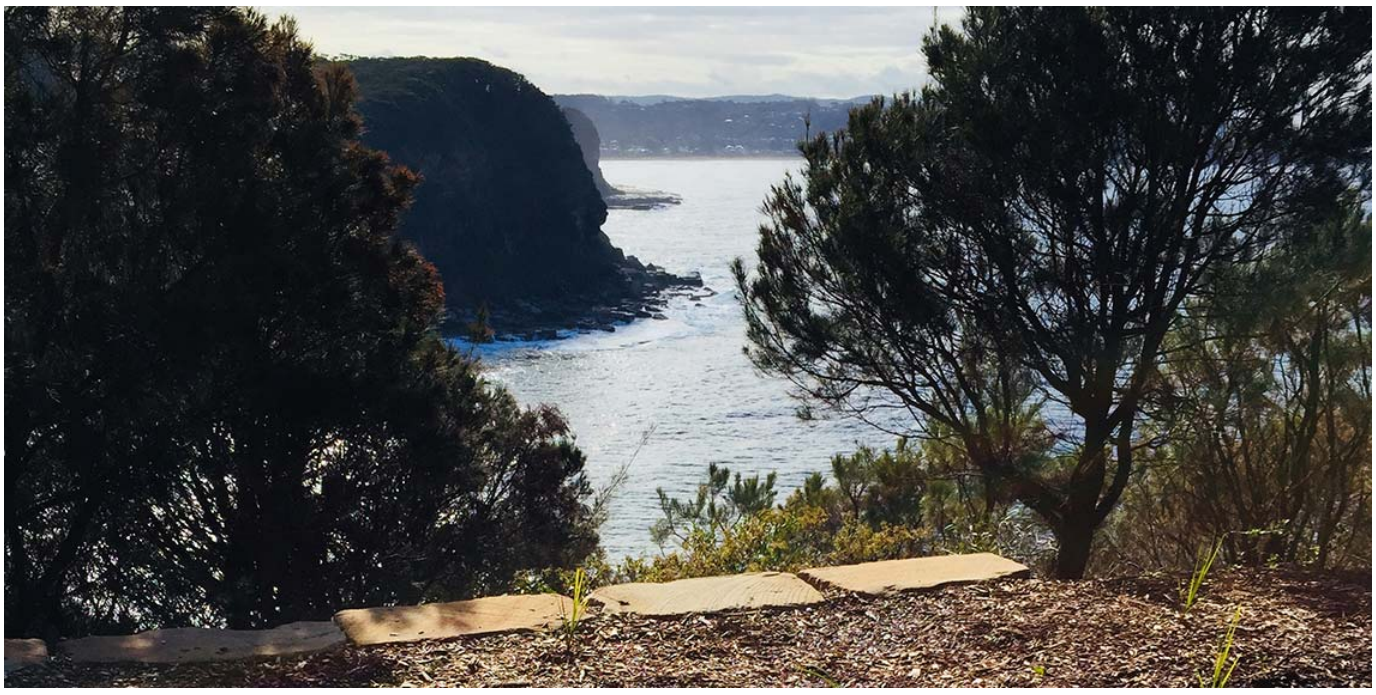
Winney Bay Cliff Top Walk Stage Two

CONSULTATION REPORT

November 2018



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Executive Summary

Following on from the information session held at the Copacabana Surf Club on, 12 April 2018 Central Coast Council sought further community feedback on Stage Two of the Winney Bay Cliff Top Walk proposal between 27 September and 22 October 2018.

Submissions were received online at yourvoiceourcoast.com via a survey and hand written survey forms which were provided at a drop-in information session on the 4 October 2018.

Community participation included:

- **447** stakeholders completed the online survey with a total of **1,349** separate comments.
- **5** formal (written) submissions were received during the consultation period.
- A petition with **600** signatures was also received.
- Over **100** community members attended the four hour drop-in information session in October.

Results of the survey:

- **53.2%** of respondents **support** the Stage Two Cliff Top Walk Proposal
- **56.3%** of respondents **support** the material selections for the Stage Two Cliff Top Walk Proposal
- **75.3%** of respondents **did not support** the inclusion of market stall sites in the Stage Two Cliff Top Walk Proposal
- **55.8%** of respondents **support** the inclusion of a bridge to achieve accessibility in the Stage Two Cliff Top Walk Proposal
- **57.8%** of respondents **support** the inclusion of a cliff top lookout in the Stage Two Cliff Top Walk Proposal

The key themes that were raised in submissions covered:

- Achieving an inclusive walkway for all ages and abilities to use.
- The environment should be considered during the construction of the project and the clearing of vegetation should be kept at a minimum.
- The removal of weeds and conducting bush regeneration is important for Winney Bay.

These comments have been grouped into themes and responses are provided to the key issues raised in this report.

A petition with 600 signatures was received during the consultation period – this petition called for:

- *Adequate consultation prior to any further development*

- *Remediation of the habitat that has been destroyed by the previous works (including local provenance vegetation and bush boxes for fauna)*
- *A current indigenous survey pertaining to the area of concern before any further work is considered.*

In response to this petition about the Winney Bay Cliff Top Walk - Our engagement activities reached more than 7,500 people, with 445 surveys completed and more than 100 face to face discussions undertaken. Council has reviewed the results of the survey and community submissions. A report on the results along with recommended changes as a result of community feedback will be given to Council.

Regarding the impacts of the project, all actions identified during the environmental and aboriginal heritage assessments will be incorporated into the final project plan.

Due to the large volume and variety of content contained within the submissions, not every comment was able to be included and responded to in this report however they have all been considered in the recommendations to be considered at a Council meeting.

Consultation outcomes

In response to feedback from the community about the Winney Bay Clifftop Walk a recommendation to be included in the report to a Council meeting will be for the:

- Review of the concept plans for Stage Two of the Winney Bay Cliff Top Walk that removes the elements identified as market stalls and detailed consideration of the key issues raised through the community consultation process including amelioration of potential environmental impacts, indigenous heritage and the potential hazards associated with the cliff top environment will be included in the planning and design development processes.

It's important to note that while we do our best to develop projects to meet the needs and requests of the community and stakeholders, technical constraints, costs, and the overarching project objectives must also be considered to deliver a project that is safe, functional and best balances the competing needs of all those affected including the environment.

Next steps

Comments received during the community consultation process for Stage Two of the Winney Bay Cliff Top Walk will be formally reported to a meeting of the Central Coast Council which will include recommendations on how to proceed. Councilors will provide direction to staff on the progression of the project in the form of a Council resolution. The grant authority will need to endorse any proposed changes made to the design.

The community will be advised of the outcomes of the Council resolution.

Contents

Introduction

Winney Bay Clifftop Walk consultation

Following the Council resolution of 28 May 2018 the draft concept plans for Stage Two of the Winney Bay Cliff Top Walk were placed on public exhibition to seek community feedback on the proposal. The public exhibition period was for 25 days from 27 September to 22 October 2018.

Public exhibition included the provision of the concept plans for Stage Two of the Winney Bay Cliff Top Walk, supporting project documentation and a feedback survey. This material was available on the Council website www.yourvoiceourcoast.com, as well as at Council's administrative offices and libraries during the exhibition period.

A four hour drop-in information session was also delivered on the 4 October 2018 at the Copacabana Surf Life Saving Club.

The proposal

The concept plans exhibited for Stage Two of the Winney Bay Cliff Top Walk included designs for:

- A bridge across the coastal ravine to achieve aided mobility, including wheelchair, access to approximately 300 metres of the clifftop environment.
- A lookout that faces the rising sun on the first day after the Winter Solstice.
- Multi-use spaces along the Cliff Top Walk that provide for uses such as local events, exhibitions and weddings.
- A three-metre wide concrete pathway to accommodate ease of access for users, emergency vehicle access and maintenance access.

The proposed designs for Stage Two can be viewed in **Appendix A**.

As a result of community consultation, a recommendation to review the concept plan for Stage Two of the Winney Bay Cliff Top Walk. The recommended review is subject to Council resolution.

Stage Two of the Winney Bay Cliff Top Walk is being funded by the NSW Regional Growth – Environment and Tourism Fund.

Consultation Approach

Objectives of consultation

The purpose of consultation for Stage Two of the Winney Bay Cliff Top Walk was to:

- Encourage the community and stakeholders to provide feedback on the concept designs
- Communicate the features of the proposal
- Provide the community an opportunity to speak directly with project staff
- Hear from stakeholders and the community to identify issues
- Report back to the community on the outcomes of community consultation and the next steps.

Our engagement framework

Consultation has been designed in accordance with Central Coast Council's Engagement Framework. This framework is available to view at https://www.yourvoiceourcoast.com/Central-Coast-Council-Engagement-Framework.

How we consulted

We carried out extensive promotion of the consultation period to ensure the community and affected stakeholders were aware of the opportunity to get involved and given enough notice to provide feedback.

Media release	• Issued on 28 September 2018 A copy of the media release can be found in Appendix B
Print advertising	• Advertising featured in Central Coast Express Advocate on 27 September • Flyer distributed to all southern libraries Copies of print advertising can be found in Appendix C
Drop-in Information session	A drop-in information session was held on: • Thursday 4 October 2018 3.30pm to 7.30pm (Attended by 104 people)
Your Voice – Our Coast website	• Project page launched on 27 September 2018 under *Winney Bay Cliff Top Walk* • https://www.yourvoiceourcoast.com/winney-bay-cliff-top-walk • 1900 visits during consultation period

Social media	• Facebook post on 28 September, 2 October and 20 October 2018 Total reach of 7,690 • Twitter tweets on 28 September, 2 October and 20 October 2018 Copies of the posts can be found in Appendix D

Media coverage achieved

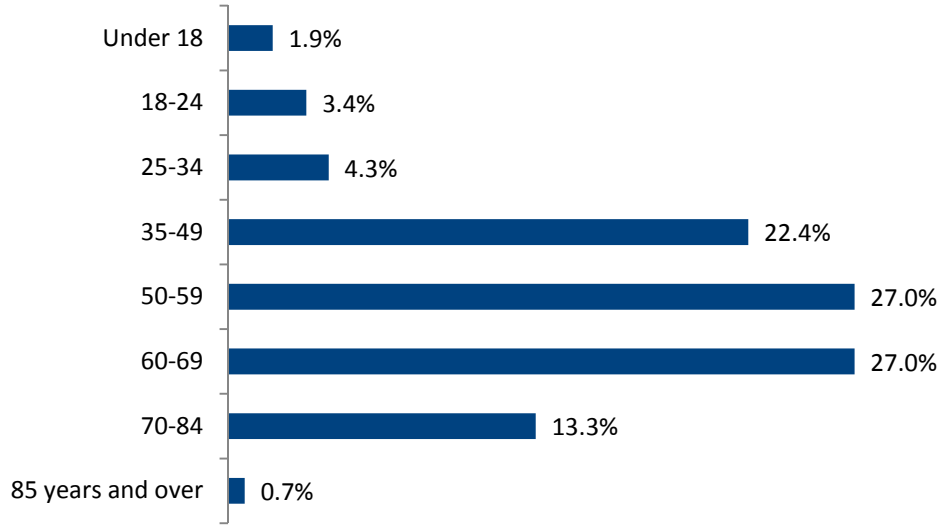
Television	• NBN Central Coast TV News – 6.00-7.00pm – 2 October 2018
Radio	• SEAFM Radio News – 8.00am – 1 October 2018 • 2GO Radio News – 8.00am – 1 October 2018 • SEAFM Radio News – 9.00am – 1 October 2018 • 2GO Radio News – 9.00am – 1 October 2018 • STAR Radio News – 10.00am – 4 October 2018 • STAR Radio News – 11.00am – 4 October 2018 • STAR Radio News – 4.00pm – 4 October 2018 • ABC Central Coast Radio News – 5.30am – 23 October 2018 • ABC Central Coast Scott Levi – 6.24am – 23 October 2018 • ABC Central Coast Radio News – 6.30am – 23 October 2018 • ABC Central Coast Radio News – 7.30am – 23 October 2018 • ABC Central Coast Radio News – 8.30am – 23 October 2018 • ABC Central Coast Scott Levi – 8.40am – 23 October 2018

What we heard

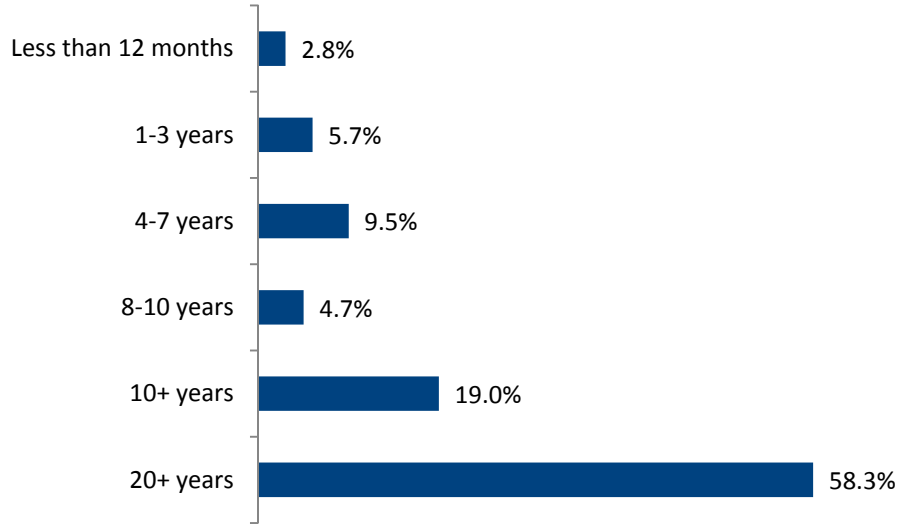
447 surveys were completed and **5** formal (written) submissions were received during this time. These were provided as emails, online submissions through yourvoiceourcoast.com and hand written submissions forms provided at information sessions on the 4 October 2018.

Figure 1 Number of submissions per stakeholder demographic

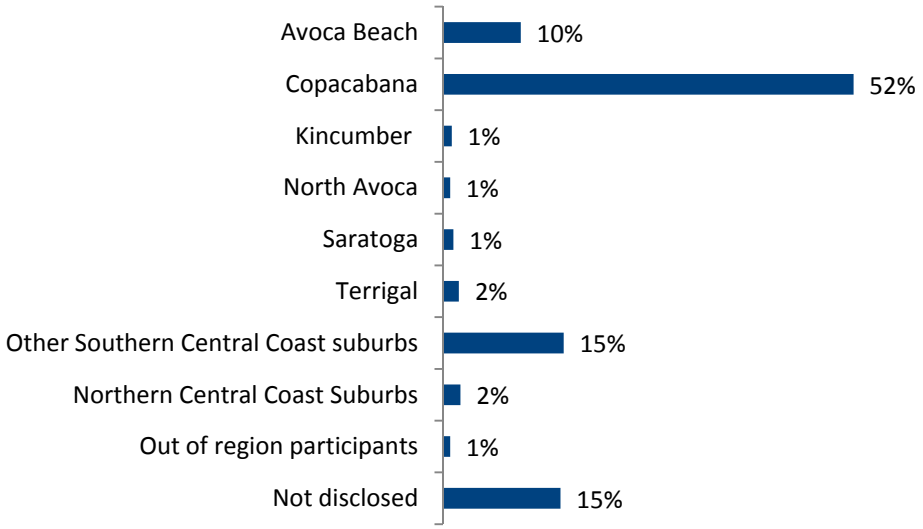
Age of respondents:



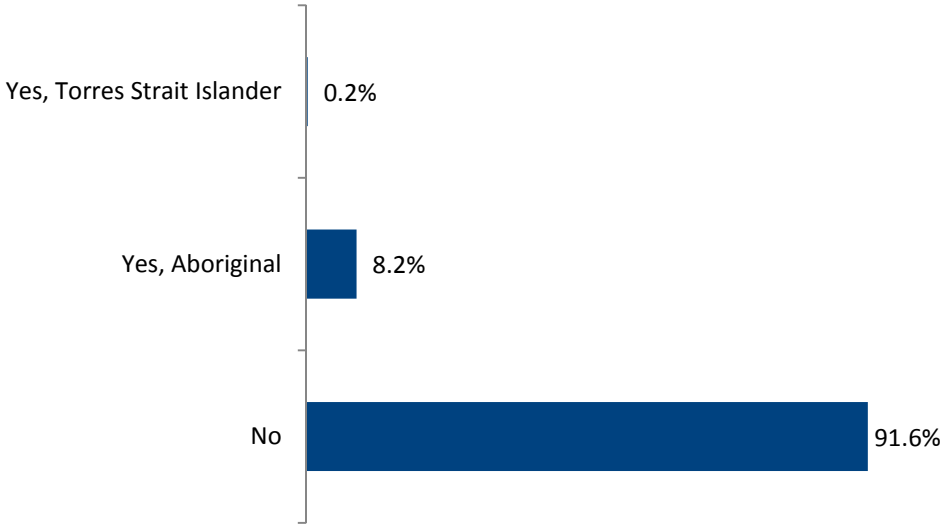
Have lived on the Central Coast for:



Currently live in:



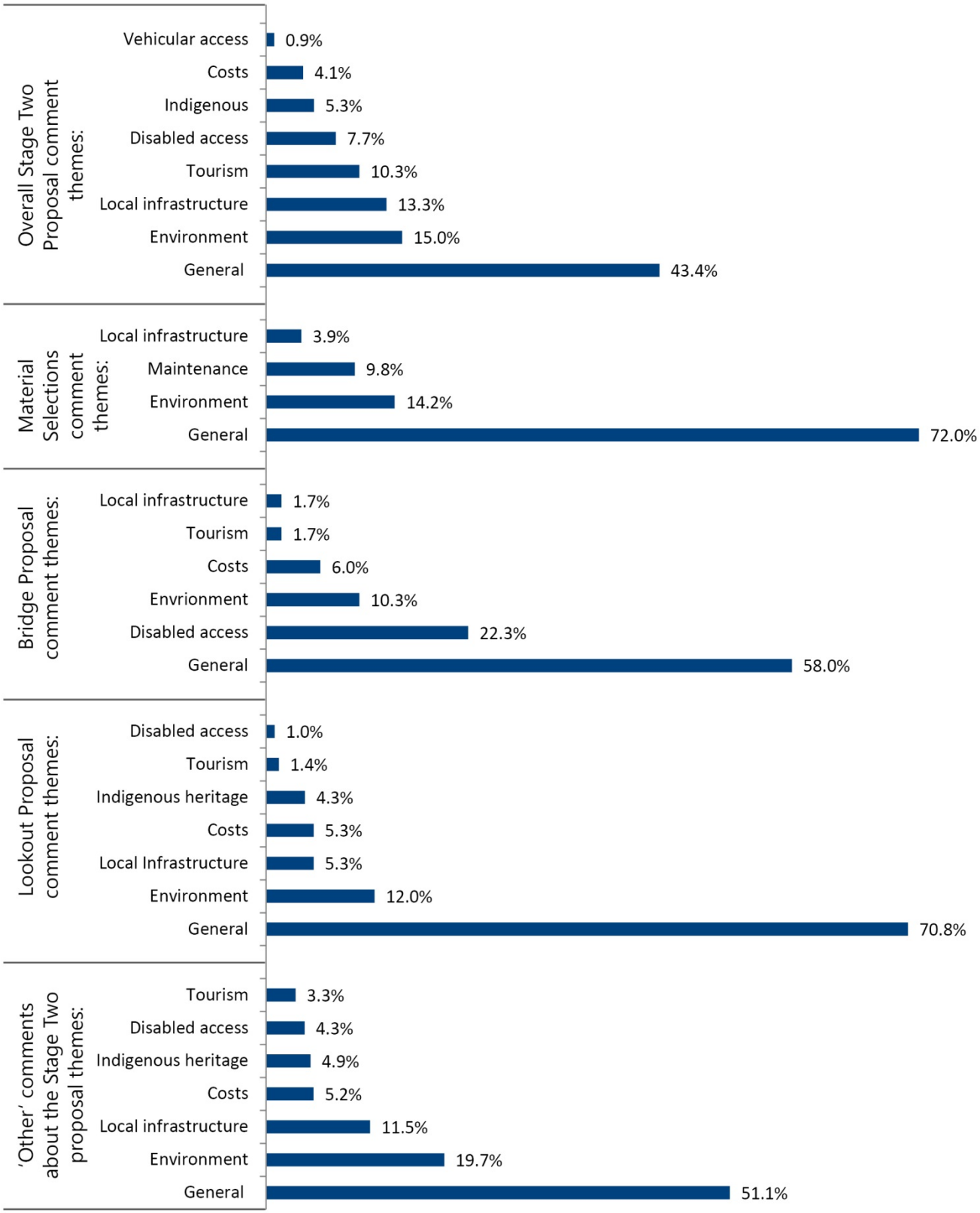
Identify as Indigenous and/or Torres Strait Islander:



From the **447** online submissions, a total of **1,349** separate comments were made. These comments have been grouped into themes and responses have been provided to key issues raised during the community consultation process this report.

It's important to note that while we do our best to develop projects to meet the needs and requests of the community and stakeholders, technical constraints, costs, and the overarching project objectives must also be considered to deliver a project that is safe, functional and best balances the competing needs of all those affected including the environment.

Figure 2 –Themes based on number of comments



Winney Bay Cliff Top Walk Stage Two Proposal Community Ratings

Based on feedback received, the community holds a broad range of views on the Stage Two Proposal, and the importance (and unimportance) each of the elements within proposal.

Figure 1 Stakeholder sentiment towards ensuring access to the lookout from the carpark is an appropriate gradient for wheelchair access

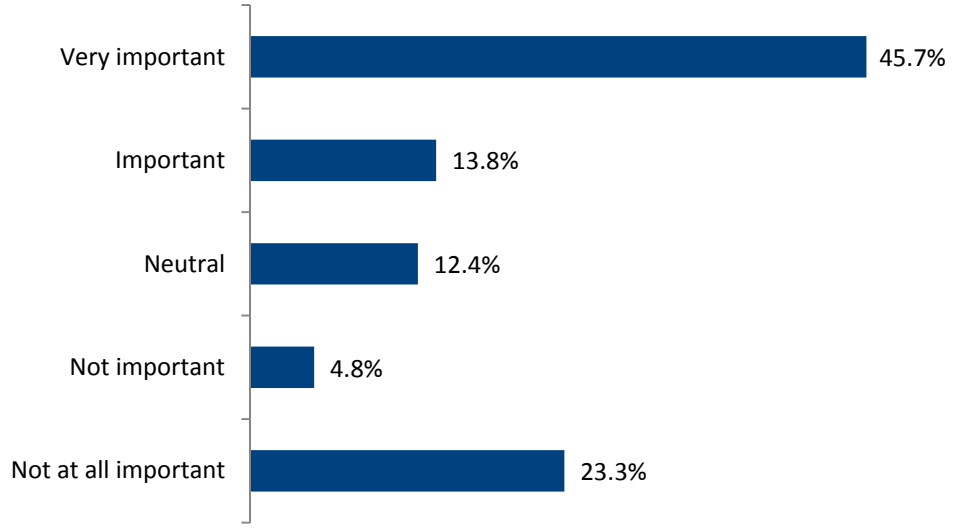


Figure 2 Stakeholder sentiment on including sites (labelled on plans as 'Market Stall Sites') for art installations, weddings and other events

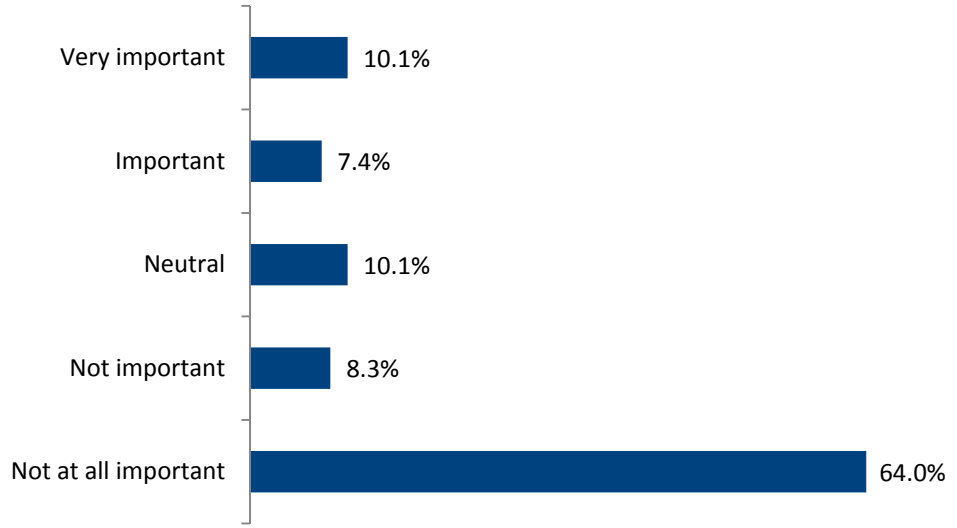


Figure 3 Stakeholder sentiment on the inclusion of a bridge to achieve appropriate gradient for wheelchair access

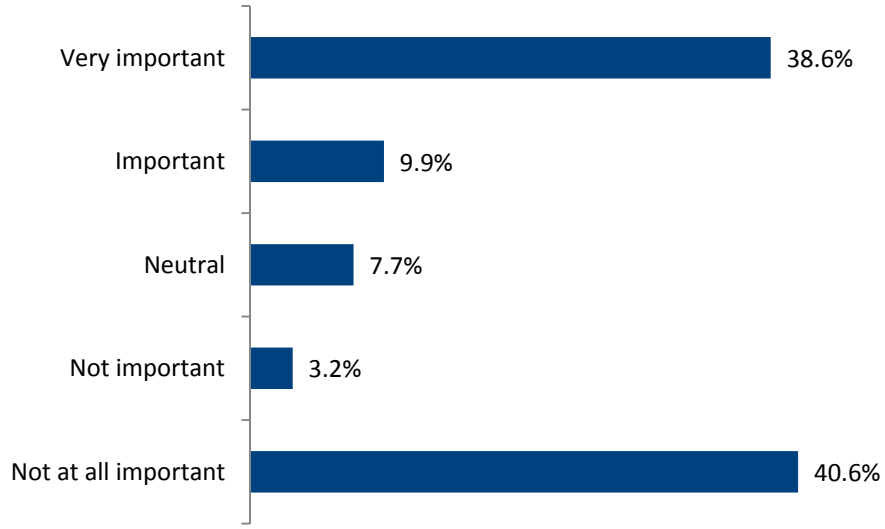


Figure 4 Stakeholder sentiment on the inclusion of a spectacular destination cliff top lookout

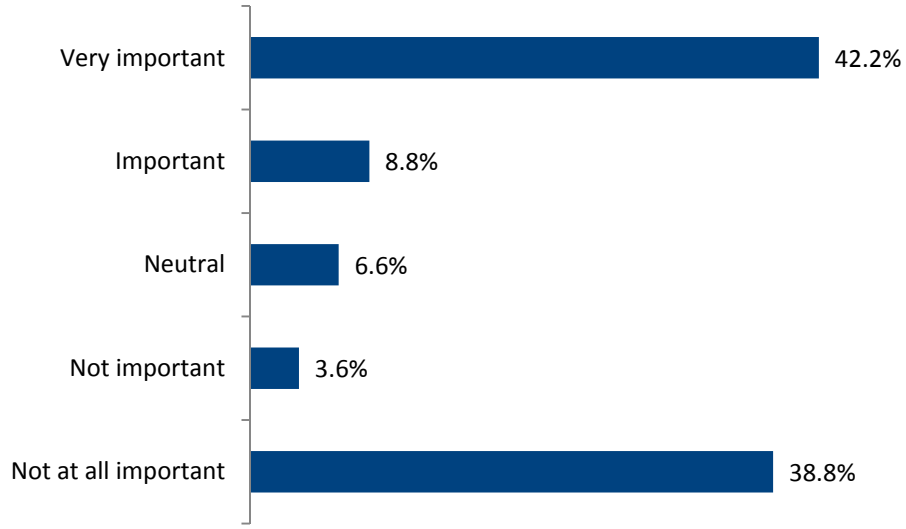


Figure 5 Stakeholder sentiment towards the development of a high profile destination structure for the Central Coast

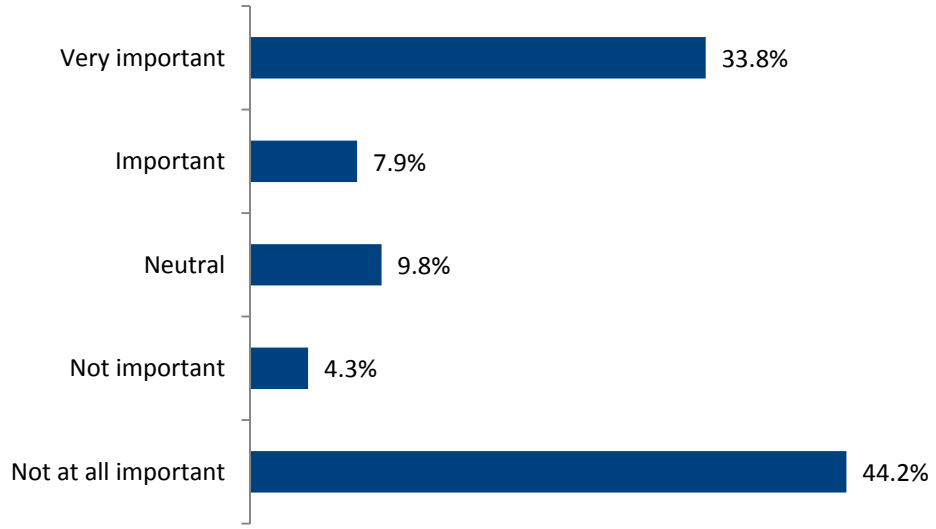
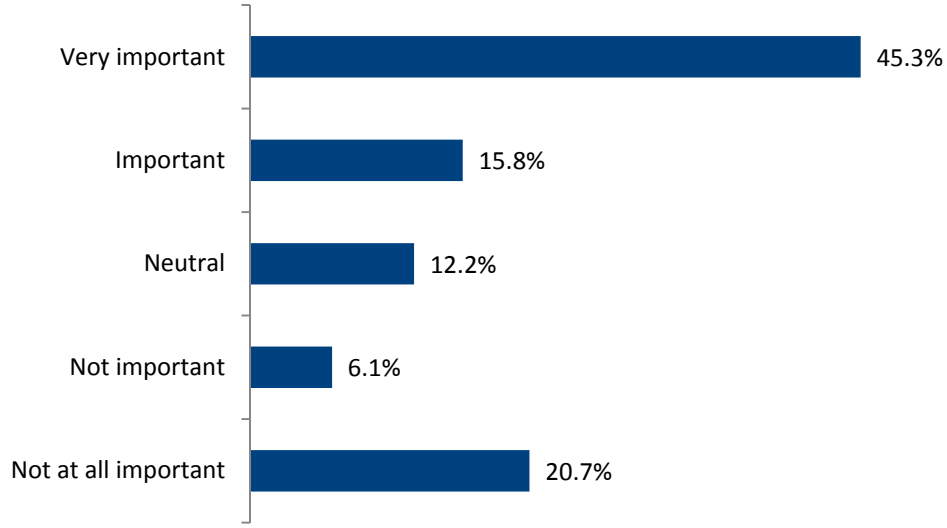
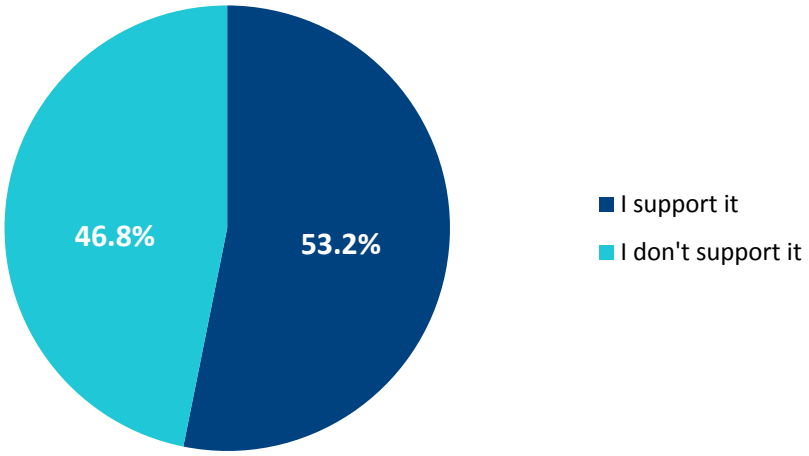


Figure 6 Stakeholder sentiment towards ensuring low ongoing maintenance costs for the project are achieved



- The majority of stakeholders who completed a survey would like to see the market stall sites removed.
- Several submissions encouraged weed removal and bush regeneration in the Winney Bay area.
- A number of respondents were concerned with the lack of local infrastructure (namely Del Monte Drive) and its ability to cope with additional traffic.

Winney Bay Cliff Top Walk Stage Two Proposal

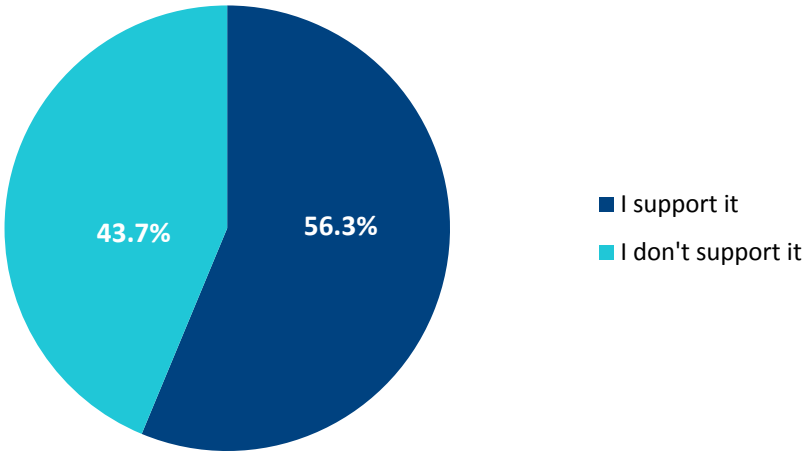


Issue Category	Key issues raised	Response
Environmental concerns	• Impact the construction of stage two will place on the environment. • Stability of the cliff face. • How will Council address the potential for increased littering at the site.	• The Environmental Planning and Assessment Act requires Council to undertake an environmental assessment prior to any works being undertaken. A review of environment factors will be undertaken to inform the final design of Stage Two of the Winney Bay Cliff Top Walk. The review of environmental factors will consider all potential environmental impacts of the proposed works. • The design of the pathway and associated infrastructure takes into account the recommendations made by two previously commissioned geotechnical reports. The reference to unstable cliff edges on signs currently at the site is in regards to the loose nature of the material found underfoot within the immediate edge of the cliff top. • There are currently two bins provided at the Captain Cook Lookout car park. Council staff will routinely maintain the site. The timing of which will be based on observations of litter over time which will determine the level of maintenance required. Experience with the

Issue Category	Key issues raised	Response
		existing stairs that start at Del Monte Place and finish at the base of Winney Bay is that there are only small amounts of litter found in the area.
Local infrastructure / Tourism / Costs	• Impacts increased traffic will place on local, already dilapidated infrastructure (particularly Del Monte Place). • Funding being spent on new infrastructure when the existing infrastructure in Copacabana is dilapidated (particularly Del Monte Place).	• Investigations into the upgrading of Del Monte Place are being carried out by Council's Roads Section. • The funding provided by the NSW Government to Stage Two of Winney Bay Cliff Top Walk cannot be diverted to other projects such as the upgrade of Del Monte Place. Additional funds would need to be sought for that project
Disabled access	• Suggestions to make existing Captain Cook Lookout accessible.	• The funding provided by the NSW Government to Stage Two of Winney Bay Cliff Top Walk cannot be diverted to other projects such providing all abilities access to Captain Cook Lookout. Additional funds would need to be sought for that project.
Indigenous heritage	• Concerns about lack of consultation with the Indigenous community. • Concerns about construction on Bulbararing Headland, a culturally significant piece of the coastline.	• During the design phase emails were sent to the Darkinjung Local Aboriginal Land Council (DLALC) Guringai Tribal Link Aboriginal Corporation, (GTLAC), and the then Potory-Minbee Aboriginal Elders & Seniors Association. Contact was made with DLALC and a Copacabana Aboriginal Elder. The Winney Bay Cliff Top Walk was designed with input from the aboriginal community representatives on the Five Lands Walk Committee. • Bulbararing is not registered as a culturally significant site under the National Parks and Wildlife Act, the NSW Heritage Act or as local heritage item.
Vehicular access	• Concerns around the need for vehicular access • Concerns around security	• A three metre wide path will allow for maintenance and ambulance access to the

Issue Category	Key issues raised	Response
	of the area due to past anti-social behavior at Captain Cook Lookout..	top of the existing stairs. No unauthorized vehicle access will be permitted with the path being blocked off by removable bollards. • A higher level of presence from the local community may reduce the anti-social behavior in this area.

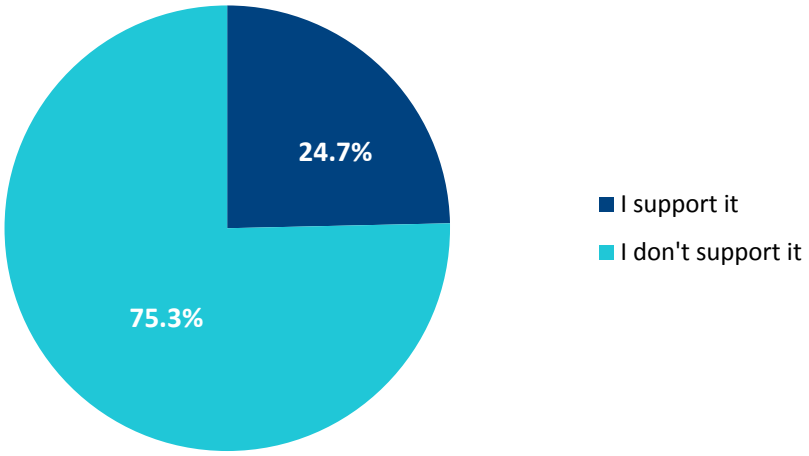
Material Selections



Issue category	Key issues raised	Our response
Environment	• Concerns over the removal of vegetation during construction (heavy machinery and access to the site). • Scarring of the Bulbararing Headland. • Concerns with the use of steel and its proximity to the ocean. • Questions as to why a more natural approach to material selection was not taken. • Consider the use of recycled materials for the construction.	• The Environmental Planning and Assessment Act requires Council to undertake an environmental assessment prior to any works being undertaken. A review of environment factors will be undertaken to inform the final design of Stage Two of the Winney Bay Cliff Top Walk. The review of environmental factors will consider all potential environmental impacts of the proposed works. Initial works will have an impact on the site, however post construction restoration will re-establish native vegetation which will soften the impact over time. The Terrigal Skillion provides an example of vegetation rehabilitation minimizing long-term visual impacts of construction.

Issue category	Key issues raised	Our response
		• Where steel is being used it will either be high grade stainless, COR-TEN or coated with marine finishes to withstand the coastal elements. • The Winney Bay Cliff Top Walk design aimed to provide all-abilities access to the clifftop environment. Australian Standards provide guidance on the width and grade of such a pathway. The selection of materials was based on all weather access, fire resistance, lifespan, visual amenity, cost of materials and construction and on-going maintenance costs and resourcing. Consideration was given to the use of recycled materials including recycled plastic products. The materials selected provide the highest level of assurance that they meet safety requirements, withstand the coastal and bushland environment and be cost effective across the lifespan of the infrastructure.
Local Infrastructure	• Funding being spent on new infrastructure when the existing infrastructure in Copacabana is dilapidated (particularly Del Monte Place).	• The funding provided by the NSW Government to Stage Two of Winney Bay Cliff Top Walk cannot be diverted to other projects such as the upgrade of Del Monte Place. Additional funds would need to be sought for that project

Market Stall Sites

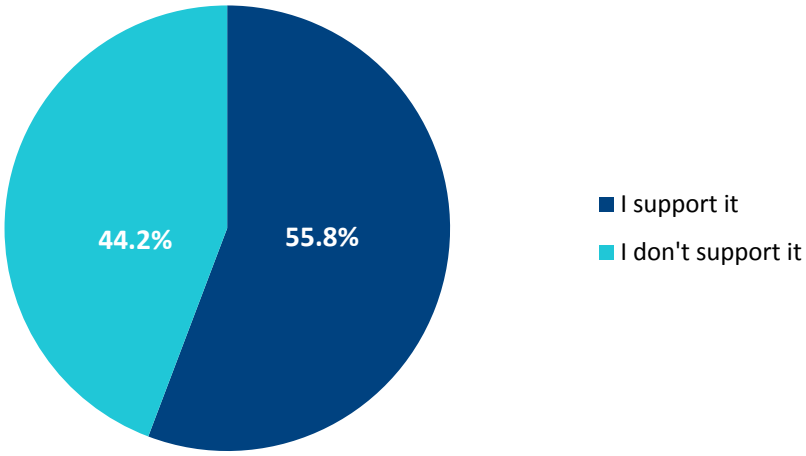


The vast majority of the community voted against the inclusion of market stall sites, as a result a recommendation for the removal of these has been made to Council.

