RESPONSE TO SUBMISSIONS REPORT

PROPOSED CATHOLIC COLLEGE
2 KINGFISHER CLOSE AND 507 MEDOWIE ROAD, MEDOWIE

LOT 412 AND LOT 413 DP 1063902

Prepared on behalf of:
TRUSTEES OF THE ROMAN CATHOLIC CHURCH FOR THE DIOCESE OF MAITLAND – NEWCASTLE

Prepared by:

de Witt Consulting
planning ■ surveying ■ project management

HUNTER REGION
7 Canberra Street Charlestown
PO Box 850 Charlestown NSW 2290
P 02 4942 5441 F 02 4942 5301
E admin@dewittconsulting.com.au

WESTERN REGION
87 Herbert Street Gulgong
PO Box 232 Gulgong NSW 2852
P 02 6374 2911 F 02 6374 2922
ABN 23 104 067 405

NOVEMBER 2018

CONTENTS

APPENDICES

Appendix 1:	Aboriginal Cultural Heritage Assessment Report
Appendix 2:	Cultural Heritage Management Plan
Appendix 3:	Revised Design Verification Statement
Appendix 4:	Green Travel Plan
Appendix 5:	Revised Stormwater Management Plan + MUSIC
Appendix 6:	Flood Risk and Impact Assessment
Appendix 7:	Remedial Action Plan
Appendix 8:	Biosis – Response to Submissions (BDAR)
Appendix 9:	Proposed Staged Fire Trail
Appendix 10:	Revised Clause 4.6 Statement – Height prepared
Appendix 11:	Revised Site Plan
Appendix 12:	Archaeology Report
Appendix 13:	Revised Roof Plans – Solar (Photovoltaic Cells)
Appendix 14:	Biodiversity Offset Proposal letter
Appendix 15:	Revised Block B Plans – Chapel
Appendix 16:	Revised Flexible Learning Village Plans
Appendix 17:	Revised Site Analysis Plan
Appendix 18:	Department of Defence consultation
Appendix 19:	Tree Canopy Targets letter
Appendix 20:	Revised Environmental Mitigation Measures

Prepared by:	Reviewed by:	Released by:
Name: Hamish Mackinnon Position: Senior Town Planner	Name: Mark Maund Position: Principal Town Planner	Name: Mark Maund Position: Principal Town Planner Signed: Date: 19 November 2018

1. INTRODUCTION

1.1 Background

The proposal involves development of a new Catholic College at Medowie Road, Medowie within the Port Stephens Local Government Area (LGA). The proposed development will provide the Medowie community with additional facilities to meet ongoing education needs.

The development is considered State Significant Development under Clause 15 of Schedule 1 of the State Environmental Planning Policy (State and Regional Development) 2011 and Part 4, Division 4.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

An Environmental Impact Statement (EIS) (June 2018) was prepared by de Witt Consulting to address the Department of Planning and Environment Secretary's Environmental Assessment Requirements (SEARs) issued 18 January 2018.

Detailed architectural plans and project summary are provided in the EIS to highlight proposed buildings and associated infrastructure and intended uses of the buildings.

1.2 Site Location and Context

The site is located at 2 Kingfisher Close and 507 Medowie Road, Medowie (Lot 412 and Lot 413 DP 1063902) (the site). The proposal is located in the Port Stephens LGA and is located approximately 20 kilometres north of Newcastle and approximately 30 kilometres west of Nelson Bay.

The following works are proposed with the delivery of the new school facility:

- Classrooms and other learning spaces (Technology and Applied Studies, Art, Science, Personal Development, Health and Physical Education, Music, Drama, Hospitality, Food Technology)
- Flexible learning village
- Library learning hub
- Multipurpose hall
- Canteen and community use cafe
- Chapel
- Early Learning Centre
- Administration and other staff and student support facilities.

The site currently contains a single storey dwelling, tennis court, asphalt track and rural shed. There is a cleared section of land on the eastern half of the site facing Medowie Road. Environmental conditions have been considered in the proposed development and the EIS.

Photo 1 – Existing dwelling and shed (looking north west)

The site is approximately 26.83 hectares in size (Lot 413 is 10 hectares and Lot 412 is 16.83 hectares). Site area will not change as a result of the development.

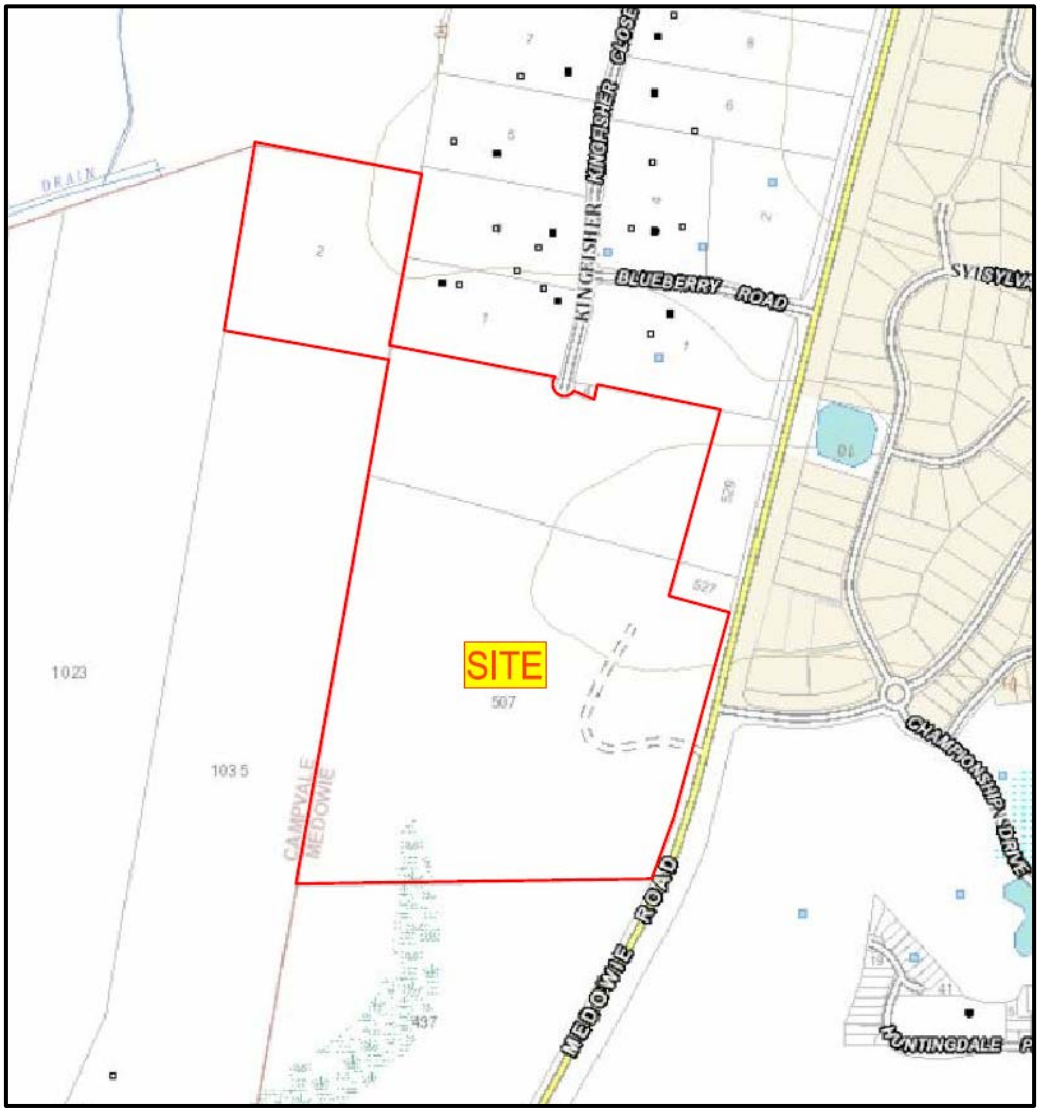

Figure 1 – Site Location

1.3 Purpose of this Report

The SEARs identified key issues to address including:

- Statutory and Strategic context
- Permissibility
- Development standards
- Policies
- Operation
- Built form and urban design
- Environmental amenity
- Transport and accessibility
- Ecologically Sustainable Development
- Social impacts

- Biodiversity
- Aboriginal heritage
- Bushfire
- Noise and vibration
- Sediment , erosion and dust controls
- Contamination
- Utilities
- Contributions
- Water
- Drainage
- Flooding
- Waste
- Construction hours.

