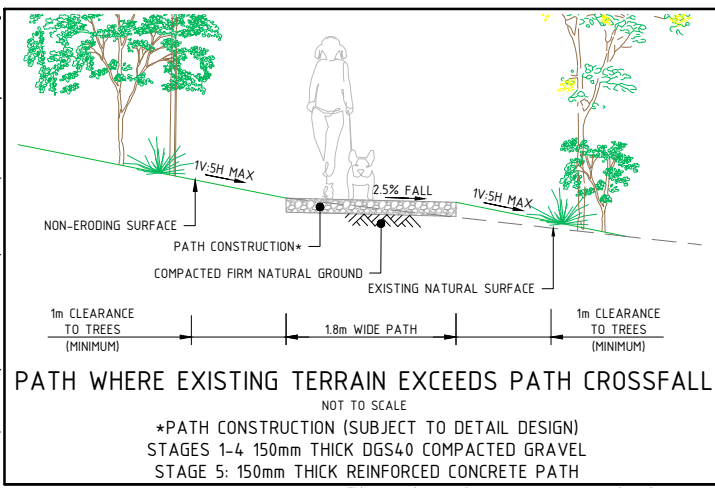
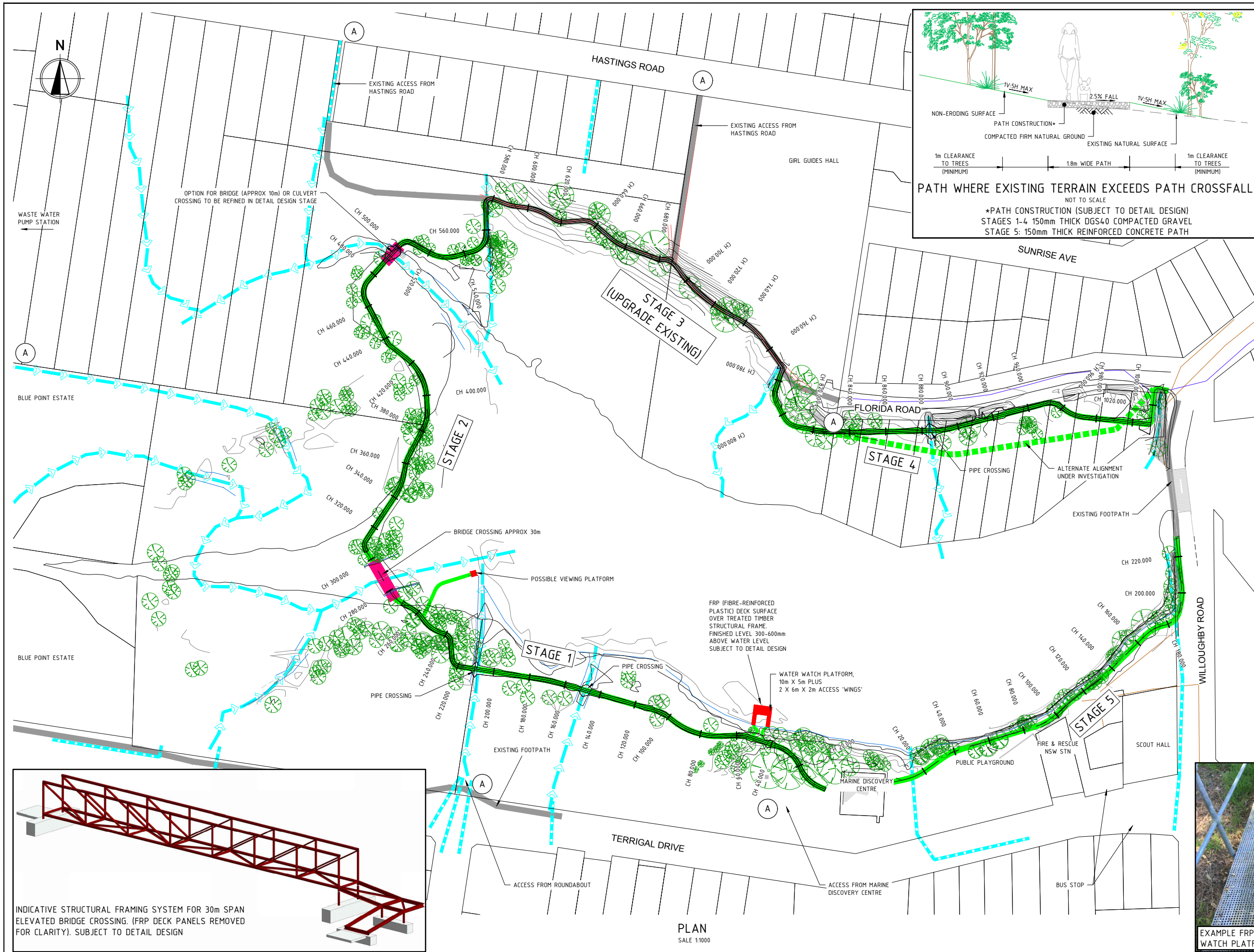
TERRIGAL LAGOON WALKING TRAIL
CONCEPT DESIGN