Issue Category	Key issues raised	Response
Local amenity	• Concerns around the inclusion of Market Stalls impacting the local amenity • Concerns around the inclusion of Market Stalls impacting existing local businesses	• The concept design identifies eight constructed pads between the car park and the proposed lookout that are identified as 'market stalls'. The pads are 4m x 4 m in size. The business case for the Winney Bay Cliff Top Walk identifies the capacity of the infrastructure to accommodate a range of activities including weddings, art exhibitions, community events and corporate events. These elements are projected to provide a source of economic return on the Winney Bay Cliff Top Walk. • The types of activities proposed for the market stall sites do not duplicate services provided by businesses in Copacabana. The potential of the market stalls includes local businesses and community groups holding events in the clifftop location.
Tourism / Commercialization	• Concerns that the inclusion of Market Stalls do not add value to the plan	• The concept design identifies eight constructed pads between the car park and the proposed lookout that are identified as 'market stalls'. The pads are

Issue Category	Key issues raised	Response
	• Concerns that the inclusion of market stalls detract from the nature of the Cliff Top Walk	4m x 4 m in size. The business case for the Winney Bay Cliff Top Walk identifies the capacity of the infrastructure to accommodate a range of activities including weddings, art exhibitions, community events and corporate events. These elements are projected to provide a source of economic return on the Winney Bay Cliff Top Walk. • The concept plans for the market stalls shows them as concrete pads or mesh platform depending on the location. The materials used are consistent with that used to construct the pathway, bridge and lookout along the cliff top walk.
Costs	• Comments on ROI (return on investment)	• Economic modelling provided by the National Institute of Economic and Industry Research indicates an average spend of $100 per day for participants in the 5 Lands Walk. The provision of access to scenic cliff top at Winney Bay is anticipated to attract numerous visitors at times other than the 5 Lands Walk.

Bridge

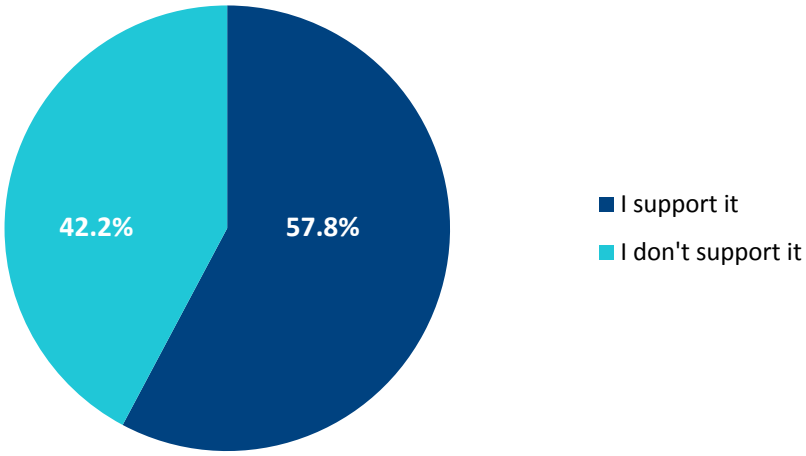


Issue category	Key issues raised	Our response
Disabled access	• An alternative suggestion was made to make the existing Captain Cook Lookout accessible. • Why is disabled access required? • This bridge will only provide accessibility to the top of the already constructed Stage One stairs.	• The funding provided by the NSW Government to Stage Two of Winney Bay Cliff Top Walk cannot be diverted to other projects such providing all abilities access to Captain Cook Lookout. Additional funds would need to be sought for that project. • The Central Coast Council Disability Inclusion Action Plan 2017-2021 aims to increase the inclusion of people with disabilities in all aspects of community life by providing accessible natural and built environments, inclusive events, activities and services. ***Objective K2 of the One Central Coast Plan is:*** *Design and deliver pathways, walking trails and other pedestrian movement infrastructure to maximize access, inclusion and mobility to meet the needs of all community members.* The current designs allow access to the natural environment to be achieved. There are few regional opportunities for people in wheelchairs or with limited mobility to access scenic clifftop

		environments. • The bridge provides the highest level of disability access possible being someone with mobility aides such as a wheelchair. This will allow them to reach the proposed viewing platform which is to be located at the top of the stairs. The new stairs do not provide for wheelchair access but by providing handrails and Tactiles, they do provide for the highest possible access achievable such as for people with sight impairment and for increasing stability for walkers negotiating the stairs.
Environment	• Concerns around construction being proposed on an unstable cliff face. • How much of the environment will be impacted during the construction/installation of the bridge.	• The design of the pathway and associated infrastructure takes into account the recommendations made by two previously commissioned geotechnical reports. The reference to unstable cliff edges on signs currently at the site is in regards to the loose nature of the material found underfoot within the immediate edge of the cliff top. • The area of construction will be cleared of vegetation. This will predominantly be weed species. Post-construction rehabilitation and bush regeneration will see the re-establishment of native species within the construction footprint.
Costs	• Concerns around the costs associated with such a structure.	• The cost of the project was provided by a contracted quantity surveyor. The grant application for construction of Stage 2 of the project is based on these costings.
Tourism / Local infrastructure	• Concerns around the local infrastructure coping with increased tourism.	• It is expected that many of the visitors to the area will be from outside of the LGA. It is anticipated that many of these people will be staying in overnight accommodation within Copacabana and Avoca and will walk to the site.

		Investigations into the upgrading of Del Monte Place are being carried out. Consideration may be given to further investigations for management of increased tourism.
General	• Concerns around the proposal becoming a 'suicide location'	• In its current condition the cliff face is open to the public just as any natural cliff line is. Once built the path will be further away from the cliff edge than the existing informal track. The built path will have barriers at key locations along its length. There will be a greater presence of people at the site which may also be a deterrent. The proposed bridge will have barriers that meet Australian Standards for access which will provide a greater level of safety than currently exists.

Cliff Top Lookout



Issue category	Key issues raised	Our response
Environment	• Concerns around this being proposed on an unstable cliff face.	• The design of the pathway and associated infrastructure takes into account the recommendations made by two previously commissioned geotechnical reports. The reference to unstable cliff edges on signs currently at the site is in regards to the loose nature of the material found underfoot within the immediate edge of the cliff top.
Local Infrastructure / Costs / Tourism	• Concerns around the local infrastructure coping with increased tourism.	• It is expected that many of the visitors to the area will be from outside of the LGA. It is anticipated that many of these people will be staying in overnight accommodation within Copacabana and Avoca and will walk to the site. Investigations into the upgrading of Del Monte Place are being carried out. Consideration may be given to further investigations for management of increased tourism.
Indigenous Heritage	• Concerns about lack of consultation with the Indigenous community.	• During the design phase emails were sent to the Darkinjung Local Aboriginal Land Council (DLALC) Guringai Tribal

	• Concerns about construction on Bulbararing Headland, a culturally significant piece of the coastline.	Link Aboriginal Corporation, (GTLAC), and the then Potory-Minbee Aboriginal Elders & Seniors Association. Contact was made with DLALC and a Copacabana Aboriginal Elder, The Winney Bay Cliff Top Walk was designed with input from the Aboriginal community representatives on the Five Lands Walk Committee. • Bulbararing is not registered as culturally significant under the National Parks and Wildlife Act, the NSW Heritage Act or as local heritage item
General	• Concerns around the proposal becoming a 'suicide location'	• In its current condition the cliff face is open to the public just as any natural cliff line is. Once built the path will be further away from the cliff edge than the existing track is. The built path will have barriers at key locations along its length. There will be a greater presence of people at the site which may be a deterrent. The proposed bridge will have barriers that meet Australian standards for access which will provide a greater level of safety than currently exists.

Consultation outcomes and next steps

Thank you to everyone who provided submissions Stage Two of the Winney Bay Cliff Top Walk and attended the drop-in information session.

In response to feedback from the community about the proposal for Stage Two of the Winney Bay Cliff Top Walk a report to Council has been prepared recommending a review of the concept plan to remove the proposed design elements identified as market stalls.

A report with these recommended amendments will be formally reported to a meeting of the Central Coast Council. Councilors will provide direction to staff on the progression in the form of a Council resolution that will include consideration of community feedback.

The final design will need to be endorsed by the State Government as the grant authority.

We will let the community know when further information is available.

Appendices

Appendix A

The original proposed designs for Phase Two:

- Concept Plan: Bridge Structure
- Concept Plan: Platform Structure
- Concept Plan: Phase Two
- Concept Plan: Path plans, sections and details

PROPOSED WINNEY BAY CLIFFTOP WALK, 5 LANDS COASTAL WALKWAY - STAGE 5, CAPTAIN COOK LOOKOUT - WINNEY BAY

AT

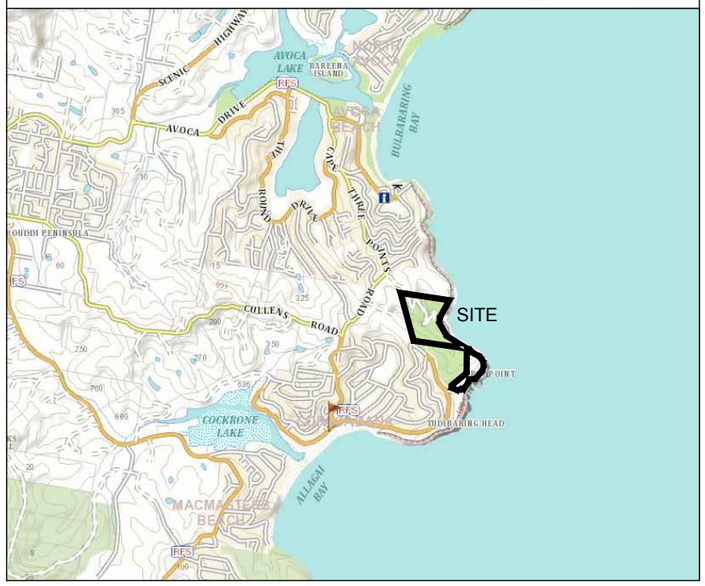
COPACABANA, NSW

FOR

GOSFORD CITY COUNCIL

A4 SERIES - BRIDGE STRUCTURAL PLANS AND DETAILS

LOCALITY PLAN



DRAWING LIST

NEW BRIDGE: 2015

DESIGN STANDARD: AS 5100-2004; BRIDGE DESIGN
ALLOWANCE FOR SUPERIMPOSED DEAD LOADS: 0.5 kPa (SERVICEABILITY)

EARTHQUAKE LOADING (TO BRIDGE CODE - AS5100):
BRIDGE CLASSIFICATION: TYPEI
IMPORTANCE FACTOR: 3.0
ACCELERATION COEFFICIENT: a = 0.11
SITE FACTOR: s = 1.0
DESIGN CATEGORY: BEDC-1

WIND LOADING:
DESIGN WIND SPEED = 102.8m/s
SERVICEABILITY WIND SPEED = 79.2m/s

REFERENCE REPORTS:
GEOTECHNICAL INVESTIGATION REPORTS:
BY DOUGLAS PARTNERS Pty. Ltd., REPORT No. 84701.00, DATED APRIL 2015
& BY PELLS SULLIVAN MEYNINK: REFERENCE PSM1984-002R DATED 15 OCTOBER 2012
(CONCEPT DESIGN, NOT FOR CONSTUCTION, SUBJECT TO DYNAMIC ANALYSIS TO AS5100)

RGH CONSULTING GROUP
Multi-discipline Engineering

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CONCEPT PLANS
NOT FOR CONSTRUCTION

DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS ON SITE.

A1

REVISION	DESCRIPTION	DATE	REVISION	DESCRIPTION	DATE
A	PRELIMINARY ISSUE TO	05.06.15			
	QUANTITY SURVEYOR				
B	RE-ISSUE TO	24.06.15			
	QUANTITY SURVEYOR				
C	90% ISSUE	29.06.15			
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FOR GOSFORD CITY COUNCIL CENTRAL COAST — 5 LANDS WALK CENTRAL COAST · NEW SOUTH WALES

ADDRESS	WINNEY BAY RESERVE COPACABANA N.S.W.
PROJECT	5 LANDS COASTAL WALKWAY - STAGE 5 CAPTAIN COOK LOOKOUT TO WINNEY BAY
DRAWING TITLE	COVER SHEET
	ANTHONY JOHN GRIFFITHS MIE AUST CPENG 2342830
signed	
date	

SCALE	1:200	INIT.
DRAWN	JG/CW	
DESIGNED	CF	
CHECKED	AJG	
DATE	JANUARY 2015	
JOB NUMBER	20140492	

SHEET A4.01
REV D

N W E S

CONCRETE (C)

C01. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600, AS 1379 & AS 3610 CURRENT EDITIONS WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.

C02 ALL CEMENT TO BE TYPE SL, SHRINKAGE LIMITED CEMENT IN ACCORDANCE WITH AS3972, EXCEPT THAT THE MAXIMUM SHRINKAGE OF THE CEMENT IN THE MORTAR TEST SAMPLE IN ACCORDANCE WITH AS3600 SHALL BE LESS THAN 600 MICROSTRAIN.

ELEMENT	STRENGTH GRADE (MPa)	SLUMP (mm)	MAXIMUM AGGREG. SIZE (mm)	MINIMUM CEMENT CONTENT (kg/cu.m)
SLABS	S65	80	20	250
FOOTINGS	S65	80	20	250

PROJECT ASSESSMENT SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1379 CLAUSE B7.

C03.
a. ALL CONCRETE IN SLABS AND BEAMS TO BE PROPORTIONED TO LIMIT DRYING SHRINKAGE TO 650 MICROSTRAIN AT 56 DAYS.
b. DETAILS OF THE PROPOSED MIX TO BE SUBMITTED & APPROVAL OBTAINED PRIOR TO POURING ANY CONCRETE.
c. SHRINKAGE TESTS SHALL BE CARRIED OUT BY AN APPROVED NATA REGISTERED LABORATORY IN ACCORDANCE WITH AS 1012 PART 13. TESTS SHALL BE CONDUCTED ON THE FIRST BATCH OF CONCRETE USED IN SUSPENDED SLABS AND SUBSEQUENTLY AT THE RATE OF ONE TEST EVERY ADDITIONAL 100m³ OF CONCRETE SUPPLIED. THREE SPECIMENS SHALL BE TAKEN FOR EACH TEST AND THE SHRINKAGE SHALL BE THE AVERAGE OF THE THREE RESULTS.
THE COST OF TESTING SHALL BE BORNE BY THE CONTRACTOR AS SHALL ANY ADDITIONAL TESTS REQUIRED IF THE CONCRETE FAILS TO MEET THE SPECIFIED SHRINKAGE LIMITS.

C04. NO ADMIXTURES OTHER THAN LOW RANGE WRA SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING.

C05. CLEAR CONCRETE COVER TO ALL REINFORCEMENT SHALL BE AS FOLLOWS UNLESS SHOWN OTHERWISE. COVER MAY NEED TO BE INCREASED FOR FIRE RATING.

EXPOSURE CLASS TO AS *3600*	MINIMUM CONCRETE GRADE	CAST AGAINST GROUND	CAST IN FORMS & EXPOSED	CAST IN FORMS & NOT EXPOSED
A1 (INTERNAL)	20	40mm	-	20mm
A2 (EXTERNAL)	20	50mm	30mm	-
B1 (EXTERNAL)	32	60mm	40mm	-
B2 (EXTERNAL)	40	65mm	45mm	-
C2	50	65mm	-	-

NOTE: WHERE CONCRETE IS POURED ON A VAPOURPROOF MEMBRANE 0.2mm MINIMUM THICKNESS, THE COVER TO CONCRETE CAST AGAINST GROUND MAY BE REDUCED BY 10mm.

C06. CONCRETE SIZES SHOWN DO NOT INCLUDE THICKNESSES OF APPLIED FINISHES. NO FINISH WHICH DECREASES COVER IS ALLOWED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.

C07. DEPTHS OF BEAMS ARE GIVEN FIRST AND INCLUDE SLAB THICKNESS.

C08. FOR CHAMFERS, DRIP GROOVES, REGLETS, ETC. REFER TO ARCHITECT'S DETAILS, MAINTAIN COVER TO REINFORCEMENT AT THESE DETAILS.

C09. NO HOLES, CHASES, BLOCKOUTS, DUCTS OR EMBEDMENT OF PIPES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ENGINEER.

C10. CONSTRUCTION JOINTS WHERE NOT SHOWN SHALL BE LOCATED TO THE APPROVAL OF THE ENGINEER.

C11. ALL CONCRETE COLUMNS GREATER THAN 1.2 METRES IN HEIGHT SHALL BE POURED A MINIMUM OF 4 HOURS PRIOR TO SLAB OR BEAM OVER.

C12. THE FINISHED CONCRETE SHALL BE MECHANICALLY VIBRATED TO ACHIEVE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS. ALL CONCRETE INCLUDING SLABS ON GROUND AND FOOTINGS SHALL BE COMPACTED WITH MECHANICAL VIBRATORS.

C13. CURING OF ALL CONCRETE IS TO BE ACHIEVED BY KEEPING SURFACES CONTINUOUSLY WET FOR A PERIOD OF THREE DAYS, AND THE PREVENTION OF LOSS OF MOISTURE FOR A TOTAL OF 7 DAYS FOLLOWED BY A GRADUAL DRYING OUT. APPROVED SPRAYED ON CURING COMPOUNDS THAT COMPLY WITH AS 3799 MAY BE USED WHERE FLOOR FINISHES WILL NOT BE AFFECTED (REFER MANUFACTURERS SPECIFICATION). POLYTHENE SHEETING OR WET HESSIAN MAY BE USED IF PROTECTED FROM WIND AND TRAFFIC.

C14. CONSTRUCTION SUPPORT PROPPING IS TO BE LEFT IN PLACE WHERE NEEDED TO AVOID OVERSTRESSING THE STRUCTURE DUE TO CONSTRUCTION LOADING. NO BRICKWORK OR PARTITION WALLS ARE TO BE CONSTRUCTED ON SUSPENDED LEVELS UNTIL SEVEN DAYS AFTER PROPPING HAS BEEN REMOVED AND THE SLAB PRE-LOADED WITH THE BRICKS OR UNITS TO BE USED IN THE WALL.

C15. REPAIRS TO CONCRETE SHALL NOT BE ATTEMPTED WITHOUT THE PERMISSION OF THE ENGINEER.

C16. CAST-IN FIXINGS, BOLTS ETC. SHALL NOT BE ALTERED WITHOUT THE PERMISSION OF THE ENGINEER.

C17. CONDUITS, PIPES ETC. SHALL ONLY BE LOCATED IN THE MIDDLE THIRD OF THE SLAB DEPTH AND SPACED AT NOT LESS THAN 3 DIAMETERS. CONDUITS AND PIPES SHALL NOT BE PLACED WITHIN THE COVER TO REINFORCEMENT.

C18. SLABS AND BEAMS SHALL BE CONSTRUCTED TO BEAR ONLY ON THE BEAMS, WALLS, COLUMNS ETC. SHOWN ON THE DRAWINGS. ALL OTHER BUILDING ELEMENTS SHALL BE KEPT 12mm CLEAR OF SOFFITS OF STRUCTURE.

C19. PLASTIC FORMWORK SPACERS AND BAR CHAIRS TO BE USED IN ALL EXPOSED CONCRETE WORK.

REINFORCEMENT (R)

R01. REINFORCEMENT SYMBOLS:

N DENOTES GRADE 500 N BARS TO AS 4671
R DENOTES GRADE 250 R HOT ROLLED PLAIN BARS TO AS 4671
L DENOTES GRADE 500 L HARD-DRAWN WIRE REINFORCING FABRIC TO AS 4671
W DENOTES GRADE 450 W HARD-DRAWN PLAIN WIRE TO AS 4671
TM DENOTES GRADE 500 TRENCH MESH TO AS 4671

NUMBER OF BARS IN GROUP
17N20-250
BAR GRADE AND TYPE
SPACING IN mm
NOMINAL BAR SIZE IN mm

THE FIGURES FOLLOWING THE FABRIC SYMBOLS RL, SL, L .. TM IS THE REFERENCE NUMBER TO AS 4671.

R02. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND NOT NECESSARILY IN TRUE PROJECTION.

R03. SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN POSITIONS SHOWN OR OTHERWISE APPROVED IN WRITING BY THE ENGINEER. LAPS SHALL BE IN ACCORDANCE WITH AS 3600 AND NOT LESS THAN THE DEVELOPMENT LENGTH FOR EACH BAR, AS PER THE TABLE BELOW:

SPLICE LENGTHS (mm)		
BAR SIZE	LESS THAN 300 CONCRETE BELOW BAR OR VERTICAL BAR	
	25MPa	≥32MPa
N12	300	300
N16	550	500
N20	750	650
N24	1000	900
N28	1350	1200
N32	1650	1450
N36	2000	1750
	MORE THAN 300 CONCRETE BELOW BAR BAR	
	25MPa	≥32MPa
N12	400	400
N16	650	600
N20	950	850
N24	1300	1150
N28	1650	1500
N32	2050	1850
N36	2500	2200

BOTTOM BAR LAPPED @ SUPPORTS AND TOP BAR LAPPED AT MID SPAN.

R04. WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE ENGINEER.

R05. FABRIC SHALL BE LAPPED 2 TRANSVERSE WIRES PLUS 25mm. BUNDLED BARS SHALL BE TIED TOGETHER AT 30 BAR DIAMETER CENTRES WITH 3 WRAPS OF THE WIRE.

R06. WHERE TRANSVERSE TIE BARS ARE NOT SHOWN PROVIDE N12-400 SPLICED WHERE NECESSARY AND LAP WITH MAIN BARS 400mm UNLESS NOTED.

R07. JOGGLES TO BARS SHALL COMPRISE A LENGTH OF 12 BAR DIAMETERS BETWEEN BEGINNING AND END OF AN OFFSET OF 1 BAR DIAMETER.

R08. ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON MILD STEEL PLASTIC TIPPED CHAIRS, PLASTIC CHAIRS OR CONCRETE CHAIRS AT NOT GREATER THAN 1 METRE CENTRES BOTH WAYS, AND 800 EACH WAY FOR FABRIC. WHEN POURED ON GROUND AS FORMWORK PROVIDE PLATES UNDER ALL BAR CHAIRS. PLASTIC TIPPED STEEL CHAIRS SHALL NOT BE USED ON EXPOSED FACES IN EXPOSURE CLASSIFICATION B1, B2 AND C ONLY PLASTIC OR PLASTIC OR CONCRETE CHAIRS.

R09. AT A SIMPLE OR END SUPPORT OF A SLAB ON A MASONRY WALL, ALL BOTTOM SLAB REINFORCEMENT SHALL EXTEND OVER THE MASONRY WALL BY A LENGTH 75mm FOR N12 BARS & 95mm FOR N16 BARS. IF THIS CANNOT BE ACHIEVED DUE TO COVER REQUIREMENTS THEN THE BARS SHALL BE COGGED. FOR FABRIC THE LAST WELDED CROSS ROD SHALL BE LOCATED OVER THE WALL AND 50mm MINIMUM BEYOND THE FACE OF THE WALL.

R10. SITE BENDING OF REINFORCEMENT SHALL BE AVOIDED IF POSSIBLE. WHERE SITE BENDING IS UNAVOIDABLE IT SHALL BE CARRIED OUT COLD, WITHOUT THE APPLICATION OF HEAT, AND IN ACCORDANCE WITH THE PRACTICE NOTE RPN1 OF THE STEEL REINFORCEMENT INSTITUTE OF AUSTRALIA.

R11. THE STRUCTURAL ENGINEER SHALL BE GIVEN 24 HOURS NOTICE FOR REINFORCEMENT INSPECTION AND CONCRETE SHALL NOT BE DELIVERED UNTIL FINAL APPROVAL HAS BEEN OBTAINED FROM THE STRUCTURAL ENGINEER.

STRUCTURAL STEEL (SS)

S01. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 4100 AND AS 1554 EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.

S02. UNLESS NOTED OTHERWISE ALL MATERIAL SHALL BE:
- GRADE 250 HOT-ROLLED PLATES COMPLYING WITH AS 3678;
- GRADE 250 HOT-ROLLED FLATS,.
- GRADE 300PLUS UB, UC, PFC, ANGLES, AND TFB,
- GRADE 300 WB, WC COMPLYING WITH AS 3679.2;
- GRADE C350 RHS, CHS COMPLYING WITH AS 1163;

S03. THREE(3) COPIES OF WORKSHOP FABRICATION DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AT LEAST 7 DAYS PRIOR TO COMMENCEMENT OF FABRICATION AND PERMISSION TO USE OBTAINED PRIOR TO FABRICATION. PERMISSION TO USE DOES NOT RELIEVE THE BUILDER OF THE FULL RESPONSIBILITY FOR DIMENSIONS, FIT AND COMPLIANCE WITH ARCHITECTURAL AND ENGINEERING DRAWINGS.

S04. BOLTS:-
- 4.6/S - COMMERCIAL BOLTS OF GRADE 4.6 TO AS 1111, SNUG TIGHTENED,
- 8.8/S - HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS 1252, SNUG TIGHTENED.
- 8.8/TB - HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS 1252 FULLY TENSIONED TO AS 4100 AS BEARING JOINT.
- 8.8/TF - HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS 1252 FULLY TENSIONED TO AS 4100 AS A FRICTION JOINT WITH FACING SURFACES LEFT UNCOATED.

ALL BOLTS SHALL BE M20 GRADE 8.8/S UNLESS NOTED. NO CONNECTION SHALL HAVE LESS THAN 2 BOLTS. ALL BOLTS, NUTS & WASHERS TO BE GALVANISED. TB AND TF BOLTS TO BE INSTALLED USING APPROVED LOAD INDICATING WASHERS, OR BY TURN OF NUT CONTROL OF TENSIONING.

S05. WELDING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1554.1. WELDING S5 CONSUMABLES SHALL BE E48XX OR W50X U.N.O. ALL WELD SHALL BE 6 MM CFW SP CATEGORY U.N.O. CPBW SHALL BE SP CATEGORY U.N.O. INSPECTION SHALL BE CARRIED OUT TO AS 1554.1. ALL GP/SP WELDS SHALL BE 100% VISUALLY SCANNED.
BUTT WELDS SHALL BE COMPLETE PENETRATION WELDS TO AS 1554.

S06. ALL DETAILS, GAUGE LINES ETC. WHERE NOT SPECIFICALLY SHOWN ARE TO BE IN ACCORDANCE WITH AISC DESIGN CAPACITY TABLES FOR STRUCTURAL STEEL AND AISC STANDARDIZED STRUCTURAL CONNECTIONS. PLATES TO BE 10mm THICK, EX-STANDARD SQUARE EDGE FLATS U.N.O.

S07. STEELWORK TO BE CONCRETE ENCASED SHALL BE WRAPPED WITH F41 STEELWIRE FABRIC AND SHALL HAVE 50mm MINIMUM CONCRETE COVER TO THE STRUCTURAL STEEL.

S08. PROVIDE SEAL PLATES TO ALL HOLLOW SECTIONS. PROVIDE VENT HOLES TO HOLLOW MEMBERS & DRAIN HOLES TO ALL MEMBERS TO BE HOT DIP GALVANISED.

S09. IT IS THE BUILDER'S RESPONSIBILITY TO ENSURE THAT STEELWORK IS SECURELY TEMPORARILY BRACED AS NECESSARY TO STABILISE THE STRUCTURE DURING ERECTION.

S10. STRUCTURAL STEELWORK SHALL HAVE THE FOLLOWING SURFACE TREATMENT IN ACCORDANCE WITH THE SPECIFICATION.

ELEMENT	SURFACE CLEANING	PROTECTIVE COATING
• EXTERNAL	MECHANICAL	HOT DIPPED GALV. + 2 COAT EPOXY TO MANUF. SPEC.

S11. THE BUILDER SHALL PROVIDE ALL CLEATS AND DRILL ALL HOLES NECESSARY FOR FIXING STEEL TO STEEL AND TIMBER TO STEEL WHETHER OR NOT DETAILED ON THE DRAWINGS.

S12. THE FABRICATION AND ERECTION OF THE STRUCTURAL STEELWORK SHALL BE UNDERTAKEN BY A QUALIFIED PERSON EXPERIENCED IN SUCH SUPERVISION, IN ORDER TO ENSURE THAT ALL REQUIREMENTS OF THE DESIGN ARE MET. ALL BEAMS AND RAFTERS SHALL BE FABRICATED AND ERECTED WITH NATURAL CAMBER UP.

S13. REFERENCE SHOULD BE MADE TO AS 2312 FOR APPROPRIATE COATING SYSTEMS FOR ALL EXTERNAL APPLICATIONS. COATING OF EXTERNAL LINTELS SHALL BE IN ACCORDANCE WITH B.C.A AND AS 3700.

STRUCTURAL STAINLESS STEEL (SSS)

SS1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 4100 AND AS 1554 EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.

SS2. UNLESS NOTED OTHERWISE ALL STAINLESS STEEL SHALL BE COMPLYING WITH AS/NZS 4673. OF A GRADE SUITABLE FOR USE IN MARINE SPLASH ZONE CONDITIONS.

SS3. THREE(3) COPIES OF WORKSHOP FABRICATION DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AT LEAST 7 DAYS PRIOR TO COMMENCEMENT OF FABRICATION AND PERMISSION TO USE OBTAINED PRIOR TO FABRICATION. PERMISSION TO USE DOES NOT RELIEVE THE BUILDER OF THE FULL RESPONSIBILITY FOR DIMENSIONS, FIT AND COMPLIANCE WITH ARCHITECTURAL AND ENGINEERING DRAWINGS.

SS4. BOLTS:-
ALL BOLTS SHALL BE M16 GRADE 304/S UNLESS NOTED OTHERWISE.
ALL BOLTS, NUTS & WASHERS TO BE STAINLESS STEEL.
(GRADE 304) TO ISO 3506, SNUG TIGHTENED WITH NYLON LOCK NUTS.
STAINLESS STEEL TO BE SEPARATED FROM OTHER METALS WITH NEOPRENE WASHERS.

SS5. WELDING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1554.1. AND AS 1554.6 WELDING CONSUMABLES SHALL BE SUITABLE FOR STAINLESS STEEL OR ALUMINIUM U.N.O. ALL WELDS SHALL BE 3mm C.F.W. SP GATEGORY U.N.O. CPBW SHALL BE SP CATEGORY U.N.O. INSPECTION SHALL BE CARRIED OUT TO AS 1554.1. AND AS 1554.6 ALL GP/SP WELDS SHALL BE 100% VISUALLY SCANNED.
BUTT WELDS SHALL BE COMPLETE PENETRATION WELDS TO AS 1554.

SS6. ALL DETAILS, GAUGE LINES ETC. WHERE NOT SPECIFICALLY SHOWN ARE TO BE IN ACCORDANCE WITH AISC DESIGN CAPACITY TABLES FOR STRUCTURAL STEEL AND AISC STANDARDIZED STRUCTURAL CONNECTIONS. PLATES TO BE 6mm THICK, EX-STANDARD SQUARE EDGE FLATS U.N.O.

SS7. PROVIDE SEAL PLATES TO ALL HOLLOW SECTIONS.

SS8. IT IS THE BUILDER'S RESPONSIBILITY TO ENSURE THAT STEELWORK IS SECURELY TEMPORARILY BRACED AS NECESSARY TO STABILISE THE STRUCTURE DURING ERECTION.

SS9. THE BUILDER SHALL PROVIDE ALL CLEATS AND DRILL ALL HOLES NECESSARY FOR FIXING STEEL TO STEEL AND TIMBER TO STEEL WHETHER OR NOT DETAILED ON THE DRAWINGS.

SS10. THE FABRICATION AND ERECTION OF THE STRUCTURAL STEELWORK SHALL BE UNDERTAKEN BY A QUALIFIED PERSON EXPERIENCED IN SUCH SUPERVISION, IN ORDER TO ENSURE THAT ALL REQUIREMENTS OF THE DESIGN ARE MET. ALL BEAMS AND RAFTERS SHALL BE FABRICATED AND ERECTED WITH NATURAL CAMBER UP.

FORMWORK (FW)

FW1. THE DESIGN, CONSTRUCTION AND PERFORMANCE OF THE FORMWORK AND FALSEWORK IS THE RESPONSIBILITY OF THE BUILDER.

FW2. DESIGN AND CONSTRUCTION AND STRIPPING TIMES SHALL COMPLY WITH AS 3610 AND AS 3600 UNLESS OTHERWISE APPROVED BY THE ENGINEER.

FW3. DURING CONSTRUCTION, SUPPORT PROPPING SHALL BE PROVIDED WHERE LOADS FROM STACKED MATERIALS, FORMWORK AND OTHER SUPPORTED SLABS INDUCE LOADS IN A SLAB OR BEAM WHICH EXCEED THE DESIGN LOAD FOR STRENGTH OR SERVICEABILITY AT THAT AGE ONCE THE NOMINATED 28 DAY STRENGTH HAS BEEN ATTAINED, THESE LOADS SHALL NOT EXCEED THE DESIGN SUPERIMPOSED LOADS SET OUT IN THE GENERAL NOTES.

FW4. IN MULTI-STOREY CONSTRUCTION PROPPING SHALL BE PROVIDED AT LEAST 3 LEVELS BELOW THE FLOOR BEING CAST. PROP REMOVAL IS TO BE PROGRAMMED TO AVOID DISTRESS TO PREVIOUSLY CAST FLOORS. RE-SHORING OR BACK-PROPPING IS SUBJECT TO THE APPROVAL OF THE PROJECT DESIGN ENGINEER.

FW5. THE FORMWORK SHALL BE DESIGNED TO RELY ON NO RESTRAINT OR SUPPORT FROM THE PERMANENT STRUCTURE WITHOUT PRIOR APPROVAL FROM THE PROJECT DESIGN ENGINEER.

FW5. FORMWORK SHALL BE DESIGNED TO ACCOMMODATE MOVEMENTS AND LOAD RE DISTRIBUTION DUE TO POST-TENSIONING.

FW6. WHERE NECESSARY SPECIAL REQUIREMENTS FOR SEQUENCE OF CONCRETE PLACEMENT AND STRIPPING ARE SET OUT ON DRAWINGS.

FW7. DESIGN INFORMATION CONCERNING THE FOUNDATION FORMWORK SHALL BE DETERMINED FROM THE CONDITIONS EXISTING ON SITE AT THE TIME OF CONSTRUCTION. REFER ALSO TO THE GEOTECHNICAL REPORT WHERE AVAILABLE.

FW8. UNLESS NOTED OTHERWISE PROVIDE UPWARD CAMBER TO FORMWORK OF CANTILEVERS OF L/120, WHERE L IS THE SHORTEST PROJECTION BEYOND COLUMN OR WALL FACE, AND TO FORMWORK OF SLABS WHERE NOTED ON PLAN. MAINTAIN THE SLAB AND BEAM DEPTHS SHOWN.

CHEMICALLY ANCHORED REINFORCEMENT

CAR1. WHERE SHOWN ON THE DRAWINGS REINFORCMENT BARS SHALL BE CHEMICALLY ANCHORED INTO EXISTING CONCRETE AS DESCRIBED BELOW.

CAR2. PERCUSSION DRILL (CORING NOT PERMITTED) A HOLE TO THE CORRECT DIAMETER AND DEPTH FOR THE PARTICULAR SIZE REINFORCING BARS AS TABULATED BELOW, UNLESS SHOWN OTHERWISE ON THE DRAWINGS.

BAR SIZE (Y OR N)	HOLE DIA (mm)	HOLE DEPTH (mm)
12	16	120
16	22	150
20	28	250
24	32	280

CAR3. THOROUGHLY CLEAN THE HOLE USING A ROUND WIRE BRUSH AND BLOWOUT ALL DUST.

CAR4. ENSURE HOLE IS CLEAN AND DRY AND INSERT SUFFICIENT HILTI HY 150 RESIN INTO THE BASE OF THE HOLE TO ENSURE THAT WHEN THE BAR IS INSTALLED RESIN APPEARS AT THE FACE OF THE HOLE.

CAR5. IMMEDIATELY INSERT THE REINFORCING BAR INTO THE HOLE BY ROTATING SLOWLY TO FULLY COAT THE BAR WITH RESIN, AND PUSH FULLY INTO THE HOLE.

CAR6. ENSURE BAR IS NOT DISTURBED WHILST RESIN IS CURING. (APPROX. 2 HOURS).

CAR7. DRILLING CONTRACTOR IS TO OBTAIN WRITTEN AUTHORISATION FROM ADJOINING PROPERTY OWNERS BEFORE CARRYING OUT PLACEMENT OF PILING ANCHORS.

DESIGN REFERENCE STANDARDS:

AS 3600	-	CONCRETE STRUCTURES
AS 4100	-	STEEL STRUCTURES
AS1170	-	STRUCTURAL DESIGN ACTIONS
AS 1012	-	CONCRETE TESTING
AS 1289	-	SOIL TESTING
AS 1379	-	CONCRETE MANUFACTURE
AS 1478	-	CONCRETE ADMIXTURES
AS/NZS 4671	-	STEEL REINFORCING MATERIALS
AS/NZS 4680	-	HOT DIP GALVANIZING (ZINC) COATINGS
AS 1554	-	STRUCTURAL STEEL WELDING
AS4673	-	STAINLESS STEEL STRUCTURES
AS2312	-	GUIDE TO THE PROTECTION OF IRON & STEEL AGAINST EXTERIOR ATMOSPHERIC CORROSION
AS3610	-	FORMWORK FOR CONCRETE
AS2156	-	WALKING TRACKS
AS1428	-	DESIGN FOR ACCESS AND MOBILITY
AS2890	-	OFF STREET CAR PARKING

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5 LANDS WALK CENTRAL COAST · NEW SOUTH WALES

ADDRESS
WINNEY BAY RESERVE
COPACABANA N.S.W.