The above issues were addressed in the EIS through specialist investigations and the Response to Submissions Report has been prepared to address submissions received during exhibition of the EIS (6 July 2018 to 2 August 2018). A number of submissions were received in relation to the EIS. This report will:

- Consider submissions raised and provide a response to those issues
- Describe any changes to the proposal
- Provide revised environmental mitigation measures, if required.

2. THE PROPOSAL

2.1 Proposed Development

The proposed development is construction and operation of a new Catholic College. The building will have a floor area of approximately 17,326.33m^2 (Ground floor and Level 1) and will have a maximum height of approximately 11.15 metres. The building has been designed with consideration to site topography and the location within the overall site.

The proposed development provides for long-term education for residents of Medowie and the broader population. The proposed development will involve the following works:

- Environmental works including erosion sediment control
- Clearing of vegetation within the site
- Earthworks and drainage
- Construction of new buildings including:
    - Classrooms and other learning spaces (Technology and Applied Studies, Art, Science, Personal Development, Health and Physical Education, Music, Drama, Hospitality, Food Technology)
    - Flexible learning village
    - Library learning hub
    - Multipurpose hall
    - Canteen and community use cafe
    - Chapel
    - Early Learning Centre
    - Administration and other staff & student support facilities
- Construction of new driveways, car parking, access roads, and fire trails to access the perimeter of the staged development
- Associated works such as retaining walls, landscaping etc.
- Associated infrastructure and services.

The development includes the following development footprint:

- Site area of 268,300m^2 or 26.83 hectares
- Total building site footprint area of 13,116.63m^2 (Ground floor)
- Total building floor area of 17,326.33m^2 (Ground floor and Level 1).

2.2 Development Staging

The proposal will be constructed in stages across the entire site. Full details are provided in the staging plan in Appendix 2 (of the EIS). The staging plan sets out indicative staging, as some of the staging is likely to change with demand and allowable areas under grant guidelines.

The stages of construction will be:

- Stage EW: Early Works – Civil works (including RMS intersection), services and associated landscaping
- Stage 1A: High School – Block A (Administration, Staff and Classrooms)
  Early Learning Centre – Block Q
  Chapel – Block B
  Flexible Learning Village (Located at Block P) (demountable)
- Stage 1B: Associated landscaping, civil, hydraulics, etc.
- Stage 2A: High School – Block C (Science)
  High School – Block D (TAS)

- Stage 2B: Covered ways, associated landscaping, civil, hydraulics, etc.
- Stage 3A: High School – Block G (Learning Hub)
  High School – Block H (Classroom Hub)
  Primary School – Block K (Administration, Staff)
  Primary School – Block L (Library, Hall)
  Primary School – Block O (Classroom Hub)
- Stage 3B: Associated landscaping, civil, hydraulics, car park, etc.
- Stage 4A: High School – Block E (TAS)
  High School – Block F (PE/H/PD, Art))
  Primary School – Block M (Classroom Hub)
  Primary School – Block N (Classroom Hub)
- Stage 4B: Associated landscaping, civil, hydraulics, car park, etc.
- Stage 5A: High School – Block I (Classroom Hub)
  High School – Block J (Classroom Hub)
  High School – Block K (Covered Outdoor Learning Area [COLA])
  High School – Block A (Hall)
  Primary School – Block P (Classroom Hub)
- Stage 5B: Associated landscaping, civil, hydraulics, etc.
- Stage 6B: Sports fields and associated landscaping

Construction of the school will occur over approximately ten years to allow appropriate development staging and ongoing education of students during that timeframe.

2.3 Changes to Proposal

No changes are proposed to activities within the proposed buildings from what is outlined in the EIS. Detailed design and review of submissions has resulted in minor changes to chapel dimensions, landscaping, flood modelling, stormwater, traffic and pedestrian access. The Aboriginal Cultural Heritage Assessment Report has been completed and the conclusions are detailed within this report. The proposed development is substantially the same as considered in the original EIS.

Minor changes have been made to the Chapel to increase the width slightly to provide sufficient circulation and aisle spaces for the seating of 500 people in the pews.

Alternate layouts for flexible learning village have been provided to show an arrangement of learning spaces and outdoor areas more in line with the spaces within the future school buildings. The area created will provide learning spaces and outdoor areas conducive to flexible learning and accommodating varying group sizes.

The site analysis plan has been updated to include information from GANSW comment, with parking space numbers/layout to be finalised after the intersection design and layout has been negotiated.

Landscaping at front of development has been amended to soften impact of parking areas and will be finalised once intersection and parking design negotiations are complete.

3. RESPONSE TO SUBMISSIONS

3.1 Exhibition and Location

The EIS was on exhibition from 6 July 2018 to 2 August 2018. Printed copies of the EIS were available at the following locations during exhibition:

- Port Stephens Council
- Department of Planning and Environment (Hunter and Sydney office).

Electronic copies of the EIS were available at:

- http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8989

3.2 Responses Received

Department of Planning and Environment provided one submission and a total of 13 submissions were received from other agencies, including Port Stephens Council. One public objection was received, but this only due to the lack of options when selecting the submission type. The submitter overall supported the application however had comments relating to access to the site from Kingfisher Close and the safety of the proposed intersection at Medowie Road and South Street. A number of supporting submissions were also received from the public.

Submissions were received from the following:

- Department of Planning and Environment
- Office of Environment and Heritage
- Transport for NSW
- Government Architect NSW
- Ausgrid
- Environmental Protection Agency (EPA)
- Port Stephens Council
- Hunter Health
- Hunter Water
- Rural Fire Service
- NSW Roads and Maritime Service
- Department of Defence
- Department of Industry

Each submission is summarised in Table 4.1 with a response provided.

Table 3.1 – Response to Submissions

Government Agency	Comments	Where addressed
Department of Planning and Environment	Aboriginal Heritage □ Aboriginal Cultural Heritage Assessment Report (ACHAR) must be submitted	Section 3.3
	Car parking, Vehicle Queuing & Access □ Options analysis □ Consideration of: - Combining access points - Better utilisation of existing intersection - Vehicle and bus queue lengths - Reducing car parking spaces - Increasing the amount of soft landscaping treatments - Minimising vehicle/bus /pedestrian conflict points - Pedestrian and cyclist access	Section 3.4
	Acid Sulfate Soils □ Acid Sulfate Soil Management Plan (ASSMP)	Section 3.5
	Green Travel Plan □ Green travel plan to be provided	Section 3.4
	Bicycle Parking □ Separation of bicycle parking for staff and students of HS & PS	Section 3.4 and Appendix 11
	Consultation with Department of Defence □ Evidence of formal consultation	Section 3.6
	Remediation Action Plan (RAP) □ RAP for contaminated land must be submitted	Section 3.9
	Tree Removal and Replacement Planting □ Demonstrate urban tree category targets	Section 3.11 and Appendix 19
Port Stephens Council	Land Constraints	

Government Agency	Comments	Where addressed
	☐ Noted	
	Ecological Impact ☐ Update BDAR to address issues mentioned ☐ 10m fully revegetated buffer of riparian land ☐ Construction Environmental Management Plan ☐ Ecological Management Plan / Vegetation Management Plan ☐ Biodiversity Offset proposal	Section 3.10 Section 3.10 CEMP to be prepared prior to Construction Certificate – Condition of Consent EMP/VMP to be prepared prior to Construction Certificate – Condition of Consent Appendix 14
	Developer Contributions ☐ The proposed development is subject to developer contributions on accordance with the Port Stephens Council Fixed Development Contributions Plan (as per table).	Section 3.13
	Accessibility ☐ Provide shared footpath – connecting surrounding paths in Sunningdale Circuit and Ferodale Road	Section 3.13
	Exceptions to Development Standards ☐ Clause 4.6 justification (4.6(3))	Section 3.14
	Medowie Planning Strategy	No action required.
	Department of Defence Referral ☐ Evidence of formal consultation with DoD in regards to exceeding height limit	Section 3.6
	Roadworks and Traffic ☐ Information supplied is not considered satisfactory to address the requirements of the SEARs ☐ Traffic in and out to be catered for at signalised intersection ☐ Dispute over traffic volumes generated by school ☐ Traffic signals for only exiting traffic not supported	Negotiations ongoing with RMS and PSC, will provide response once resolved.
	Conditions of Consent ☐ Recommended conditions of consent to be included prior to the issue of a Construction Certificate	Conditions a. and b. to be removed as regulatory signage and the intersection design will be subject to approval from RMS