STATUS			
ISSUED FOR INFORMATION			
NOT TO BE USED FOR CONSTRUCTION			
DRAWN	DESIGNED	CHECKED	APPROVED
DOB	TS	BC	BC
DATUM	GRID	SCALE	
AHD	MGA-56	1:1000	

PROJECT No.		DRAWING No.		REV
N20084		C-0010		B

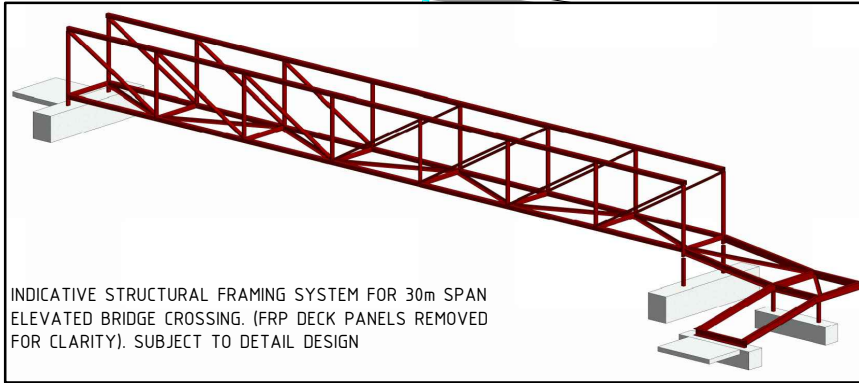
5/10/2020 2:25:54 PM

© BG&E Pty Limited



- LEGEND**
- EXISTING TRACK
 - PROPOSED TRACK
 - EXISTING CHANNEL
 - EXISTING DRAINAGE
 - PROPOSED BOARDWALK
 - (A) ACCESS
 - TREES WITH TRUNK DIA > 300mm WITHIN 20m OF ROUTE

NOTE:
STAGES MAY NOT BE COMPLETED IN NUMERICAL ORDER. ALL STAGES ARE SUBJECT TO PENDING AVAILABLE FUNDING.



PLAN
SCALE 1:1000

REV	DATE	DESCRIPTION	RVD
B	04.11.2020	ISSUE FOR CONCEPT DESIGN	BC
A	30.10.2020	ISSUED FOR INFORMATION	BC
REV	DATE	DESCRIPTION	RVD