PROJECT
5 LANDS COASTAL WALKWAY - STAGE 5
CAPTAIN COOK LOOKOUT TO WINNEY BAY

DRAWING TITLE
STRUCTURAL NOTES

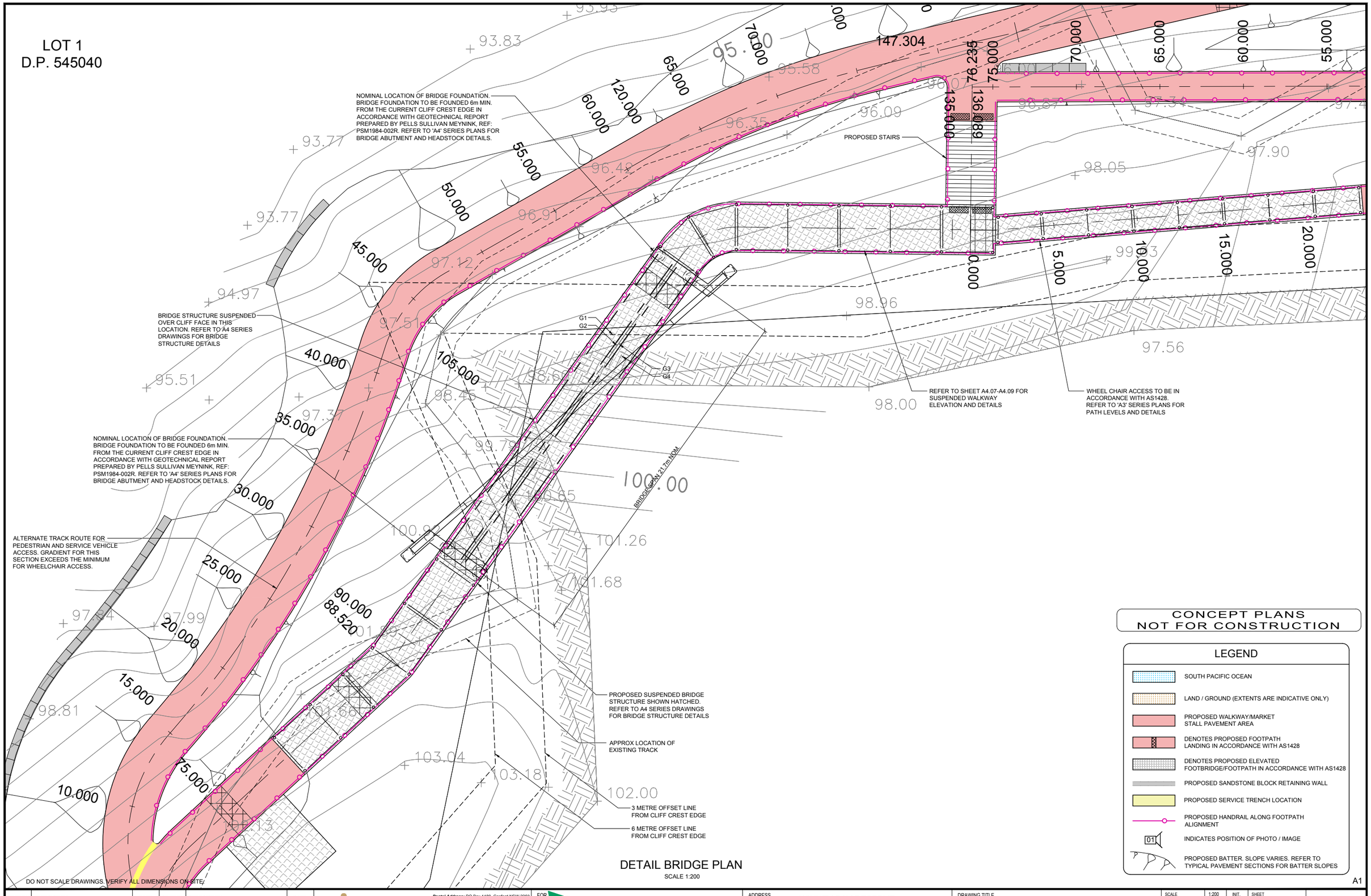
ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed date

		INIT.
SCALE	1:200	
DRAWN	JG/CW	
DESIGNED	CF	
CHECKED	AJG	
DATE	JANUARY 2015	
JOB NUMBER	20140492	

SHEET A4.02
REV D

N W E S

LOT 1
D.P. 545040



DETAIL BRIDGE PLAN
SCALE 1:200

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CONCEPT PLANS
NOT FOR CONSTRUCTION

LEGEND

- SOUTH PACIFIC OCEAN
- LAND / GROUND (EXTENTS ARE INDICATIVE ONLY)
- PROPOSED WALKWAY/MARKET STALL PAVEMENT AREA
- DENOTES PROPOSED FOOTPATH LANDING IN ACCORDANCE WITH AS1428
- DENOTES PROPOSED ELEVATED FOOTBRIDGE/FOOTPATH IN ACCORDANCE WITH AS1428
- PROPOSED SANDSTONE BLOCK RETAINING WALL
- PROPOSED SERVICE TRENCH LOCATION
- PROPOSED HANDRAIL ALONG FOOTPATH ALIGNMENT
- 01 INDICATES POSITION OF PHOTO / IMAGE
- PROPOSED BATTER. SLOPE VARIES. REFER TO TYPICAL PAVEMENT SECTIONS FOR BATTER SLOPES

A1

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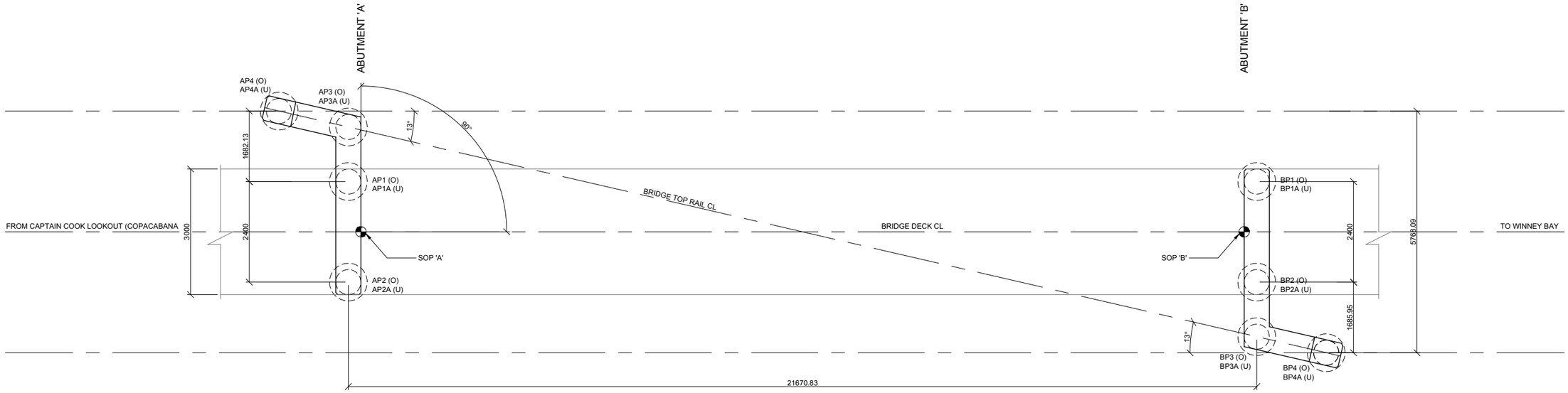
DETAIL BRIDGE PLAN

ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed date

SCALE	1:200	INIT.
DRAWN	JG/CW	
DESIGNED	CF	
CHECKED	AJG	
DATE	JANUARY 2015	
JOB NUMBER	20140492	

SHEET A4.03
REV D

N E S W

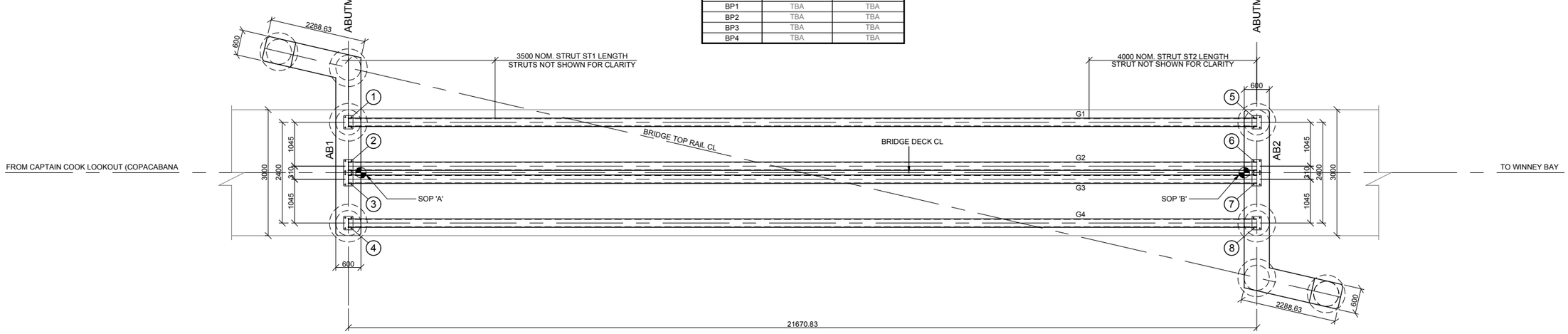


PILING SETOUT PLAN

Scale 1:50

SETOUT POINT DETAILS			
SETOUT POINT	EASTING	NORTHING	COMMENTS
SOP 'A'	TBA	TBA	CENTRE OF ABUTMENT HEADSTOCK
SOP 'B'	TBA	TBA	CENTRE OF ABUTMENT HEADSTOCK

PILES SETOUT CO-ORDINATES		
PILE SETOUT CO-ORDINATES LISTED BELOW ARE MEASURED AT THE UNDERSIDE OF THE ABUTMENT		
PILE No.	EASTING	NORTHING
AP1	TBA	TBA
AP2	TBA	TBA
AP3	TBA	TBA
AP4	TBA	TBA
BP1	TBA	TBA
BP2	TBA	TBA
BP3	TBA	TBA
BP4	TBA	TBA



FIXED END

ABUTMENT HEADSTOCK PLAN

Scale 1:50

FREE END

TOP OF BEARING R.L.'s			
BEARING No.	TOP OF BEARING R.L.	BEARING No.	TOP OF BEARING R.L.
1	TBA	5	TBA
2	TBA	6	TBA
3	TBA	7	TBA
4	TBA	8	TBA

CONCEPT PLANS
NOT FOR CONSTRUCTION

DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS ON SITE.

A1

REVISION	DESCRIPTION	DATE	REVISION	DESCRIPTION	DATE
A	RE-ISSUE TO	24.06.15			
	QUANTITY SURVEYOR				
B	90% ISSUE	29.06.15			
C	COUNCIL APPROVAL	19.08.15			

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FOR GOSFORD CITY COUNCIL CENTRAL COAST — 5 LANDS WALK CENTRAL COAST · NEW SOUTH WALES

ADDRESS
WINNEY BAY RESERVE
COPACABANA N.S.W.

PROJECT
5 LANDS COASTAL WALKWAY - STAGE 5
CAPTAIN COOK LOOKOUT TO WINNEY BAY

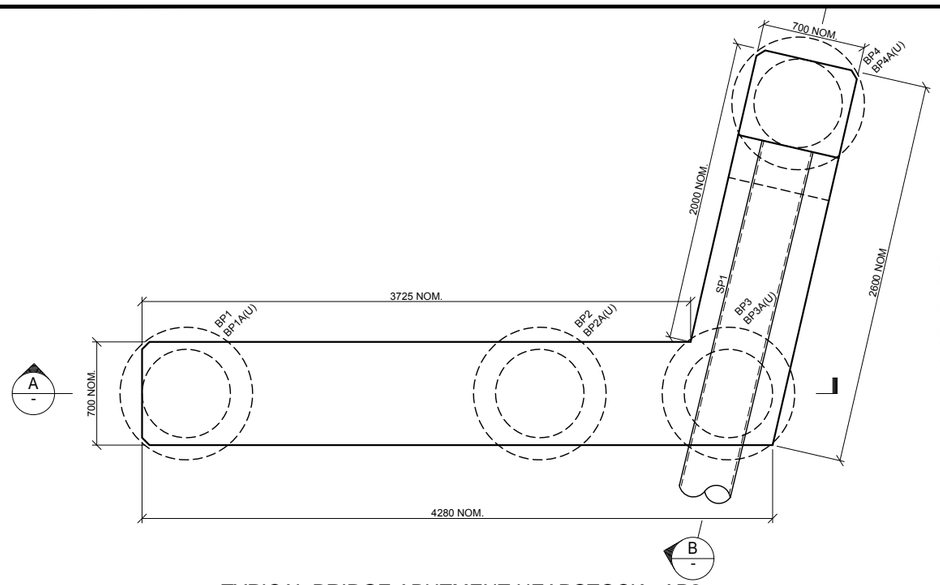
DRAWING TITLE
BRIDGE PILING AND ABUTMENT SETOUT PLAN

ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed date

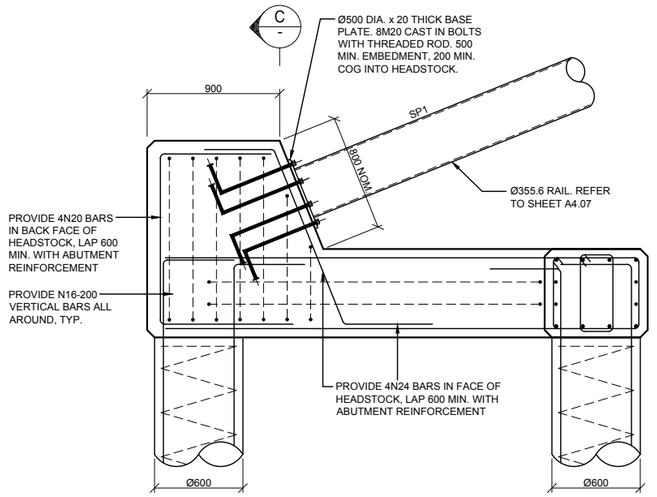
SCALE	1:100	INIT.
DRAWN	JG/CW	
DESIGNED	CF	
CHECKED	AJG	
DATE	JANUARY 2015	
JOB NUMBER	20140492	

SHEET A4.04
REV C

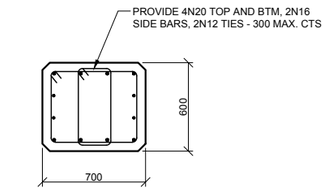
N W E S



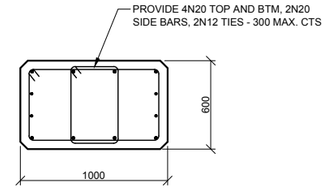
TYPICAL BRIDGE ABUTMENT HEADSTOCK - AB2
AB1 SIMILAR
Scale 1:20



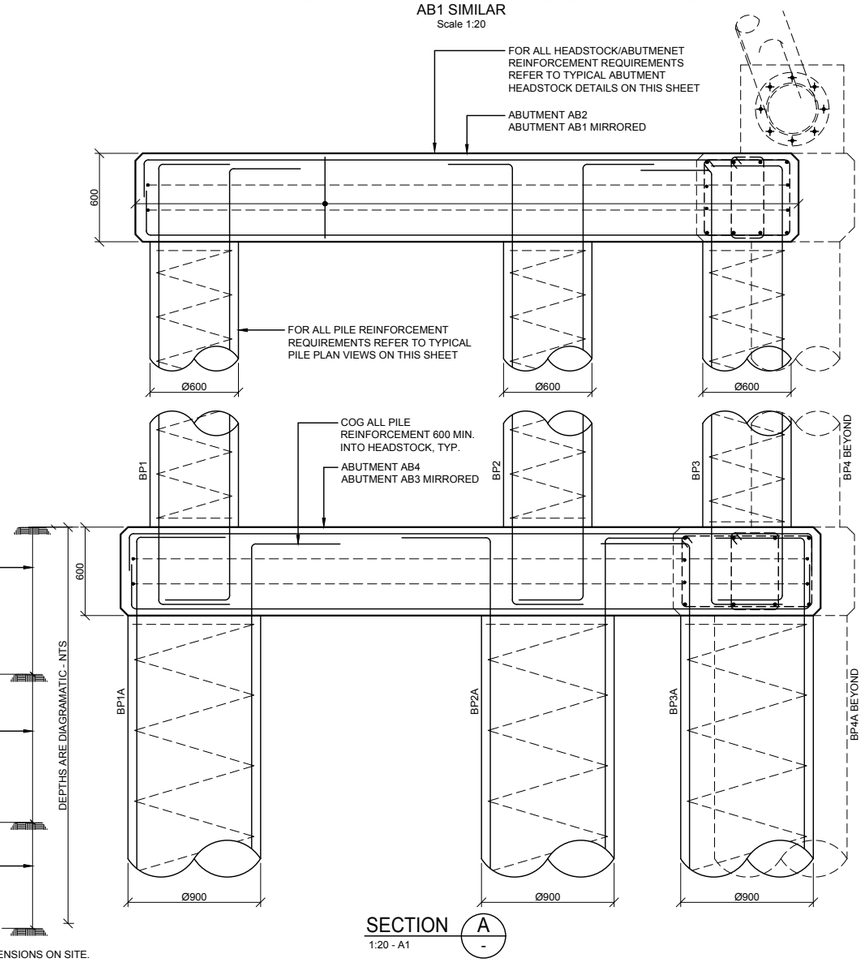
SECTION B
1:20 - A1



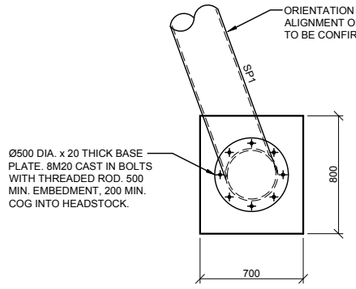
TYPICAL BRIDGE ABUTMENT HEADSTOCK - AB1
AB2 SIMILAR
Scale 1:20



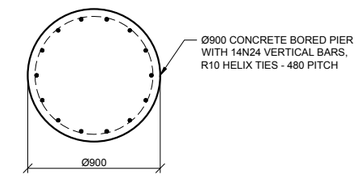
TYPICAL BRIDGE ABUTMENT HEADSTOCK - AB3
AB4 SIMILAR
Scale 1:20



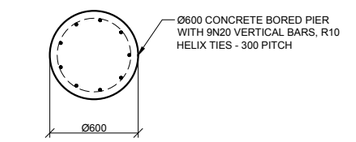
SECTION A
1:20 - A1



SECTION C
1:20 - A1



TYPICAL PILE - BP1A/BP2A/BP3A/BP4A
AP1A/AP2A/AP3A /AP4A SIMILAR
Scale 1:20



TYPICAL PILE - BP1/BP2/BP3/BP4
AP1/AP2/AP3/AP4 SIMILAR
Scale 1:20

DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS ON SITE.

CONCEPT PLANS NOT FOR CONSTRUCTION

A1

REVISION	DESCRIPTION	DATE	REVISION	DESCRIPTION	DATE
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FOR GOSFORD CITY COUNCIL CENTRAL COAST
5 LANDS WALK CENTRAL COAST · NEW SOUTH WALES

ADDRESS
WINNEY BAY RESERVE
COPACABANA N.S.W.

PROJECT
5 LANDS COASTAL WALKWAY - STAGE 5
CAPTAIN COOK LOOKOUT TO WINNEY BAY

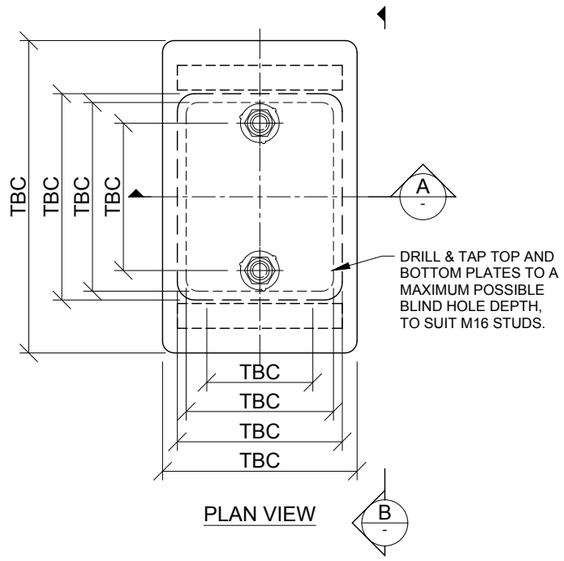
DRAWING TITLE
BRIDGE PILE AND ABUTMENT STRUCTURAL DETAIL

SCALE	1:20	INIT.
DRAWN	JG/CW	
DESIGNED	CF	
CHECKED	AJG	
DATE	JANUARY 2015	
JOB NUMBER	20140492	

ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed date

SHEET A4.05
REV C

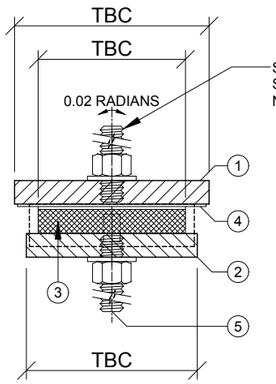
N W E S



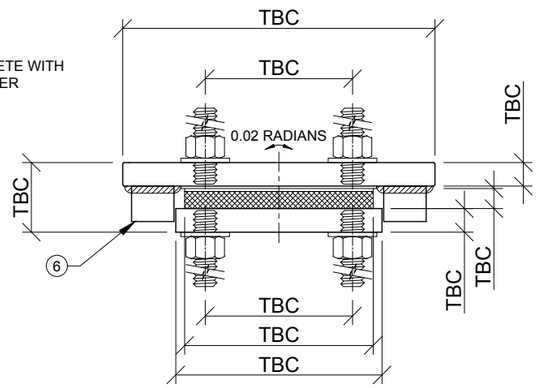
PLAN VIEW

BEARING DESIGN PARAMETERS	
MAXIMUM VERTICAL WORKING LOAD	= 200 kN
MAXIMUM TRANSVERSE WORKING LOAD	= 60 kN
ROTATION	= 0.02 Rad.

HLD/FX-200 PARTS SCHEDULE



SECTION A



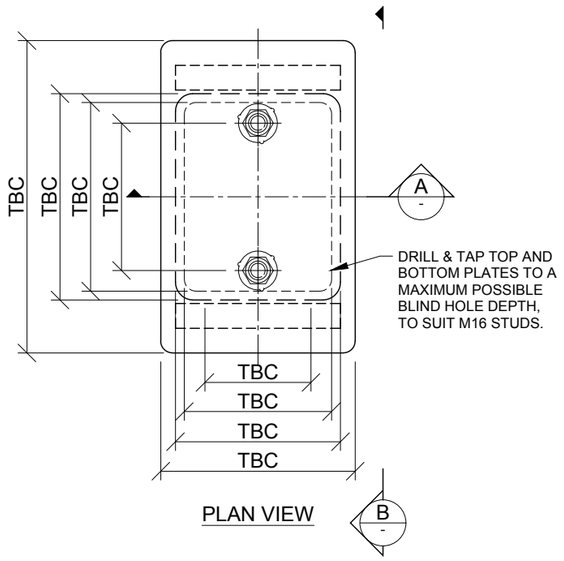
ELEVATION B

BEARINGS (2 REQUIRED) - ABUTMENT HEADSTOCK 'A' ONLY

Scale 1:2.5

'HERCULES ENGINEERING' PART IDENTIFICATION REFERENCE: HLD/FX-200

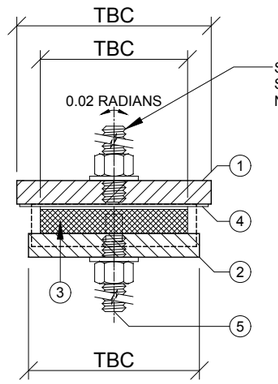
ALL DIMENSIONS AND DETAILS TO BE CONFIRMED BY 'HERCULES ENGINEERING'



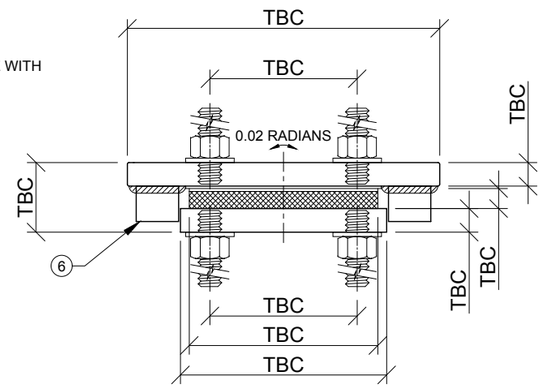
PLAN VIEW

BEARING DESIGN PARAMETERS	
MAXIMUM VERTICAL WORKING LOAD	= 200 kN
MAXIMUM TRANSVERSE WORKING LOAD	= 60 kN
MOVEMENT CAPACITY	= +/-40mm
ROTATION	= 0.02 Rad.

HLD/SG-200 PARTS SCHEDULE



SECTION A



ELEVATION B

BEARINGS (2 REQUIRED) - ABUTMENT HEADSTOCK 'B' ONLY

Scale 1:2.5

'HERCULES ENGINEERING' PART IDENTIFICATION REFERENCE: HLD/SG-200

ALL DIMENSIONS AND DETIALS TO BE CONFIRMED BY 'HERCULES ENGINEERING'

CONCEPT PLANS
NOT FOR CONSTRUCTION

DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS ON SITE.

A1

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FOR GOSFORD CITY COUNCIL CENTRAL COAST

5 LANDS WALK CENTRAL COAST · NEW SOUTH WALES

ADDRESS
WINNEY BAY RESERVE
COPACABANA N.S.W.

PROJECT
5 LANDS COASTAL WALKWAY - STAGE 5
CAPTAIN COOK LOOKOUT TO WINNEY BAY

DRAWING TITLE
BRIDGE BEARING PAD DETAILS

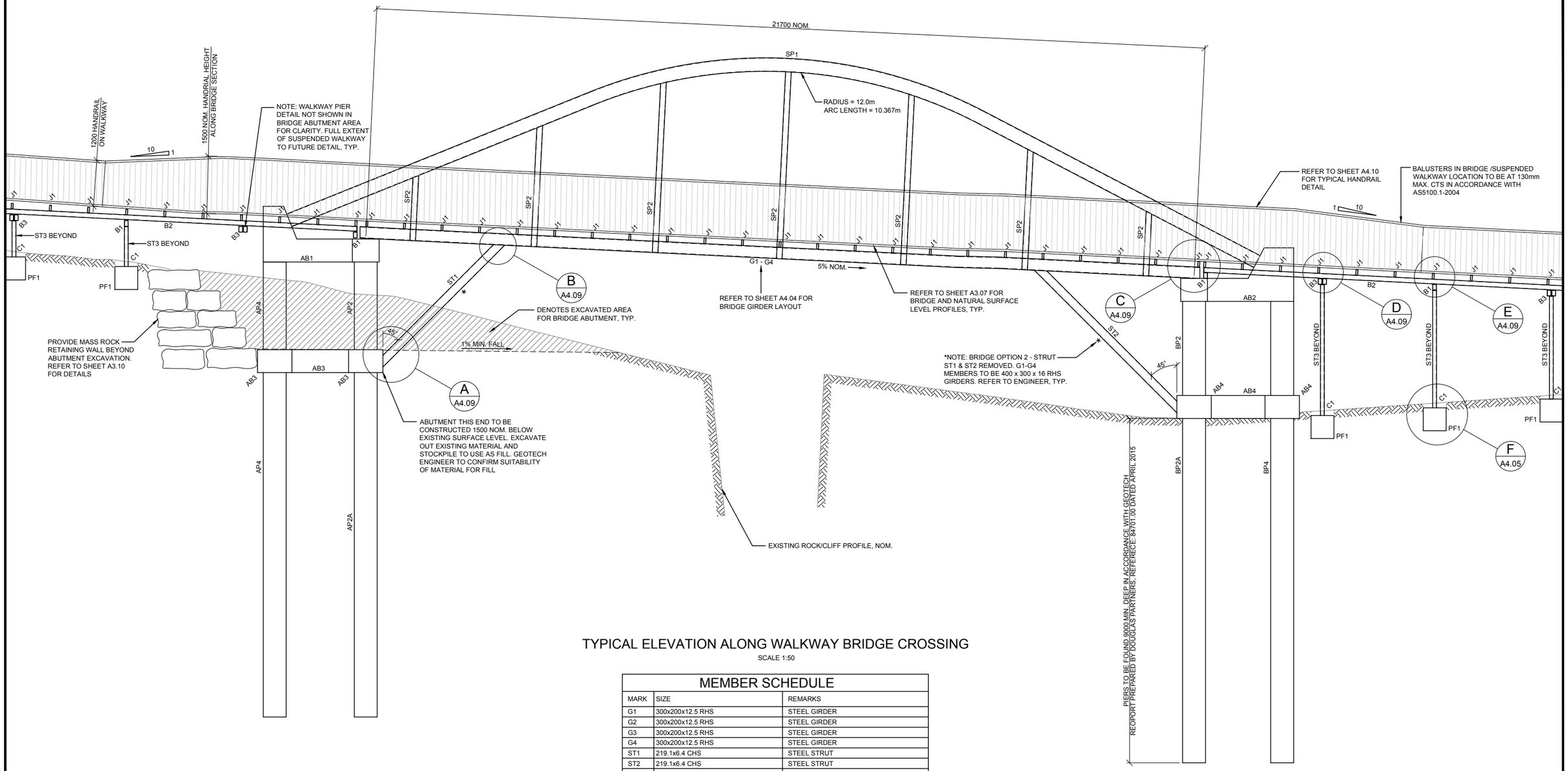
ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed
date

SCALE	1:2.5	INIT.
DRAWN	JG/CW	
DESIGNED	CF	
CHECKED	AJG	
DATE	JANUARY 2015	
JOB NUMBER	20140492	

SHEET A4.06

REV C

N W E S



TYPICAL ELEVATION ALONG WALKWAY BRIDGE CROSSING

SCALE 1:50

MEMBER SCHEDULE

MARK	SIZE	REMARKS
G1	300x200x12.5 RHS	STEEL GIRDER
G2	300x200x12.5 RHS	STEEL GIRDER
G3	300x200x12.5 RHS	STEEL GIRDER
G4	300x200x12.5 RHS	STEEL GIRDER
ST1	219.1x6.4 CHS	STEEL STRUT
ST2	219.1x6.4 CHS	STEEL STRUT
ST3	101.6x3.2 CHS	STEEL STRUT - REFER SHEET A4.09
SP1	355.6x12.7 CHS	STEEL SPINE MEMBER
SP2	101.6x3.2 CHS	STEEL SPINE RIB MEMBERS
J1	150x50x5.0 RHS - 1000 MAX. CTS	BRIDGE STEEL JOIST MEMBERS
B1	150x100x6.0 RHS	STEEL BEARER
B2	125x125x5.0 SHS	STEEL BEARER
B3	2/150x100x6.0 RHS	STEEL BEARER
C1	101.6x3.2 CHS	STEEL COLUMN
AB1	CONCRETE ABUTMENT	REFER SHEET A4.05
AB2	CONCRETE ABUTMENT	REFER SHEET A4.05
AB3	CONCRETE ABUTMENT	REFER SHEET A4.05
AB4	CONCRETE ABUTMENT	REFER SHEET A4.05
AP2	CONCRETE PILE	REFER SHEET A4.05
AP2A	CONCRETE PILE	REFER SHEET A4.05
AP4	CONCRETE PILE	REFER SHEET A4.05
BP2	CONCRETE PILE	REFER SHEET A4.05
BP2A	CONCRETE PILE	REFER SHEET A4.05
BP4	CONCRETE PILE	REFER SHEET A4.05
PF1	CONCRETE PAD FOOTING	REFER SHEET A4.05

CONCEPT PLANS
NOT FOR CONSTRUCTION

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FOR GOSFORD CITY COUNCIL CENTRAL COAST — 5 LANDS WALK CENTRAL COAST · NEW SOUTH WALES

ADDRESS
WINNEY BAY RESERVE
COPACABANA N.S.W.

PROJECT
5 LANDS COASTAL WALKWAY - STAGE 5
CAPTAIN COOK LOOKOUT TO WINNEY BAY

DRAWING TITLE
TYPICAL BRIDGE ELEVATION

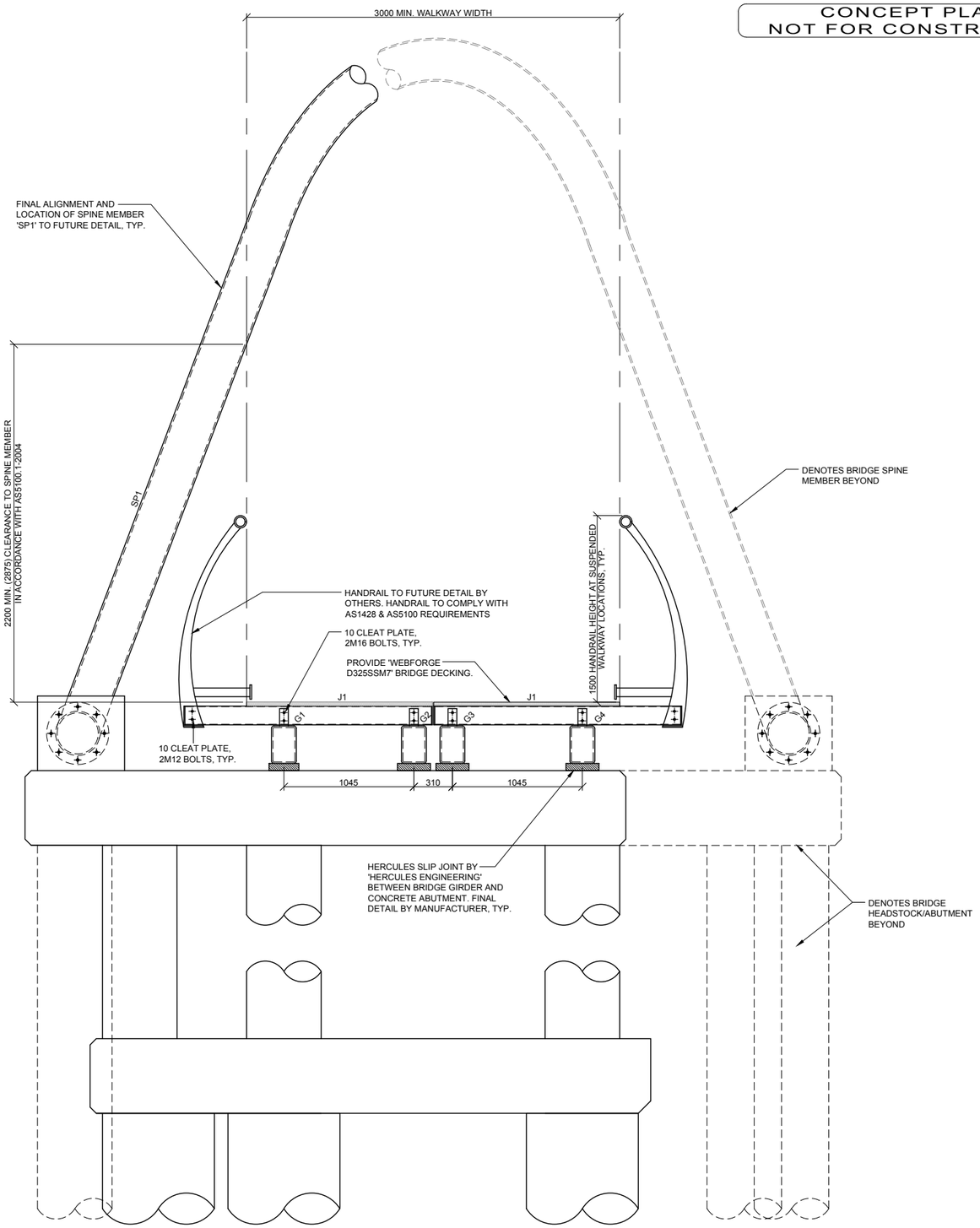
ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed date

SCALE	1:50	INIT.
DRAWN	JG/CW	
DESIGNED	CF	
CHECKED	AJG	
DATE	JANUARY 2015	
JOB NUMBER	20140492	

SHEET A4.07
REV C

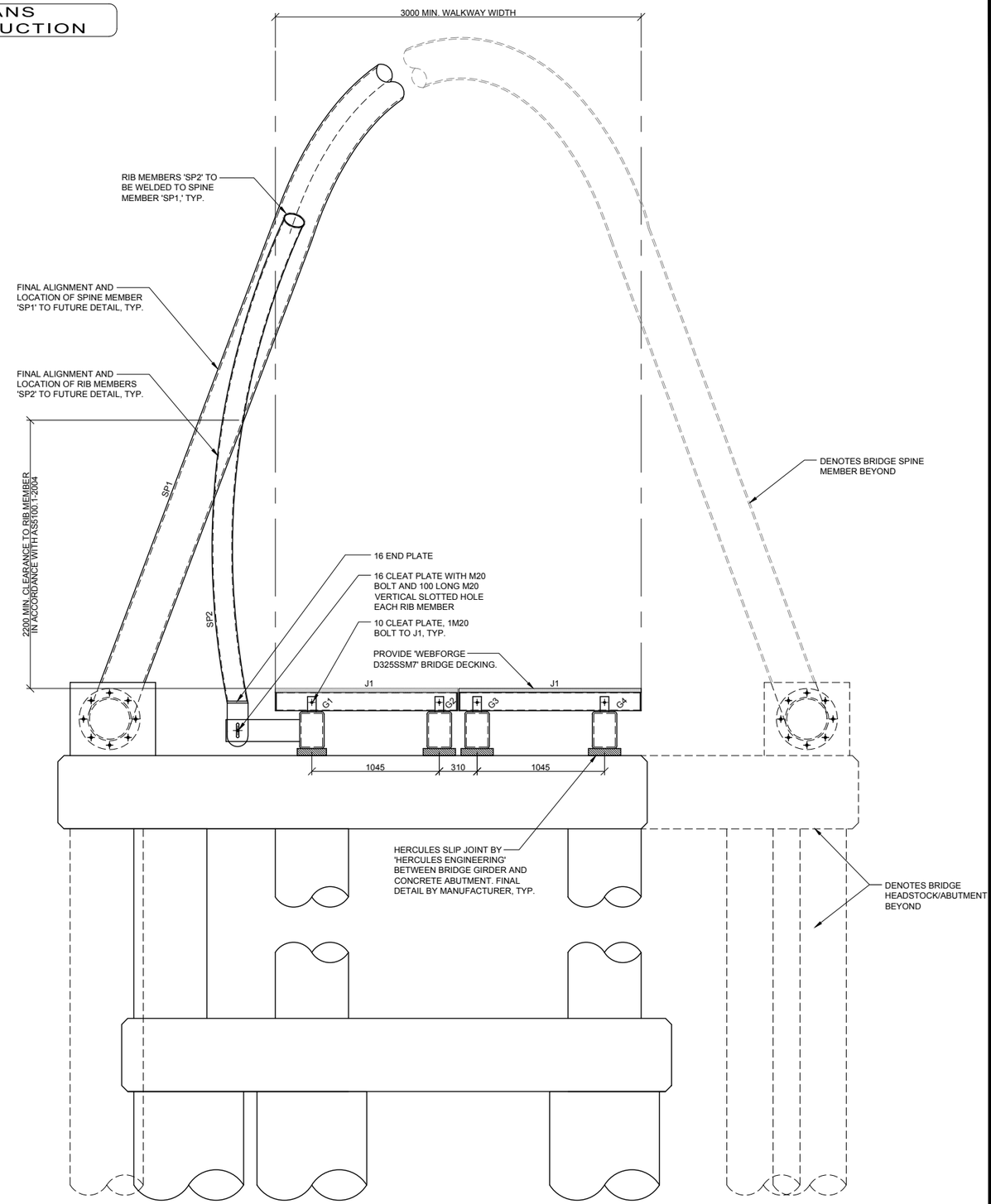
N W E S

CONCEPT PLANS
NOT FOR CONSTRUCTION



TYPICAL SECTION THROUGH WALKWAY BRIDGE SHOWING HANDRAIL DETAIL

SCALE 1:20



TYPICAL SECTION THROUGH WALKWAY BRIDGE SHOWING SPINE RIB MEMBERS

SCALE 1:20

DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS ON SITE.

A1

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FOR GOSFORD CITY COUNCIL CENTRAL COAST
5 LANDS WALK CENTRAL COAST · NEW SOUTH WALES

ADDRESS
WINNEY BAY RESERVE
COPACABANA N.S.W.