Government Agency	Comments	Where addressed
	Stormwater Drainage - Not adequately addressed the water and drainage requirements of the SEARs – NorBE - Recommended condition of consent to be included prior to the issue of a Construction Certificate	Section 3.7 MPC Stormwater Management Plan within EIS to satisfy this and as such this condition should be removed. See Appendix 5
	Flooding - No issues	No action required.
	Construction Phase - Recommended conditions of consent to be included for the construction phase	To be included as a condition of consent
Transport for NSW	Proposed road works – signalisation and widening - Insufficient information has been provided regarding the proposed intersection works	Negotiations ongoing with RMS
	Pedestrian connectivity to public bus stops - Currently no footpaths connecting to the existing bus stops on South Street	Negotiations ongoing with RMS
	Dual use of bus pick-up/drop-off and proposed signage - TfNSW does not support the bus pick-up/drop-off area being utilised by other vehicles as it will affect the on-time running of buses and potentially the safety of passengers.	Negotiations ongoing with RMS
Government Architect NSW	- Provide updated site strategy sketches and diagrams to support the current proposal. - Provide drawings showing potential future development of the surrounding area. - The proposed design for the Medowie Rd / South Street intersection should be modified to provide for pedestrian crossings and future footpaths to both sides of both streets. - Review parking provision, including justification for visitor and overflow parking.	Section 3.4 and Appendix 3 Section 3.16 Negotiations ongoing with RMS – Section 3.4 Negotiations ongoing with RMS – Section 3.4

Government Agency	Comments	Where addressed
	☐ Review parking configuration to reduce impact of the parking areas at the main school entry. Consideration could be given to distributing parking to other less prominent locations on the campus. (GANSW review 27.02.2018) ☐ Disperse bicycle parking locations across the campus. ☐ Amend roof plans and elevations to show proposed PV installation. ☐ Review landscape design of parking areas to 'soften the impact of the parking, queuing and drop off zones' (GANSW review 13.02.2018) ☐ Identify tree canopy targets in accordance with NSW Urban Tree Canopy Targets (for further guidance see: GANSW's Greener Places)	Negotiations ongoing – Section 3.11 Section 3.4 & Appendix 11 Section 3.16 & Appendix 13 Negotiations ongoing with RMS – Section 3.4 – Appendix 11 Section 3.11 and Appendix 19
NSW Rural Fire Service	Asset Protection Zones ☐ A further 10m of understorey and ground cover to be managed as an outer protection zone to the west	Section 3.10
	Design and Construction ☐ New constructions shall comply with AS3959-2009 'Construction of buildings in bushfire-prone areas' or NAS standard and *Planning for Bushfire Protection 2006.*	Section 3.16
	Access ☐ Perimeter fire trail to be constructed prior to the occupation of Stage 1	Section 3.10
	Water and Utilities ☐ Water, electricity and gas are to comply with Section 4.2.7 of *Planning for Bushfire Protection 2006*	Section 3.16
	Evacuation and emergency management ☐ An evacuation and emergency plan is to be developed for the school in accordance with Section 4.2.7 of *Planning for Bushfire Protection 2006*	Section 3.10
	Landscaping ☐ Landscaping of the site shall comply with the Appendix 5 of *Planning for Bushfire Protection 2006*	Section 3.11

Office of Environment and Heritage	Biodiversity □ OEH is satisfied with the biodiversity assessment provided and no further assessment is required □ OEH recommends the retirement of all ecosystem and species credits in accordance with the Biodiversity Assessment Method	Section 3.10
	Aboriginal cultural heritage □ OEH recommends that the proponent completes the assessment of potential impact to Aboriginal cultural heritage in accordance with the SEARs for the project.	Section 3.3
	Flooding □ OEH recommends that the proponent provides design details and a flood assessment of the access road creek crossing, demonstrating that there will be no adverse impacts	Section 3.8
Hunter Water	□ Address and demonstrate Neutral or Beneficial Effect on Water Quality (NorBE) within Stormwater Management Plan □ MUSIC modelling updated to show neutral nutrient loads □ VMP provided to HW for review	Section 3.7 Section 3.7 To be included as a condition of consent.
Hunter Health	□ Address and demonstrate Neutral or Beneficial Effect on Water Quality (NorBE)	Section 3.7
Ausgrid	□ Make contact with Ausgrid in relation to working within easements	Section 3.12
EPA	□ Advised that no consultation is necessary	
NSW Roads and Maritime Service	□ Roads and Maritime does not accept the traffic generation rates used within the proponent's Traffic Impact Assessment ('TIA') and associated SIDRA model. □ The concept TCS design does not meet the standards of *Austroads Guide to Road Design 2010* and associated supplements as the concept intersection has not been designed to the prevailing speed limit. The intersection has been designed for a 40kph school zone however the proponent has advised that the site will be used outside school peak periods. Please see *Attachment A – Roads and Maritime Design Review* (Revision	Section 3.4 Negotiations ongoing with RMS and will be subject to additional design.

	2) to be addressed by the proponent. Following a review of the design comments by the proponent, Roads and Maritime recommends the concept intersection design be revised to comply with Austroads and relevant supplements and Australian Standards. - Landscaping on the school site at the southwest corner of the TCS should incorporate plants that encourage redirection of pedestrians to cross to the northwest corner for entry to the school grounds. This removes the potential for pedestrians to attempt to cross the bus lane and exit to the carpark for access to the school grounds. It is unclear on the Landscaping Plans what measures have been taken to address this requirement. - For road safety reasons Roads and Maritime does not generally support advertising signage with an LED component capable of supporting digital image and digital video display in areas where drivers are required to make critical decisions. In most circumstances, LED signage has the ability to display animation, scrolling text, flashing and use multiple colours all of which have the potential to distract drivers. Although Roads and Maritime concurrence is not required for this sign in accordance with *SEPP No. 64 - Advertising and Signage*, Roads and Maritime has reviewed the information provided and does not support an LED sign in the proposed location. The proposed location of the LED sign is in the vicinity of a school crossing and as such is considered likely to cause distraction to drivers and create a safety hazard for pedestrians, particularly school children.	
Department of Defence	Aircraft Noise - Concerned students will be exposed to high levels of aircraft noise - Defence will not accept any liability based on aircraft noise	Section 3.6
	Bird Strike - Appropriate management of organic waste to reduce possibility of bird strike	Section 3.6
	Building Height - Defence to be notified if additional structures are to be placed on roof, further assessment will be required - If cranes are to be used in construction Defence will be contacted prior to ensure works to do not interfere with aircraft operations.	Section 3.6
	Extraneous Lighting / Glare	

	☐ Lighting will comply with CASA guidelines for extraneous lighting near its airfields ☐ Any surface glare that impacts aircraft operations will be suitable modified to extinguish glare	Section 3.6
	Traffic Impact ☐ Concerned that existing road capacity and condition will not be sufficient to cater for the increase in traffic. ☐	Section 3.4
Department of Industry	☐ Any take of groundwater requires an appropriate water access licence ☐ Mitigating measures should be provided for impacts to waterfront land for proposed stormwater works must be in accordance with the Guidelines for Outlet Structures on Waterfront Land (2018) ☐ A Vegetation Management Plan should be provided in accordance with Guidelines for Vegetation Management Plans on Waterfront Land (2018)	Section 3.15

Submission	Comments	Responsibility
Ian Warby of Medowie	☐ Supports the idea of a school at the location, however road traffic and safety and local resident parking concerns to be addressed during approval process	Section 3.17

3.3 Aboriginal Heritage

As stated within the EIS an Aboriginal Cultural Heritage Assessment Report (ACHAR) and Archaeology Report (AR) were undertaken during the exhibition period. Biosis have now completed the ACHAR and AR which can be found in Appendix 1 and Appendix 12 and summarised below. As a result of the ACHAR a Cultural Heritage Management Plan (CHMP) has been developed in order to manage impacts to Aboriginal heritage during the construction phase of this development (Appendix 2).

The Aboriginal Cultural Heritage Assessment Report (ACHAR) has been conducted in accordance with the EP&A Act and the *National Parks and Wildlife Act 1974* (NPW Act). The ACHAR has been undertaken in accordance with the *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH 2011), *Code of Practice for Archaeological Investigation of Aboriginal objects in NSW* (DECCW 2010a) (the code) and *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (DECCW 2010b).