REV	DATE	DESCRIPTION	RVD

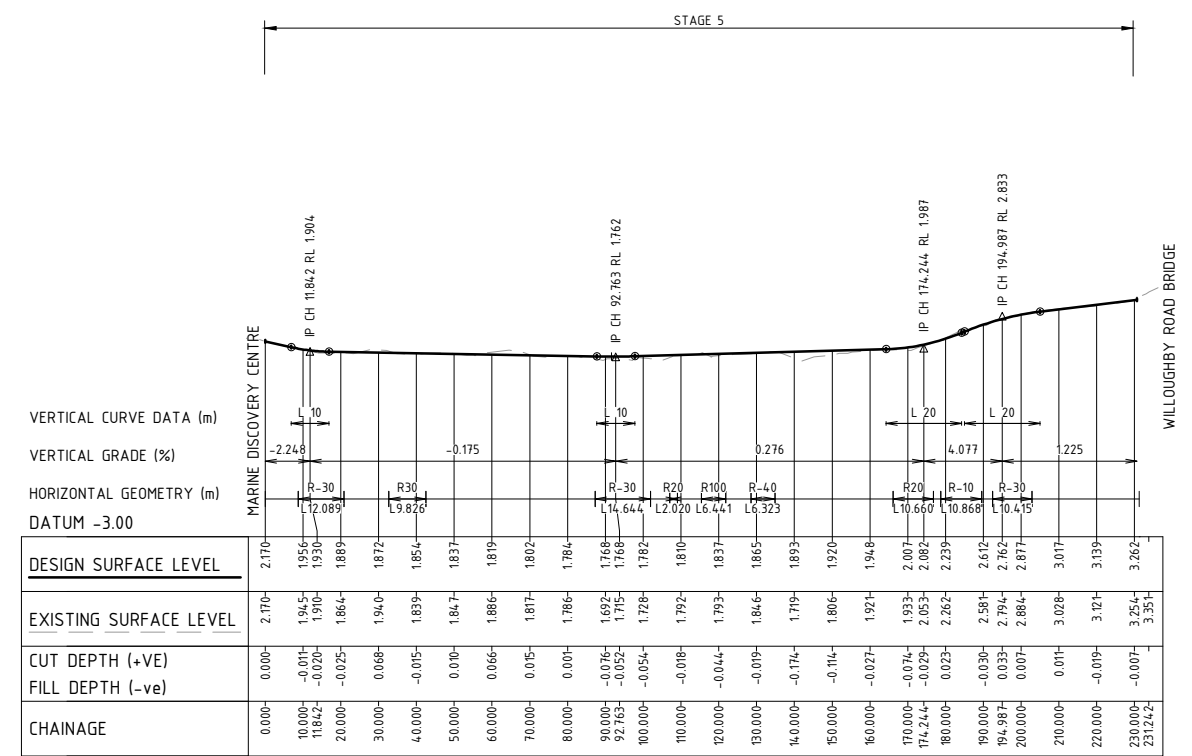
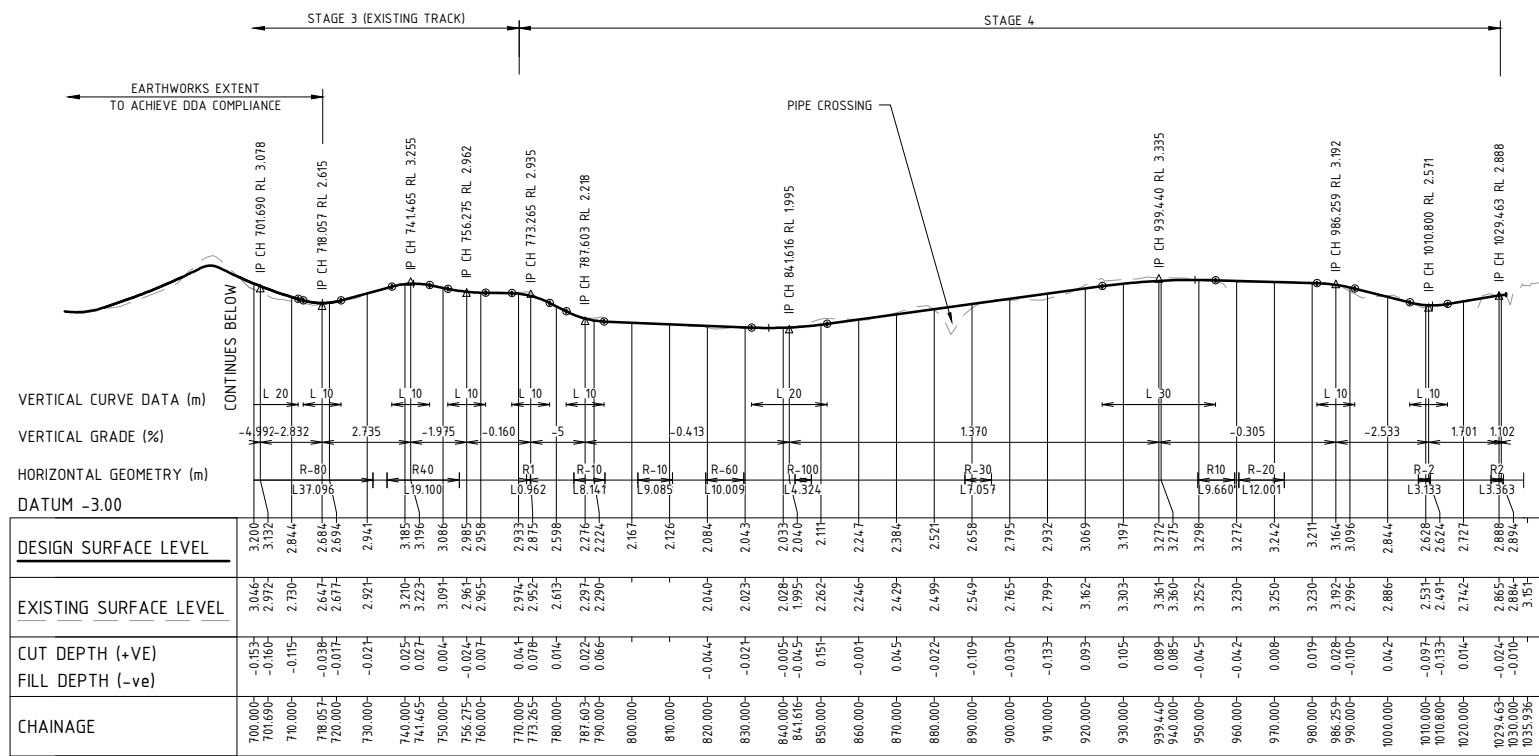
Newcastle Office
L1, 163 King St, Newcastle NSW 2300
P / +61 2 4902 3000
E / info@bgeeng.com
bgeeng.com