PROJECT
5 LANDS COASTAL WALKWAY - STAGE 5
CAPTAIN COOK LOOKOUT TO WINNEY BAY

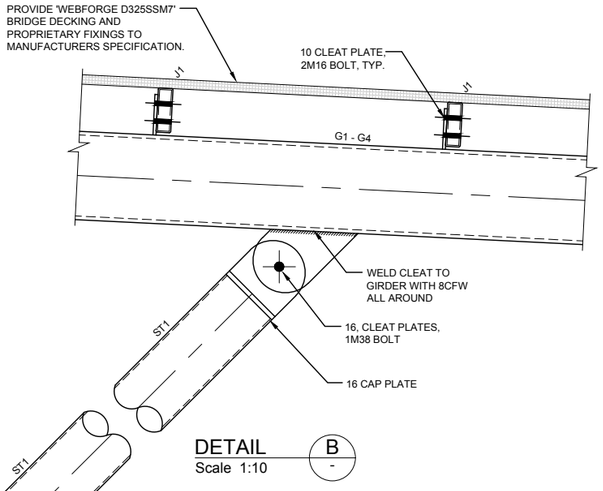
DRAWING TITLE
TYPICAL BRIDGE SECTION

ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed
date

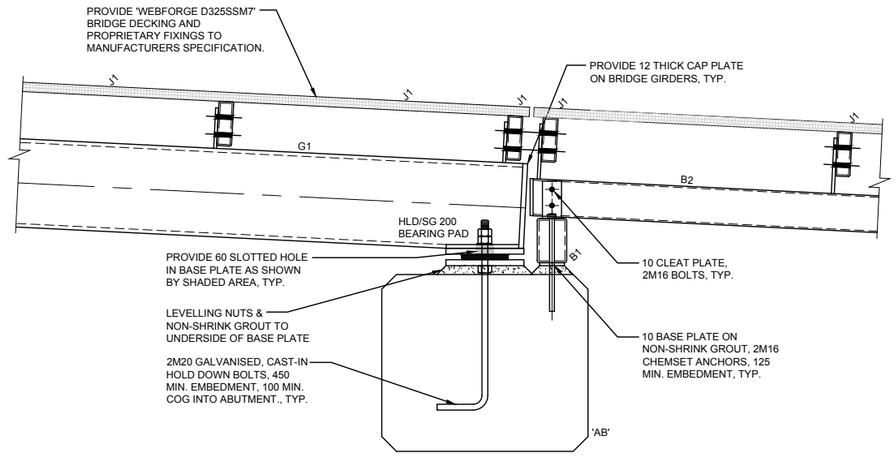
SCALE	1:20	INIT.
DRAWN	JG/CW	
DESIGNED	CF	
CHECKED	AJG	
DATE	JANUARY 2015	
JOB NUMBER	20140492	

SHEET A4.08
REV C

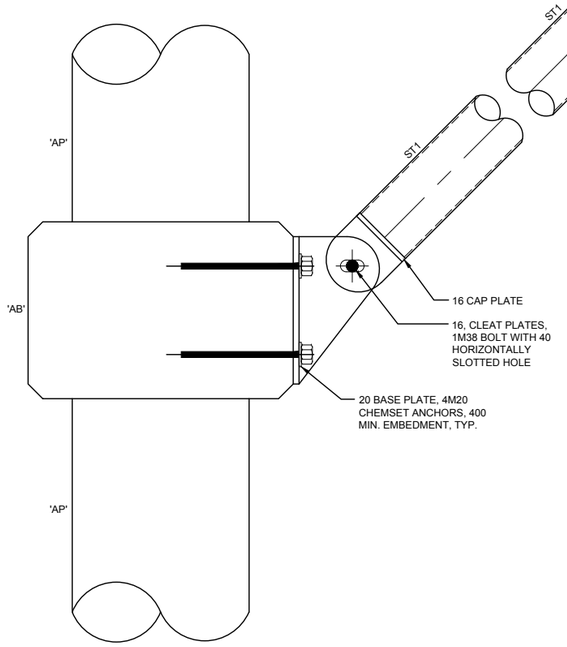
N W E S



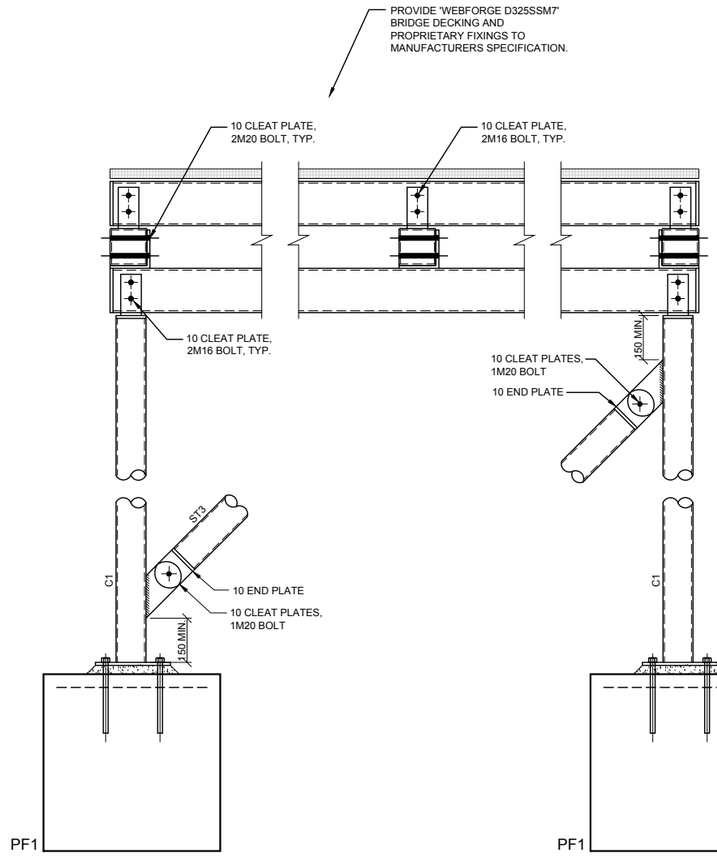
DETAIL B
Scale 1:10



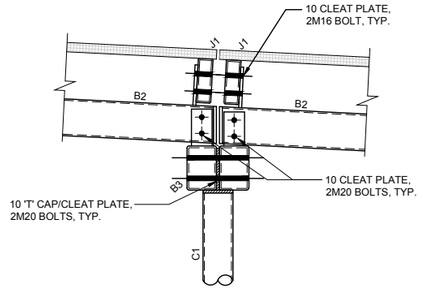
DETAIL C
Scale 1:10



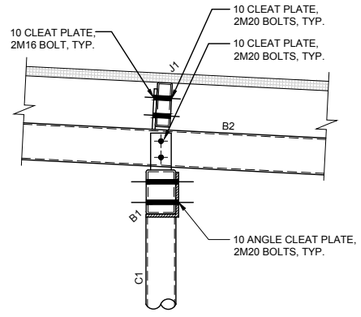
DETAIL A
Scale 1:10



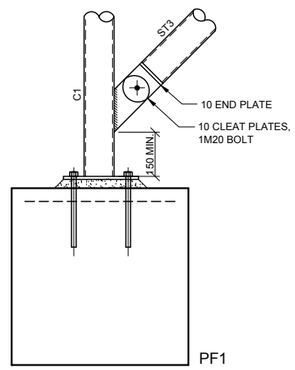
TYPICAL ELEVATION THROUGH SUSPENDED WALKWAY
Scale 1:10



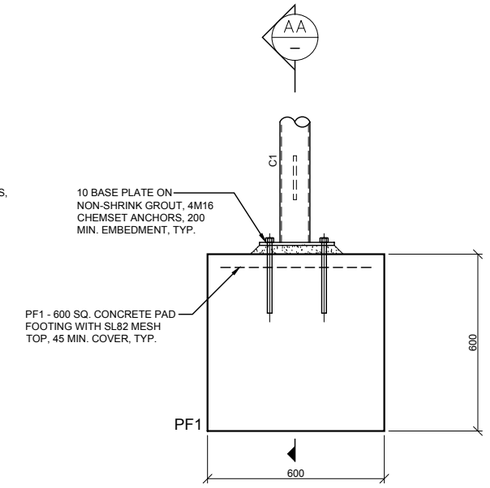
DETAIL D
Scale 1:10



DETAIL E
Scale 1:10



SECTION AA
Scale 1:10



DETAIL F
Scale 1:10

CONCEPT PLANS
NOT FOR CONSTRUCTION

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A1

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FOR GOSFORD CITY COUNCIL CENTRAL COAST
5 LANDS WALK CENTRAL COAST · NEW SOUTH WALES

ADDRESS
WINNEY BAY RESERVE
COPACABANA N.S.W.

PROJECT
5 LANDS COASTAL WALKWAY - STAGE 5
CAPTAIN COOK LOOKOUT TO WINNEY BAY

DRAWING TITLE
STRUCTURAL CONNECTION DETAILS SHEET 1

ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed date

SCALE	1:10	INIT.
DRAWN	JG/CW	
DESIGNED	CF	
CHECKED	AJG	
DATE	JANUARY 2015	
JOB NUMBER	20140492	

SHEET A4.09
REV C

N W E S

PROPOSED WINNEY BAY CLIFFTOP WALK, 5 LANDS COASTAL WALKWAY - STAGE 5, CAPTAIN COOK LOOKOUT - WINNEY BAY

AT

COPACABANA, NSW

FOR

GOSFORD CITY COUNCIL

A5 SERIES - PLATFORM STRUCTURAL PLANS AND DETAILS

LOCALITY PLAN

DRAWING LIST

A5.01	PLATFORM STRUCTURE COVER SHEET
A5.02	STRUCTURAL NOTES
A5.03	DETAIL PLATFORM STRUCTURE PLAN
A5.04	PLATFORM STRUCTURE PILING AND ABUTMENT SETOUT PLAN
A5.05	PLATFORM STRUCTURE MARKING PLAN
A5.06	PLATFORM STRUCTURE DETAILS SHEET 1
A5.07	PLATFORM STRUCTURE DETAILS SHEET 2
A5.08	PLATFORM STRUCTURE DETAILS SHEET 3

RGH CONSULTING GROUP
Multi-discipline Engineering

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CONCEPT PLANS
NOT FOR CONSTRUCTION

DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS ON SITE.

A1

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A	RE-ISSUE TO	24.06.15			
	QUANTITY SURVEYOR				
B	90% ISSUE	29.06.15			
C	COUNCIL APPROVAL	19.08.15			

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FOR GOSFORD CITY COUNCIL CENTRAL COAST

5 LANDS WALK CENTRAL COAST · NEW SOUTH WALES

ADDRESS
WINNEY BAY RESERVE
COPACABANA N.S.W.

PROJECT
5 LANDS COASTAL WALKWAY - STAGE 5
CAPTAIN COOK LOOKOUT TO WINNEY BAY

DRAWING TITLE
PLATFORM STRUCTURE
COVER SHEET AND NOTES

ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed date

SCALE	NTS	INIT.	
DRAWN	JG/CW		
DESIGNED	CF		
CHECKED	AJG		
DATE	JANUARY 2015		
JOB NUMBER	20140492		

SHEET A5.01

REV C

N E S W

CONCRETE (C)

C01. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600, AS 1379 & AS 3610 CURRENT EDITIONS WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.

C02 ALL CEMENT TO BE TYPE SL, SHRINKAGE LIMITED CEMENT IN ACCORDANCE WITH AS3972, EXCEPT THAT THE MAXIMUM SHRINKAGE OF THE CEMENT IN THE MORTAR TEST SAMPLE IN ACCORDANCE WITH AS3600 SHALL BE LESS THAN 600 MICROSTRAIN.

ELEMENT	STRENGTH GRADE (MPa)	SLUMP (mm)	MAXIMUM AGGREG. SIZE (mm)	MINIMUM CEMENT CONTENT (kg/cu.m)
SLABS	S65	80	20	250
FOOTINGS	S65	80	20	250

PROJECT ASSESSMENT SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1379 CLAUSE B7.

C03.
a. ALL CONCRETE IN SLABS AND BEAMS TO BE PROPORTIONED TO LIMIT DRYING SHRINKAGE TO 650 MICROSTRAIN AT 56 DAYS.
b. DETAILS OF THE PROPOSED MIX TO BE SUBMITTED & APPROVAL OBTAINED PRIOR TO POURING ANY CONCRETE.
c. SHRINKAGE TESTS SHALL BE CARRIED OUT BY AN APPROVED NATA REGISTERED LABORATORY IN ACCORDANCE WITH AS 1012 PART 13. TESTS SHALL BE CONDUCTED ON THE FIRST BATCH OF CONCRETE USED IN SUSPENDED SLABS AND SUBSEQUENTLY AT THE RATE OF ONE TEST EVERY ADDITIONAL 100m³ OF CONCRETE SUPPLIED. THREE SPECIMENS SHALL BE TAKEN FOR EACH TEST AND THE SHRINKAGE SHALL BE THE AVERAGE OF THE THREE RESULTS.
THE COST OF TESTING SHALL BE BORNE BY THE CONTRACTOR AS SHALL ANY ADDITIONAL TESTS REQUIRED IF THE CONCRETE FAILS TO MEET THE SPECIFIED SHRINKAGE LIMITS.

C04. NO ADMIXTURES OTHER THAN LOW RANGE WRA SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING.

C05. CLEAR CONCRETE COVER TO ALL REINFORCEMENT SHALL BE AS FOLLOWS UNLESS SHOWN OTHERWISE. COVER MAY NEED TO BE INCREASED FOR FIRE RATING.

EXPOSURE CLASS TO AS *3600*	MINIMUM CONCRETE GRADE	CAST AGAINST GROUND	CAST IN FORMS & EXPOSED	CAST IN FORMS & NOT EXPOSED
A1 (INTERNAL)	20	40mm	-	20mm
A2 (EXTERNAL)	20	50mm	30mm	-
B1 (EXTERNAL)	32	60mm	40mm	-
B2 (EXTERNAL)	40	65mm	45mm	-
C2	50	65mm	-	-

NOTE: WHERE CONCRETE IS POURED ON A VAPOURPROOF MEMBRANE 0.2mm MINIMUM THICKNESS, THE COVER TO CONCRETE CAST AGAINST GROUND MAY BE REDUCED BY 10mm.

C06. CONCRETE SIZES SHOWN DO NOT INCLUDE THICKNESSES OF APPLIED FINISHES. NO FINISH WHICH DECREASES COVER IS ALLOWED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.

C07. DEPTHS OF BEAMS ARE GIVEN FIRST AND INCLUDE SLAB THICKNESS.

C08. FOR CHAMFERS, DRIP GROOVES, REGLETS, ETC. REFER TO ARCHITECT'S DETAILS, MAINTAIN COVER TO REINFORCEMENT AT THESE DETAILS.

C09. NO HOLES, CHASES, BLOCKOUTS, DUCTS OR EMBEDMENT OF PIPES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ENGINEER.

C10. CONSTRUCTION JOINTS WHERE NOT SHOWN SHALL BE LOCATED TO THE APPROVAL OF THE ENGINEER.

C11. ALL CONCRETE COLUMNS GREATER THAN 1.2 METRES IN HEIGHT SHALL BE POURED A MINIMUM OF 4 HOURS PRIOR TO SLAB OR BEAM OVER.

C12. THE FINISHED CONCRETE SHALL BE MECHANICALLY VIBRATED TO ACHIEVE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS. ALL CONCRETE INCLUDING SLABS ON GROUND AND FOOTINGS SHALL BE COMPACTED WITH MECHANICAL VIBRATORS.

C13. CURING OF ALL CONCRETE IS TO BE ACHIEVED BY KEEPING SURFACES CONTINUOUSLY WET FOR A PERIOD OF THREE DAYS, AND THE PREVENTION OF LOSS OF MOISTURE FOR A TOTAL OF 7 DAYS FOLLOWED BY A GRADUAL DRYING OUT. APPROVED SPRAYED ON CURING COMPOUNDS THAT COMPLY WITH AS 3799 MAY BE USED WHERE FLOOR FINISHES WILL NOT BE AFFECTED (REFER MANUFACTURERS SPECIFICATION). POLYTHENE SHEETING OR WET HESSIAN MAY BE USED IF PROTECTED FROM WIND AND TRAFFIC.

C14. CONSTRUCTION SUPPORT PROPPING IS TO BE LEFT IN PLACE WHERE NEEDED TO AVOID OVERSTRESSING THE STRUCTURE DUE TO CONSTRUCTION LOADING. NO BRICKWORK OR PARTITION WALLS ARE TO BE CONSTRUCTED ON SUSPENDED LEVELS UNTIL SEVEN DAYS AFTER PROPPING HAS BEEN REMOVED AND THE SLAB PRE-LOADED WITH THE BRICKS OR UNITS TO BE USED IN THE WALL.

C15. REPAIRS TO CONCRETE SHALL NOT BE ATTEMPTED WITHOUT THE PERMISSION OF THE ENGINEER.

C16. CAST-IN FIXINGS, BOLTS ETC. SHALL NOT BE ALTERED WITHOUT THE PERMISSION OF THE ENGINEER.

C17. CONDUITS, PIPES ETC. SHALL ONLY BE LOCATED IN THE MIDDLE THIRD OF THE SLAB DEPTH AND SPACED AT NOT LESS THAN 3 DIAMETERS. CONDUITS AND PIPES SHALL NOT BE PLACED WITHIN THE COVER TO REINFORCEMENT.

C18. SLABS AND BEAMS SHALL BE CONSTRUCTED TO BEAR ONLY ON THE BEAMS, WALLS, COLUMNS ETC. SHOWN ON THE DRAWINGS. ALL OTHER BUILDING ELEMENTS SHALL BE KEPT 12mm CLEAR OF SOFFITS OF STRUCTURE.

C19. PLASTIC FORMWORK SPACERS AND BAR CHAIRS TO BE USED IN ALL EXPOSED CONCRETE WORK.

DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS ON SITE.

REINFORCEMENT (R)

R01. REINFORCEMENT SYMBOLS:

N DENOTES GRADE 500 N BARS TO AS 4671
R DENOTES GRADE 250 R HOT ROLLED PLAIN BARS TO AS 4671
L DENOTES GRADE 500 L HARD-DRAWN WIRE REINFORCING FABRIC TO AS 4671
W DENOTES GRADE 450 W HARD-DRAWN PLAIN WIRE TO AS 4671
TM DENOTES GRADE 500 TRENCH MESH TO AS 4671

NUMBER OF BARS IN GROUP
17N20-250
BAR GRADE AND TYPE
SPACING IN mm
NOMINAL BAR SIZE IN mm

THE FIGURES FOLLOWING THE FABRIC SYMBOLS RL, SL, L .. TM IS THE REFERENCE NUMBER TO AS 4671.

R02. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND NOT NECESSARILY IN TRUE PROJECTION.

R03. SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN POSITIONS SHOWN OR OTHERWISE APPROVED IN WRITING BY THE ENGINEER. LAPS SHALL BE IN ACCORDANCE WITH AS 3600 AND NOT LESS THAN THE DEVELOPMENT LENGTH FOR EACH BAR, AS PER THE TABLE BELOW:

SPLICE LENGTHS (mm)		
BAR SIZE	LESS THAN 300 CONCRETE BELOW BAR OR VERTICAL BAR	
	25MPa	≥32MPa
N12	300	300
N16	550	500
N20	750	650
N24	1000	900
N28	1350	1200
N32	1650	1450
N36	2000	1750
	MORE THAN 300 CONCRETE BELOW BAR BAR	
	25MPa	≥32MPa
N12	400	400
N16	650	600
N20	950	850
N24	1300	1150
N28	1650	1500
N32	2050	1850
N36	2500	2200

BOTTOM BAR LAPPED @ SUPPORTS AND TOP BAR LAPPED AT MID SPAN.

R04. WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE ENGINEER.

R05. FABRIC SHALL BE LAPPED 2 TRANSVERSE WIRES PLUS 25mm. BUNDLED BARS SHALL BE TIED TOGETHER AT 30 BAR DIAMETER CENTRES WITH 3 WRAPS OF THE WIRE.

R06. WHERE TRANSVERSE TIE BARS ARE NOT SHOWN PROVIDE N12-400 SPLICED WHERE NECESSARY AND LAP WITH MAIN BARS 400mm UNLESS NOTED.

R07. JOGGLES TO BARS SHALL COMPRISE A LENGTH OF 12 BAR DIAMETERS BETWEEN BEGINNING AND END OF AN OFFSET OF 1 BAR DIAMETER.

R08. ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON MILD STEEL PLASTIC TIPPED CHAIRS, PLASTIC CHAIRS OR CONCRETE CHAIRS AT NOT GREATER THAN 1 METRE CENTRES BOTH WAYS, AND 800 EACH WAY FOR FABRIC. WHEN POURED ON GROUND AS FORMWORK PROVIDE PLATES UNDER ALL BAR CHAIRS. PLASTIC TIPPED STEEL CHAIRS SHALL NOT BE USED ON EXPOSED FACES IN EXPOSURE CLASSIFICATION B1, B2 AND C ONLY PLASTIC OR PLASTIC OR CONCRETE CHAIRS.

R09. AT A SIMPLE OR END SUPPORT OF A SLAB ON A MASONRY WALL, ALL BOTTOM SLAB REINFORCEMENT SHALL EXTEND OVER THE MASONRY WALL BY A LENGTH 75mm FOR N12 BARS & 95mm FOR N16 BARS. IF THIS CANNOT BE ACHIEVED DUE TO COVER REQUIREMENTS THEN THE BARS SHALL BE COGGED. FOR FABRIC THE LAST WELDED CROSS ROD SHALL BE LOCATED OVER THE WALL AND 50mm MINIMUM BEYOND THE FACE OF THE WALL.

R10. SITE BENDING OF REINFORCEMENT SHALL BE AVOIDED IF POSSIBLE. WHERE SITE BENDING IS UNAVOIDABLE IT SHALL BE CARRIED OUT COLD, WITHOUT THE APPLICATION OF HEAT, AND IN ACCORDANCE WITH THE PRACTICE NOTE RPN1 OF THE STEEL REINFORCEMENT INSTITUTE OF AUSTRALIA.

R11. THE STRUCTURAL ENGINEER SHALL BE GIVEN 24 HOURS NOTICE FOR REINFORCEMENT INSPECTION AND CONCRETE SHALL NOT BE DELIVERED UNTIL FINAL APPROVAL HAS BEEN OBTAINED FROM THE STRUCTURAL ENGINEER.

STRUCTURAL STEEL (SS)

S01. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 4100 AND AS 1554 EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.

S02. UNLESS NOTED OTHERWISE ALL MATERIAL SHALL BE:
- GRADE 250 HOT-ROLLED PLATES COMPLYING WITH AS 3678;
- GRADE 250 HOT-ROLLED FLATS,.
- GRADE 300PLUS UB, UC, PFC, ANGLES, AND TFB,
- GRADE 300 WB, WC COMPLYING WITH AS 3679.2;
- GRADE C350 RHS, CHS COMPLYING WITH AS 1163;

S03. THREE(3) COPIES OF WORKSHOP FABRICATION DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AT LEAST 7 DAYS PRIOR TO COMMENCEMENT OF FABRICATION AND PERMISSION TO USE OBTAINED PRIOR TO FABRICATION. PERMISSION TO USE DOES NOT RELIEVE THE BUILDER OF THE FULL RESPONSIBILITY FOR DIMENSIONS, FIT AND COMPLIANCE WITH ARCHITECTURAL AND ENGINEERING DRAWINGS.

S04. BOLTS:-
- 4.6/S - COMMERCIAL BOLTS OF GRADE 4.6 TO AS 1111, SNUG TIGHTENED.
- 8.8/S - HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS 1252, SNUG TIGHTENED.
- 8.8/TB - HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS 1252 FULLY TENSIONED TO AS 4100 AS BEARING JOINT.
- 8.8/TF - HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS 1252 FULLY TENSIONED TO AS 4100 AS A FRICTION JOINT WITH FACING SURFACES LEFT UNCOATED.

ALL BOLTS SHALL BE M20 GRADE 8.8/S UNLESS NOTED. NO CONNECTION SHALL HAVE LESS THAN 2 BOLTS. ALL BOLTS, NUTS & WASHERS TO BE GALVANISED. TB AND TF BOLTS TO BE INSTALLED USING APPROVED LOAD INDICATING WASHERS, OR BY TURN OF NUT CONTROL OF TENSIONING.

S05. WELDING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1554.1. WELDING S5 CONSUMABLES SHALL BE E48XX OR W50X U.N.O. ALL WELD SHALL BE 6 MM CFW SP CATEGORY U.N.O. CPBW SHALL BE SP CATEGORY U.N.O. INSPECTION SHALL BE CARRIED OUT TO AS 1554.1. ALL GP/SP WELDS SHALL BE 100% VISUALLY SCANNED.
BUTT WELDS SHALL BE COMPLETE PENETRATION WELDS TO AS 1554.

S06. ALL DETAILS, GAUGE LINES ETC. WHERE NOT SPECIFICALLY SHOWN ARE TO BE IN ACCORDANCE WITH AISC DESIGN CAPACITY TABLES FOR STRUCTURAL STEEL AND AISC STANDARDIZED STRUCTURAL CONNECTIONS. PLATES TO BE 10mm THICK, EX-STANDARD SQUARE EDGE FLATS U.N.O.

S07. STEELWORK TO BE CONCRETE ENCASED SHALL BE WRAPPED WITH F41 STEELWIRE FABRIC AND SHALL HAVE 50mm MINIMUM CONCRETE COVER TO THE STRUCTURAL STEEL.

S08. PROVIDE SEAL PLATES TO ALL HOLLOW SECTIONS. PROVIDE VENT HOLES TO HOLLOW MEMBERS & DRAIN HOLES TO ALL MEMBERS TO BE HOT DIP GALVANISED.

S09. IT IS THE BUILDER'S RESPONSIBILITY TO ENSURE THAT STEELWORK IS SECURELY TEMPORARILY BRACED AS NECESSARY TO STABILISE THE STRUCTURE DURING ERECTION.

S10. STRUCTURAL STEELWORK SHALL HAVE THE FOLLOWING SURFACE TREATMENT IN ACCORDANCE WITH THE SPECIFICATION.

	ELEMENT	SURFACE CLEANING	PROTECTIVE COATING
•	EXTERNAL	MECHANICAL	HOT DIPPED GALV. + 2 COAT EPOXY TO MANUF. SPEC.

S11. THE BUILDER SHALL PROVIDE ALL CLEATS AND DRILL ALL HOLES NECESSARY FOR FIXING STEEL TO STEEL AND TIMBER TO STEEL WHETHER OR NOT DETAILED ON THE DRAWINGS.

S12. THE FABRICATION AND ERECTION OF THE STRUCTURAL STEELWORK SHALL BE UNDERTAKEN BY A QUALIFIED PERSON EXPERIENCED IN SUCH SUPERVISION, IN ORDER TO ENSURE THAT ALL REQUIREMENTS OF THE DESIGN ARE MET. ALL BEAMS AND RAFTERS SHALL BE FABRICATED AND ERECTED WITH NATURAL CAMBER UP.

S13. REFERENCE SHOULD BE MADE TO AS 2312 FOR APPROPRIATE COATING SYSTEMS FOR ALL EXTERNAL APPLICATIONS. COATING OF EXTERNAL LINTELS SHALL BE IN ACCORDANCE WITH B.C.A AND AS 3700.

STRUCTURAL STAINLESS STEEL (SSS)

SS1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 4100 AND AS 1554 EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.

SS2. UNLESS NOTED OTHERWISE ALL STAINLESS STEEL SHALL BE COMPLYING WITH AS/NZS 4673. OF A GRADE SUITABLE FOR USE IN MARINE SPLASH ZONE CONDITIONS.

SS3. THREE(3) COPIES OF WORKSHOP FABRICATION DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AT LEAST 7 DAYS PRIOR TO COMMENCEMENT OF FABRICATION AND PERMISSION TO USE OBTAINED PRIOR TO FABRICATION. PERMISSION TO USE DOES NOT RELIEVE THE BUILDER OF THE FULL RESPONSIBILITY FOR DIMENSIONS, FIT AND COMPLIANCE WITH ARCHITECTURAL AND ENGINEERING DRAWINGS.

SS4. BOLTS:-
ALL BOLTS SHALL BE M16 GRADE 304/S UNLESS NOTED OTHERWISE. ALL BOLTS, NUTS & WASHERS TO BE STAINLESS STEEL. (GRADE 304) TO ISO 3506, SNUG TIGHTENED WITH NYLON LOCK NUTS. STAINLESS STEEL TO BE SEPARATED FROM OTHER METALS WITH NEOPRENE WASHERS.

SS5. WELDING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1554.1. AND AS 1554.6 WELDING CONSUMABLES SHALL BE SUITABLE FOR STAINLESS STEEL OR ALUMINIUM U.N.O. ALL WELDS SHALL BE 3mm C.F.W. SP GATEGORY U.N.O. CPBW SHALL BE SP CATEGORY U.N.O. INSPECTION SHALL BE CARRIED OUT TO AS 1554.1. AND AS 1554.6 ALL GP/SP WELDS SHALL BE 100% VISUALLY SCANNED.
BUTT WELDS SHALL BE COMPLETE PENETRATION WELDS TO AS 1554.

SS6. ALL DETAILS, GAUGE LINES ETC. WHERE NOT SPECIFICALLY SHOWN ARE TO BE IN ACCORDANCE WITH AISC DESIGN CAPACITY TABLES FOR STRUCTURAL STEEL AND AISC STANDARDIZED STRUCTURAL CONNECTIONS. PLATES TO BE 6mm THICK, EX-STANDARD SQUARE EDGE FLATS U.N.O.

SS7. PROVIDE SEAL PLATES TO ALL HOLLOW SECTIONS.

SS8. IT IS THE BUILDER'S RESPONSIBILITY TO ENSURE THAT STEELWORK IS SECURELY TEMPORARILY BRACED AS NECESSARY TO STABILISE THE STRUCTURE DURING ERECTION.

SS9. THE BUILDER SHALL PROVIDE ALL CLEATS AND DRILL ALL HOLES NECESSARY FOR FIXING STEEL TO STEEL AND TIMBER TO STEEL WHETHER OR NOT DETAILED ON THE DRAWINGS.

SS10. THE FABRICATION AND ERECTION OF THE STRUCTURAL STEELWORK SHALL BE UNDERTAKEN BY A QUALIFIED PERSON EXPERIENCED IN SUCH SUPERVISION, IN ORDER TO ENSURE THAT ALL REQUIREMENTS OF THE DESIGN ARE MET. ALL BEAMS AND RAFTERS SHALL BE FABRICATED AND ERECTED WITH NATURAL CAMBER UP.

FORMWORK (FW)

FW1. THE DESIGN, CONSTRUCTION AND PERFORMANCE OF THE FORMWORK AND FALSEWORK IS THE RESPONSIBILITY OF THE BUILDER.

FW2. DESIGN AND CONSTRUCTION AND STRIPPING TIMES SHALL COMPLY WITH AS 3610 AND AS 3600 UNLESS OTHERWISE APPROVED BY THE ENGINEER.

FW3. DURING CONSTRUCTION, SUPPORT PROPPING SHALL BE PROVIDED WHERE LOADS FROM STACKED MATERIALS, FORMWORK AND OTHER SUPPORTED SLABS INDUCE LOADS IN A SLAB OR BEAM WHICH EXCEED THE DESIGN LOAD FOR STRENGTH OR SERVICEABILITY AT THAT AGE ONCE THE NOMINATED 28 DAY STRENGTH HAS BEEN ATTAINED, THESE LOADS SHALL NOT EXCEED THE DESIGN SUPERIMPOSED LOADS SET OUT IN THE GENERAL NOTES.

FW4. IN MULTI-STOREY CONSTRUCTION PROPPING SHALL BE PROVIDED AT LEAST 3 LEVELS BELOW THE FLOOR BEING CAST. PROP REMOVAL IS TO BE PROGRAMMED TO AVOID DISTRESS TO PREVIOUSLY CAST FLOORS. RE-SHORING OR BACK-PROPPING IS SUBJECT TO THE APPROVAL OF THE PROJECT DESIGN ENGINEER.

FW5. THE FORMWORK SHALL BE DESIGNED TO RELY ON NO RESTRAINT OR SUPPORT FROM THE PERMANENT STRUCTURE WITHOUT PRIOR APPROVAL FROM THE PROJECT DESIGN ENGINEER.

FW5. FORMWORK SHALL BE DESIGNED TO ACCOMMODATE MOVEMENTS AND LOAD RE DISTRIBUTION DUE TO POST-TENSIONING.

FW6. WHERE NECESSARY SPECIAL REQUIREMENTS FOR SEQUENCE OF CONCRETE PLACEMENT AND STRIPPING ARE SET OUT ON DRAWINGS.

FW7. DESIGN INFORMATION CONCERNING THE FOUNDATION FORMWORK SHALL BE DETERMINED FROM THE CONDITIONS EXISTING ON SITE AT THE TIME OF CONSTRUCTION. REFER ALSO TO THE GEOTECHNICAL REPORT WHERE AVAILABLE.

FW8. UNLESS NOTED OTHERWISE PROVIDE UPWARD CAMBER TO FORMWORK OF CANTILEVERS OF L/120, WHERE L IS THE SHORTEST PROJECTION BEYOND COLUMN OR WALL FACE, AND TO FORMWORK OF SLABS WHERE NOTED ON PLAN. MAINTAIN THE SLAB AND BEAM DEPTHS SHOWN.

CHEMICALLY ANCHORED REINFORCEMENT

CAR1. WHERE SHOWN ON THE DRAWINGS REINFORCMENT BARS SHALL BE CHEMICALLY ANCHORED INTO EXISTING CONCRETE AS DESCRIBED BELOW.

CAR2. PERCUSSION DRILL (CORING NOT PERMITTED) A HOLE TO THE CORRECT DIAMETER AND DEPTH FOR THE PARTICULAR SIZE REINFORCING BARS AS TABULATED BELOW, UNLESS SHOWN OTHERWISE ON THE DRAWINGS.

BAR SIZE (Y OR N)	HOLE DIA (mm)	HOLE DEPTH (mm)
12	16	120
16	22	150
20	28	250
24	32	280

CAR3. THOROUGHLY CLEAN THE HOLE USING A ROUND WIRE BRUSH AND BLOWOUT ALL DUST.

CAR4. ENSURE HOLE IS CLEAN AND DRY AND INSERT SUFFICIENT HILTI HY 150 RESIN INTO THE BASE OF THE HOLE TO ENSURE THAT WHEN THE BAR IS INSTALLED RESIN APPEARS AT THE FACE OF THE HOLE.

CAR5. IMMEDIATELY INSERT THE REINFORCING BAR INTO THE HOLE BY ROTATING SLOWLY TO FULLY COAT THE BAR WITH RESIN, AND PUSH FULLY INTO THE HOLE.

CAR6. ENSURE BAR IS NOT DISTURBED WHILST RESIN IS CURING. (APPROX. 2 HOURS).

CAR7. DRILLING CONTRACTOR IS TO OBTAIN WRITTEN AUTHORISATION FROM ADJOINING PROPERTY OWNERS BEFORE CARRYING OUT PLACEMENT OF PILING ANCHORS.

ANCHOR NOTES

MINIMUM 28 DAY COMPRESSIVE STRENGTH OF ALL CONCRETE SHALL BE 40MPa.
CONCRETE EXPOSURE CLASSIFICATION: B2

ROCK ANCHOR NOTES (PASSIVE ANCHORS)
IN ADDITION TO THE FOLLOWING NOTES REFER TO RTA SPECIFICATION B114

PASSIVE ROCK ANCHORS
ROCK ANCHOR BARS TO BE N32 BARS PLACED IN Ø125 HOLE.
ANCHOR TO BE EMBEDDED 3m. INTO ROCK CLASS 111 SANDSTONE OR BETTER IN ACCORDANCE WITH THE FOLLOWING NOTES AND SPECIFICATION

DRILL HOLES
WITHIN A TOLERANCE OF +10mm/-0mm HOLES MAY BE ADVANCED BY ROTARY DRILL. HOLES SHALL BE CLEAN AND HAVE A SURFACE ROUGHNESS OF R2 OR ROUGHER .
DRILL HOLES SHALL BE CLEARED OF ALL DELETERIOUS MATERIAL ON COMPLETION OF DRILLING AND THE OPENING SEALED TO PREVENT THE ENTRY OF FOREIGN MATTER .

PLACING
PLASTIC CENTRALISERS SHALL BE PROVIDED ALONG THE ENTIRE LENGTH OF THE ANCHOR BAR AT SUITABLE INTERVALS TO INSURE UNIFORM GROUT COVER AROUND THE PERIMETER OF THE BAR. CENTRALISERS SHALL NOT OBSTRUCT THE FREE FLOW OF GROUT ALONG THE BAR. TEMPORARY WALL/ANCHORS TO BE STRUCTURALLY MONITORED DURING WORKS

DESIGN REFERENCE STANDARDS:

AS 3600	-	CONCRETE STRUCTURES
AS 4100	-	STEEL STRUCTURES
AS1170	-	STRUCTURAL DESIGN ACTIONS
AS 1012	-	CONCRETE TESTING
AS 1289	-	SOIL TESTING
AS 1379	-	CONCRETE MANUFACTURE
AS 1478	-	CONCRETE ADMIXTURES
AS/NZS 4671	-	STEEL REINFORCING MATERIALS
AS/NZS 4680	-	HOT DIP GALVANIZING (ZINC) COATINGS
AS 1554	-	STRUCTURAL STEEL WELDING
AS4673	-	STAINLESS STEEL STRUCTURES
AS2312	-	GUIDE TO THE PROTECTION OF IRON & STEEL AGAINST EXTERIOR ATMOSPHERIC CORROSION
AS3610	-	FORMWORK FOR CONCRETE
AS2156	-	WALKING TRACKS
AS1428	-	DESIGN FOR ACCESS AND MOBILITY
AS2890	-	OFF STREET CAR PARKING

CONCEPT PLANS
NOT FOR CONSTRUCTION

A1

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	QUANTITY SURVEYOR				
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COPACABANA N.S.W.

PROJECT
5 LANDS COASTAL WALKWAY - STAGE 5
CAPTAIN COOK LOOKOUT TO WINNEY BAY

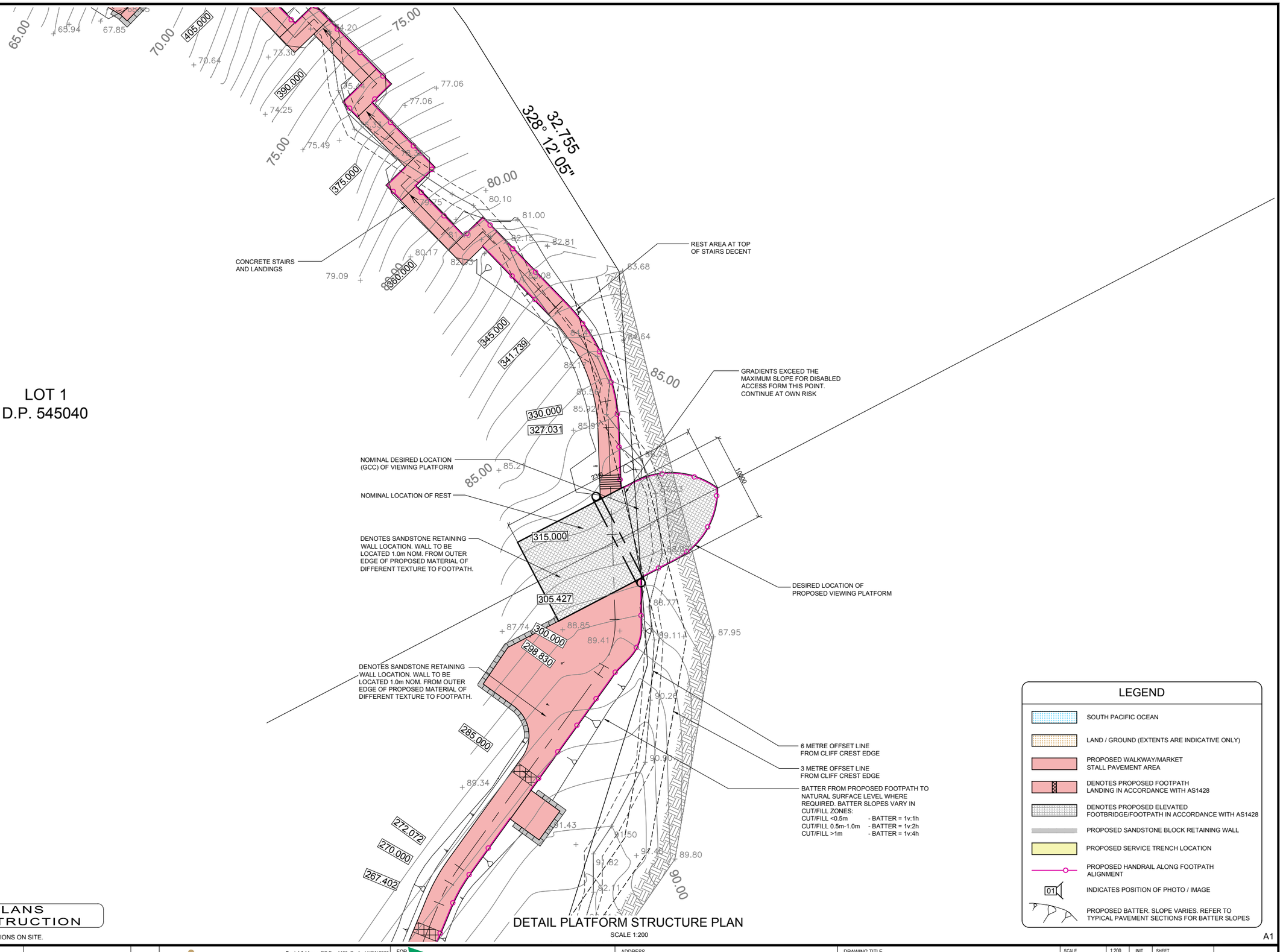
DRAWING TITLE
STRUCTURAL NOTES

ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed date

SCALE	NTS
DRAWN	JG/CW
DESIGNED	CF
CHECKED	AJG
DATE	JANUARY 2015
JOB NUMBER	20140492
INIT.	