Consultation

The Aboriginal community was consulted regarding the heritage management of the project throughout its lifespan. Consultation has been undertaken as per the process outlined in the DECCW (2010b) consultation requirements. Details regarding the consultation process are outlined in Section 4 below and are included in Appendix 1-5 (of Appendix 1).

The appropriate government bodies were notified and advertisements placed in The Port Stephens Examiner (22/03/2018) and The Newcastle Herald (22/03/2018) newspapers, which resulted in the following Aboriginal organisations registering their interest in Table 1 (of Appendix 1).

A search conducted by the Office of the Registrar, *Aboriginal Land Rights Act 1983* (NSW) did not identify any Registered Aboriginal Owners pursuant to Division 3 of the *Aboriginal Land Rights Act 1983* with claims over the study area. Therefore there are no Unregistered Claimant Applications or Registered Indigenous Land Use Agreements within the study area.

A search conducted by the National Native Title Tribunal listed one Registered Native Title Claim within the Port Stephens LGA. The study area is located approximately 30 kilometres to the south of this native title claim and therefore is not covered by this claim. Native Title Services Corporation Limited (NTSCorp) was contacted on 9 March 2018 in order to identify any native title claimants with an interest in the project. NTSCorp notified Biosis that they were not able to provide contact details for any potentially interested stakeholders as part of their privacy policy. NTSCorp confirmed that they had notified any potentially interested native title claimants regarding the project on the 12 March 2018. They did not receive any responses or registrations of interest.

Registered Aboriginal parties (RAPs) were invited to provide their knowledge on the study area and comment on the project information and assessment methodology provided in the project methodology document sent on 18 April 2018. Responses from the RAPs are included in Appendix 3 (of Appendix 1).

Representatives from the RAP groups participated in the field investigation and test excavations and provided comment on the study area with regard to the proposal, noting the high density of artefacts as evidence of occupation and high cultural significance.

Results

The ACHAR undertook background research for the proposed study area. Key considerations arising from the background research include:

- Aboriginal sites frequently occur on the margins of wetlands or estuaries, within dune systems, and within creek flat and alluvial terrace landforms.
- Predicative modelling conducted for the region indicates that artefact sites are most likely to occur on level, well drained grounds, adjacent to fresh water sources, or on relatively level ground upon crests and ridgelines.
- Previous archaeological testing within the study area conducted by Umwelt in 2013 confirmed that subsurface archaeological deposits are present within the study area.

A search of the Aboriginal heritage information management system (AHIMS) database conducted on 13 February 2018 identified four AHIMS sites within the study area (client service ID: 327732). Background research

conducted by Biosis found that the four AHIMS sites within the study area are in fact two AHIMS sites which each have been recorded twice on the AHIMS database.

Biosis undertook a field investigation and subsurface test excavations which identified six new Aboriginal heritage sites within the study area. Prior recorded and new sites have been listed in Table 2 (of Appendix 1).

Management Recommendations

The following management recommendations have been developed relevant to the study area and influenced by:

- predicted impacts to Aboriginal cultural heritage
- the planning approvals framework
- current best conservation practise, widely considered to include:
  – ethos of the Australia ICOMOS Burra Charter (2013)
  – the code.

Prior to any development impacts occurring within the study area, the following strategies have been developed to minimise the impacts of the construction works o Aboriginal heritage.

The key construction activities and the associated impacts to Aboriginal heritage values were identified and assessed during the ACHAR process. The consequence and likelihood of each activity's impact on Aboriginal heritage values is detailed below.

Impacts to Aboriginal Heritage

Aboriginal heritage impacts

The potential impacts on Aboriginal heritage include:

- Direct impacts and disturbance to the entire site or the majority of a site containing Aboriginal objects due to the construction of the project. This impact can be complete or partial.
- Indirect impacts to Aboriginal objects or cultural values, such as from development related changes to the landscape or scenic context of a site or item.

Impacts to Aboriginal heritage sites as outlined in Catherine McAuley Catholic College, Medowie ACHAR and AR (Biosis 2018a, 2018b) are presented in Table 3 and Figure 4 (of Appendix 2).

Mitigation Measures

Construction related measures

Specific mitigation measures to address impacts on Aboriginal heritage are outlined in Table 4 (of Appendix 2). Where required, further details of the proposed mitigation measures are provided in the strategies below.

Heritage protection management strategies

Strategy 1: Heritage inductions and tool box talks

All contractors and staff working on site will undergo site induction training (or be supervised by a staff member that has had the relevant training) relating to Aboriginal heritage management issues. The induction training will address elements related to heritage management including:

- Requirements of this CHMP and relevant legislation.
- Roles and responsibilities for heritage management.
- Location of identified heritage sites.
- Proposed heritage management and protection measures including the progress of the Aboriginal salvage works.
- Basic identification skills for Aboriginal artefacts and human remains.
- Specific training for personnel working in the vicinity of Aboriginal heritage sites identified within the study area.
- Procedure to follow in the event of an unexpected heritage item find during construction works.
- Procedure to follow in the event of discovery of human remains during construction works.
- Penalties and non-compliance with this CHMP.

Training records for all project personnel will be kept and maintained in a register detailing names, dates, content and type of training undertaken. This CHMP should be kept on site at all times and be readily accessible. The requirements of the CHMP and the unexpected finds protocols should be incorporated into tool box talks, where works are commencing in the vicinity of heritage items or sites, the mapping presented in this report should be reviewed and management measures assessed to ensure no impacts beyond the project approval are likely to take place.

Strategy 2: Protection of Aboriginal heritage sites outside the development disturbance area

The boundaries of the development disturbance will be clearly marked with star pickets and high visibility flagging tape to ensure that no impacts can occur to Aboriginal sites that may be located outside of the areas assessed as part of the ACHAR.

Strategy 3: Contingency plan if Aboriginal heritage items outside the approved disturbance area are damaged

In the event that Aboriginal heritage items outside of the approved disturbance area are damaged, the Diocese must advise OEH immediately. OEH can be contacted through Environmental Line on 131 555 as soon practical. Establish an appropriate no go zone until the area can be inspected and advice sought from the OEH on how to proceed.

Strategy 4: Procedure to follow in the event of unexpected Aboriginal finds

The ACHAR conducted by Biosis (2018a) identified a large high-density subsurface archaeological deposit within the southern portion of the development area (Medowie PAD 01). The remainder of the development area was found to contain scattered, low density subsurface deposits throughout (Figure 3 and Figure 4).

Should further high density subsurface deposits outside of Medowie PAD 01, or archaeological features such as shell middens, or hearths be identified during the course of the development works, the following process should be followed:

- Works must cease in the vicinity and the find should not be moved until assessed by a qualified archaeologist.
- The archaeologist will investigate and assess the find to determine the nature, extent and significance of the find. This will enable recommendations to be provided on how work can proceed and whether any further work is required. The archaeologist must supply written advice to the Project Manager stating:

  – Determination of whether the find is an Aboriginal object.

  – Advice on how the project is to proceed and whether the establishment of any no-go areas is necessary.

  – Recommendation on further works that may be required and timeframe for completion of these works.

  – Any Aboriginal finds will be registered on the Aboriginal Heritage Information Management System (AHIMS). Where sites are impacted, a site impact form will be completed and lodged with AHIMS prior to impact.

- Create a no-go area around the find based upon the advice of the archaeologist.
- The archaeologist's written advice will be supplied to OEH, the secretary and Aboriginal stakeholders for their review. This will include a statement concerning the find, management measures implemented and notification of any further works arising. Aboriginal stakeholders are to be involved in any further assessments or works as required. Any comments made by OEH, the secretary and Aboriginal stakeholders will be incorporated into the written advice prior to finalisation and works proceeding.

Should any previously unidentified Aboriginal finds as outlined above be identified, this will trigger a review of this CHMP in accordance with Section 8 (of Appendix 2). Please note that Appendix A contains guidelines around the identification of Aboriginal objects and site types.

Strategy 5: Procedure to follow in the event of the discovery of human remains

If any suspected human remains are discovered during the proposed works, all activity in the area must cease. The following process must be undertaken:

- Immediately cease all work at that location and not further move or disturb the remains.

- Notify the NSW Police, DPE and OEH's Environmental Line on 131 555 as soon as practicable and provide details of the remains and their location.
- Establish an appropriate no-go area. This will need to be established in consultation with NSW Police, OEH and if necessary a qualified archaeologist.
- Works will not be able to recommence within the location of the find until confirmation from NSW Police and OEH is obtained. If the remains are confirmed as not being human then works may recommence. In the event that remains are human then consultation with NSW Police, OEH and the Aboriginal stakeholders to establish a plan of management will be required.
- Works in the vicinity of the remains will only be able to recommence once the plan of management has been established and approval has been obtained from all relevant parties.
- Should any human remains be identified, this will trigger a review of this CHMP in accordance with Section 8.