TERRIGAL LAGOON WALKING TRAIL
CONCEPT DESIGN

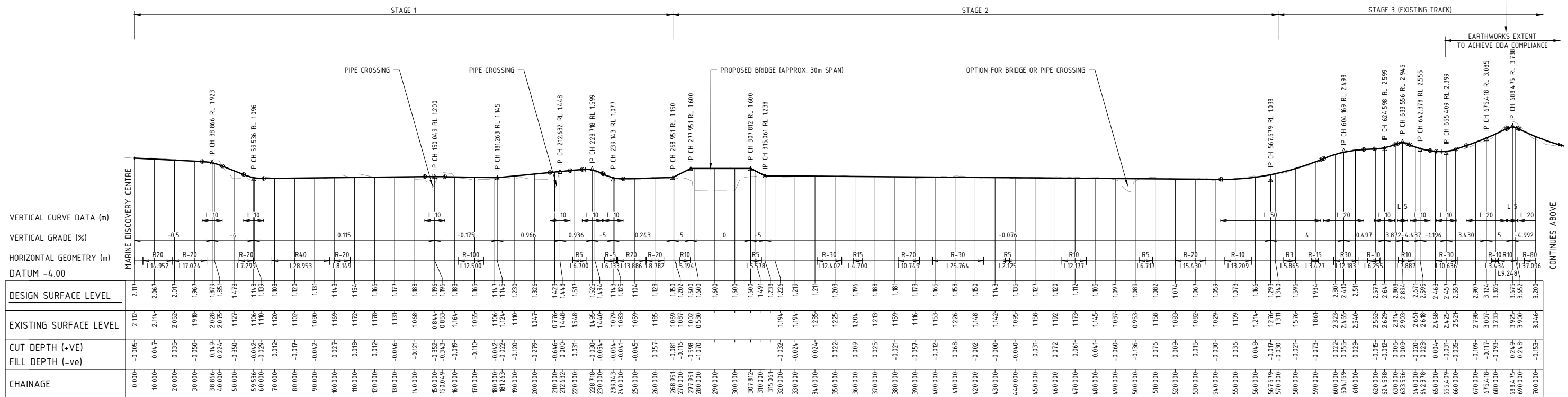
STATUS	ISSUED FOR INFORMATION
DESIGNED	BC
CHECKED	BC
APPROVED	BC
DATE	SCALE
AHD	MGA-56 1:1000

TITLE	SITE PLAN
PROJECT No.	N20084
DRAWING No.	C-0200
REV	B



LONGITUDINAL SECTION - TRACK CENTRE (CLOCKWISE DIRECTION)
SCALE HORIZ. 1:1000 VERT. 1:100

LONGITUDINAL SECTION - TRACK CENTRE (STAGE 5)
SCALE HORIZ. 1:1000 VERT. 1:100



LONGITUDINAL SECTION - TRACK CENTRE (CLOCKWISE DIRECTION)
SCALE HORIZ. 1:1000 VERT. 1:100

NOTE: EXISTING GRADES IN THIS SECTION UP TO 10% (1:10)

REV	DATE	DESCRIPTION	REV	DATE	DESCRIPTION
B	04.11.2020	ISSUE FOR CONCEPT DESIGN	BC		
A	30.10.2020	ISSUED FOR INFORMATION	BC		

REV	DATE	DESCRIPTION	REV	DATE	DESCRIPTION

REV	DATE	DESCRIPTION	REV	DATE	DESCRIPTION

Newcastle Office
L1, 163 King St, Newcastle NSW 2300
P / +61 2 4902 3000
E / info@bgeeng.com
bgeeng.com

BG & E
TERRIGAL LAGOON WALKING TRAIL
CONCEPT DESIGN

STATUS: ISSUED FOR INFORMATION
NOT TO BE USED FOR CONSTRUCTION

DRAWN	DESIGNED	CHECKED	APPROVED
DOB	TS	BC	BC

TITLE: LONGITUDINAL SECTIONS

PROJECT No.	DRAWING No.	REV
N20084	C-0240	B