SHEET A5.02
REV C

N W E S



DETAIL PLATFORM STRUCTURE PLAN

SCALE 1:200

LEGEND

- SOUTH PACIFIC OCEAN
- LAND / GROUND (EXTENTS ARE INDICATIVE ONLY)
- PROPOSED WALKWAY/MARKET STALL PAVEMENT AREA
- DENOTES PROPOSED FOOTPATH LANDING IN ACCORDANCE WITH AS1428
- DENOTES PROPOSED ELEVATED FOOTBRIDGE/FOOTPATH IN ACCORDANCE WITH AS1428
- PROPOSED SANDSTONE BLOCK RETAINING WALL
- PROPOSED SERVICE TRENCH LOCATION
- PROPOSED HANDRAIL ALONG FOOTPATH ALIGNMENT
- 01 INDICATES POSITION OF PHOTO / IMAGE
- PROPOSED BATTER. SLOPE VARIES. REFER TO TYPICAL PAVEMENT SECTIONS FOR BATTER SLOPES

CONCEPT PLANS NOT FOR CONSTRUCTION

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Postal Address: PO Box 1180, Gosford NSW 2250

Central Coast Office: Suite 35, The Avenue, Mt Penang Parklands, Kariong NSW 2250
Ph 02 4340 1911 Fax 02 4340 1544

Newcastle Office: Shop 113, The Junction Village Centre, Kenrick Street, The Junction NSW 2291
Ph 02 4962 4414

FOR GOSFORD CITY COUNCIL CENTRAL COAST — 5 LANDS WALK CENTRAL COAST · NEW SOUTH WALES

ADDRESS
WINNEY BAY RESERVE
COPACABANA N.S.W.

PROJECT
5 LANDS COASTAL WALKWAY - STAGE 5
CAPTAIN COOK LOOKOUT TO WINNEY BAY

DRAWING TITLE
DETAIL PLATFORM STRUCTURE PLAN

ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed date

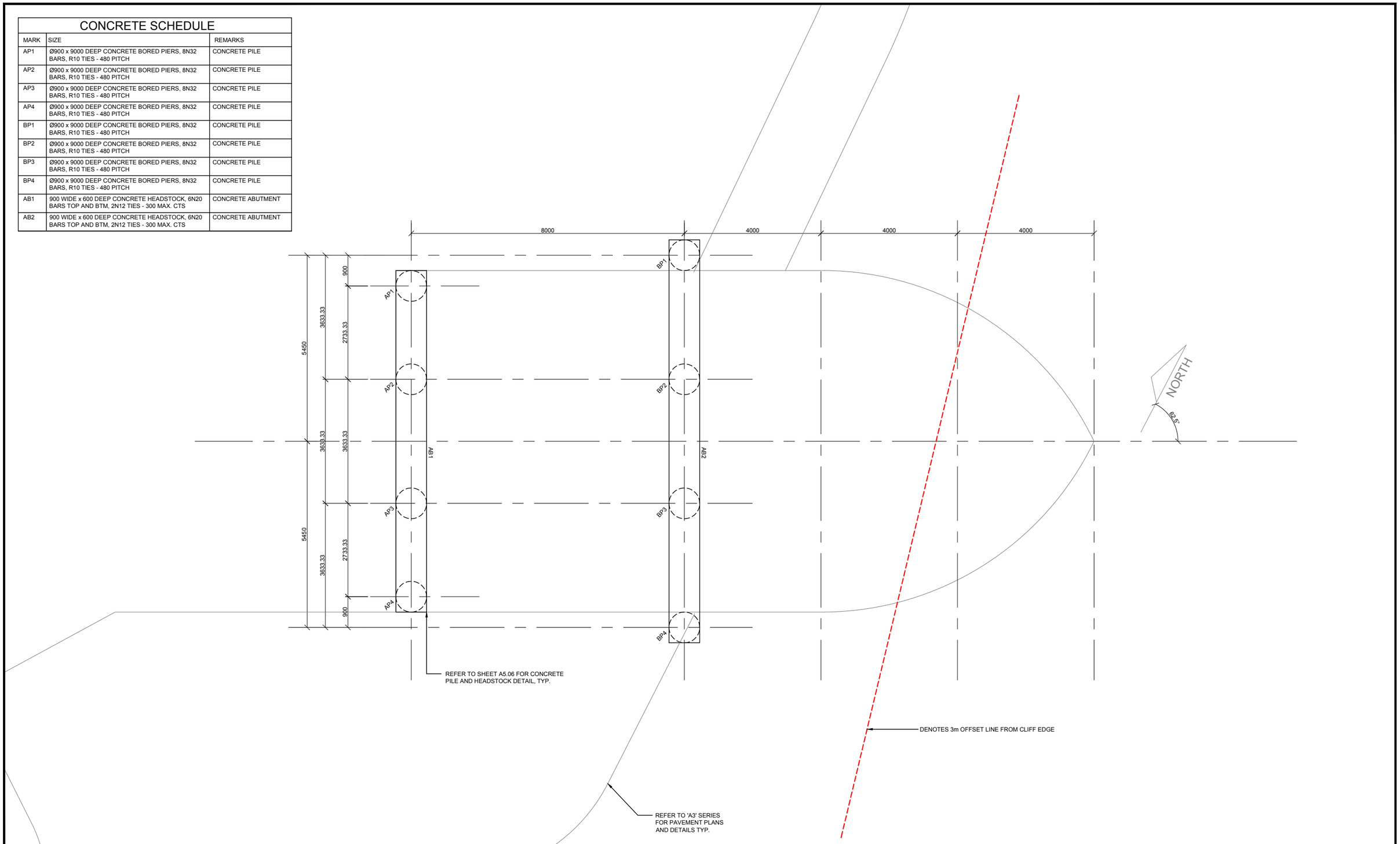
SCALE	1:200	INIT.
DRAWN	JG/CW	
DESIGNED	CF	
CHECKED	AJG	
DATE	JANUARY 2015	
JOB NUMBER	20140492	

SHEET A5.03
REV D

N W E S

CONCRETE SCHEDULE

MARK	SIZE	REMARKS
AP1	Ø900 x 9000 DEEP CONCRETE BORED PIERS, 8N32 BARS, R10 TIES - 480 PITCH	CONCRETE PILE
AP2	Ø900 x 9000 DEEP CONCRETE BORED PIERS, 8N32 BARS, R10 TIES - 480 PITCH	CONCRETE PILE
AP3	Ø900 x 9000 DEEP CONCRETE BORED PIERS, 8N32 BARS, R10 TIES - 480 PITCH	CONCRETE PILE
AP4	Ø900 x 9000 DEEP CONCRETE BORED PIERS, 8N32 BARS, R10 TIES - 480 PITCH	CONCRETE PILE
BP1	Ø900 x 9000 DEEP CONCRETE BORED PIERS, 8N32 BARS, R10 TIES - 480 PITCH	CONCRETE PILE
BP2	Ø900 x 9000 DEEP CONCRETE BORED PIERS, 8N32 BARS, R10 TIES - 480 PITCH	CONCRETE PILE
BP3	Ø900 x 9000 DEEP CONCRETE BORED PIERS, 8N32 BARS, R10 TIES - 480 PITCH	CONCRETE PILE
BP4	Ø900 x 9000 DEEP CONCRETE BORED PIERS, 8N32 BARS, R10 TIES - 480 PITCH	CONCRETE PILE
AB1	900 WIDE x 600 DEEP CONCRETE HEADSTOCK, 6N20 BARS TOP AND BTM, 2N12 TIES - 300 MAX. CTS	CONCRETE ABUTMENT
AB2	900 WIDE x 600 DEEP CONCRETE HEADSTOCK, 6N20 BARS TOP AND BTM, 2N12 TIES - 300 MAX. CTS	CONCRETE ABUTMENT



PLATFORM PILING SETOUT PLAN

Scale 1:50

CONCEPT PLANS
NOT FOR CONSTRUCTION

DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS ON SITE.

A1

REVISION	DESCRIPTION	DATE	REVISION	DESCRIPTION	DATE
A	RE-ISSUE TO	24.06.15			
	QUANTITY SURVEYOR				
B	90% ISSUE	29.06.15			
C	COUNCIL APPROVAL	19.08.15			

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FOR GOSFORD CITY COUNCIL CENTRAL COAST — 5 LANDS WALK CENTRAL COAST · NEW SOUTH WALES

ADDRESS
WINNEY BAY RESERVE
COPACABANA N.S.W.

PROJECT
5 LANDS COASTAL WALKWAY - STAGE 5
CAPTAIN COOK LOOKOUT TO WINNEY BAY

DRAWING TITLE
PLATFORM STRUCTURE
PILING SETOUT PLAN

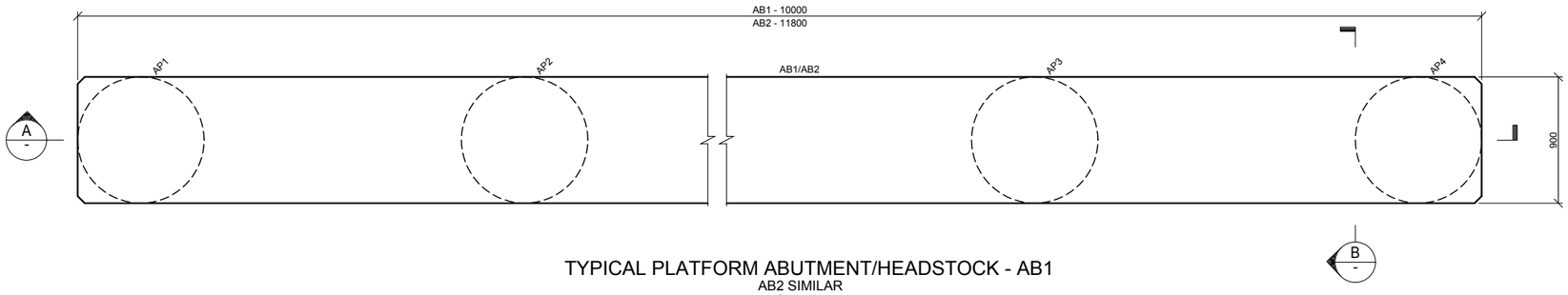
ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed date

SCALE	1:50	INIT.
DRAWN	JG/CW	
DESIGNED	CF	
CHECKED	AJG	
DATE	JANUARY 2015	
JOB NUMBER	20140492	

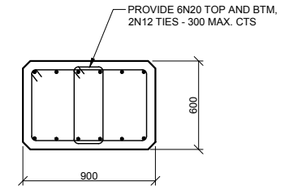
SHEET A5.04

REV C

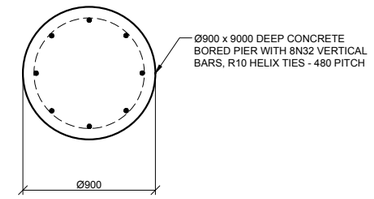
N W E S



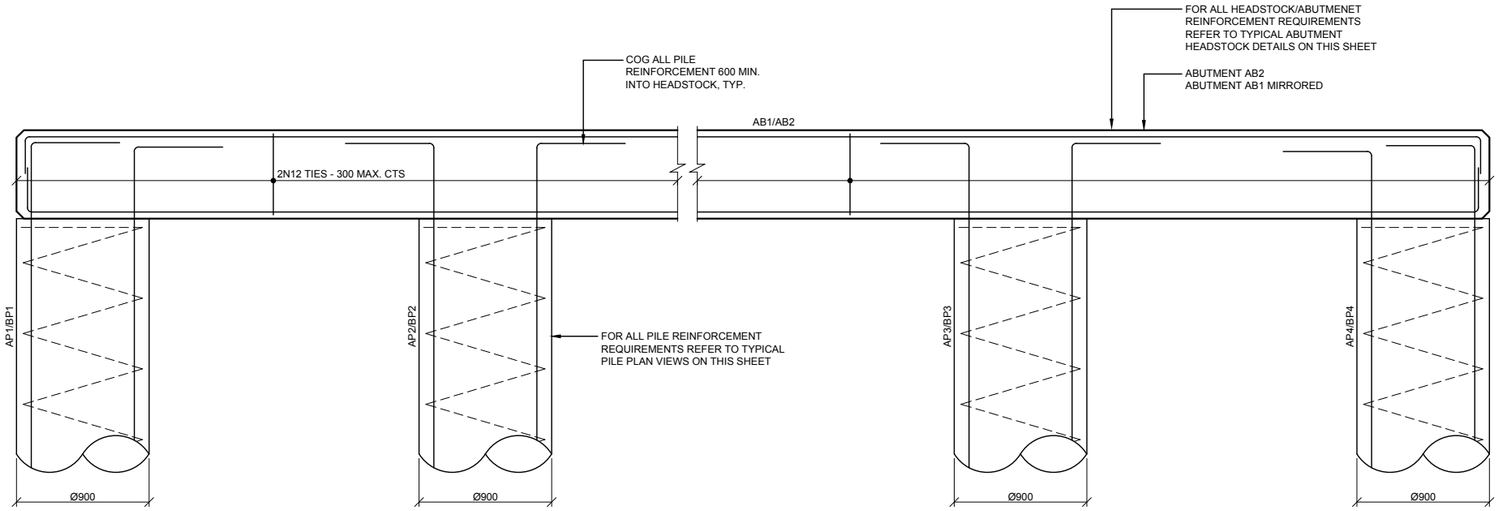
TYPICAL PLATFORM ABUTMENT/HEADSTOCK - AB1
AB2 SIMILAR
Scale 1:20



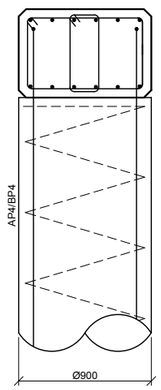
TYPICAL PLATFORM ABUTMENT HEADSTOCK - AB1
AB2 SIMILAR
Scale 1:20



TYPICAL PILE - AP1/AP2/AP3/AP4
BP1/BP2/BP3/BP4 SIMILAR
Scale 1:20



SECTION A
1:20 - A1



SECTION B
1:20 - A1

CONCEPT PLANS
NOT FOR CONSTRUCTION

DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS ON SITE.

A1

REVISION	DESCRIPTION	DATE	REVISION	DESCRIPTION	DATE
A	RE-ISSUE TO	24.06.15			
	QUANTITY SURVEYOR				
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FOR GOSFORD CITY COUNCIL CENTRAL COAST
5 LANDS WALK CENTRAL COAST · NEW SOUTH WALES

ADDRESS
WINNEY BAY RESERVE
COPACABANA N.S.W.

PROJECT
5 LANDS COASTAL WALKWAY - STAGE 5
CAPTAIN COOK LOOKOUT TO WINNEY BAY

DRAWING TITLE
PLATFORM STRUCTURE
MARKING PLAN

ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed date

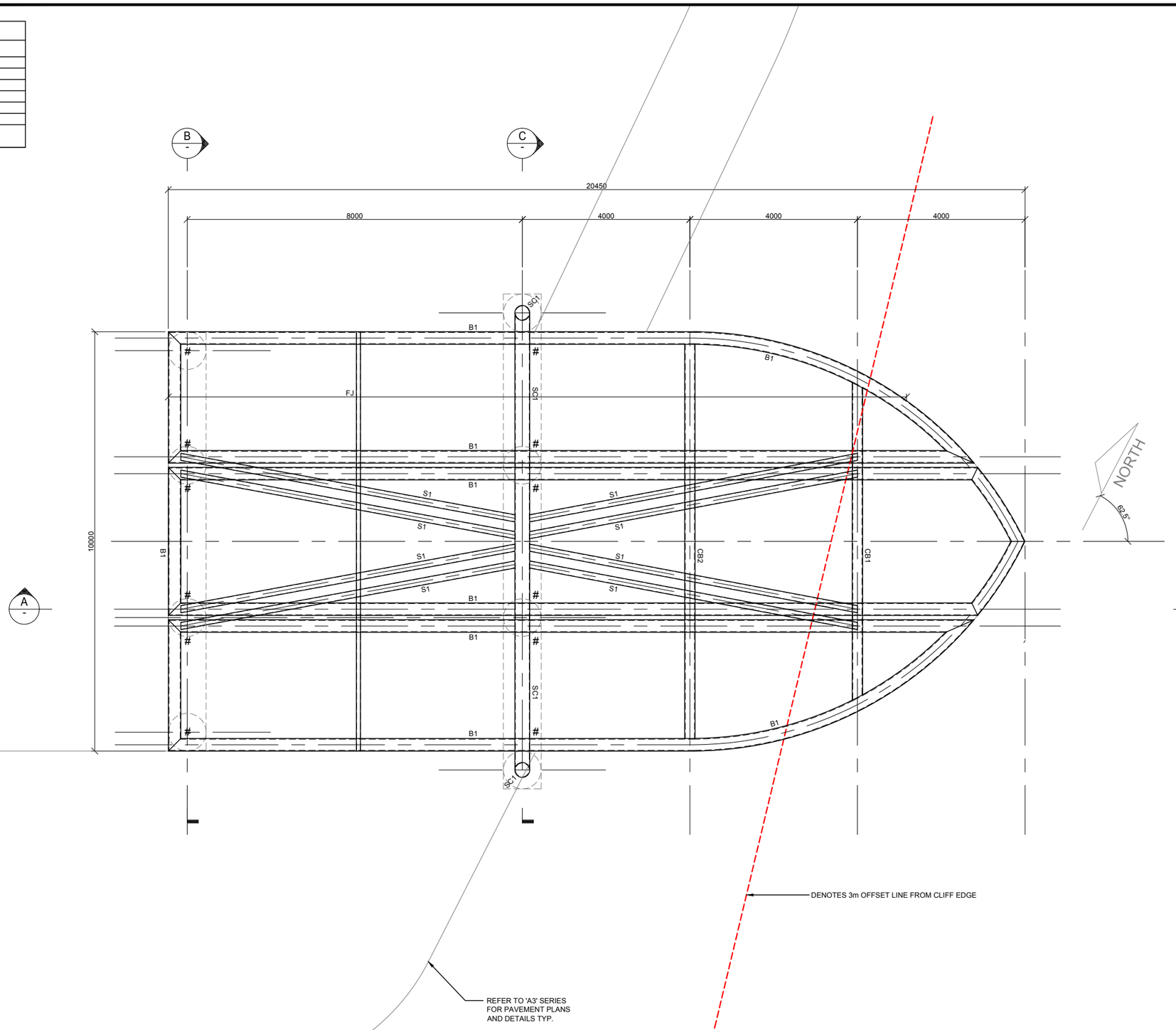
SCALE	1:50	INIT.
DRAWN	JG/CW	
DESIGNED	CF	
CHECKED	AJG	
DATE	JANUARY 2015	
JOB NUMBER	20140492	

SHEET A5.05
REV C

N W E S

MEMBER SCHEDULE

MARK	SIZE	REMARKS
CB1	250x150x16 RHS, LAID HORIZONTALLY ▭	STEEL BEARER
CB2	250x150x16 RHS, LAID HORIZONTALLY ▭	STEEL BEARER
B1	400x300x16 RHS	STEEL GIRDER
S1	Ø168.3x4.8 CHS	STEEL GIRDER
SC1	Ø355.6x12.7 CHS	STEEL STRUT
FJ	150x50x5.0 RHS - 1000 MAX. CTS	STEEL JOIST
#	DENOTES LOCATION WHERE HOLD DOWN REQUIRED. DETAIL TO BE CONFIRMED	



PLATFORM MARKING PLAN
Scale 1:50

CONCEPT PLANS
NOT FOR CONSTRUCTION

DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS ON SITE.

A1

REVISION	DESCRIPTION	DATE	REVISION	DESCRIPTION	DATE
A	RE-ISSUE TO	24.06.15			
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FOR GOSFORD CITY COUNCIL CENTRAL COAST
5 LANDS WALK CENTRAL COAST · NEW SOUTH WALES

ADDRESS
WINNEY BAY RESERVE
COPACABANA N.S.W.

PROJECT
5 LANDS COASTAL WALKWAY - STAGE 5
CAPTAIN COOK LOOKOUT TO WINNEY BAY

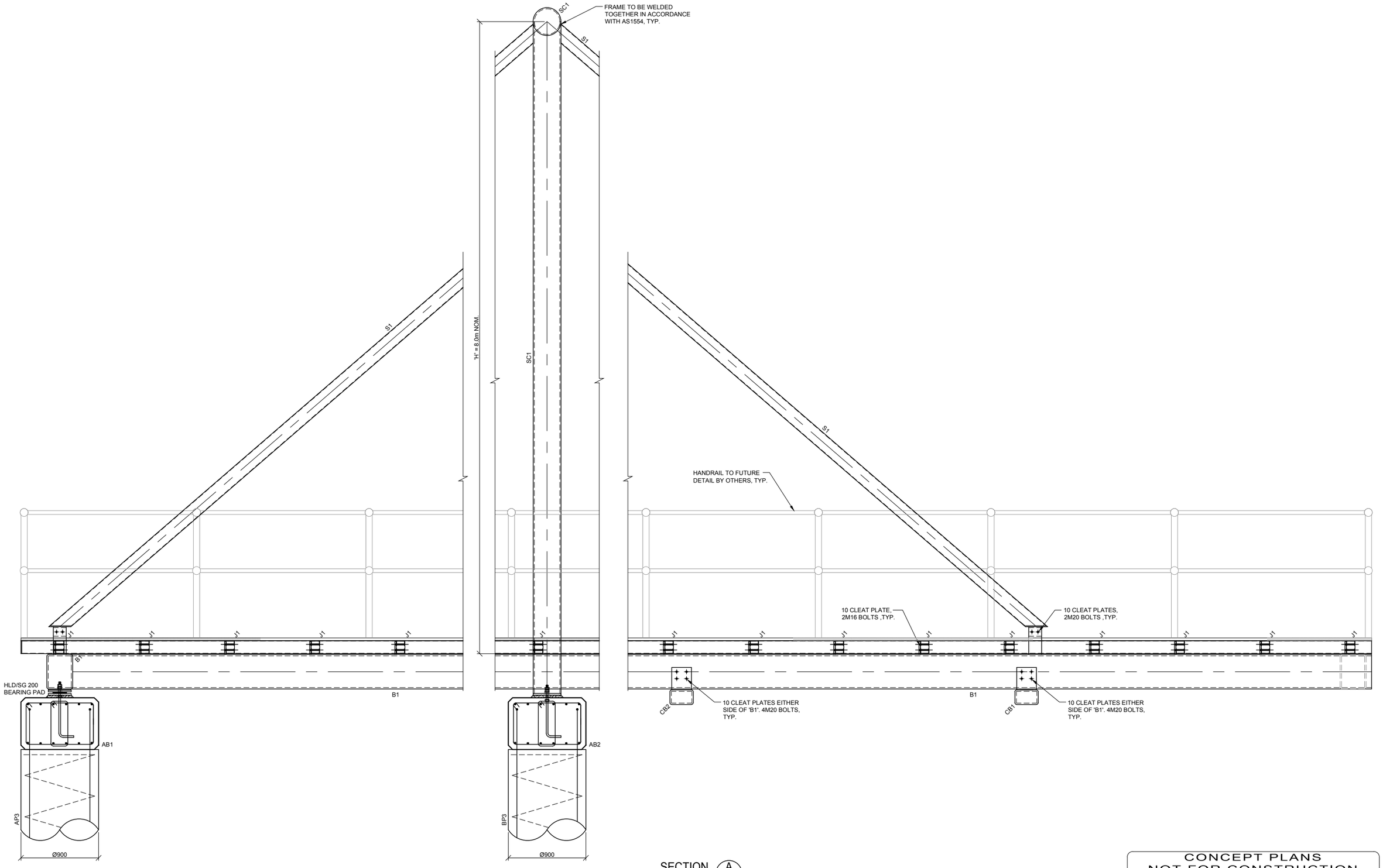
DRAWING TITLE
PLATFORM STRUCTURE MARKING PLAN

ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed date

SCALE	1:50	INIT.
DRAWN	JG/CW	
DESIGNED	CF	
CHECKED	AJG	
DATE	JANUARY 2015	
JOB NUMBER	20140492	

SHEET A5.06
REV C

N W E S



SECTION A
1:20 - A1

CONCEPT PLANS
NOT FOR CONSTRUCTION

DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS ON SITE.

A1

REVISION	DESCRIPTION	DATE	REVISION	DESCRIPTION	DATE
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	QUANTITY SURVEYOR				
B	90% ISSUE	29.06.15			
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COPACABANA N.S.W.

PROJECT
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CAPTAIN COOK LOOKOUT TO WINNEY BAY

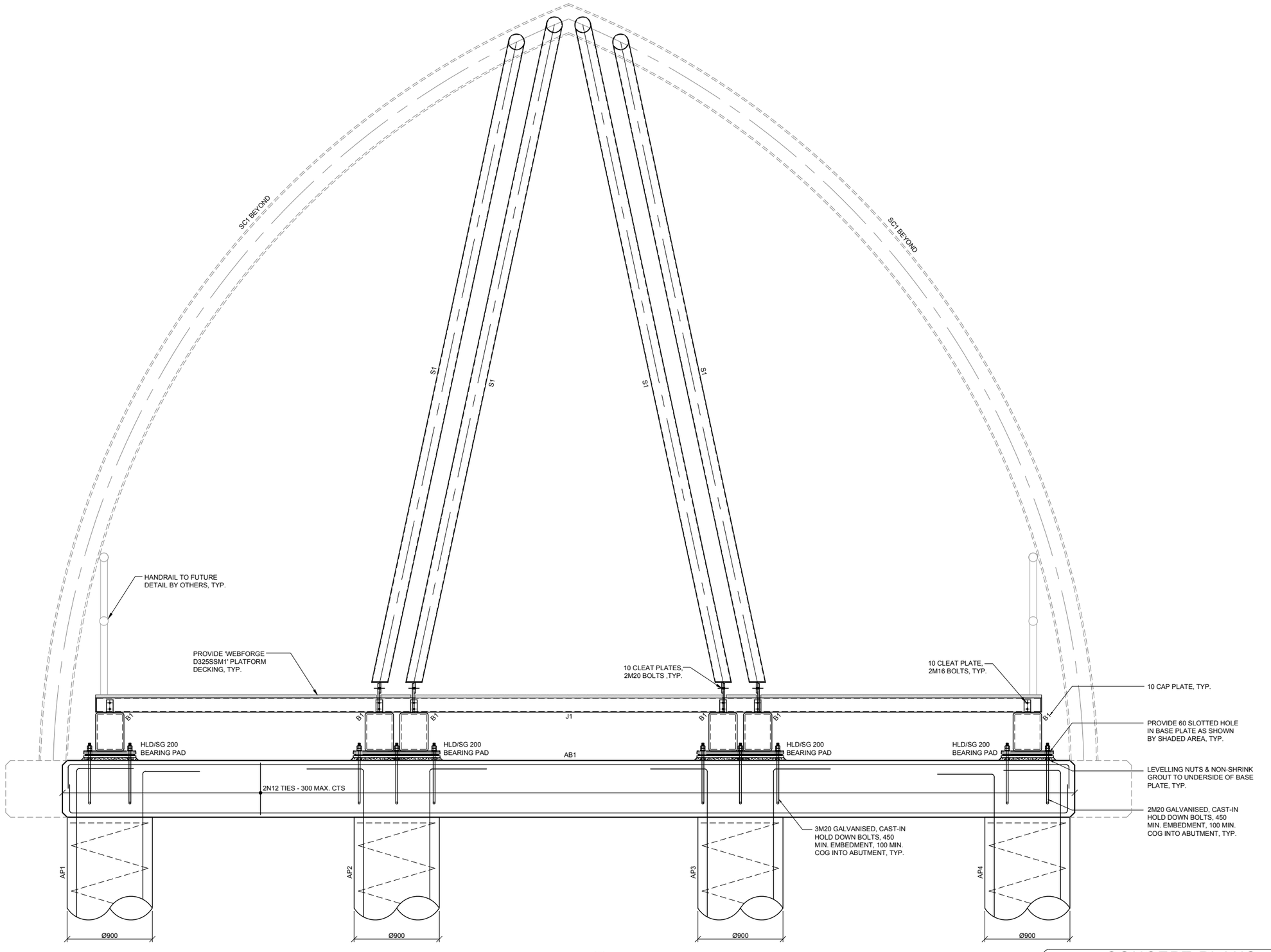
DRAWING TITLE
PLATFORM STRUCTURE
DETAILS SHEET 1

ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed date

SCALE	1:20	INIT.
DRAWN	JG/CW	
DESIGNED	CF	
CHECKED	AJG	
DATE	JANUARY 2015	
JOB NUMBER	20140492	

SHEET A5.07
REV C

N W E S



SECTION B
1:20 - A1

CONCEPT PLANS
NOT FOR CONSTRUCTION

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A1

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	QUANTITY SURVEYOR				
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FOR GOSFORD CITY COUNCIL CENTRAL COAST

5 LANDS WALK
CENTRAL COAST · NEW SOUTH WALES

ADDRESS
WINNEY BAY RESERVE
COPACABANA N.S.W.

PROJECT
5 LANDS COASTAL WALKWAY - STAGE 5
CAPTAIN COOK LOOKOUT TO WINNEY BAY

DRAWING TITLE
PLATFORM STRUCTURE
DETAILS SHEET 2

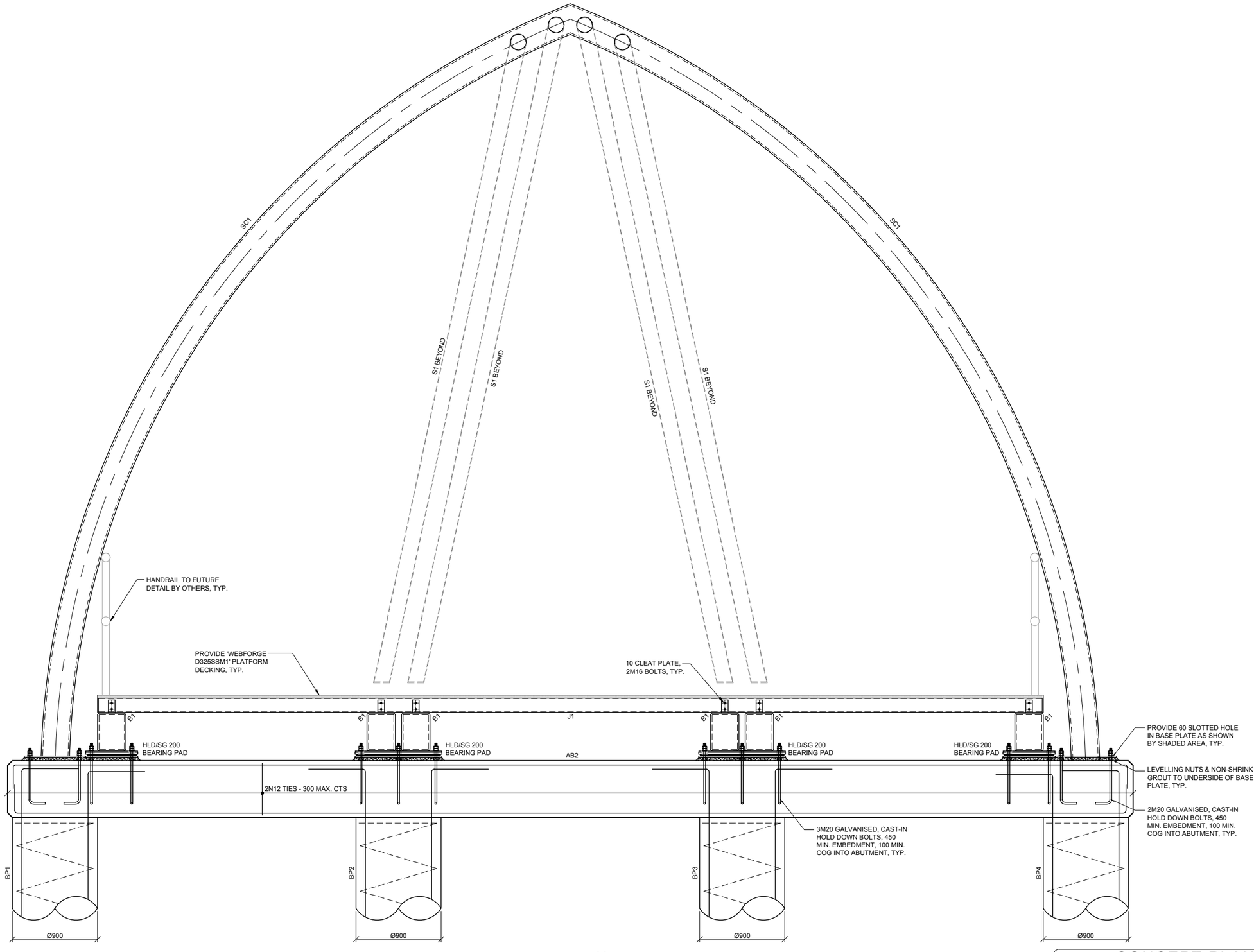
ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed
date

SCALE	1:20	INIT.
DRAWN	JG/CW	
DESIGNED	CF	
CHECKED	AJG	
DATE	JANUARY 2015	
JOB NUMBER	20140492	

SHEET A5.08

REV C

N W E S



SECTION C
1:20 - A1

CONCEPT PLANS
NOT FOR CONSTRUCTION

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A1

REVISION	DESCRIPTION	DATE	REVISION	DESCRIPTION	DATE
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	QUANTITY SURVEYOR				
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FOR GOSFORD CITY COUNCIL CENTRAL COAST
5 LANDS WALK CENTRAL COAST · NEW SOUTH WALES

ADDRESS
WINNEY BAY RESERVE
COPACABANA N.S.W.

PROJECT
5 LANDS COASTAL WALKWAY - STAGE 5
CAPTAIN COOK LOOKOUT TO WINNEY BAY

DRAWING TITLE
PLATFORM STRUCTURE
DETAILS SHEET 3

ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed date

SCALE	1:20	INIT.
DRAWN	JG/CW	
DESIGNED	CF	
CHECKED	AJG	
DATE	JANUARY 2015	
JOB NUMBER	20140492	

SHEET A5.09
REV C

N W E S

PROPOSED WINNEY BAY CLIFFTOP WALK, 5 LANDS COASTAL WALKWAY - STAGE 5, CAPTAIN COOK LOOKOUT - WINNEY BAY

AT

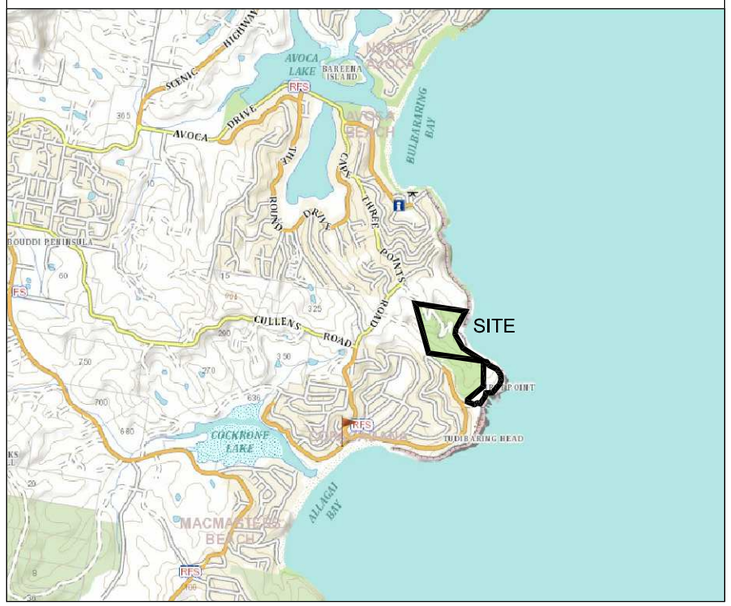
COPACABANA, NSW

FOR

GOSFORD CITY COUNCIL

A2 SERIES - GENERAL ARRANGEMENT PLANS

LOCALITY PLAN



GOSFORD CITY COUNCIL

1. ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH GOSFORD CITY COUNCIL'S CIVIL CONSTRUCTION SPECIFICATION AND SUBDIVISION POLICY TO THE SATISFACTION OF THE DIRECTOR - DEVELOPMENT / ENVIRONMENT.
2. ALL EROSION AND SEDIMENTATION CONTROL MEASURES ARE TO BE CARRIED OUT IN ACCORDANCE WITH COUNCILS CODE OF PRACTICE FOR EROSION AND SEDIMENTATION, AND MUST BE IMPLEMENTED PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION OR CIVIL WORKS. THE DEVELOPER IS RESPONSIBLE FOR THE ONGOING MAINTENANCE OF EROSION AND SILTATION CONTROL MEASURES.
3. ALL PUBLIC UTILITIES ARE TO BE CLEARLY IDENTIFIED IN THE FIELD PRIOR TO ANY CIVIL WORKS. COUNCIL ACCEPTS NO RESPONSIBILITY FOR DAMAGE OR RELOCATION COSTS TO UTILITIES DURING CONSTRUCTION.
4. GOSFORD CITY COUNCIL IS TO BE NOTIFIED PRIOR TO THE COMMENCEMENT OF ANY WORKS - TELEPHONE NUMBER - 4325 8200.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL WORKS ARE CARRIED OUT IN ACCORDANCE WITH THE OCCUPATIONAL HEALTH AND SAFETY ACT.
6. PERMISSION TO ENTER, CONSTRUCT WORKS AND DISCHARGE STORM WATER ONTO ADJOINING PROPERTIES IS TO BE OBTAINED AND SUBMITTED TO COUNCIL PRIOR TO COMMENCEMENT OF ANY WORKS.
7. PAVEMENT TO BE DESIGNED AND CERTIFIED BY A PRACTISING CONSULTANT GEOTECHNICAL ENGINEER AND SUBMITTED TO COUNCIL FOR APPROVAL PRIOR TO THE COMMENCEMENT OF ANY WORKS.
8. ALL RECTIFICATION WORK ARISING FROM INSUFFICIENT INFORMATION BEING SHOWN ON THE SUBMITTED PLANS IS TO BE CARRIED OUT TO THE ENGINEER'S SATISFACTION.
9. ALL DISTURBED AREAS TO BE SHAPED AND MULCHED, PLANTED WITH NATIVE PLANTS 1 PER 0,5m².
10. THE PLANS TO BE READ IN CONJUNCTION WITH ENGINEERING PLAN APPROVAL CORRESPONDENCE.

EARTHWORKS

1. WITHIN EXTENTS OF WORK AREA, STRIP ALL TOPSOIL & STOCKPILE FOR RE-USE OR DISPOSE, REMOVE ALL STRUCTURES & DEBRIS
2. EXCAVATE, STOCKPILE OR DISPOSE OF MATERIAL TO EXPOSE SUB-GRADE AS SPECIFIED IN CUT AREAS.
3. BENCH & PROOF ROLL IN ACCORDANCE WITH AS3798 & PRESENT TO SUPERINTENDENT FOR APPROVAL.
4. REPLACEMENT OF SUB-GRADE TO BE UNDERTAKEN ONLY AFTER INSTRUCTION FROM THE SUPERINTENDENT & TO THE EXTENT AS DIRECTED.
5. COMPACT SUB-GRADE TO 100% STANDARD MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT ±2% OR TO 80% RELATIVE DENSITY AS MAY APPLY
6. TESTING OF ALL COMPACTED LAYERS, INCLUDING SUB-GRADE TO BE ALLOWED FOR BY THE CONTRACTOR.
7. FOR SAND SUB-GRADES COMPACT TO DENSITY INDEX AS SPECIFIED IN THE DRAWING, REPORTS OR SUPERINTENDENTS INSTRUCTION.
8. ALL PAVEMENTS OR BUILDING PADS TO BE COMPACTED & TESTED IN ACCORDANCE WITH AS 1289, THE GEOTECHNICAL REPORT OR AS SPECIFIED ON THE DRAWINGS.

GEOTECHNICAL

1. GEOTECHNICAL INVESTIGATION PERFORMED BY:
   DOUGLAS PARTNERS
   REF: 84701.00 (APRIL 2015)
2. ALL EARTHWORKS AND PAVEMENT WORKS TO BE EXECUTED AS DESCRIBED IN THE GEOTECHNICAL REPORT, AND AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
3. ANY RECOMMENDATIONS MADE IN THE GEOTECHNICAL REPORT SHALL OVERRIDE STANDARD REQUIREMENTS AS LISTED IN THESE DRAWINGS OR OTHER SPECIFICATIONS.
4. TESTING AND INSPECTION OF DESIGN SUB-GRADE, PAVEMENT, BACKFILL AND ANY OTHER OPERATIONS SHALL BE IN ACCORDANCE WITH THE RELATIVE AUTHORITY SPECIFICATIONS AND THE COST OF SAME SHALL BE ALLOWED FOR BY THE CONTRACTOR.
5. TEST PITS AND BORE LOGS ARE INDICATIVE ONLY AND ACTUAL SITE GROUND CONDITIONS MAY VARY.
   DEPTHS TO SOIL PROFILE LAYERS SUCH AS UNCONTROLLED FILL AND ROCK HAVE BEEN INTERPOLATED AND VOLUMES AS CALCULATED MAY VARY FROM ACTUAL CONSTRUCTION VOLUMES.