Strategy 6: Complete all onsite works associated with Aboriginal heritage

Medowie PAD 01 must be salvaged in accordance with the salvage methodology set out below, prior to construction. Salvage excavations shall be undertaken using a combination of hand and mechanical excavation methods as set out below. Due to the large size of the site (150 m x 80 m) utilising a combination of hand and mechanical excavation methods will allow a greater amount of information to be gathered from the site within practicable timeframes.

Salvage methodology

The salvage of Medowie PAD 01 will conform to the following methodology:

Hand excavation

Salvage excavations within areas containing the highest density of artefacts will be undertaken using hand tools such as shovels, picks, and trowels. The hand excavation salvage program shall be undertaken in the following manner:

- Test Pits T1 P1, T1 P2, T1 P 3, T7 P1, T8 P2 will be expanded into 4 x 4 metre open areas, to be excavated in 1 x 1 metre units, in order to determine if further areas of high artefact density can be identified in situ (Figure 5).
- Vertical excavation of deposits will be undertaken in 5 to 10 centimetre spits dependent on the archaeological deposits encountered and their spatial integrity.
- Should the excavation of open areas reveal high density artefact concentrations (i.e greater than 80 artefacts per square metre), diagnostic artefacts (such as grinding stones, hammer stones etc), archaeological features (such as hearths, or knapping floors) they will be expanded in order to establish the nature of the archaeological deposits or features. The expansion of the pits will be undertaken on case by case basis in consultation with the RAPs in order to identify and salvage as large a volume of cultural material as possible.
- The hand excavation results of T1 P1, T1 P2, T1 P 3, T7 P1, and T8 P2 will be used to determine the placement of the remaining mechanical excavation salvage areas depending on the artefact densities encountered and avoiding localised disturbances.
- All material excavated from the excavation units will be sieved using 5 millimetre aperture wire-mesh sieves. If knapping floors containing geometric microlith debitage are identified, 3 millimetre aperture wire-mesh sieves will be used. All identified cultural material will be bagged individually and allocated a unique label to ensure its provenance for data analysis.
- Pits must be excavated to at least the depth of the Aboriginal object-bearing units identified during test excavations (water table and/or compacted coffee rock).

Mechanical Excavation

The methodology for machine excavation shall be undertaken in the following manner:

- A series of 2 x 2 metre mechanical excavation units will be excavated across the extent of the PAD following the completion of hand excavations.
- Vertical excavation of deposits will be undertaken in 10 centimetre scrapes.

- Should high artefact densities or archaeological features be identified within an area of any of the trenches upon visual inspection, machine excavations at this location will cease and hand excavation will be undertaken.
- Pits excavated by hand may be expanded into larger open area excavations should high densities of artefacts or archaeological features be identified.
- A sample (approximately 50%) of the material excavated from the mechanical excavation units will be sieved using 5 millimetre aperture wire-mesh sieves. All identified cultural material will be bagged individually and allocated a unique label to ensure its provenance for data analysis.

General methods

- Excavations will cease once the following criterion has been met:

  – Artefact densities reach below 25 per square metre OR

  – The research questions outlined above can be adequately answered with the artefacts salvaged.

- All cultural material recovered from the pits will be collected and brought to the Biosis office at 8 Tate Street, Wollongong NSW 2500 for lithic analysis. Upon completion of the lithic analysis, all Aboriginal heritage items and materials will be temporarily stored in a secure location within Biosis' Newcastle office (8/27 Annie Street Wickham, NSW) until the Care and Control agreement has been established.
- For each pit that is excavated, the following documentation will be taken:

  - unique pit identification number

  - GPS coordinate of each pit

  - Munsell soil colour, texture and pH

  - amount and location of cultural material within the deposit

  - nature of disturbance where present

  - stratigraphy

  - archaeological features (if present)

  - photographic records

  - spit records.

- Pits must be backfilled as soon as practicable due to safety issues, although where this is not possible for open area salvage locations, pits will be temporarily fenced with Para webbing and backfilled on the final day of excavation.
- Any datable material will be collected for the purposes of radiometric or AMS dating. Datable materials will be collected, bagged and clearly labelled. They will be temporarily stored in the Biosis office at 8/27 Annie Street Wickham NSW before being sent to the University of Waikato Radiocarbon Dating Laboratory.
- Following salvage excavation, an AHIMS Aboriginal Site Recording form must be completed and submitted to the AHIMS Registrar as soon as practicable, for site Medowie PAD 01.
- Standard protocol for the discovery of any human remains is to be followed in the event that human remains are discovered.
- Following the salvage of Medowie PAD 01, an Aboriginal Site Impact Recording Form (ASIRF) will be prepared and submitted to AHIMS.

Strategy 7: Long term management of Aboriginal heritage items

The long term management strategy of Aboriginal heritage items will be developed in consultation with RAPs and in accordance with Requirement 26 of the Code. Consultation with the Aboriginal stakeholders for a Care and Control agreement will be conducted following the RAPs' review of the Medowie Catholic College project CHMP.

Documentation and storage of all materials will be in accordance with the code, specifically Requirement 26 – Stone artefact disposition and storage. This may involve the reburial of artefacts within the study area at a location which will not be impacted on by the proposed works.

Following the salvage methodology outlined in 6.2.6 (of Appendix 2), all Aboriginal heritage items and materials will be temporarily stored in a secure location within Biosis' Newcastle office (8/27 Annie Street Wickham, NSW), for a period of six months, or until the artefact analysis has been completed. In the event an appropriate reburial location or a care and control agreement has not yet been determined within this six month period or upon completion of the artefact analysis, the artefacts will be temporarily transferred into the care of the Diocese, until an appropriate keeping place or reburial strategy can be determined.

6.2.8 Strategy 8: Ongoing consultation with Aboriginal stakeholders

Consultation with Aboriginal stakeholders will be continued throughout the life of this project as outlined above.

6.2.9 Strategy 9: Monitoring and reporting

A program to monitor and report on the effectiveness of the measures and any heritage impacts will consist of reassessing the above listed strategies following the completion of works.

Upon completion of the works, a short report will be prepared, documenting:

- the effectiveness of the CHMP measures
- a list of sites salvaged, harmed and relocated
- confirmation the ASIRFs have been completed and submitted to AHIMS
- a copy of the ASIRFs.

A copy of the report will be provided to Aboriginal stakeholders for the project and the OEH Hunter Region Branch by email to rog.hcc@environment.nsw.gov.au.

3.4 Traffic and Access

3.4.1 Car Parking, Vehicle Queuing and Access

A revision was undertaken as part of the Design Verification Statement (see Appendix 26 of the original EIS). To accompany the original analysis additional reasoning and critical assessment has been undertaken in regards to the proposed options for the design and layout of the college. (Appendix 3)

3.4.2 Traffic and Parking

It is understood that negotiations are ongoing with RMS and PSC and additional advice will be provided when a resolution is delivered.

3.4.3 Green Travel Plan

A Green Travel Plan (Appendix 4) has been prepared by SECA Solutions as part of the response to submissions for SSD 8989, to satisfy the NSW Department of Planning and Environment and Transport for NSW.

As a new development there is the opportunity to establish a sustainable mode of travel from the outset although it is recognised that a critical mass associated with enough staff to carpool, older siblings to walk or travel with younger ones etc shall see such modes improve over time. The implementation of the staged development, with school expansion over a number of years, will allow for the travel habits to be established and refined as the development progresses. Regular surveying of staff and monitoring of facilities shall be undertaken to enable improvements to the action plan to obtain the set targets. The details for this shall be established by the Transport Coordinator in conjunction with the school principal.

It is expected that a high percentage of students will access the development by bus, given the semi-rural nature of the subject site and the extent of the student catchment area, thus significantly reducing the private car travel demands. The school will also actively promote and support this, discouraging students from driving or being dropped off. Allowing for an education precinct with all age groups catered for on the one site will enable families with children across various school years to access the site together, seeing shared trips and further reducing traffic demands.

The objective of this Green Travel Plan is to identify and implement measures that will increase active transport and the use of public transport while reducing the dependence on car-based travel. The mode of travel outlined in the traffic assessment reflects the minimum desired proportion of the school community regularly travelling to and from school other than by single use car, with this assessment provided in conjunction to further changed travel behaviours away from private vehicles.

A more detailed description of the methodology and traffic analysis used for the development of the Green Travel Plan can be found in Appendix 4.

3.4.4 Intersection Design

It is understood that negotiations are ongoing with RMS and PSC and additional advice will be provided when a resolution is delivered.

3.4.5 Bicycle Parking

Separation of bicycle parking for staff and students of the High School & Public School is shown on a plan in Appendix 11.

3.5 Acid Sulfate Soil Management Plan

We would request that the preparation of an Acid Sulfate Soil Management Plan (ASSMP) be made a condition of consent for the construction contractor.

3.6 Department of Defence

The EIS was referred to the Department of Defence for comment and a response was received on the 5 October 2018 (Appendix 18). The advice given within the response has been addressed below:

3.6.1 Aircraft Noise

As stated within the Section 6.5 Noise of the original EIS:

"… the site is situated outside of the ANEF 20 contour it fits the description of "acceptable" for a school or university in accordance with Table 2.1 of AS/NZS 2021-2015 "Acoustics-Aircraft Noise Intrusion-Building Siting and Construction".

Maximum aircraft noise levels have been previously published (2009) for the Joint Strike Fighter (JSF) aircraft at Williamtown. Based on the published contours it is anticipated that worst case maximum noise levels of up to 80 dB(A) may be experienced from JSF aircraft at the proposed College location. Noise levels from all other aircraft types are lower than those for the JSF at this location.

Standard glazing will achieve an adequate internal noise level in all class rooms in the schools. External windows to libraries and the chapel should be fitted with minimum 6.38mm laminated glass."

Therefore it is unlikely that aircraft noise will impact on the students and staff at the school.

3.6.2 Bird Strike

"Food waste (e.g. from canteen facilities, playground bins, etc) is to be managed to minimise the availability of this resource to introduced predators such as foxes and cats. Bins are to be of a design that restricts access by introduced pests including introduced predators."

3.6.3 Building Height

No additional roof structures are proposed for the development (other than the Photovoltaic Cells shown in Appendix 13), however if any structure is to be placed on the roof then it will be referred to Defence for further assessment.

Prior to the use of cranes for any construction works, Defence will be contacted to ensure that the operation of such machinery will not interfere with aircraft operations at RAAF Base Williamtown.

3.6.4 Extraneous Lighting / Glare

If the external lighting and/or building materials used for then school create a glare problem for aircraft operations, then these surfaces will modified/redesigned in order to remove the associated glare.

3.6.5 Traffic Impact

Please refer to Section 3.4 of this report for information on traffic.

3.7 Stormwater Management

A revised Stormwater Management Plan has been prepared by MPC addressing the comments from the submissions, namely the Neutral or Beneficial Effect on Water Quality (NorBE). This report can be found in Appendix 5.

Water Quality

Stormwater quality requirements from Hunter Water and the Port Stephens Council DCP, and in particular the Water Quality Targets within the DCP have been impropriated into the overall stormwater management design for the site.

Water Quality measures for the site have been modelled using MUSIC software and include the following:

- Rainwater from the roof of each building will be directed through a first flush device before being stored in a water re-use tank. Harvested rainwater will be used for irrigation purposes of the landscape areas and sporting fields;
- Stormwater from impervious areas will be directed through enviropod inserts in each pit, Atlantis cell infiltration tanks, Gross Pollutant Traps (GPT) then to a bio-retention basin;
- Proprietary "GPT" has been specified in the location shown on the stormwater management plans;
- Bio-filtration facilities have been incorporated in the catchment 3 and 4 basins.

As part of the water quality assessment to demonstrate that the water quality of the proposed development meets the requirements of NorBE, the predeveloped conditions have been modelled and compared these results to the results from the developed site. The stormwater quality devices and systems have been specified on the stormwater management plans included in Appendix B (of Appendix 5), which collectively achieve the water quality targets listed below:

Table 3.2 – Pre and Developed Residual Loads

	Pre-Developed Residual Load	Developed Load	Developed Residual Load	% Reduction
Total Suspended Solids (kg/yr)	2390	7400	608	91.8
Total Phosphorous (kg/yr)	6.82	16.7	6.08	63.5
Total Nitrogen (kg/yr)	60.4	128	60.2	53
Gross Pollutants (kg/yr)	29.8	1110	0.0	100

A copy of the MUSIC model diagrams, including the receiving node pollution reductions achieved, are included in Appendix E (of Appendix 5).

The basin has also been sized as a temporary sediment control basin for initial bulk earthworks construction phase, in accordance with the procedures in the "*Soils and Construction – Managing Urban Stormwater*" guidelines. Additional details in this regard are included in Appendix D (of Appendix 5)

The client is seeking to have the condition relating to the requirement for a 5 year stormwater maintenance contract to be issued as an operational condition, rather than a condition which needs to be addressed prior to the Construction Certificate (CC). There will be no need for maintenance prior to the CC and timing of construction can vary and as such locking in a contractor would not be required.

3.8 Flooding

BMT have undertaken flood modelling (Appendix 6) to assess the potential flood impacts of the proposed site access road. The modelling has taken into account the upstream catchment which includes the Pacific Dunes Golf Course development and surrounding residential areas (Figure 3) (of Appendix 6), which have a catchment area of 87 hectares. This catchment drains to Campvale Swamp via culverts under Medowie Road and along a drainage channel that traverses the site. The drainage structures beneath Medowie Road include twin box culverts of around 1.5m by 0.6m and a low flow pipe of 0.3m diameter. There is also an existing bridge structure crossing the drainage channel within the site, consistent with the proposed access road alignment. It is currently a twin 0.9m pipe arrangement.

Other key parameters for the modelling include:

- Impervious portion of 15% to represent areas of hardstand and permanent water bodies
- PERN (roughness) value of 0.06 for pervious and 0.02 for impervious surfaces
- Initial rainfall loss of 35mm for pervious and 2mm for impervious surfaces
- Continuing rainfall loss of 3mm/h for pervious and 0 mm/h for impervious surfaces
- Incorporation of catchment storage to model attenuation.

Under existing conditions, the 1% AEP event is contained upstream of Medowie Road, but overtops the access bridge downstream, albeit to a depth of < 0.1m. For the developed condition a road design has been assumed that is 0.2m higher than the existing bridge, at around 8.8m AHD, which then grades down after crossing the channel, as presented in Figure 4 (of Appendix 6). The existing twin 0.9m diameter pipes have been replaced with a twin 1.5m x 0.9m box culvert, consistent with the available design drawings.

The resultant 1% AEP flood condition from the local catchment for the developed scenario is contained upstream of the site access road and does not overtop. The impacts of the concept design for the site access road are minimal, being around a 0.02m decrease in modelled peak flood level in the area between the site access and Medowie Road. The flood levels upstream of Medowie Road are unaffected.

The modelling of the proposed site access road has shown that the road does not overtop at the 1% AEP event. Under the extreme PMF conditions, the local catchment flows overtop the road by 0.16m, with a peak velocity of around 0.9m/s.

This assessment has found that the proposed development is compatible with the flood risk at the site. The potential for flood impacts associated with the proposed development are also minimal. Evacuation from the site is readily achievable at the 1% AEP event and a continuous finished surface level along the site access road and southern car park should be implemented to achieve this.

The flood impacts associated with the proposed development are negligible in terms of affecting property, assets and infrastructure and therefore result in no detriment to the overall social or economic status of the community.

3.9 Remedial Action Plan

A remedial action plan (RAP) was developed by RCA Australia and their recommendations are summarised below (Appendix 7):

Environmental assessment relating to the south western fill mound situated on the site, undertaken by RCA, has determined that the material is not suitable to remain on the site without remediation or management of the material.

This section provides detail of the options and recommendations available based on the impacted material that is not currently considered suitable for the proposed land use.

Remediation Goal

The plans provided to RCA, included as Appendix G (of Appendix 7), indicate that the site is proposed to be used for a Catholic College with attending children ranging from early learning through to secondary school level. The master plan includes an allocation for residential development along the northern boundary of Lot 413 DP1063902.

The goal of remediation is to render the site suitable for the proposed development of a school which includes sensitive receptors.