PAVEMENT CONSTRUCTION

1. EXPOSED SUBGRADE SHALL BE COMPACTED TO 100% STANDARD MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT ±2% OR TO 80% RELATIVE DENSITY AS MAY APPLY. IN ACCORDANCE WITH AS1289 5.1.1., UNLESS NOTED OTHERWISE IN GEOTECHNICAL REPORT
2. BASE COURSE SHALL BE COMPACTED TO 98% MODIFIED MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT ±2% IN ACCORDANCE WITH AS1289 5.1.1., UNLESS NOTED OTHERWISE IN GEOTECHNICAL REPORT
3. EXACT EXTENT OF SELECT LAYER TO PAVEMENT TO BE DETERMINED BY GEOTECHNICAL ENGINEER UPON INSPECTION OF EXPOSED SUBGRADE
4. ALL CONCRETE WORKS TO BE IN ACCORDANCE WITH AS3600.
5. CONCRETE SHALL BE MINIMUM 40mPa, TYPE A AND MAXIMUM AGGREGATE 20mm UNLESS NOTED OTHERWISE
6. REINFORCEMENT TO BE INSTALLED AS SPECIFIED WITH MINIMUM 45mm COVER UNLESS NOTED OTHERWISE.
7. CONCRETE TO BE PLACED AND COMPACTED WITH MECHANICAL VIBRATORS. POURING/DROPPING OF CONCRETE FROM HEIGHTS GREATER THAN 1m IS NOT PERMISSIBLE.

SURVEY

1. SURVEY BY:
   BANNISTER AND HUNTER PTY LTD
2. ORIGIN OF COORDINATES:

PM/ NO.	E	N	R.L.
19436	-	-	92.37

3. ALL WORKS TO BE SET OUT BY A REGISTERED SURVEYOR
4. ALL LEVELS SHOWN ARE TO AHD

DRAWING LIST

A2.01	GENERAL ARRANGEMENT COVER SHEET & NOTES
A2.02	GENERAL ARRANGEMENT PLAN SHEET 1 OF 3
A2.03	GENERAL ARRANGEMENT PLAN SHEET 2 OF 3
A2.04	GENERAL ARRANGEMENT PLAN SHEET 3 OF 3

STORMWATER DRAINAGE

1. ALL STORMWATER DRAINAGE TO BE IN ACCORDANCE WITH AS 3500.3 & GOSFORD CITY COUNCIL CIVIL SPECIFICATION & COUNCIL POLICIES

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CONCEPT PLANS
NOT FOR CONSTRUCTION

DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS ON SITE.

A1

REVISION	DESCRIPTION	DATE	REVISION	DESCRIPTION	DATE
A	PRELIMINARY ISSUE TO	05.06.15			
	QUANTITY SURVEYOR				
B	RE-ISSUE TO	24.06.15			
	QUANTITY SURVEYOR				
C	90% ISSUE	29.06.15			
D	COUNCIL APPROVAL	19.08.15			

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FOR GOSFORD CITY COUNCIL CENTRAL COAST

5 LANDS WALK CENTRAL COAST · NEW SOUTH WALES

ADDRESS
WINNEY BAY RESERVE
COPACABANA N.S.W.

PROJECT
5 LANDS COASTAL WALKWAY - STAGE 5
CAPTAIN COOK LOOKOUT TO WINNEY BAY

DRAWING TITLE
GENERAL ARRANGEMENT
COVER SHEET & GENERAL NOTES

ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed date

SCALE	NA	INIT.
DRAWN	JG/CW	
DESIGNED	CF	
CHECKED	AJG	
DATE	JANUARY 2015	
JOB NUMBER	20140492	

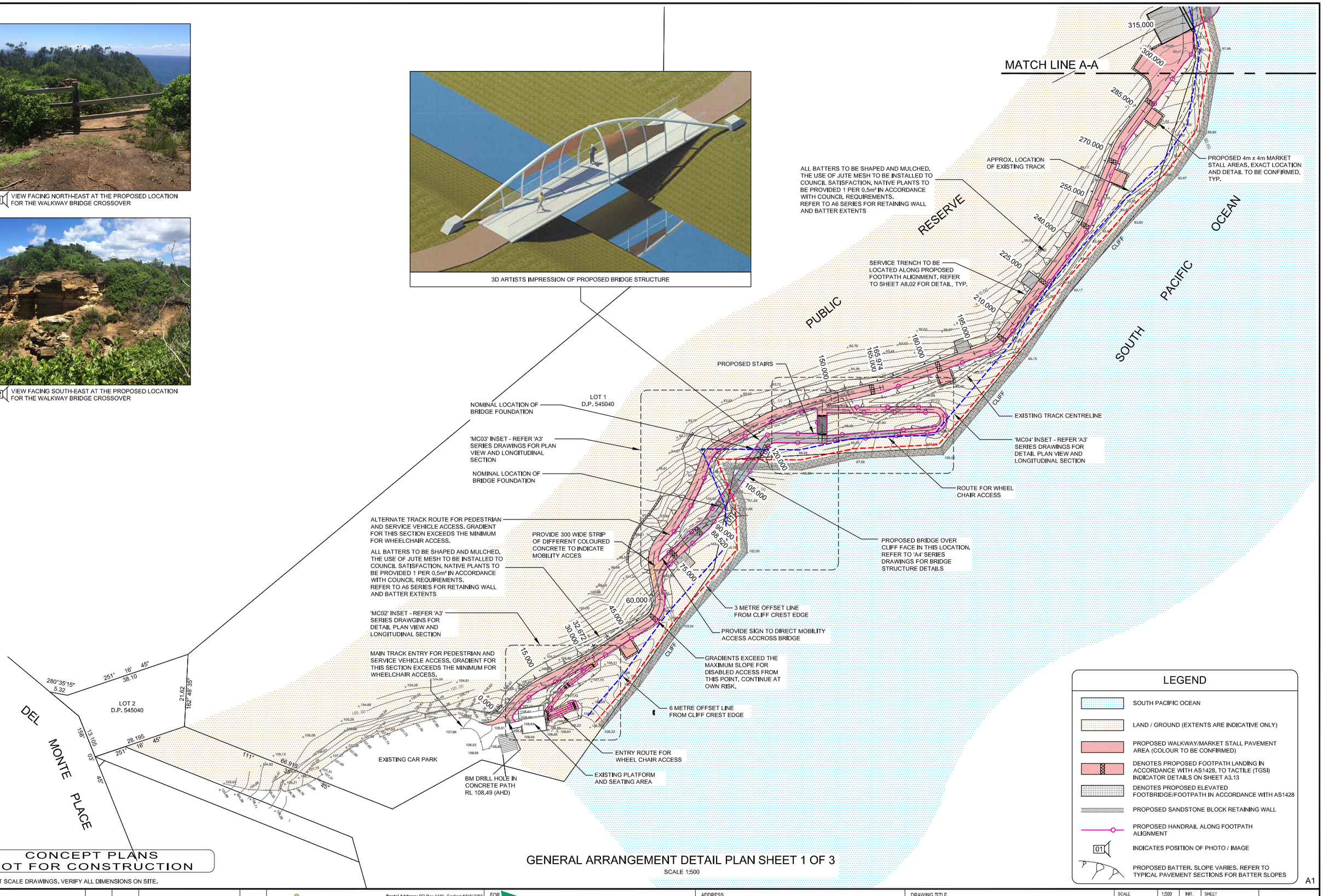
SHEET A2.01
REV D

N W E S

01 VIEW FACING NORTH-EAST AT THE PROPOSED LOCATION FOR THE WALKWAY BRIDGE CROSSOVER

02 VIEW FACING SOUTH-EAST AT THE PROPOSED LOCATION FOR THE WALKWAY BRIDGE CROSSOVER

3D ARTISTS IMPRESSION OF PROPOSED BRIDGE STRUCTURE



LEGEND

- SOUTH PACIFIC OCEAN
- LAND / GROUND (EXTENTS ARE INDICATIVE ONLY)
- PROPOSED WALKWAY/MARKET STALL PAVEMENT AREA (COLOUR TO BE CONFIRMED)
- DENOTES PROPOSED FOOTPATH LANDING IN ACCORDANCE WITH AS1428. TO TACTILE (TGSI) INDICATOR DETAILS ON SHEET A3.13
- DENOTES PROPOSED ELEVATED FOOTBRIDGE/FOOTPATH IN ACCORDANCE WITH AS1428
- PROPOSED SANDSTONE BLOCK RETAINING WALL
- PROPOSED HANDRAIL ALONG FOOTPATH ALIGNMENT
- 01 INDICATES POSITION OF PHOTO / IMAGE
- PROPOSED BATTER. SLOPE VARIES. REFER TO TYPICAL PAVEMENT SECTIONS FOR BATTER SLOPES

GENERAL ARRANGEMENT DETAIL PLAN SHEET 1 OF 3

SCALE 1:500

CONCEPT PLANS NOT FOR CONSTRUCTION

DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS ON SITE.

A1

REVISION	DESCRIPTION	DATE
A	PRELIMINARY ISSUE TO	05.06.15
	QUANTITY SURVEYOR	
B	RE-ISSUE TO	24.06.15
	QUANTITY SURVEYOR	
C	90% ISSUE	29.06.15
D	COUNCIL APPROVAL	19.08.15

RGH CONSULTING GROUP
Multi-discipline Engineering

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FOR GOSFORD CITY COUNCIL CENTRAL COAST — 5 LANDS WALK CENTRAL COAST · NEW SOUTH WALES

ADDRESS
WINNEY BAY RESERVE
COPACABANA N.S.W.

PROJECT
5 LANDS COASTAL WALKWAY - STAGE 5
CAPTAIN COOK LOOKOUT TO WINNEY BAY

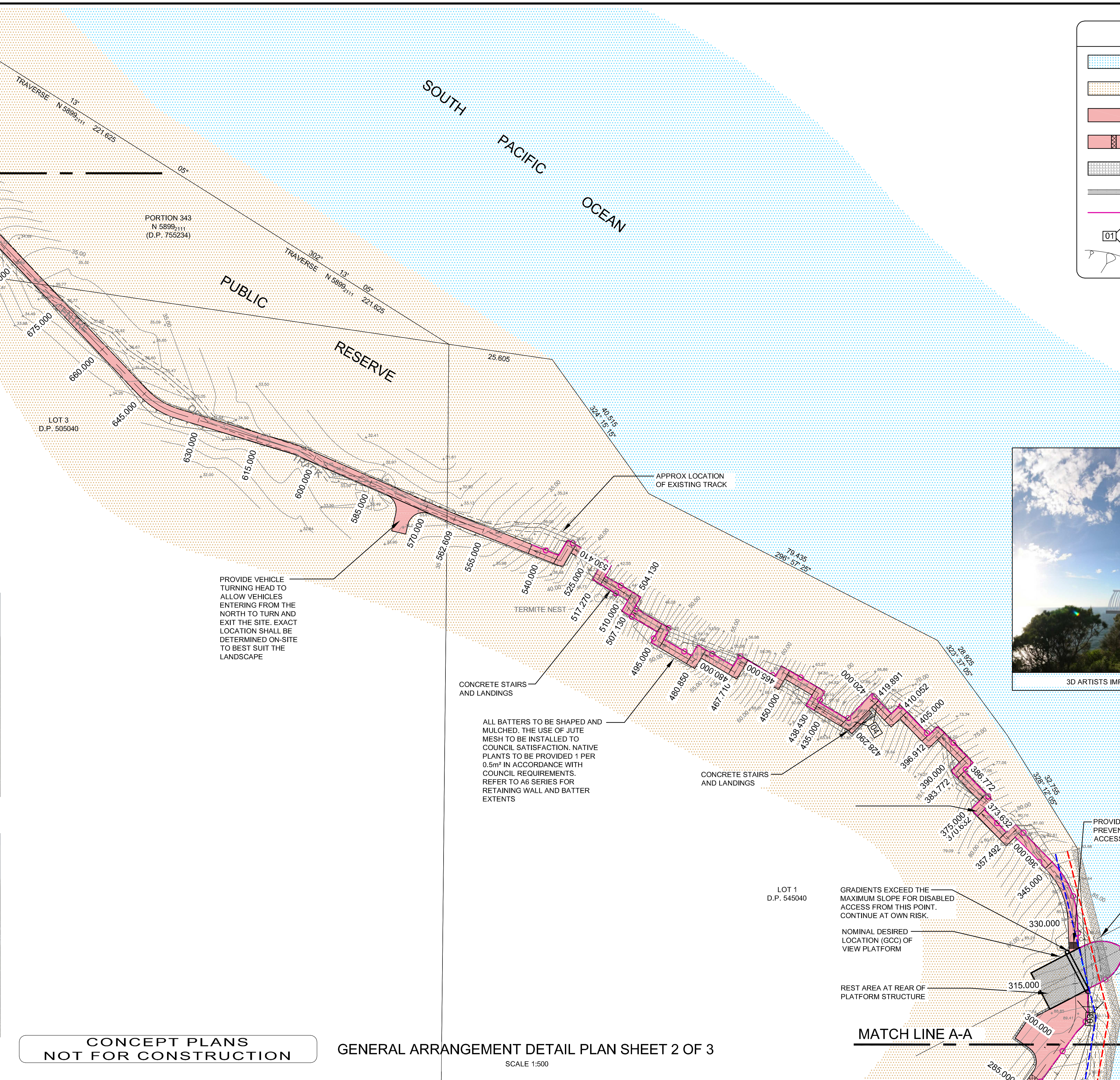
DRAWING TITLE
GENERAL ARRANGEMENT PLAN
SHEET 1 OF 3

ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed
date

SCALE	1:500	INT.
DRAWN	JG/CW	
DESIGNED	CF	
CHECKED	AJG	
DATE	JANUARY 2015	
JOB NUMBER	20140492	

SHEET A2.02
REV D

N W E S



LEGEND

- SOUTH PACIFIC OCEAN
- LAND / GROUND (EXTENTS ARE INDICATIVE ONLY)
- PROPOSED WALKWAY/MARKET STALL PAVEMENT AREA (COLOUR TO BE CONFIRMED)
- DENOTES PROPOSED FOOTPATH LANDING IN ACCORDANCE WITH AS1428
- DENOTES PROPOSED ELEVATED FOOTBRIDGE/FOOTPATH IN ACCORDANCE WITH AS1428
- PROPOSED SANDSTONE BLOCK RETAINING WALL
- PROPOSED HANDRAIL ALONG FOOTPATH ALIGNMENT
- 01 INDICATES POSITION OF PHOTO / IMAGE
- PROPOSED BATTER. SLOPE VARIES. REFER TO TYPICAL PAVEMENT SECTIONS FOR BATTER SLOPES

3D ARTISTS IMPRESSION OF PROPOSED PLATFORM STRUCTURE

04 VIEW FACING NORTH-WEST AT THE APPROXIMATE PROPOSED LOCATION FOR REST AREA 1

03 VIEW FACING NORTH AT THE APPROXIMATE PROPOSED LOCATION FOR THE VIEWING PLATFORM

CONCEPT PLANS
NOT FOR CONSTRUCTION

GENERAL ARRANGEMENT DETAIL PLAN SHEET 2 OF 3

SCALE 1:500

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A1

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FOR GOSFORD CITY COUNCIL CENTRAL COAST

5 LANDS WALK CENTRAL COAST - NEW SOUTH WALES

ADDRESS: WINNEY BAY RESERVE COPACABANA N.S.W.

PROJECT: 5 LANDS COASTAL WALKWAY - STAGE 5 CAPTAIN COOK LOOKOUT TO WINNEY BAY

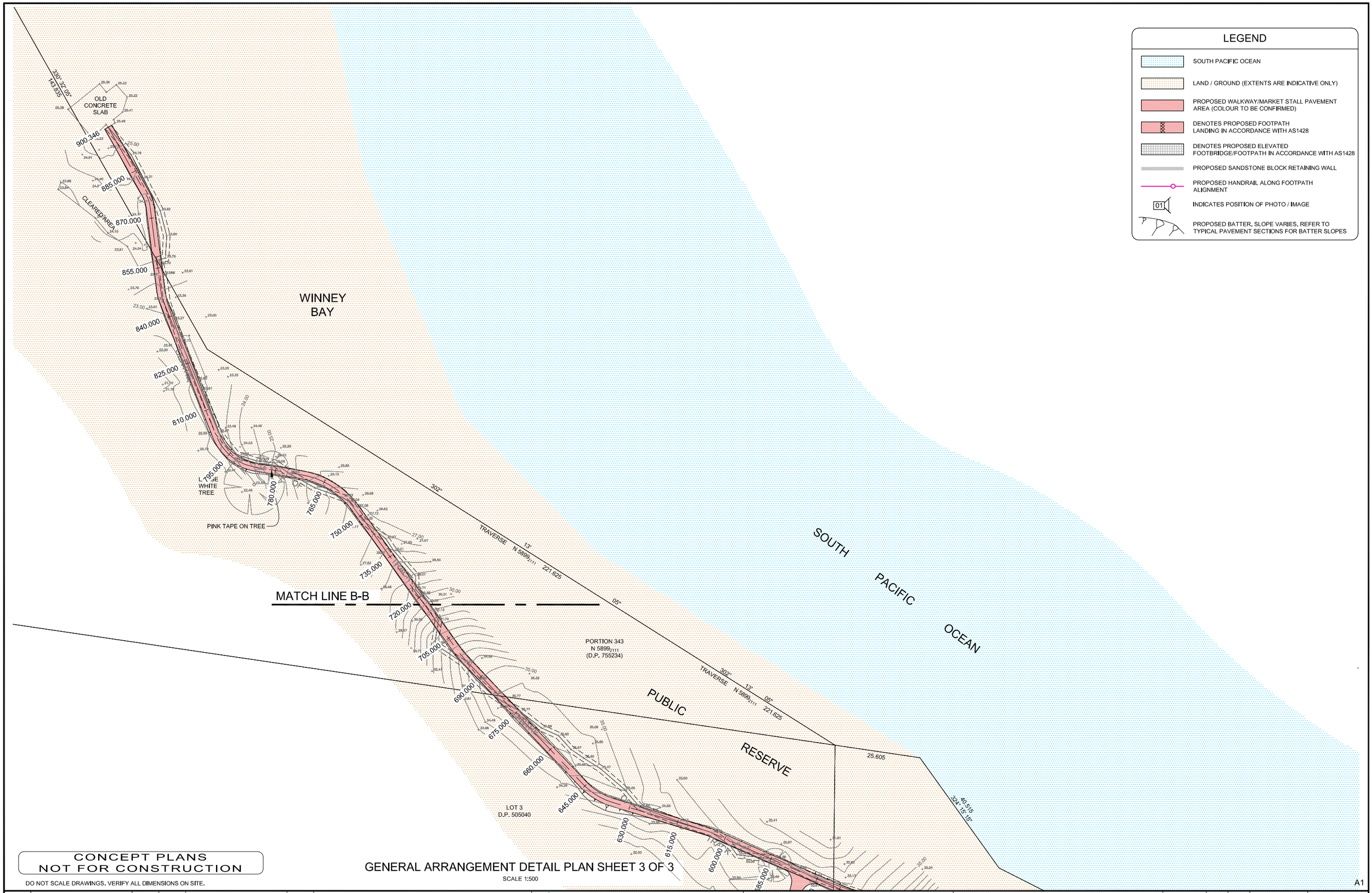
DRAWING TITLE: GENERAL ARRANGEMENT PLAN SHEET 2 OF 3

ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed
date

SCALE	1:500	
DRAWN	JG/CW	
DESIGNED	CF	
CHECKED	AJG	
DATE	JANUARY 2015	
JOB NUMBER	20140492	

SHEET A2.03

REV D



CONCEPT PLANS
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GENERAL ARRANGEMENT DETAIL PLAN SHEET 3 OF 3

SCALE 1:500

A1

REVISION	DESCRIPTION	DATE	REVISION	DESCRIPTION	DATE
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FOR GOSFORD CITY COUNCIL CENTRAL COAST
5 LANDS WALK CENTRAL COAST · NEW SOUTH WALES

ADDRESS
WINNEY BAY RESERVE
COPACABANA N.S.W.

PROJECT
5 LANDS COASTAL WALKWAY - STAGE 5
CAPTAIN COOK LOOKOUT TO WINNEY BAY

DRAWING TITLE
GENERAL ARRANGEMENT PLAN
SHEET 3 OF 3

ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed date

SCALE	1:500	INIT.
DRAWN	JG/CW	
DESIGNED	CF	
CHECKED	AJG	
DATE	JANUARY 2015	
JOB NUMBER	20140492	

SHEET A2.04
REV D

N W E S

PROPOSED WINNEY BAY CLIFFTOP WALK, 5 LANDS COASTAL WALKWAY - STAGE 5, CAPTAIN COOK LOOKOUT - WINNEY BAY

AT

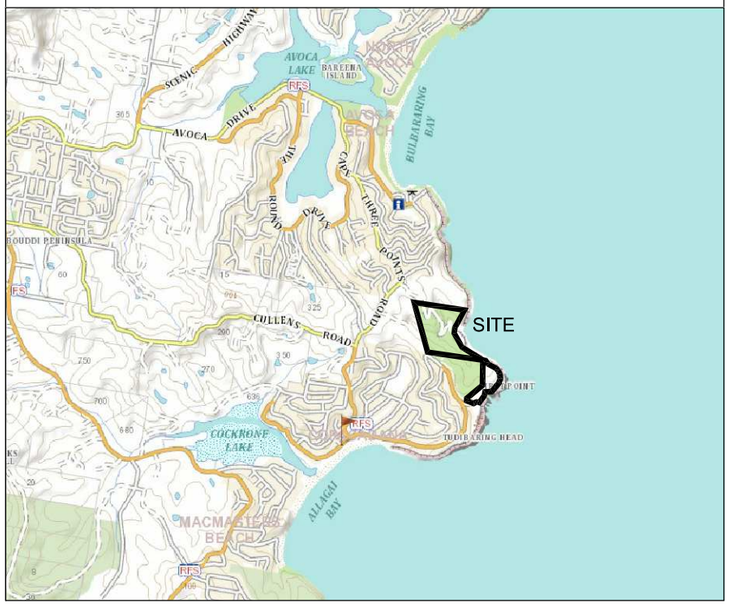
COPACABANA, NSW

FOR

GOSFORD CITY COUNCIL

A3 SERIES - PAVEMENT PLANS, SECTIONS AND DETAILS

LOCALITY PLAN



DRAWING LIST

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Village Centre, Kenrick Street,
The Junction NSW 2291
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CONCEPT PLANS
NOT FOR CONSTRUCTION

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FOR GOSFORD CITY COUNCIL CENTRAL COAST — 5 LANDS WALK CENTRAL COAST · NEW SOUTH WALES

ADDRESS: WINNEY BAY RESERVE COPACABANA N.S.W.

PROJECT: 5 LANDS COASTAL WALKWAY - STAGE 5 CAPTAIN COOK LOOKOUT TO WINNEY BAY

DRAWING TITLE: COVER SHEET

ANTHONY JOHN GRIFFITHS MIE AUST CPENG 2342830 signed date

SCALE	1:100	INIT.
DRAWN	JG/CW	
DESIGNED	CF	
CHECKED	AJG	
DATE	JANUARY 2015	
JOB NUMBER	20140492	

SHEET A3.01 REV D

CONCRETE (C)

C01. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600, AS 1379 & AS 3610 CURRENT EDITIONS WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.

C02 ALL CEMENT TO BE TYPE SL, SHRINKAGE LIMITED CEMENT IN ACCORDANCE WITH AS3972, EXCEPT THAT THE MAXIMUM SHRINKAGE OF THE CEMENT IN THE MORTAR TEST SAMPLE IN ACCORDANCE WITH AS3600 SHALL BE LESS THAN 600 MICROSTRAIN.

ELEMENT	STRENGTH GRADE (MPa)	SLUMP (mm)	MAXIMUM AGGREG. SIZE (mm)	MINIMUM CEMENT CONTENT (kg/cu.m)
SLABS	N40	80	20	250
FOOTINGS	N40	80	20	250

PROJECT ASSESSMENT SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1379 CLAUSE B7.

C03.
a. ALL CONCRETE IN SLABS AND BEAMS TO BE PROPORTIONED TO LIMIT DRYING SHRINKAGE TO 650 MICROSTRAIN AT 56 DAYS.
b. DETAILS OF THE PROPOSED MIX TO BE SUBMITTED & APPROVAL OBTAINED PRIOR TO POURING ANY CONCRETE.
c. SHRINKAGE TESTS SHALL BE CARRIED OUT BY AN APPROVED NATA REGISTERED LABORATORY IN ACCORDANCE WITH AS 1012 PART 13. TESTS SHALL BE CONDUCTED ON THE FIRST BATCH OF CONCRETE USED IN SUSPENDED SLABS AND SUBSEQUENTLY AT THE RATE OF ONE TEST EVERY ADDITIONAL 100m³ OF CONCRETE SUPPLIED. THREE SPECIMENS SHALL BE TAKEN FOR EACH TEST AND THE SHRINKAGE SHALL BE THE AVERAGE OF THE THREE RESULTS.
THE COST OF TESTING SHALL BE BORNE BY THE CONTRACTOR AS SHALL ANY ADDITIONAL TESTS REQUIRED IF THE CONCRETE FAILS TO MEET THE SPECIFIED SHRINKAGE LIMITS.

C04. NO ADMIXTURES OTHER THAN LOW RANGE WRA SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING.

C05. CLEAR CONCRETE COVER TO ALL REINFORCEMENT SHALL BE AS FOLLOWS UNLESS SHOWN OTHERWISE. COVER MAY NEED TO BE INCREASED FOR FIRE RATING.

EXPOSURE CLASS TO *AS 3600*	MINIMUM CONCRETE GRADE	CAST AGAINST GROUND	CAST IN FORMS & EXPOSED	CAST IN FORMS & NOT EXPOSED
A1 (INTERNAL)	20	40mm	-	20mm
A2 (EXTERNAL)	20	50mm	30mm	-
B1 (EXTERNAL)	32	60mm	40mm	-
B2 (EXTERNAL)	40	65mm	45mm	-
C2	50	65mm	-	-

NOTE: WHERE CONCRETE IS POURED ON A VAPOURPROOF MEMBRANE 0.2mm MINIMUM THICKNESS, THE COVER TO CONCRETE CAST AGAINST GROUND MAY BE REDUCED BY 10mm.

C06. CONCRETE SIZES SHOWN DO NOT INCLUDE THICKNESSES OF APPLIED FINISHES. NO FINISH WHICH DECREASES COVER IS ALLOWED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER.

C07. DEPTHS OF BEAMS ARE GIVEN FIRST AND INCLUDE SLAB THICKNESS.

C08. FOR CHAMFERS, DRIP GROOVES, REGLETS, ETC. REFER TO ARCHITECT'S DETAILS, MAINTAIN COVER TO REINFORCEMENT AT THESE DETAILS.

C09. NO HOLES, CHASES, BLOCKOUTS, DUCTS OR EMBEDMENT OF PIPES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ENGINEER.

C10. CONSTRUCTION JOINTS WHERE NOT SHOWN SHALL BE LOCATED TO THE APPROVAL OF THE ENGINEER.

C11. ALL CONCRETE COLUMNS GREATER THAN 1.2 METRES IN HEIGHT SHALL BE POURED A MINIMUM OF 4 HOURS PRIOR TO SLAB OR BEAM OVER.

C12. THE FINISHED CONCRETE SHALL BE MECHANICALLY VIBRATED TO ACHIEVE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS, ALL CONCRETE INCLUDING SLABS ON GROUND AND FOOTINGS SHALL BE COMPACTED WITH MECHANICAL VIBRATORS.

C13. CURING OF ALL CONCRETE IS TO BE ACHIEVED BY KEEPING SURFACES CONTINUOUSLY WET FOR A PERIOD OF THREE DAYS, AND THE PREVENTION OF LOSS OF MOISTURE FOR A TOTAL OF 7 DAYS FOLLOWED BY A GRADUAL DRYING OUT. APPROVED SPRAYED ON CURING COMPOUNDS THAT COMPLY WITH AS 3799 MAY BE USED WHERE FLOOR FINISHES WILL NOT BE AFFECTED (REFER MANUFACTURERS SPECIFICATION). POLYTHENE SHEETING OR WET HESSIAN MAY BE USED IF PROTECTED FROM WIND AND TRAFFIC.

C14. CONSTRUCTION SUPPORT PROPPING IS TO BE LEFT IN PLACE WHERE NEEDED TO AVOID OVERSTRESSING THE STRUCTURE DUE TO CONSTRUCTION LOADING. NO BRICKWORK OR PARTITION WALLS ARE TO BE CONSTRUCTED ON SUSPENDED LEVELS UNTIL SEVEN DAYS AFTER PROPPING HAS BEEN REMOVED AND THE SLAB PRE-LOADED WITH THE BRICKS OR UNITS TO BE USED IN THE WALL.

C15. REPAIRS TO CONCRETE SHALL NOT BE ATTEMPTED WITHOUT THE PERMISSION OF THE ENGINEER.

C16. CAST-IN FIXINGS, BOLTS ETC. SHALL NOT BE ALTERED WITHOUT THE PERMISSION OF THE ENGINEER.

C17. CONDUITS, PIPES ETC. SHALL ONLY BE LOCATED IN THE MIDDLE THIRD OF THE SLAB DEPTH AND SPACED AT NOT LESS THAN 3 DIAMETERS. CONDUITS AND PIPES SHALL NOT BE PLACED WITHIN THE COVER TO REINFORCEMENT.

C18. SLABS AND BEAMS SHALL BE CONSTRUCTED TO BEAR ONLY ON THE BEAMS, WALLS, COLUMNS ETC. SHOWN ON THE DRAWINGS. ALL OTHER BUILDING ELEMENTS SHALL BE KEPT 12mm CLEAR OF SOFFITS OF STRUCTURE.

C19. PLASTIC FORMWORK SPACERS AND BAR CHAIRS TO BE USED IN ALL EXPOSED CONCRETE WORK.

REINFORCEMENT (R)

R01. REINFORCEMENT SYMBOLS:

N DENOTES GRADE 500 N BARS TO AS 4671
R DENOTES GRADE 250 R HOT ROLLED PLAIN BARS TO AS 4671
L DENOTES GRADE 500 L HARD-DRAWN WIRE REINFORCING FABRIC TO AS 4671
W DENOTES GRADE 450 W HARD-DRAWN PLAIN WIRE TO AS 4671
TM DENOTES GRADE 500 TRENCH MESH TO AS 4671

NUMBER OF BARS IN GROUP
BAR GRADE AND TYPE
17N20-250
SPACING IN mm
NOMINAL BAR SIZE IN mm

THE FIGURES FOLLOWING THE FABRIC SYMBOLS RL, SL, L .. TM IS THE REFERENCE NUMBER TO AS 4671.

R02. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND NOT NECESSARILY IN TRUE PROJECTION.

R03. SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN POSITIONS SHOWN OR OTHERWISE APPROVED IN WRITING BY THE ENGINEER. LAPS SHALL BE IN ACCORDANCE WITH AS 3600 AND NOT LESS THAN THE DEVELOPMENT LENGTH FOR EACH BAR, AS PER THE TABLE BELOW:

SPLICE LENGTHS (mm)		
BAR SIZE	LESS THAN 300 CONCRETE BELOW BAR OR VERTICAL BAR	
	25MPa	≥32MPa
N12	300	300
N16	550	500
N20	750	650
N24	1000	900
N28	1350	1200
N32	1650	1450
N36	2000	1750
	MORE THAN 300 CONCRETE BELOW BAR BAR	
	25MPa	≥32MPa
N12	400	400
N16	650	600
N20	950	850
N24	1300	1150
N28	1650	1500
N32	2050	1850
N36	2500	2200

BOTTOM BAR LAPPED @ SUPPORTS AND TOP BAR LAPPED AT MID SPAN.

R04. WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE ENGINEER.

R05. FABRIC SHALL BE LAPPED 2 TRANSVERSE WIRES PLUS 25mm. BUNDLED BARS SHALL BE TIED TOGETHER AT 30 BAR DIAMETER CENTRES WITH 3 WRAPS OF THE WIRE.

R06. WHERE TRANSVERSE TIE BARS ARE NOT SHOWN PROVIDE N12-400 SPLICED WHERE NECESSARY AND LAP WITH MAIN BARS 400mm UNLESS NOTED.

R07. JOGGLES TO BARS SHALL COMPRISE A LENGTH OF 12 BAR DIAMETERS BETWEEN BEGINNING AND END OF AN OFFSET OF 1 BAR DIAMETER.

R08. ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON MILD STEEL PLASTIC TIPPED CHAIRS, PLASTIC CHAIRS OR CONCRETE CHAIRS AT NOT GREATER THAN 1 METRE CENTRES BOTH WAYS, AND 800 EACH WAY FOR FABRIC. WHEN POURED ON GROUND AS FORMWORK PROVIDE PLATES UNDER ALL BAR CHAIRS. PLASTIC TIPPED STEEL CHAIRS SHALL NOT BE USED ON EXPOSED FACES IN EXPOSURE CLASSIFICATION B1, B2 AND C ONLY PLASTIC OR PLASTIC OR CONCRETE CHAIRS.

R09. AT A SIMPLE OR END SUPPORT OF A SLAB ON A MASONRY WALL, ALL BOTTOM SLAB REINFORCEMENT SHALL EXTEND OVER THE MASONRY WALL BY A LENGTH 75mm FOR N12 BARS & 95mm FOR N16 BARS. IF THIS CANNOT BE ACHIEVED DUE TO COVER REQUIREMENTS THEN THE BARS SHALL BE COGGED. FOR FABRIC THE LAST WELDED CROSS ROD SHALL BE LOCATED OVER THE WALL AND 50mm MINIMUM BEYOND THE FACE OF THE WALL.

R10. SITE BENDING OF REINFORCEMENT SHALL BE AVOIDED IF POSSIBLE. WHERE SITE BENDING IS UNAVOIDABLE IT SHALL BE CARRIED OUT COLD, WITHOUT THE APPLICATION OF HEAT, AND IN ACCORDANCE WITH THE PRACTICE NOTE RPN1 OF THE STEEL REINFORCEMENT INSTITUTE OF AUSTRALIA.

R11. THE STRUCTURAL ENGINEER SHALL BE GIVEN 24 HOURS NOTICE FOR REINFORCEMENT INSPECTION AND CONCRETE SHALL NOT BE DELIVERED UNTIL FINAL APPROVAL HAS BEEN OBTAINED FROM THE STRUCTURAL ENGINEER.

STRUCTURAL STEEL (SS)

S01. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 4100 AND AS 1554 EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.

S02. UNLESS NOTED OTHERWISE ALL MATERIAL SHALL BE:
- GRADE 250 HOT-ROLLED PLATES COMPLYING WITH AS 3678;
- GRADE 250 HOT-ROLLED FLATS,.
- GRADE 300PLUS UB, UC, PFC, ANGLES, AND TFB,
- GRADE 300 WB, WC COMPLYING WITH AS 3679.2;
- GRADE C350 RHS, CHS COMPLYING WITH AS 1163;

S03. THREE(3) COPIES OF WORKSHOP FABRICATION DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AT LEAST 7 DAYS PRIOR TO COMMENCEMENT OF FABRICATION AND PERMISSION TO USE OBTAINED PRIOR TO FABRICATION. PERMISSION TO USE DOES NOT RELIEVE THE BUILDER OF THE FULL RESPONSIBILITY FOR DIMENSIONS, FIT AND COMPLIANCE WITH ARCHITECTURAL AND ENGINEERING DRAWINGS.

S04. BOLTS:-
- 4.6/S - COMMERCIAL BOLTS OF GRADE 4.6 TO AS 1111, SNUG TIGHTENED.
- 8.8/S - HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS 1252, SNUG TIGHTENED.
- 8.8/TB - HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS 1252 FULLY TENSIONED TO AS 4100 AS BEARING JOINT.
- 8.8/TF - HIGH STRENGTH STRUCTURAL BOLTS OF GRADE 8.8 TO AS 1252 FULLY TENSIONED TO AS 4100 AS A FRICTION JOINT WITH FACING SURFACES LEFT UNCOATED.

ALL BOLTS SHALL BE M20 GRADE 8.8/S UNLESS NOTED. NO CONNECTION SHALL HAVE LESS THAN 2 BOLTS. ALL BOLTS, NUTS & WASHERS TO BE GALVANISED. TB AND TF BOLTS TO BE INSTALLED USING APPROVED LOAD INDICATING WASHERS, OR BY TURN OF NUT CONTROL OF TENSIONING.

S05. WELDING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1554.1. WELDING S5 CONSUMABLES SHALL BE E48XX OR W50X U.N.O. ALL WELD SHALL BE 6 MM CFW SP CATEGORY U.N.O. CPBW SHALL BE SP CATEGORY U.N.O. INSPECTION SHALL BE CARRIED OUT TO AS 1554.1. ALL GP/SP WELDS SHALL BE 100% VISUALLY SCANNED.
BUTT WELDS SHALL BE COMPLETE PENETRATION WELDS TO AS 1554.

S06. ALL DETAILS, GAUGE LINES ETC, WHERE NOT SPECIFICALLY SHOWN ARE TO BE IN ACCORDANCE WITH AISC DESIGN CAPACITY TABLES FOR STRUCTURAL STEEL AND AISC STANDARDIZED STRUCTURAL CONNECTIONS, PLATES TO BE 10mm THICK, EX-STANDARD SQUARE EDGE FLATS U.N.O.

S07. STEELWORK TO BE CONCRETE ENCASED SHALL BE WRAPPED WITH F41 STEELWIRE FABRIC AND SHALL HAVE 50mm MINIMUM CONCRETE COVER TO THE STRUCTURAL STEEL.

S08. PROVIDE SEAL PLATES TO ALL HOLLOW SECTIONS. PROVIDE VENT HOLES TO HOLLOW MEMBERS & DRAIN HOLES TO ALL MEMBERS TO BE HOT DIP GALVANISED.

S09. IT IS THE BUILDER'S RESPONSIBILITY TO ENSURE THAT STEELWORK IS SECURELY TEMPORARILY BRACED AS NECESSARY TO STABILISE THE STRUCTURE DURING ERECTION.

S10. STRUCTURAL STEELWORK SHALL HAVE THE FOLLOWING SURFACE TREATMENT IN ACCORDANCE WITH THE SPECIFICATION.

ELEMENT	SURFACE CLEANING	PROTECTIVE COATING
• EXTERNAL	MECHANICAL	HOT DIPPED GALV. + 2 COAT EPOXY

S11. THE BUILDER SHALL PROVIDE ALL CLEATS AND DRILL ALL HOLES NECESSARY FOR FIXING STEEL TO STEEL AND TIMBER TO STEEL WHETHER OR NOT DETAILED ON THE DRAWINGS.

S12. THE FABRICATION AND ERECTION OF THE STRUCTURAL STEELWORK SHALL BE UNDERTAKEN BY A QUALIFIED PERSON EXPERIENCED IN SUCH SUPERVISION, IN ORDER TO ENSURE THAT ALL REQUIREMENTS OF THE DESIGN ARE MET. ALL BEAMS AND RAFTERS SHALL BE FABRICATED AND ERECTED WITH NATURAL CAMBER UP.

S13. REFERENCE SHOULD BE MADE TO AS 2312 FOR APPROPRIATE COATING SYSTEMS FOR ALL EXTERNAL APPLICATIONS, COATING OF EXTERNAL LINTELS SHALL BE IN ACCORDANCE WITH B.C.A AND AS 3700.

FOOTPATH NOTES:

- ALLOW ADDITIONAL CONCRETE THICKNESS WHERE 'SANDBLASTED' CONCRETE FINISH IS SPECIFIED TO MAINTAIN 45mm MIN. COVER
- ALL SETOUT DIMENSION AND PATH WIDTHS BY OTHERS.
- ALL FALLS AND GRADES ON PATHS BY OTHERS. PATHS TO HAVE SUFFICIENT GRADE & CROSSFALL SO AS TO NOT POND SURFACE WATER

JOINT SPACING SCHEDULE

PATH WIDTH	TJ SPACING	EJ SPACING
1.2m	1.2m	3.6m
2.4m	2.4m	7.2m
6.0m	6.0m	18.0m

STRUCTURAL STAINLESS STEEL (SSS)

SS1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 4100 AND AS 1554 EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.