Extent of Remediation Required

The extent of remediation of the site is considered to be limited to a fill mound that is located to the south western portion of a bituminous track that is considered to have been used for go-karting activities. The fill mound is up to 1.5m in height and has an approximate volume of 600m^3. Elevated concentrations of hydrocarbons, predominantly benzo(a)pyrene, carcinogenic PAH and benzene have been identified within three (3) test pits dug in September 2018 and one (1) drill hole bored in February 2018 that are all located in the northern portion of the mound. Three (3) test pits were located on the southern portion of this mound which reported concentrations below laboratory PQL and the applied site guideline.

Due to the variation within the material, RCA consider that the entirety of the stockpile needs to be remediated, however note that material to the south of TP24 may be suitable for use on site. Further sampling in accordance with the allowance of the guidelines would be required to confirm the suitability of the material.

Discussion of Possible Remedial Options

No Action

The no action approach assumed an acceptable risk to receptors from the identified soil contamination and is generally not considered to be a suitable remedial strategy. Based on the proposed development of the site including sensitive receptors, this strategy is not considered to be a suitable option. Under current condition and management the site is not considered to pose a significant threat to human health or ecological communities.

In-situ Treatment

In-situ treatment of carcinogenic PAH (B(a)P equivalent) in soil generally has complications relating to the certainty of achieving the remedial goals. The main options to consider would be as follows:

Bioremediation

Enhanced bioremediation would involve the application soil micro-organisms to breakdown the B(a)P present to reduce the contaminant concentrations and associated toxicity. This would have no impact on the potential acid sulfate soil properties. This strategy is generally not considered suitable because B(a)P tends to be recalcitrant to microbial degradation (Ref [13]) and therefore is not considered to be a suitable remedial strategy.

Soil Flushing

Soil flushing involves the application of a solvent to mobilise the contaminant. To address the primary contaminant a hydrophobic, non-ionic surfactant or hydrophobic solvent would have to be used. It is reported (Ref [13]) that soil flushing can cause spreading of contaminants, performance can be difficult to predict and requires management of contaminated flushing solution. This would have no impact on the potential acid sulfate soil properties.

The use of in-situ soil flushing will address soil in the saturated zone but will have limited effect on soils in the vadose zone (above the groundwater table) and therefore the technology is not considered suitable for the mounded material.

Stabilisation/Sorption

Stabilisation/sorption would involve the introduction of a reagent to bind with the contaminant, thus reducing the mobility of the contaminant. Stabilisation/sorption is generally used to reduce the leaching potential of contaminants to make material more acceptable for disposal to landfill rather than removal of the contaminant. The method would potentially address the carcinogenic PAH component however would have to have a secondary neutralisation step for the potential acid sulfate soil properties.

A bench-scale study would provide additional information about the use of this technology on PAH. The technology is retained for further consideration however based on the small volume of impacted material it is considered that this option may not be viable.

Ex-situ Treatment

Land Farming

Land farming would comprise the spreading of the material in a maximum layer of 0.5m and aeration to promote the biological degradation of contaminants. Neutralisation of the potential acid sulfate soil properties could be undertaken at the same time.

Land farming can significantly reduce lower molecular weight PAH, however is generally not considered effective for semi-volatile contaminants of which carcinogenic PAH (B(a)P equivalent) is considered to be. This method would be considered suitable for the elevated benzene identified in TP26 and TP27 only.

Soil Washing

Soil washing would require the excavation and physical washing of soils which in this case would require enhancement using surfactants or solvents. The waste fluid following the process would likely have high concentrations of PAH which would require a licensed waste contractor to dispose of. Acid runoff may also be generated.

This strategy may have limited success due to potential for contaminant binding within the clayey and gravel matrix and will produce waste fluid that will need appropriate management and disposal.

Stabilisation/Sorption

Stabilisation/sorption would involve the introduction of a reagent to bind with the contaminant, thus reducing the mobility of the contaminant. Stabilisation/sorption is generally used to reduce the leaching potential of contaminants to make material more acceptable for disposal to landfill rather than removal of the contaminant. The process may be able to be adjusted to address the potential acid sulfate soil properties.

The method may potentially address the carcinogenic PAH component however a bench-scale study would be required to provide additional information about the use of this technology on PAH but the technology is retained for further consideration although the small volume of impacted material may determine that this may not be viable.

Thermal Desorption

Thermal desorption involves the excavation of impacted soil and passing it through a thermal desorption plant which heats the waste to remove water and organic contaminants. This process may oxidise the material and secondary treatment of potential acid sulfate soil effects may be required.

This method is generally more suitable for larger projects due to the high cost of mobilising a treatment plant to the site and as the volume of material impacted is 600m^3 it is considered that this option will not be viable for the site.

Containment

Cap and Contain

Containment of contamination on site is achieved through the application of compacted soil, asphalt or concrete over impacted areas to cut the pathway between source of contaminant and the receptor. This strategy requires ongoing management of the site through a long-term environmental management plan or protocol (LEMP) to ensure the remediation undertaken is maintained and protection of receptors (human and the environment) continues and therefore some continued investment may be required. This strategy is viable for all contaminants identified however may have to be supplemented with neutralisation of potential acid sulfate soil properties and is subject to geotechnical suitability of the material for the proposed use.

The plans of the proposed development (Appendix G (of Appendix 7) indicate that a significant portion of the site is covered with building slabs or roadways and therefore suitable containment areas are available.

Costs associated with these works will comprise the over-excavation of material from beneath building slabs and roadways to make a void, movement of the mound to beneath the buildings and roadways, compaction of the material in accordance with geotechnical requirements, placement of a marker layer around the material to delineate its position, survey of the position of the material and verification of the removal of the mound. As the material is within a mound, RCA considers that validation would comprise visual verification that the mound had been removed from site. Depending on the placement depth of material, validation samples may be required to confirm neutralisation of potential acid sulfate soil properties.

An environmental management plan / strategy would be required to identify the presence of the mound material such that if any works are required in the area of emplacement that appropriate controls can be put in place for the protection of human health and the environment.

Removal

Off Site Re-use

While no specific assessment has been undertaken, it is RCA opinion that the material does not appear to meet any of the Resource Recovery requirements for 'excavated natural materials', 'excavated public road material', 'reclaimed asphalt pavement' or 'recovered aggregate'. A specific exemption for the use of the material may be granted by the NSW EPA based on the sampling undertaken and may allow the material to be beneficially used.

Costs for the specific exemption application are minimal and require personnel time to undertake the application. However additional sampling may be requested by the NSW EPA due to the wide variation in the results, although RCA note that the previous (Ref [1]) testing results included distilled water leaching of contaminated samples. It is considered likely that the acid sulfate soil properties will require treatment prior to any use and may invalidate the option.

Off Site Disposal

Removal with off-site disposal would involve the excavation of impacted soil material and off-site disposal to a suitably licensed facility. RCA does not consider that the material can be pre-classified as 'asphalt waste' in accordance with the guidelines (Ref [9]) due to the soil and other deleterious material and as such that material has to be classified based on the chemical concentrations. An assessment has been provided in Appendix H (of Appendix 7) and identified that the material is currently Hazardous Waste in accordance with the NSW EPA Waste Classification Guidelines, however further leachate assessment could revise the classification to General Solid Waste. The acid sulfate potential of the material would have to be addressed, subject to the requirements of the licensed waste disposal contractor.

Costs associated with these works would comprise the excavation and transport of the material to a licensed waste facility, disposal costs (in the order of $400/tonne for hazardous waste however subject to commercial agreement with licensed contractor) and verification that material has been removed and received at the appropriately licensed waste facility.

Following verification, no further or ongoing management would be necessary.

Rational for the Selection of Recommended Remedial Option

Based on a review of the suitable available strategies and based on the client's non-technical constraints, capping and containment has been determined to be most suitable. This option has been chosen due to:

- The limited extent of contamination which is restricted to the stockpiled fill material within the south western mound and estimated as approximately 600m^3.
- The suitability of this remedial option to address all contaminants present in all areas impacted.
- There is minimal environmental burden (i.e., no off site transportation required, and limited required on site) and the use of additional resources (landfill space, imported fills) is reduced compared to other options.
- The compatibility of the proposed development to the remediation strategy:
  - Significant portions of the site are proposed to be covered with hard stand materials from the construction of the school buildings and roads/pavement areas (refer to the plans provided in Appendix G (of Appendix 7)). This will reduce the risk to site inhabitants and users whilst also limiting the potential for surface contamination to migrate in surface waters across and off the site providing that the material is considered suitable based on the required geotechnical properties.
- Acid sulfate soil properties identified within the material preventing the suitability for offsite re-use.
- Financial reasons based on the hazardous waste classification of the material under Tier 1 of the NSW EPA guidelines (Ref [9]).