SS2. UNLESS NOTED OTHERWISE ALL STAINLESS STEEL SHALL BE COMPLYING WITH AS/NZS 4673, OF A GRADE SUITABLE FOR USE IN MARINE SPLASH ZONE CONDITIONS.

SS3. THREE(3) COPIES OF WORKSHOP FABRICATION DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AT LEAST 7 DAYS PRIOR TO COMMENCEMENT OF FABRICATION AND PERMISSION TO USE OBTAINED PRIOR TO FABRICATION. PERMISSION TO USE DOES NOT RELIEVE THE BUILDER OF THE FULL RESPONSIBILITY FOR DIMENSIONS, FIT AND COMPLIANCE WITH ARCHITECTURAL AND ENGINEERING DRAWINGS.

SS4. BOLTS:-
ALL BOLTS SHALL BE M16 GRADE 304/S UNLESS NOTED OTHERWISE.
ALL BOLTS, NUTS & WASHERS TO BE STAINLESS STEEL.
(GRADE 304) TO ISO 3506, SNUG TIGHTENED WITH NYLON LOCK NUTS.
STAINLESS STEEL TO BE SEPARATED FROM OTHER METALS WITH NEOPRENE WASHERS.

SS5. WELDING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 1554.1. AND AS 1554.6 WELDING CONSUMABLES SHALL BE SUITABLE FOR STAINLESS STEEL OR ALUMINIUM U.N.O. ALL WELDS SHALL BE 3mm C.F.W. SP GATEGORY U.N.O. CPBW SHALL BE SP CATEGORY U.N.O. INSPECTION SHALL BE CARRIED OUT TO AS 1554.1. AND AS 1554.6 ALL GP/SP WELDS SHALL BE 100% VISUALLY SCANNED.
BUTT WELDS SHALL BE COMPLETE PENETRATION WELDS TO AS 1554.

SS6. ALL DETAILS, GAUGE LINES ETC. WHERE NOT SPECIFICALLY SHOWN ARE TO BE IN ACCORDANCE WITH AISC DESIGN CAPACITY TABLES FOR STRUCTURAL STEEL AND AISC STANDARDIZED STRUCTURAL CONNECTIONS, PLATES TO BE 6mm THICK, EX-STANDARD SQUARE EDGE FLATS U.N.O.

SS7. PROVIDE SEAL PLATES TO ALL HOLLOW SECTIONS.

SS8. IT IS THE BUILDER'S RESPONSIBILITY TO ENSURE THAT STEELWORK IS SECURELY TEMPORARILY BRACED AS NECESSARY TO STABILISE THE STRUCTURE DURING ERECTION.

SS9. THE BUILDER SHALL PROVIDE ALL CLEATS AND DRILL ALL HOLES NECESSARY FOR FIXING STEEL TO STEEL AND TIMBER TO STEEL WHETHER OR NOT DETAILED ON THE DRAWINGS.

SS10. THE FABRICATION AND ERECTION OF THE STRUCTURAL STEELWORK SHALL BE UNDERTAKEN BY A QUALIFIED PERSON EXPERIENCED IN SUCH SUPERVISION, IN ORDER TO ENSURE THAT ALL REQUIREMENTS OF THE DESIGN ARE MET. ALL BEAMS AND RAFTERS SHALL BE FABRICATED AND ERECTED WITH NATURAL CAMBER UP.

FORMWORK (FW)

FW1. THE DESIGN, CONSTRUCTION AND PERFORMANCE OF THE FORMWORK AND FALSEWORK IS THE RESPONSIBILITY OF THE BUILDER.

FW2. DESIGN AND CONSTRUCTION AND STRIPPING TIMES SHALL COMPLY WITH AS 3610 AND AS 3600 UNLESS OTHERWISE APPROVED BY THE ENGINEER.

FW3. DURING CONSTRUCTION, SUPPORT PROPPING SHALL BE PROVIDED WHERE LOADS FROM STACKED MATERIALS, FORMWORK AND OTHER SUPPORTED SLABS INDUCE LOADS IN A SLAB OR BEAM WHICH EXCEED THE DESIGN LOAD FOR STRENGTH OR SERVICEABILITY AT THAT AGE ONCE THE NOMINATED 28 DAY STRENGTH HAS BEEN ATTAINED, THESE LOADS SHALL NOT EXCEED THE DESIGN SUPERIMPOSED LOADS SET OUT IN THE GENERAL NOTES.

FW4. IN MULTI-STOREY CONSTRUCTION PROPPING SHALL BE PROVIDED AT LEAST 3 LEVELS BELOW THE FLOOR BEING CAST. PROP REMOVAL IS TO BE PROGRAMMED TO AVOID DISTRESS TO PREVIOUSLY CAST FLOORS, RE-SHORING OR BACK-PROPPING IS SUBJECT TO THE APPROVAL OF THE PROJECT DESIGN ENGINEER.

FW5. THE FORMWORK SHALL BE DESIGNED TO RELY ON NO RESTRAINT OR SUPPORT FROM THE PERMANENT STRUCTURE WITHOUT PRIOR APPROVAL FROM THE PROJECT DESIGN ENGINEER.

FW5. FORMWORK SHALL BE DESIGNED TO ACCOMMODATE MOVEMENTS AND LOAD RE DISTRIBUTION DUE TO POST-TENSIONING.

FW6. WHERE NECESSARY SPECIAL REQUIREMENTS FOR SEQUENCE OF CONCRETE PLACEMENT AND STRIPPING ARE SET OUT ON DRAWINGS.

FW7. DESIGN INFORMATION CONCERNING THE FOUNDATION FORMWORK SHALL BE DETERMINED FROM THE CONDITIONS EXISTING ON SITE AT THE TIME OF CONSTRUCTION. REFER ALSO TO THE GEOTECHNICAL REPORT WHERE AVAILABLE.

FW8. UNLESS NOTED OTHERWISE PROVIDE UPWARD CAMBER TO FORMWORK OF CANTILEVERS OF L/120, WHERE L IS THE SHORTEST PROJECTION BEYOND COLUMN OR WALL FACE, AND TO FORMWORK OF SLABS WHERE NOTED ON PLAN. MAINTAIN THE SLAB AND BEAM DEPTHS SHOWN.

CHEMICALLY ANCHORED REINFORCEMENT

CAR1. WHERE SHOWN ON THE DRAWINGS REINFORCMENT BARS SHALL BE CHEMICALLY ANCHORED INTO EXISTING CONCRETE AS DESCRIBED BELOW.

CAR2. PERCUSSION DRILL (CORING NOT PERMITTED) A HOLE TO THE CORRECT DIAMETER AND DEPTH FOR THE PARTICULAR SIZE REINFORCING BARS AS TABULATED BELOW, UNLESS SHOWN OTHERWISE ON THE DRAWINGS.

BAR SIZE (Y OR N)	HOLE DIA (mm)	HOLE DEPTH (mm)
12	16	120
16	22	150
20	28	250
24	32	280

CAR3. THOROUGHLY CLEAN THE HOLE USING A ROUND WIRE BRUSH AND BLOWOUT ALL DUST.

CAR4. ENSURE HOLE IS CLEAN AND DRY AND INSERT SUFFICIENT HILTI HY 150 RESIN INTO THE BASE OF THE HOLE TO ENSURE THAT WHEN THE BAR IS INSTALLED RESIN APPEARS AT THE FACE OF THE HOLE.

CAR5. IMMEDIATELY INSERT THE REINFORCING BAR INTO THE HOLE BY ROTATING SLOWLY TO FULLY COAT THE BAR WITH RESIN, AND PUSH FULLY INTO THE HOLE.

CAR6. ENSURE BAR IS NOT DISTURBED WHILST RESIN IS CURING. (APPROX. 2 HOURS).

CAR7. DRILLING CONTRACTOR IS TO OBTAIN WRITTEN AUTHORISATION FROM ADJOINING PROPERTY OWNERS BEFORE CARRYING OUT PLACEMENT OF PILING ANCHORS.

DESIGN SPECIFICATION:

REINFORCEMENT:
BAR - N500 GRADE
STIRRUP - R250 GRADE
MESH - SL500 GRADE - LOW DUCTILITY3

"B2" COVER: "C" COVER:
TOP - 45mm TOP - 65mm
SIDE - 45mm SIDE - 65mm
BTM - 65mm BTM - 65mm

DAMP PROOF MEMBRANE:
0.2mm POLYETHYLENE FILM CONTINUOUSLY BRANDED "AS2870 CONCRETE UNDERLAY, 0.2mm - HIGH IMPACT RESISTANCE"

SITE CLASSIFICATION: AS 3600
"S" - ACID SULPHATE / OCEAN FRONT
REFER GEOTECHNICAL REPORT
BY DOUGLAS PARTNERS REF: 84701.00 DATED APRIL 2015

EXPOSURE CLASSIFICATION: AS 3600
B2 - COASTAL F'c = N40MPa (B2) PATHWAYS
C - TIDAL/SPLASH ZONE F'c = S50MPa (C2)

LOADING: AS 1170.1
SHARED PATHWAYS / STAIRS: 3kPa
TRAFFICABLE PATHWAY: 5kPa

DESIGN REFERENCE STANDARDS:

AS 3600	-	CONCRETE STRUCTURES
AS 4100	-	STEEL STRUCTURES
AS1170	-	STRUCTURAL DESIGN ACTIONS
AS 1012	-	CONCRETE TESTING
AS 1289	-	SOIL TESTING
AS 1379	-	CONCRETE MANUFACTURE
AS 1478	-	CONCRETE ADMIXTURES
AS/NZS 4671	-	STEEL REINFORCING MATERIALS
AS/NZS 4680	-	HOT DIP GALVANIZING (ZINC) COATINGS
AS 1554	-	STRUCTURAL STEEL WELDING
AS4673	-	STAINLESS STEEL STRUCTURES
AS2312	-	GUIDE TO THE PROTECTION OF IRON & STEEL AGAINST EXTERIOR ATMOSPHERIC CORROSION
AS3610	-	FORMWORK FOR CONCRETE
AS2156	-	WALKING TRACKS
AS1428	-	DESIGN FOR ACCESS AND MOBILITY
AS2890	-	OFF STREET CAR PARKING

CONCEPT PLANS
NOT FOR CONSTRUCTION

DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS ON SITE.

A1

REVISION	DESCRIPTION	DATE	REVISION	DESCRIPTION	DATE
A	PRELIMINARY ISSUE TO	05.06.15			
	QUANTITY SURVEYOR				
B	RE-ISSUE TO	24.06.15			
	QUANTITY SURVEYOR				
C	90% ISSUE	29.06.15			
D	COUNCIL APPROVAL	19.08.15			

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FOR GOSFORD CITY COUNCIL CENTRAL COAST
5 LANDS WALK CENTRAL COAST · NEW SOUTH WALES

ADDRESS
WINNEY BAY RESERVE
COPACABANA N.S.W.

PROJECT
5 LANDS COASTAL WALKWAY - STAGE 5
CAPTAIN COOK LOOKOUT TO WINNEY BAY

DRAWING TITLE
STRUCTURAL NOTES

ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed date

SCALE	1:100	INT.	
DRAWN	JG/CW		
DESIGNED	CF		
CHECKED	AJG		
DATE	JANUARY 2015		
JOB NUMBER	20140492		

SHEET A3.02
REV D

N W E S

LEGEND

▨	SOUTH PACIFIC OCEAN
▨	LAND / GROUND (EXTENTS ARE INDICATIVE ONLY)
🟥	PROPOSED WALKWAY/MARKET STALL PAVEMENT AREA
▨	DENOTES PROPOSED FOOTPATH LANDING IN ACCORDANCE WITH AS1428
▨	DENOTES PROPOSED ELEVATED FOOTBRIDGE/FOOTPATH IN ACCORDANCE WITH AS1428
═	PROPOSED SANDSTONE BLOCK RETAINING WALL
🟨	PROPOSED SERVICE TRENCH LOCATION
—○—	PROPOSED HANDRAIL ALONG FOOTPATH ALIGNMENT
01	INDICATES POSITION OF PHOTO / IMAGE
	PROPOSED BATTER. SLOPE VARIES. REFER TO TYPICAL PAVEMENT SECTIONS FOR BATTER SLOPES

BATTER FROM PROPOSED FOOTPATH TO NATURAL SURFACE LEVEL WHERE REQUIRED, BATTER SLOPES VARY IN CUT/FILL ZONES:

CUT/FILL <0.5m	- BATTER = 1v:1h
CUT/FILL 0.5m-1.0m	- BATTER = 1v:2h
CUT/FILL >1m	- BATTER = 1v:4h

SERVICE TRENCH TO BE LOCATED ALONG PROPOSED FOOTPATH ALIGNMENT. REFER TO SHEET A7.02 FOR DETAIL, TYP.

PROVIDE REMOVABLE BOLLARDS AT ENTRY TO VEHICULAR ACCESS. BOLLARDS TO BE PLACED IN ACCORDANCE WITH AS2890 AND AS1428

RW1 - RETAINING WALL HEIGHT VARIES. REFER TO CROSS SECTIONS FOR WALL LEVELS. FOR RW1 DETAIL, REFER TO SHEET A3.???

6 METRE OFFSET LINE FROM CLIFF CREST EDGE

3 METRE OFFSET LINE FROM CLIFF CREST EDGE

DETAIL WALKWAY PLAN - MC02

SCALE 1:100

Datum 85

DESIGN	108.58	108.58	107.957	107.927	107.36	107.284	107.254	106.756	106.612	106.574	106.546	106.057	105.932	105.768
NATURAL	108.612	108.525	108.324	108.073	108.191	108.234	108	107.129	106.914	106.787	106.759	106.312	106.198	105.621
CHAINAGES	0	1.468	10.842	12.063	20	21.063	22.256	29.244	31.256	32.756	33.15	40	41.756	44.982

LONGITUDINAL SECTION - MC02

SCALE 1:500 (natural)

CONCEPT PLANS
NOT FOR CONSTRUCTION

DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS ON SITE.

A1

REVISION	DESCRIPTION	DATE	REVISION	DESCRIPTION	DATE
A	PRELIMINARY ISSUE TO	05.06.15			
	QUANTITY SURVEYOR				
B	RE-ISSUE TO	24.06.15			
	QUANTITY SURVEYOR				
C	90% ISSUE	29.06.15			
D	COUNCIL APPROVAL	19.08.15			

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GOSFORD CITY COUNCIL
CENTRAL COAST

5 LANDS WALK
CENTRAL COAST · NEW SOUTH WALES

ADDRESS
WINNEY BAY RESERVE
COPACABANA N.S.W.

PROJECT
5 LANDS COASTAL WALKWAY - STAGE 5
CAPTAIN COOK LOOKOUT TO WINNEY BAY

DRAWING TITLE
DETAIL PAVEMENT PLAN
SHEET 1

ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed
date

SCALE	1:100	INIT.
DRAWN	JG/CW	
DESIGNED	CF	
CHECKED	AJG	
DATE	JANUARY 2015	
JOB NUMBER	20140492	

SHEET
A3.03

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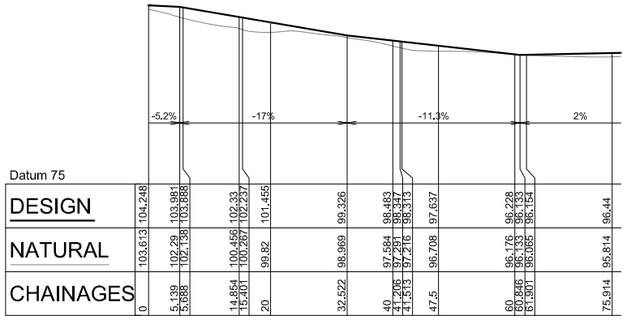

DENOTES BATTER TICKS

PROPOSED BRIDGE STRUCTURE REFER 'A4' SERIES FOR DETAILS

DENOTES INDICATIVE HANDRAIL LOCATION IN ACCORDANCE WITH AS2890 AND AS1428, TYP.

BATTER FROM PROPOSED FOOTPATH TO NATURAL SURFACE LEVEL WHERE REQUIRED. BATTER SLOPES VARY IN CUT/FILL ZONES:

CUT/FILL <0.5m	- BATTER = 1v:1h
CUT/FILL 0.5m-1.0m	- BATTER = 1v:2h
CUT/FILL >1m	- BATTER = 1v:4h

DENOTES INDICATIVE SANDSTONE RETAINING WALL LOCATION. WALL TO BE LOCATED 1.0m NOM. FROM OUTER EDGE OF PROPOSED MATERIAL OF DIFFERENT TEXTURE TO FOOTPATH.

6 METRE OFFSET LINE FROM CLIFF CREST EDGE

3 METRE OFFSET LINE FROM CLIFF CREST EDGE

DENOTES INDICATIVE HANDRAIL LOCATION IN ACCORDANCE WITH AS2890 AND AS1428, TYP.

PROVIDE FIXED BOLLARD AT ENTRY TO BRIDGE STRUCTURE. BOLLARDS TO BE PLACED IN ACCORDANCE WITH AS2890 AND AS1428

PROPOSED MARKET STALL AREAS

DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS ON SITE.

LEGEND

▨	SOUTH PACIFIC OCEAN
▨	LAND / GROUND (EXTENTS ARE INDICATIVE ONLY)
🟥	PROPOSED WALKWAY/MARKET STALL PAVEMENT AREA
🟥	DENOTES PROPOSED FOOTPATH LANDING IN ACCORDANCE WITH AS1428
▦	DENOTES PROPOSED ELEVATED FOOTBRIDGE/FOOTPATH IN ACCORDANCE WITH AS1428
▬	PROPOSED SANDSTONE BLOCK RETAINING WALL
🟨	PROPOSED SERVICE TRENCH LOCATION
—○—	PROPOSED HANDRAIL ALONG FOOTPATH ALIGNMENT
01	INDICATES POSITION OF PHOTO / IMAGE
	PROPOSED BATTER. SLOPE VARIES. REFER TO TYPICAL PAVEMENT SECTIONS FOR BATTER SLOPES

-5.2% -17% -11.3% 2%

Datum 75

DESIGN	104.248	103.981	103.888	102.33	102.237	101.455	99.326	98.483	98.347	98.313	97.637	96.228	96.133	96.154	96.44
NATURAL	103.613	102.29	102.138	100.456	100.267	99.82	98.969	97.584	97.291	97.216	96.708	96.176	96.133	96.065	95.814
CHAINAGES	0	5.139	5.688	14.854	15.401	20	32.522	40	41.206	41.513	47.5	60	60.846	61.901	75.914

LONGITUDINAL SECTION - MC03

SCALE 1:500 (natural)

CONCEPT PLANS
NOT FOR CONSTRUCTION

A1

REVISION	DESCRIPTION	DATE	REVISION	DESCRIPTION	DATE
A	PRELIMINARY ISSUE TO QUANTITY SURVEYOR	05.06.15			
B	RE-ISSUE TO QUANTITY SURVEYOR	24.06.15			
C	90% ISSUE	29.06.15			
D	COUNCIL APPROVAL	19.08.15			

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FOR
GOSFORD CITY COUNCIL
CENTRAL COAST

5 LANDS WALK
CENTRAL COAST · NEW SOUTH WALES

ADDRESS
WINNEY BAY RESERVE
COPACABANA N.S.W.

PROJECT
5 LANDS COASTAL WALKWAY - STAGE 5
CAPTAIN COOK LOOKOUT TO WINNEY BAY

DRAWING TITLE
DETAIL PAVEMENT PLAN
SHEET 2

ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed
date

SCALE	1:100	INIT.
DRAWN	JG/CW	
DESIGNED	CF	
CHECKED	AJG	
DATE	JANUARY 2015	
JOB NUMBER	20140492	

SHEET
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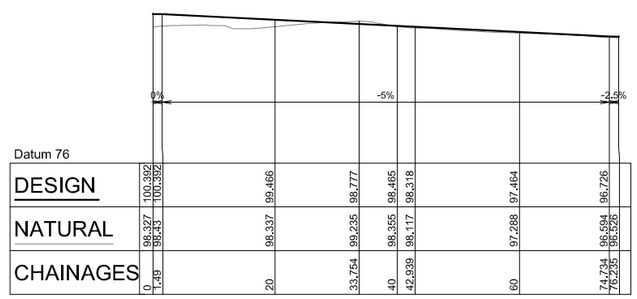

LEGEND

▨	SOUTH PACIFIC OCEAN
▨	LAND / GROUND (EXTENTS ARE INDICATIVE ONLY)
🟥	PROPOSED WALKWAY/MARKET STALL PAVEMENT AREA
🟥	DENOTES PROPOSED FOOTPATH LANDING IN ACCORDANCE WITH AS1428
▨	DENOTES PROPOSED ELEVATED FOOTBRIDGE/FOOTPATH IN ACCORDANCE WITH AS1428
▬	PROPOSED SANDSTONE BLOCK RETAINING WALL
🟨	PROPOSED SERVICE TRENCH LOCATION
●	PROPOSED HANDRAIL ALONG FOOTPATH ALIGNMENT
01	INDICATES POSITION OF PHOTO / IMAGE
	PROPOSED BATTER. SLOPE VARIES. REFER TO TYPICAL PAVEMENT SECTIONS FOR BATTER SLOPES

BATTER FROM PROPOSED FOOTPATH TO NATURAL SURFACE LEVEL WHERE REQUIRED. BATTER SLOPES VARY IN CUT/FILL ZONES:
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CUT/FILL 0.5m-1.0m - BATTER = 1v:2h
CUT/FILL >1m - BATTER = 1v:4h

PROPOSED MARKET STALL AREAS

DENOTES INDICATIVE HANDRAIL LOCATION IN ACCORDANCE WITH AS2890 AND AS1428, TYP.

6 METRE OFFSET LINE FROM CLIFF CREST EDGE

3 METRE OFFSET LINE FROM CLIFF CREST EDGE

100.00

98.6

99.79

100.65

101.26

DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS ON SITE.

DETAIL WALKWAY PLAN - MC04

SCALE 1:100

Datum 76

DESIGN		100.392 100.392	99.466	98.777	98.465	98.318	97.464	96.726	
NATURAL		98.327 98.43	98.337	99.235	98.355	98.117	97.288	96.594 96.526	
CHAINAGES		0 1.49	20	33.754	40	42.939	60	74.734 76.235	

LONGITUDINAL SECTION - MC04

SCALE 1:500 (natural)

CONCEPT PLANS
NOT FOR CONSTRUCTION

A1

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FOR
GOSFORD CITY COUNCIL
CENTRAL COAST
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CENTRAL COAST · NEW SOUTH WALES

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COPACABANA N.S.W.

PROJECT
5 LANDS COASTAL WALKWAY - STAGE 5
CAPTAIN COOK LOOKOUT TO WINNEY BAY

DRAWING TITLE
DETAIL PAVEMENT PLAN
SHEET 3

ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed
date

SCALE	1:100	INIT.
DRAWN	JG/CW	
DESIGNED	CF	
CHECKED	AJG	
DATE	JANUARY 2015	
JOB NUMBER	20140492	

SHEET
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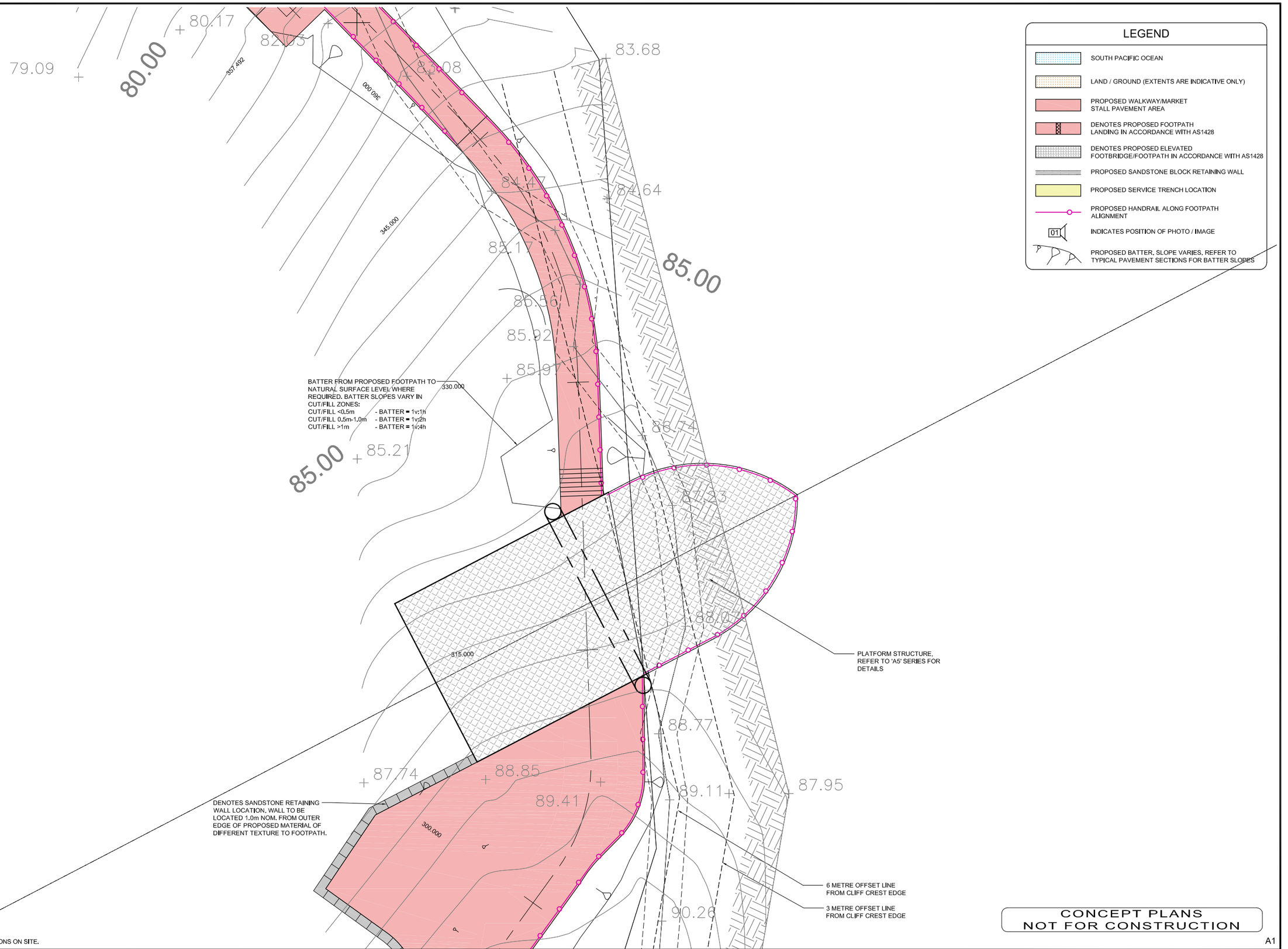

CONCEPT PLANS
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A1

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FOR GOSFORD CITY COUNCIL CENTRAL COAST
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CAPTAIN COOK LOOKOUT TO WINNEY BAY

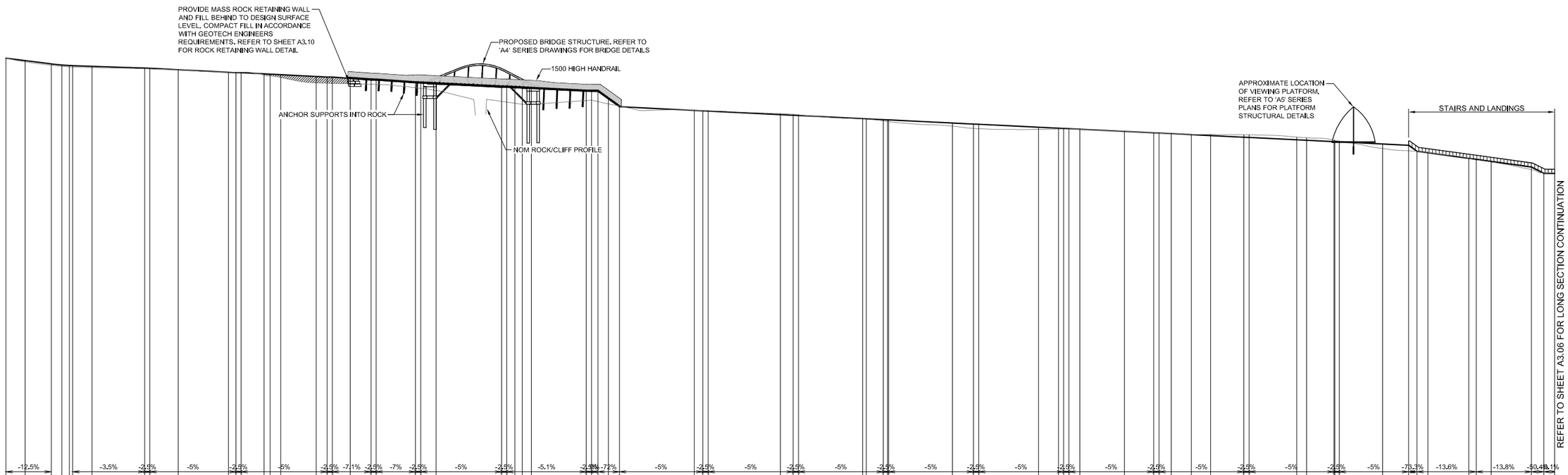
DRAWING TITLE
DETAIL PAVEMENT PLAN
SHEET 4

ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed date

SCALE	1:100	INIT.	
DRAWN	JG/CW		
DESIGNED	CF		
CHECKED	AJG		
DATE	JANUARY 2015		
JOB NUMBER	20140492		

SHEET A3.06
REV D

N W E S



Datum 2

DESIGN	108.06	107.503	106.751	106.495	106.385	106.352	106.195	105.768	105.738	105.41	104.826	104.738	104.708	104.44	104.37	104.248	103.836	103.708	103.678	103.381
NATURAL	108.06	107.215	106.427	106.183	106.068	106.024	105.881	105.621	105.574	105.414	104.856	104.808	104.826	104.169	104	103.613	102.345	102.264	102.218	102.143
CHAINAGES	0	4.469	10.51	13.01	14.727	15.51	20	32.243	33.443	40	51.696	53.443	54.643	60	61.401	63.857	72.085	74.643	75.843	80

DESIGN	103.036	103.006	102.363	102.333	102.153	101.393	101.363	101.267	101.18	101.071	100.423	100.392	100.392	98.657	96.792	95.915	95.815	95.785	94.946	94.797
NATURAL	102.036	102.003	101.223	101.086	100.567	98.04	97.879	97.604	97.38	97.369	98.241	98.326	97.985	97.473	96.935	95.949	95.893	95.864	95.219	95.039
CHAINAGES	84.843	86.043	95.181	96.406	100	115.206	116.406	118.283	120	122.127	134.88	136.09	137.59	140	142.59	160	161.984	163.201	180	182.992

DESIGN	94.767	94.019	93.977	93.779	93.755	93.749	93.007	92.762	92.732	92.037	91.804	91.744	91.714	91.586	91.067	90.727	90.697	90.553	90.319	90.097
NATURAL	94.932	93.941	93.901	93.533	93.388	93.353	92.286	91.762	91.698	91.55	91.62	91.637	91.638	91.572	91.078	90.724	90.661	90.511	90.372	90.341
CHAINAGES	184.192	199.144	200	203.945	204.922	205.145	220	224.897	226.097	240	244.657	245.85	247.05	249.621	260	266.803	268.003	270.886	275.555	280

DESIGN	89.709	89.679	89.127	89.011	88.692	88.686	88.662	88.157	87.856	86.428	86.081	84.789	84.552	84.07	82.776	81.307	81.305
NATURAL	90.286	90.274	89.744	89.599	89.026	88.98	88.816	87.091	86.568	86.428	86.117	84.834	84.445	83.962	82.209	81.307	81.423
CHAINAGES	287.756	288.956	300	302.313	308.709	308.911	309.909	320	326.018	327.967	330.515	340	341.735	345.223	354.579	357.492	360

LONGITUDINAL SECTION - MC01 (CONTINUED)

SCALE 1:500 (natural)

CONCEPT PLANS
NOT FOR CONSTRUCTION

A1

DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS ON SITE.

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FOR

GOSFORD CITY COUNCIL
CENTRAL COAST

5 LANDS WALK
CENTRAL COAST · NEW SOUTH WALES

ADDRESS
WINNEY BAY RESERVE
COPACABANA N.S.W.

PROJECT
5 LANDS COASTAL WALKWAY - STAGE 5
CAPTAIN COOK LOOKOUT TO WINNEY BAY

DRAWING TITLE
DESIGN LONG SECTION
MC01 - SHEET 1

ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed
date

SCALE	1:500	INIT.
DRAWN	JG/CW	
DESIGNED	CF	
CHECKED	AJG	
DATE	JANUARY 2015	
JOB NUMBER	20140492	

SHEET
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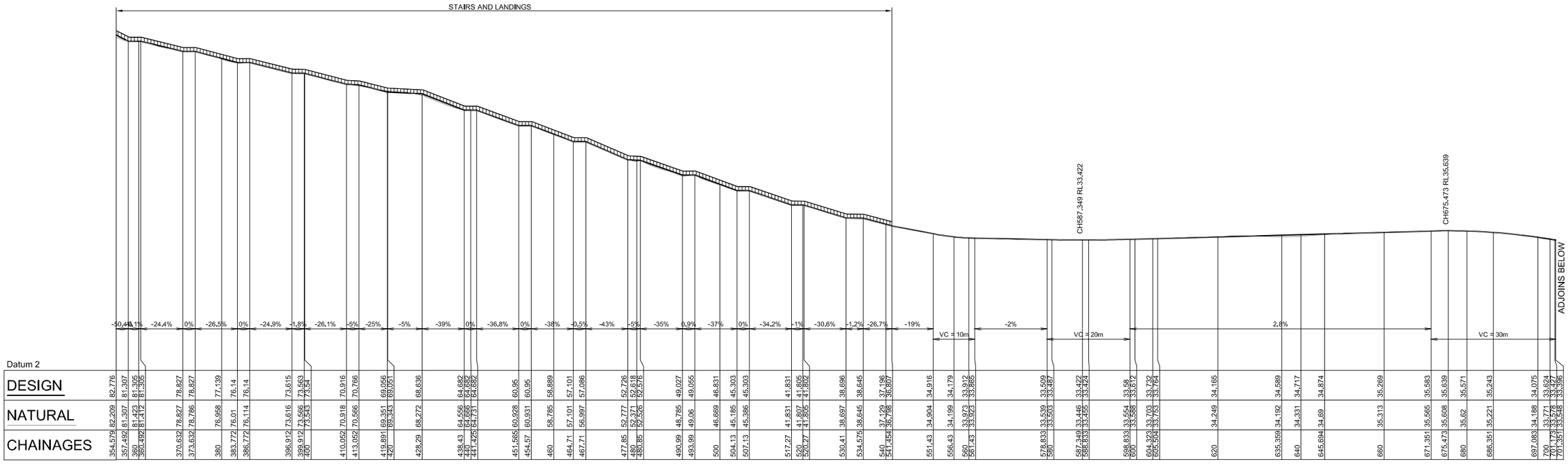

LONGITUDINAL SECTION - MC01 (CONTINUED)

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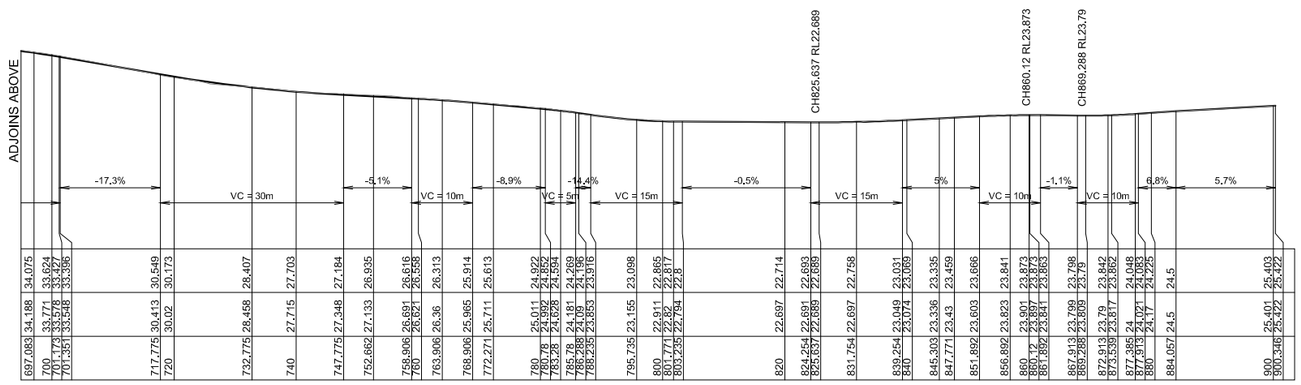

CONCEPT PLANS
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A1

REVISION	DESCRIPTION	DATE	REVISION	DESCRIPTION	DATE
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	QUANTITY SURVEYOR				
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ADDRESS
WINNEY BAY RESERVE
COPACABANA N.S.W.

PROJECT
5 LANDS COASTAL WALKWAY - STAGE 5
CAPTAIN COOK LOOKOUT TO WINNEY BAY

DRAWING TITLE
DESIGN LONG SECTION
MC01 - SHEET 2

ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed date

SCALE	1:500	INIT.	
DRAWN	JG/CW		
DESIGNED	CF		
CHECKED	AJG		
DATE	JANUARY 2015		
JOB NUMBER	20140492		

SHEET A3.08

REV D

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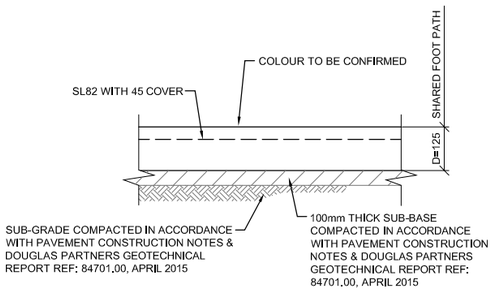
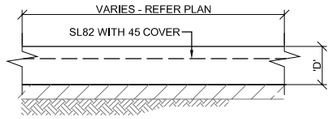


SHARED / FOOTPATH SLAB
SCALE 1:20



SHARED / FOOTPATH DETAIL
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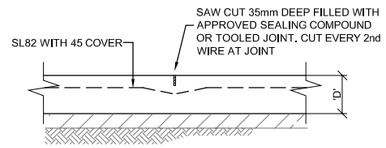
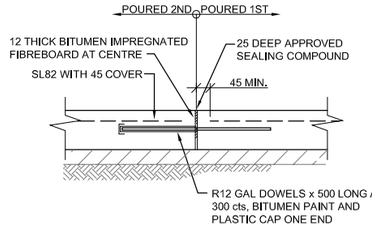


SHARED / FOOTPATH TOOL JOINT (TJ)
SCALE 1:20



SHARED / FOOTPATH EXPANSION JOINT (EJ)
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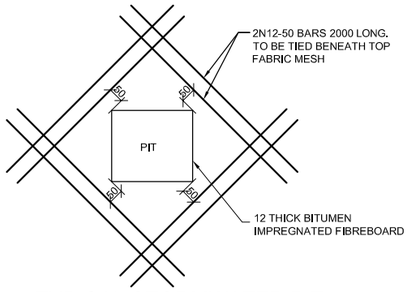
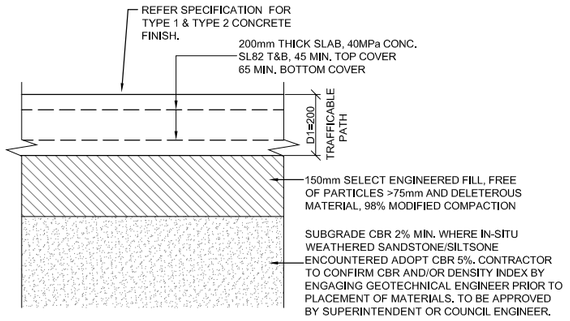


TYPICAL STORMWATER PIT (TRIMMER BARS) DETAIL
N.T.S.



TRAFFICABLE PATH SLAB
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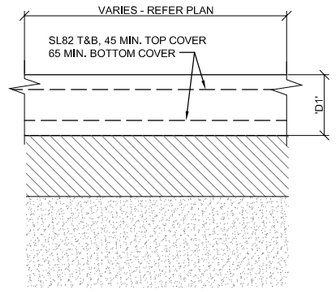

TRAFFICABLE PATH DETAIL
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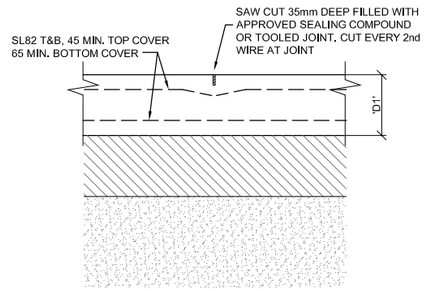
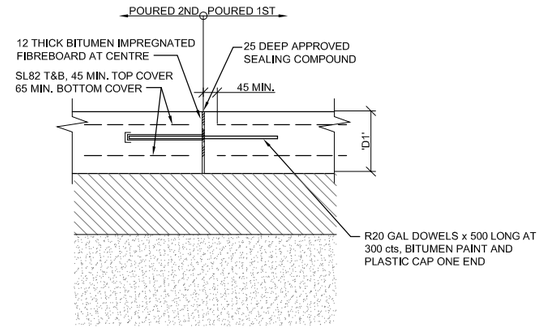
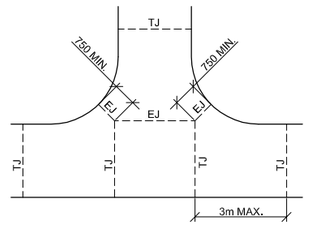


TRAFFICABLE PATH TOOL JOINT (TJ)
SCALE 1:20



TRAFFICABLE PATH EXPANSION JOINT (EJ)
SCALE 1:20

CONCRETE PAVEMENT TYPES 1 & 2
(REFER SPECIFICATION FOR FINISH TYPES)



TYPICAL PATH JOINTING DETAIL AT INTERSECTIONS
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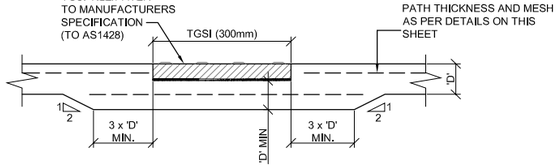
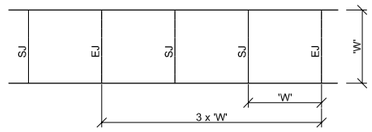


TACTILE GROUND SURFACE INDICATOR (TGSI) PATH INSERT
SCALE 1:20

PROVIDE AT ALL RAMP AND STAIR LANDINGS IN ACCORDANCE WITH TYPICAL STAIR SECTION ON SHEET A3.12 AND RAMP SECTION ON SHEET A3.11



TYPICALSHARED PATH JOINTING DETAIL
N.T.S.

CONCEPT PLANS
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DRAWING TITLE
PAVEMENT DETAILS
SHEET 1

ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed date

SCALE	1:10	INIT.
DRAWN	JG/CW	
DESIGNED	CF	
CHECKED	AJG	
DATE	JANUARY 2015	
JOB NUMBER	20140492	

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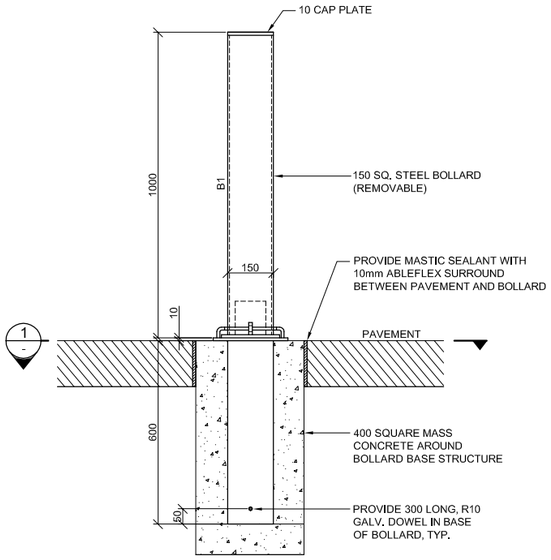
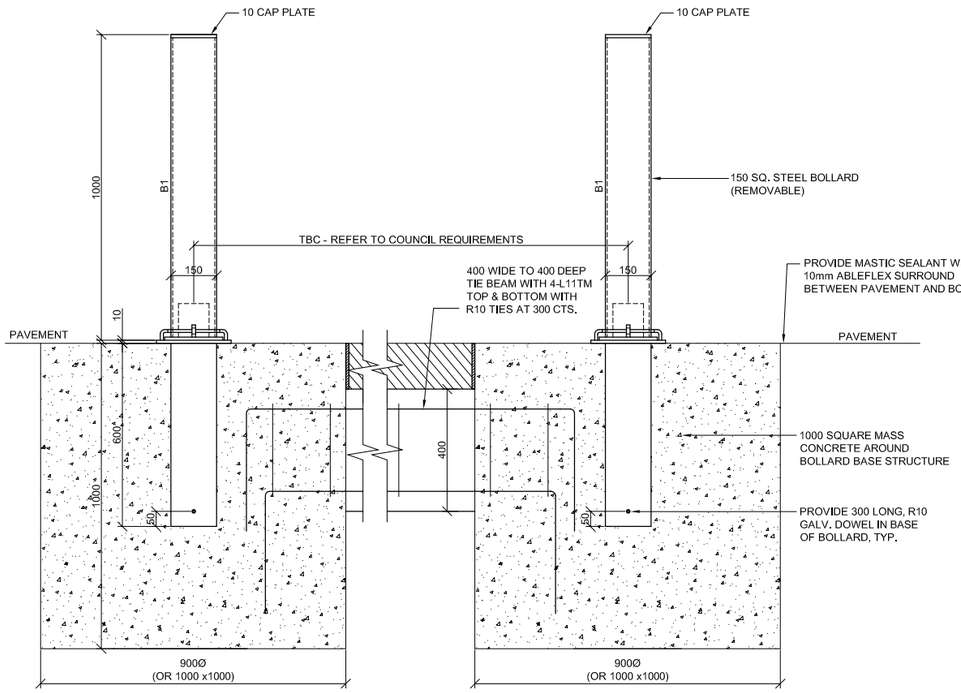
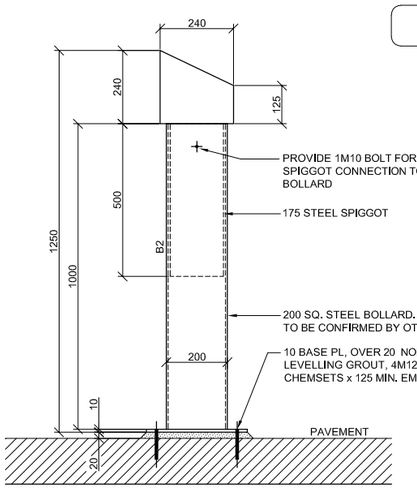


B1 - USED AT PLATFORM AND BRIDGE LOCATIONS



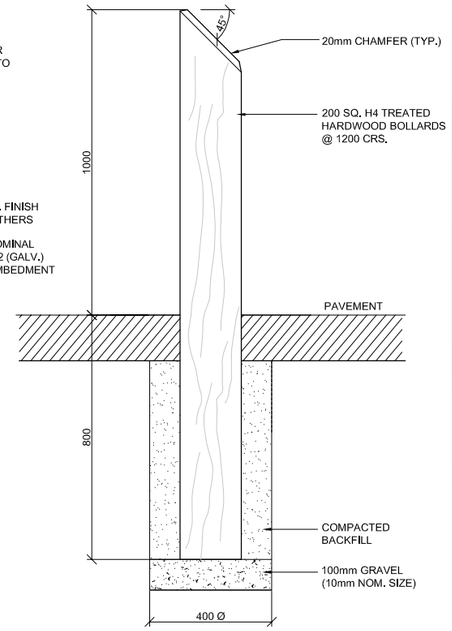
B1A - USED AT THE PATH ENTRY FROM THE EXISTING CAR PARK



FIXED STEEL BOLLARD BASEPLATE

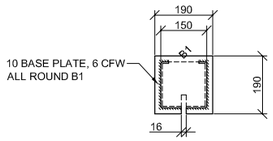
FIXED STEEL BOLLARD DETAIL - B2

SCALE 1:10

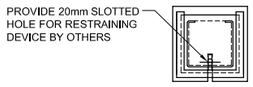


ALTERNATE TIMBER BOLLARD DETAIL

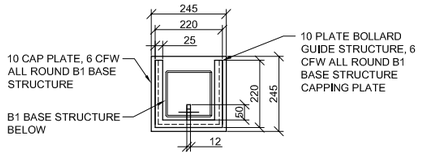
SCALE 1:10



REMOVABLE BOLLARD BASE PLATE



OVERALL BOLLARD BASE PLATE VIEW



BOLLARD BASE STRUCTURE CAP PLATE

SECTION 1 -

REMOVABLE STEEL BOLLARD DETAIL - B1

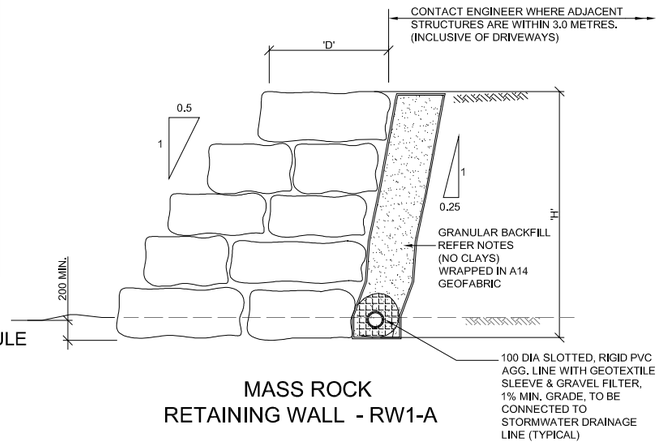
SCALE 1:10

ROCK WALL NOTES (RW)

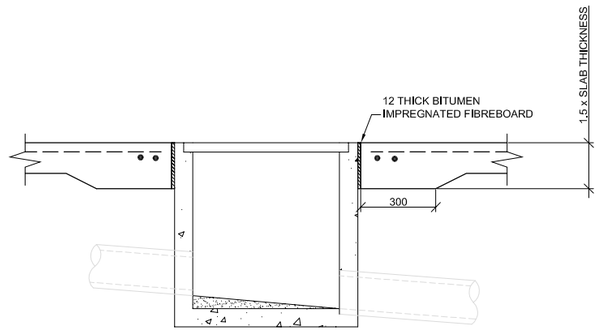
1. DENSITY OF STONE TO BE MINIMUM 1800 Kg/m³
2. BEARING CAPACITY OF GROUND AT BASE OF WALL TO MINIMUM OF 300 kPa.
3. PROVIDE DRAINAGE AT REAR OF WALL IN STRICT ACCORDANCE WITH THE DETAILS SHOWN.
4. MORTAR SHALL BE MIXED IN THE PROPORTIONS: 1:1:6 PORTLAND CEMENT: HYDRATED LIME: FINES AND AGGREGATE.
5. A CONTINUOUS 100mm DIA SUBSOIL DRAIN SHALL BE INSTALLED AT THE REAR OF THE WALL.
6. BACKFILL TO BE GRANULAR FREE DRAINING AND BE IN MEDIUM DENSE TO DENSE CONDITION.
7. MIN STONE SIZE TO BE 0.5 TONNE IN WEIGHT OR 0.28 CUBIC METRES.
8. STONES TO BE PACKED AT FRONT FACE WITH MORTAR AS REQUIRED TO PREVENT ROLLING OF STONES.

MASS ROCK RETAINING WALL SCHEDULE

WALL HEIGHT H	D	B
1000	500	1000
2000	500	1500

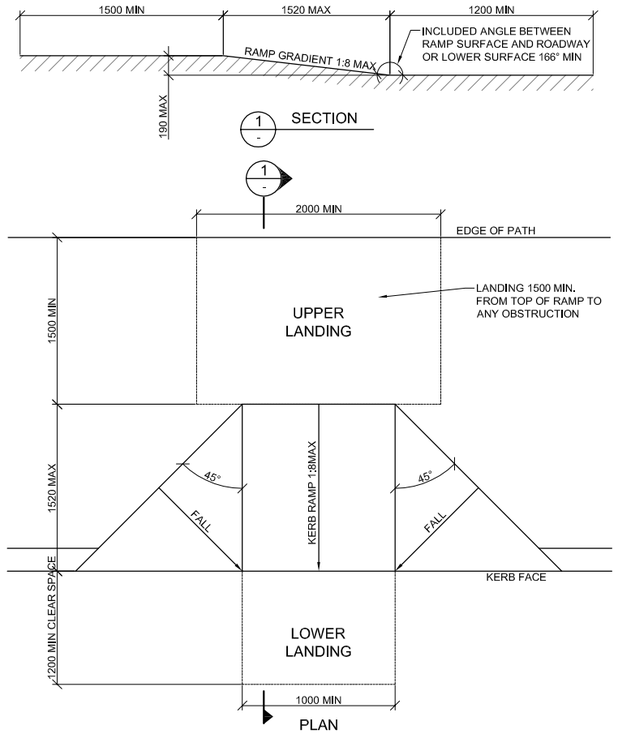


MASS ROCK
RETAINING WALL - RW1-A



ISOLATION JOINT (IJ)
AT PITS / STRUCTURES

N.T.S.



STANDARD DISABLED KERB RAMP CROSSING

N.T.S.

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CAPTAIN COOK LOOKOUT TO WINNEY BAY

DRAWING TITLE
PAVEMENT DETAILS
SHEET 2

ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed date

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DESIGNED	CF		
CHECKED	AJG		
DATE	JANUARY 2015		
JOB NUMBER	20140492		

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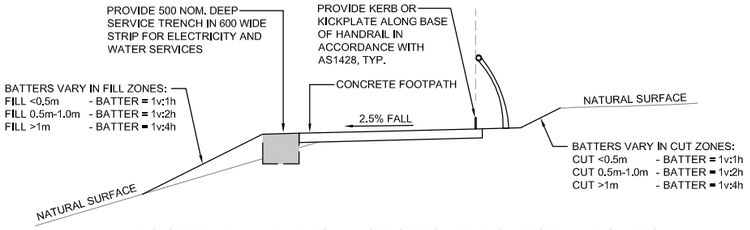
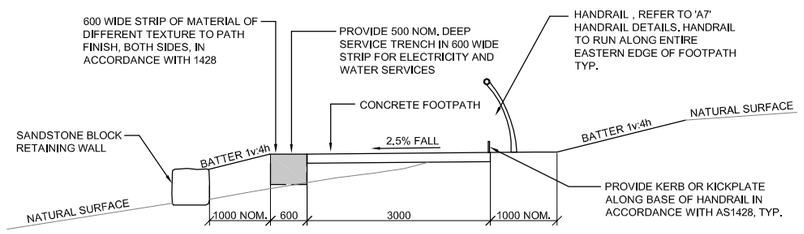


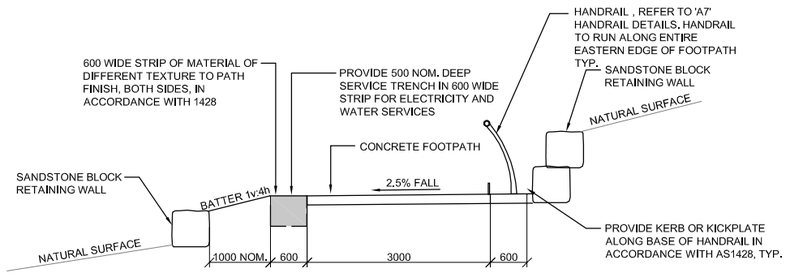
FOOTPATH - TYPICAL SECTION IN CUT/FILL ZONES

SCALE 1:100



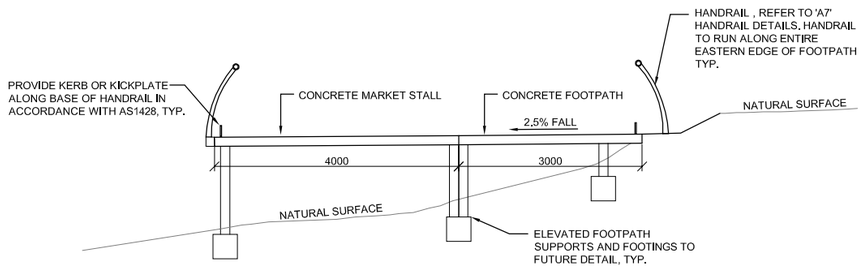
FOOTPATH - TYPICAL SECTION WHERE RETAINING (LOW SIDE)

SCALE 1:100



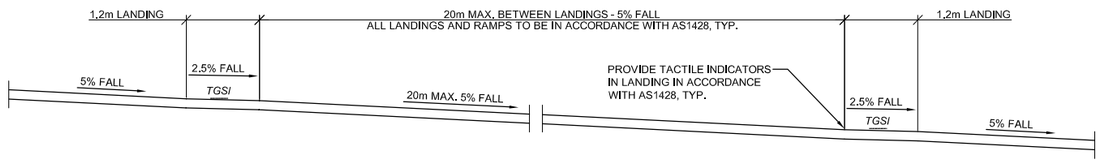
FOOTPATH - TYPICAL SECTION WHERE RETAINING (HIGH SIDE)

SCALE 1:100



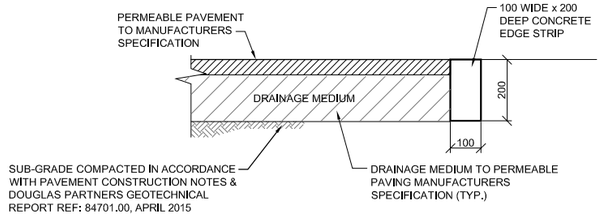
TYPICAL SECTION WHERE FOOTPATH/MARKET STALL SUSPENDED

SCALE 1:100



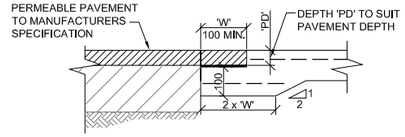
TYPICAL LANDING DETAILS

SCALE 1:100



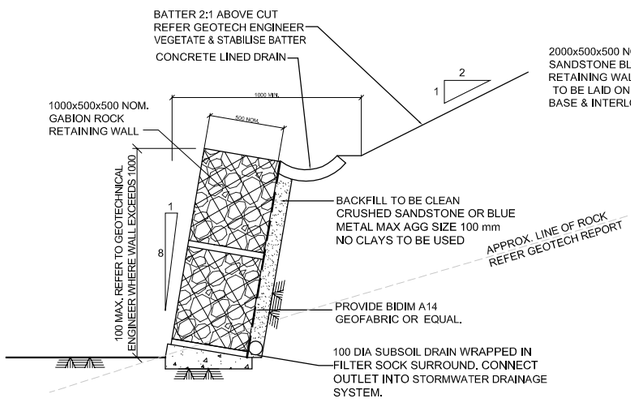
PERMEABLE PAVEMENT EDGE DETAIL (OPTIONAL)

SCALE 1:20



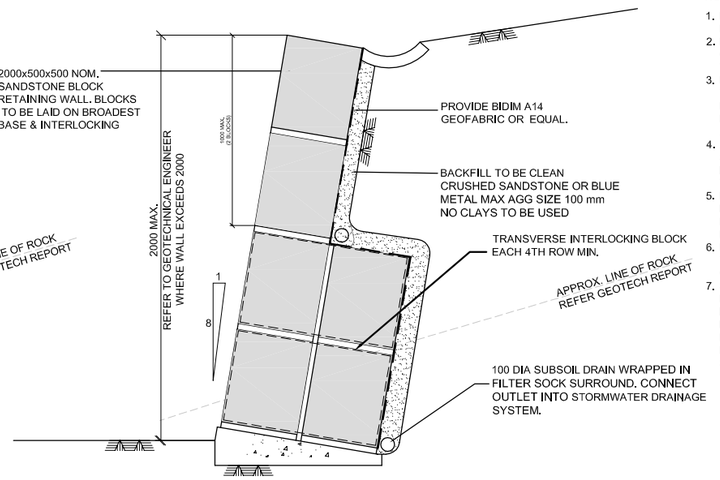
ISOLATION JOINT (IJ) AT PAVING INTERFACE

SCALE 1:20



RETAINING WALL (RW2) GABION ROCK OPTION

SCALE 1:20



RETAINING WALL MASS BLOCK OPTION

SCALE 1:20

ROCK WALL NOTES
NOTE:

1. DENSITY OF STONE TO BE MINIMUM 1800 kg/m³
2. BEARING CAPACITY OF GROUND AT BASE OF WALL TO BE A MINIMUM OF 600 kPa.
3. MORTAR SHALL BE MIXED IN THE PROPORTIONS: 1:1:6 PORTLAND CEMENT: HYDRATED LIME: FINES AND AGGREGATE.
4. A CONTINUOUS 100mm DIA SUBSOIL DRAIN SHALL BE INSTALLED AT THE REAR OF THE WALL.
5. BACKFILL TO BE GRANULAR FREE DRAINING AND BE IN MEDIUM DENSE TO DENSE CONDITION.
6. MIN STONE SIZE TO BE 0.9 TONNE IN WEIGHT OR 0.5 CUBIC METRES.
7. STONES TO BE LAID ON BROADEST BASE INTERLOCKING AT FRONT FACE TO BE PACKED WITH MORTAR AS REQUIRED TO PREVENT ROLLING OF STONES.

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PAVEMENT DETAILS
SHEET 3

ANTHONY JOHN GRIFFITHS
MIE AUST CPENG 2342830
signed
date

SCALE	1:10	INT.	
DRAWN	JG/CW		
DESIGNED	CF		
CHECKED	AJG		
DATE	JANUARY 2015		
JOB NUMBER	20140492		

SHEET A3.11
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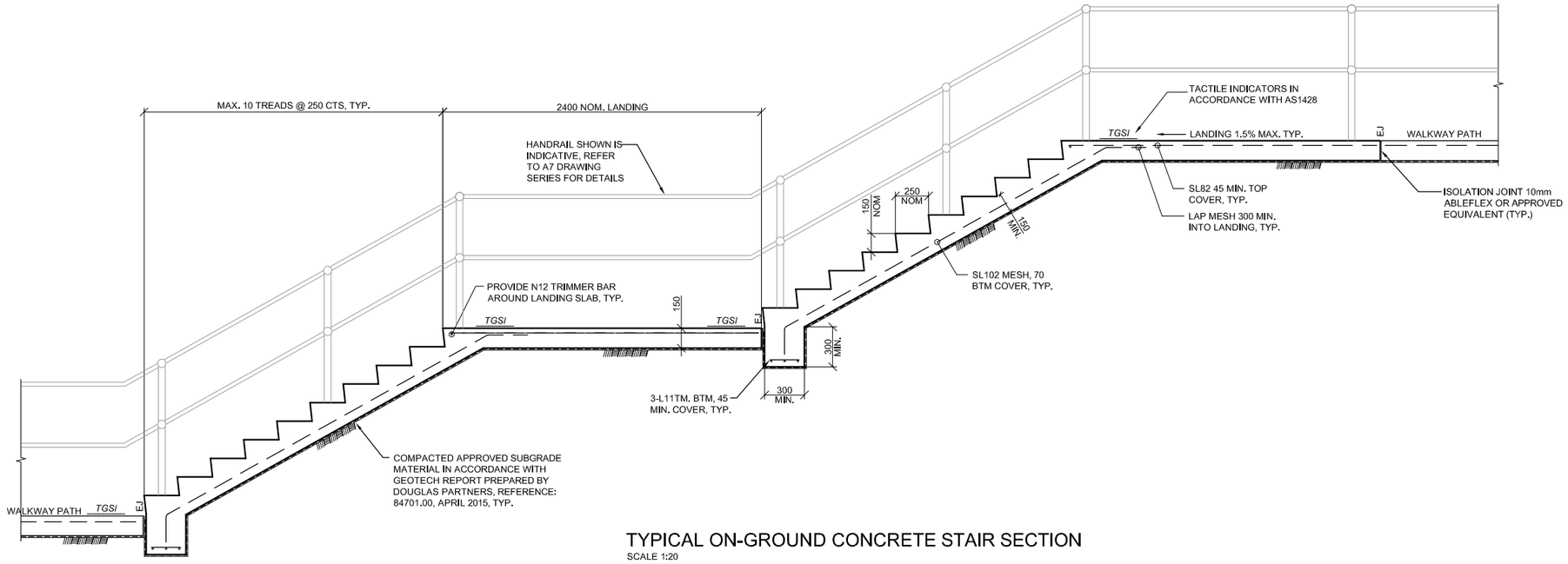

TYPICAL ON-GROUND CONCRETE STAIR SECTION

SCALE 1:20

NOTES:

1. MAXIMUM NUMBER OF STEPS PER FLIGHT = 10 STEPS.
2. MINMUM NUMBER OF STEPS PER FLIGHT - 2 STEPS.
3. HAND RAILING SHALL BE PROVIDED WHERE THERE ARE MORE THAN 4 RISERS IN ON FLIGHT. PROVIDE ON ONE SIDE ONLY.
4. HANDRAILING TO BE HOT DIPPED GALVANISED.

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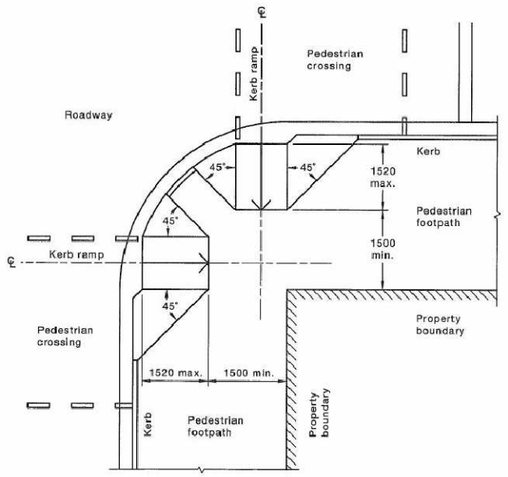
DESIGNED	CF		
CHECKED	AJG		
DATE	JANUARY 2015		
JOB NUMBER	20140492		

SHEET A3.12

REV C

N W E S



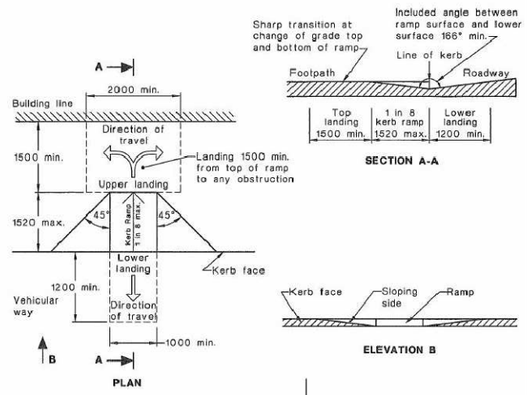
NOTES:

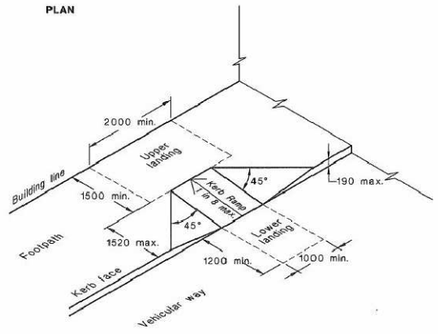
1 Centre-line of kerb ramps and pedestrian refuges shall align across the road or vehicular driveway within the building/property allotment.
2 Top and bottom of kerb ramps shall be aligned at 90° to path of travel.
3 Top and bottom of kerb ramps shall have a sharp gradient transition.
4 For requirements for tactile ground surface indicators see AS 1428.4.1.
5 For requirements for pedestrian lights and push-button assemblies see AS 1742.14.

(a) 90° road intersection

DIMENSIONS IN MILLIMETRES

FIGURE 23 (in part) ALIGNMENT OF KERB RAMPS



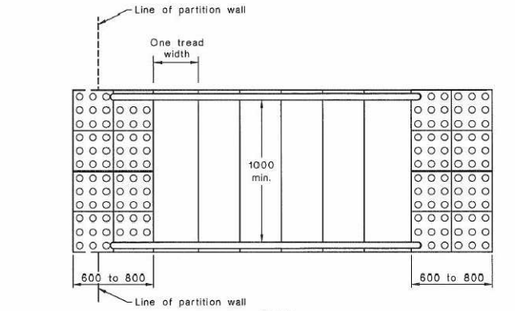


ISOMETRIC VIEW

NOTE: Where there is no turn involved, top landing may be reduced to 1200 mm min. in length.

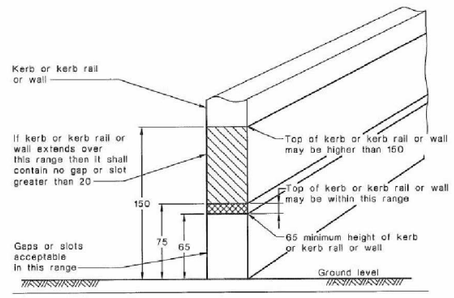
DIMENSIONS IN MILLIMETRES

FIGURE 24(A) INSERTED KERB RAMP



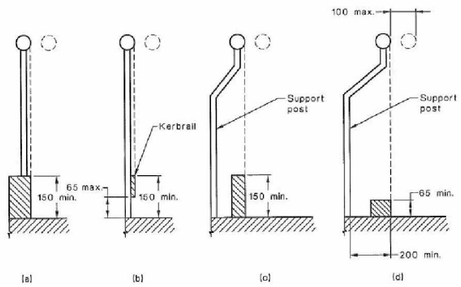
DIMENSIONS IN MILLIMETRES

FIGURE 26(B) STAIRWAY LOCATION AND HANDRAIL EXTENSIONS AT END OF STAIRWAY OTHER THAN AT LINE OF BOUNDARY



DIMENSIONS IN MILLIMETRES

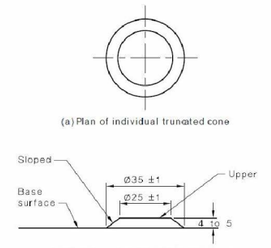
FIGURE 18 KERB

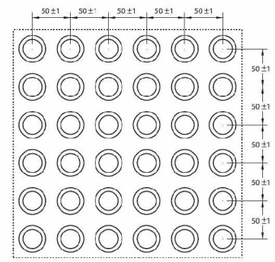


NOTE: See Appendix A for further clarification.

DIMENSIONS IN MILLIMETRES

FIGURE 19 SECTION SHOWING LOCATION OF KERB OR KERB RAIL IN RELATION TO HANDRAIL WITH VERTICAL SUPPORT



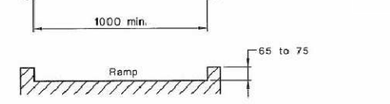


(c) Plan arrangement of truncated cones for TGSIs

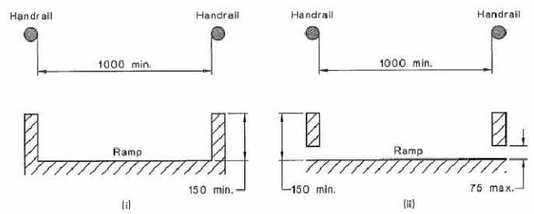
DIMENSIONS IN MILLIMETRES

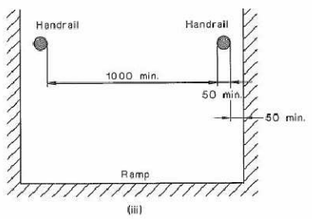
FIGURE 2.1 DESIGN AND ARRANGEMENT OF TGSIs

REFER TO SHEET A3.09
FOR INSTALLATION DETAIL



(a) Low wall as kerb

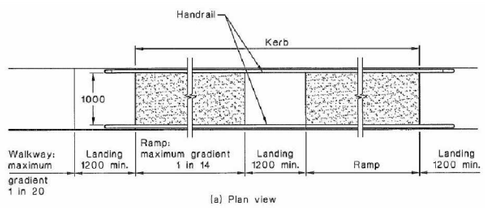


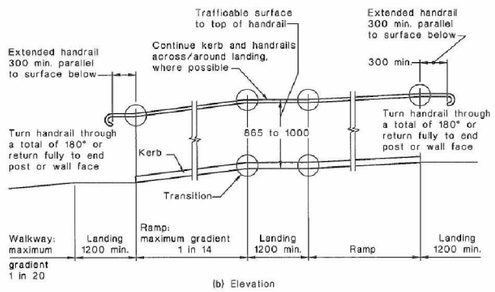


(b) High wall as kerb

DIMENSIONS IN MILLIMETRES

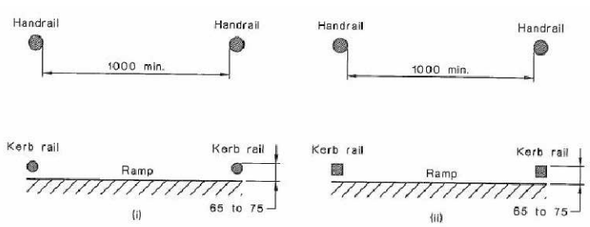
FIGURE A1 (in part) TYPES OF KERBS





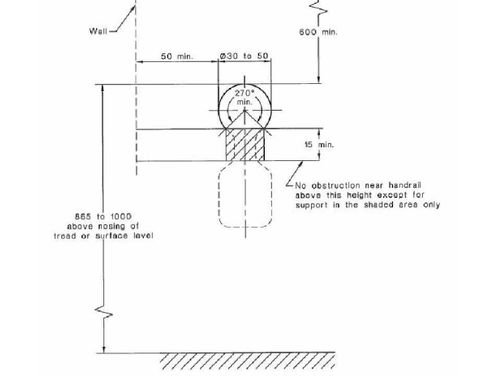
DIMENSIONS IN MILLIMETRES

FIGURE 14 RAMP HANDRAILS



DIMENSIONS IN MILLIMETRES

FIGURE A1 (in part) TYPES OF KERBS



DETAILS EXTRACTED FROM AS1428 - 2009 DESIGN FOR ACCESS AND MOBILITY

N.T.S.

THIS SHEET IS FOR INFORMATION ONLY, ALL DETAILS ARE TO BE READ IN CONJUCTION WITH THE ENTIRE STANDARD AS1428 - 2009 & ALL OTHER RELEVANT STANDARDS

CONCEPT PLANS
NOT FOR CONSTRUCTION

DO NOT SCALE DRAWINGS. VERIFY ALL DIMENSIONS ON SITE.

A1

REVISION	DESCRIPTION	DATE	REVISION	DESCRIPTION	DATE
A	PRELIMINARY ISSUE TO QUANTITY SURVEYOR	05.06.15			
B	RE-ISSUE TO QUANTITY SURVEYOR	24.06.15			
C	90% ISSUE	29.06.15			
D	COUNCIL APPROVAL	19.08.15			

RGH CONSULTING GROUP
Multi-discipline Engineering

Postal Address: PO Box 1180, Gosford NSW 2250

Central Coast Office: Suite 35, The Avenue, Mt Penang Parklands, Kariong NSW 2250
Ph 02 4340 1911 Fax 02 4340 1544

Newcastle Office: Shop 113, The Junction Village Centre, Kenrick Street, The Junction NSW 2291
Ph 02 4962 4414

FOR GOSFORD CITY COUNCIL CENTRAL COAST — 5 LANDS WALK CENTRAL COAST · NEW SOUTH WALES

ADDRESS: WINNEY BAY RESERVE COPACABANA N.S.W.

PROJECT: 5 LANDS COASTAL WALKWAY - STAGE 5 CAPTAIN COOK LOOKOUT TO WINNEY BAY

DRAWING TITLE: AS1428 DETAILS

ANTHONY JOHN GRIFFITHS MIE AUST CPENG 2342830 — signed — date

SCALE	1:10	INIT.
DRAWN	JG/CW	
DESIGNED	CF	
CHECKED	AJG	
DATE	JANUARY 2015	
JOB NUMBER	20140492	

SHEET A3.13
REV D

Appendix B

Media release

28 September 2018

Re-exhibition of clifftop pathway plans at Winney Bay

Central Coast Council is inviting the community to provide feedback on the design of the Winney Bay Clifftop Walk that will lead from Captain Cook Lookout to Winney Bay Reserve.

The draft concept plans for the $4.6million state government funded project were originally publicly exhibited by the former Gosford City Council in 2011, and incorporate a 3 metre-wide clifftop pathway, bridge and lookout.

Mayor Jane Smith said that Council have listened to concerns and agreed to re-exhibit the plans to ensure the community could have a say in the final design of the iconic walkway.

"In April, I attended a public meeting at Copacabana to discuss current and future plans for the walkway and it was clear that the community wanted more of a say with regards to this project," Mayor Smith said.

"The community wants to see these plans and have a say in the design and we will give them this opportunity.

"Protecting and enhancing our natural environment is a key priority for Council as well as creating recreational and tourism opportunities.

"I can assure residents that Council is already acting on these priorities, including commencing an environmental assessment for the project and developing a weed management and bush regeneration plan for the whole of the Winney Bay Reserve.

"We also want to ensure that the project acknowledges the original inhabitants of the land in an appropriate manner by considering elements such as interpretive signage and the use of culturally significant endemic species."

Council will also be hosting a drop-in information session at Copacabana SLSC on Thursday 4 October from 3.30pm until 7.30pm.

On 23 June 2018, the NSW government announced a $4.6 million grant to construct the part of the Winney Bay Cliff Top Walk between Captain Cook Lookout and the stairway. The draft concept plans for stage two include:

- a bridge across the coastal ravine that references the annual whale migration
- a lookout that faces the rising sun on the first day after the Winter Solstice
- multi-use spaces along the Cliff Top Walk that provides for uses such as local events, exhibitions and weddings.

In August 2018, Council completed the first stage of the upgrade, which included a 510 metre set of stairs and pathway linking with the existing fire trail at the north western end of the reserve. The

project was enabled with the help of an $875,000 grant contribution through the Federal Government Improving Your Local Parks and Environment Program.

To view the plans and make a submission, go to yourvoiceourcoast.com before 22 October 2018. Consideration of all community feedback will be given in finalising the plans prior to commencement of construction.

Appendix C

Advertising and publications

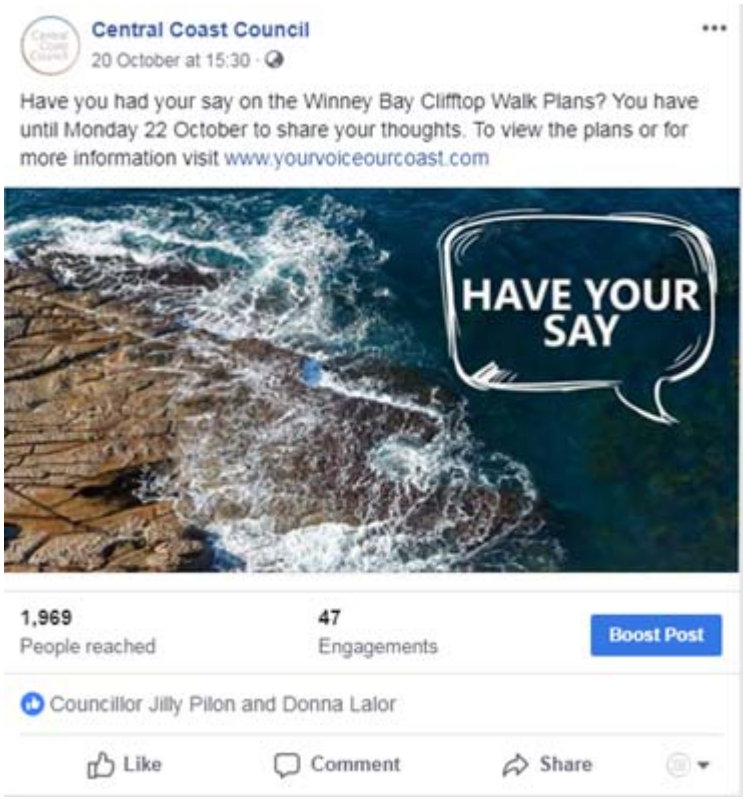
Central Coast Express Advocate – 27 September 2018

Customer Service Slide

Appendix D

Tweets (various dates)

Facebook posts (various dates)


Central Coast Council
20 October at 15:30 ·
Have you had your say on the Winney Bay Clifftop Walk Plans? You have until Monday 22 October to share your thoughts. To view the plans or for more information visit www.yourvoiceourcoast.com
HAVE YOUR SAY
1,969
People reached
47
Engagements
Boost Post
Councillor Jilly Pilon and Donna Lalor
Like
Comment
Share