Remedial Strategy Process

RCA considers that the remedial strategy will involve:

- Decision of the preferred location for the fill mound emplacement area as determined by the development design, geotechnical properties and any other constraints.
- Appointment of the earthworks contractor to implement the proposed strategy within the proposed overall development.
- Inclusion of the remedial strategy into the site management plan/ construction documentation and programme to ensure that all workers are aware of controls required to protect human health and the environment during works relating to the impacted material and subsequent capping works. Details of the requirements to be included are provided in Section 10.9.
- Distinct physical identification of the proposed emplacement area.
- Excavation of the south western fill mound and treatment for acid sulfate soil properties and geotechnical deficiencies, as necessitated.
- Emplacement of the south western fill mound material in the designated containment area.
- Placement of a geotextile material on the surface of the site to act as a marker layer between the site users and the potentially contaminated material.
  - This layer should be highly visible, either in the colour of the geotextile material, or else with the use of a secondary material on top of the geotextile.
  - The type of geotextile will be defined in the construction documentation based on the operational requirements such as difficulty in placement and trafficability. Different materials may be used in different areas as long as the material is highly visible, durable and will present a physical barrier1 to potential future excavations.
  - A photographic log of the material and its placement will be maintained for use in the validation report and final LEMP. If differing materials/colours are used across the site, these need to be recorded.
- Survey of the emplacement area following the completion of works to provide detail on the final potentially contaminated surface.
- Installation of the chosen capping layer.
- Survey of the site to confirm design depths of capping have been achieved if material is being placed under a road or covered with clean fill (e.g. in an area of open space). Additional works to be undertaken where required.
- Compilation of a validation report which details the works undertaken and verifies it has been conducted to the required specifications to allow the site to be considered suitable for the proposed sensitive land use.
- Compilation of a LEMP which ensures the remediation undertaken is maintained, continued protection of the receptors (human and the environment) and that all personnel undertaking work at the site are aware of and implement procedures required. The requirements of the LEMP are discussed in Section 10.15.

Potential Capping Materials

Appropriate site capping would be considered to consist of any or a combination of the following:

- Concrete hardstand or building slab.
- Asphalt
- Permanent paving.
- Compacted road-base of a minimum 100mm thickness.
- Any other engineered equivalent hardstand material.
- Placement of 500mm certified clean material, with some allowance for the top 100mm to be suitable for growing grass media. The presence of grass cover is considered suitable to minimise the potential for erosion of placed soil material.

A high visibility marker layer is considered to be required for any of these which could be penetrated without consent and prior approval from the Catholic Diocese of Maitland Newcastle or Catholic Schools Office.

3.10 Flora, Fauna and Bushfire

3.10.1 Biodiversity Development Assessment Report

Biosis have prepared a response to the submission by Port Stephen Council (Appendix 8). This report outlines justification and reasoning behind each of the issues raised by Council within the Biodiversity Development Assessment Report (BDAR) prepared for the EIS submission and is summarised below where each ecological impact from Council's letter is addressed:

2. The BDAR considered all direct and indirect potential impacts to Koala habitat and provides the required offsets.

3.a-b)i. Biosis agrees the Watagan to Stockton corridor is an important one. However, Biosis considers that the development will not have a significant impact on the local and regional functionality of existing green corridors, as it has been designed to avoid major ecological impact and is proposed within that part of the site consisting of scattered native tree over cleared land.

ii. The proposal will comply with Council DCP and the Protection of the Environment Operations Act 1997 as well as implement a water management system that will result in an expected neutral impact to surrounding areas in terms of runoff. All other areas such as APZs and areas without hardstand are expected to drain rapidly to the groundwater below and the adjacent wetland, as the soil of the site is primarily sand/sandy loam. The unmapped watercourse located in the south of the site, which possibly connects constructed waterbodies of the golf course east of Medowie Road, to the SEPP 14 wetland, will not be removed and will remain in the APZ as a feeder to the wetland.

iii. The BDAR is a way for impacts to be identified and offset appropriately. OEH has considered this has been achieved with the offsets calculated for the project, including impacts to the Swamp Sclerophyll communities and adjacent SEPP 14 wetland.

iv. Biosis conducted a thorough ecological investigation of trees and habitats on site in order to inform the BDAR. All hollow-bearing trees were mapped and their locations are shown on Figure 4.

v. The BDAR is a way for impacts to be identified and offset appropriately. OEH has considered this has been achieved with the offsets calculated for the project, including impacts to the Koala.

vi. Biosis considers all data provided sufficient to assess the potential occurrence of a candidate species, which has-been summarised in Table 9. OEH has not requested additional detail.

vii. Refer to Appendix 4 of the BDAR. No additional information or assessment of EPBC matters is required in a BDAR.

The BDAR is a way for impacts to be identified and offset appropriately. OEH has considered this has been achieved with the offsets calculated for the project, including impacts to the Koala. Biosis acknowledges Council's technical specification for an offset ratio planting at 1:6, 1:8 or 1:10, dependent on tree size. At this stage the requirement for removal of Koala feed trees from the APZ is not known. Once a final number of feed trees to be removed is ascertained, then the proponent can discuss with Council options for compensatory plantings, acknowledging that offsetting of Koala habitat has already been calculated through the BAM (Appendix 14).

OEH provided a submission and *"is satisfied with the biodiversity assessment provided and no further assessment is required"*.

3.10.2 Bushfire Threat Assessment

A staged fire trail has been proposed to maintain access to all areas of development during the varying stages of construction (Appendix 9).

An Evacuation and Emergency Management Plan will be prepared as a condition of consent prior to occupation.

Additional mitigation measures are provided to address comments from NSW Rural Fire Service.

The further 10m of understorey and ground cover to be managed as an outer protection zone to the west of the development. The bushfire consultant noted this is to be maintained in current state and will not require revegetated and as such will not affect the development in its current form.

3.10.3 10 metre Revegetated Buffer

The 10 metre fully revegetated buffer proposed for the waterway (1st order stream) traversing the southern section of the subject land by Port Stephens Council will be consistent with the Controlled activities on waterfront land – guidelines for riparian corridors on waterfront land prepared by the NSW Office of Water and dated 2012, in regards to the averaging rule for riparian corridors. If there is any encroachment into the 10m buffer due to road infrastructure then the corresponding amount will be offset on the opposite side of the riparian corridor to compensate for the loss.

Please see below the excerpts from the guidelines relating to the reasoning behind this conclusion.

Riparian Corridor Matrix

The riparian corridor matrix enables applicants to identify certain works and activities that can occur on waterfront land and in riparian corridors. Applicants should note that the matrix relates to controlled activity approvals under the WM Act only. They are still required to comply with other relevant government legislation, such as threatened species, flood planning levels and fisheries guidelines.

Table 3.3 – Riparian corridor matrix (source: DPI 2012)

Stream order	Vegetated Riparian Zone (VRZ)	RC off-setting for non RC uses	Cycleways and paths	Detention basins		Stormwater outlet structures and essential services	Stream realignment	Road crossings		
				Only within 50% outer VRZ	Online			Any	Culvert	Bridge
1st	10m	•	•	•	•	•	•	•		
2nd	20m	•	•	•	•	•		•		
3rd	30m	•	•	•		•			•	•
4th +	40m	•	•	•		•			•	•

Averaging Rule

Non riparian corridor works and activities can be authorised within the outer riparian corridor, so long as the average width of the vegetated riparian zone can be achieved over the length of the watercourse within the development site. That is, where appropriate 50 per cent of the outer vegetated riparian zone width may be used for non-riparian uses including asset protection zones, recreational areas, roads, development lots and infrastructure. However, an equivalent area connected to the riparian corridor must be offset on the site (see Figure below) and the inner 50 per cent of the vegetated riparian zone must be fully protected and vegetated with native endemic riparian plant species.

Bridges, cycleways, paths, stormwater outlets and other essential services do not need to be offset, but must comply with the requirements set out in the riparian corridor matrix (Table 2) and other relevant Office of Water controlled activities guidelines. Offline detention basins do not need to be offset so long as there is an equivalent VRZ for the corresponding watercourse and they are built in compliance with the Office of Water's Controlled activities: Guidelines for watercourse crossings and Controlled activities: Guidelines for in-stream works. If a proposed basin will not have an equivalent VRZ for the corresponding watercourse, it may still be built in the outer 50 per cent of the VRZ but must be offset.

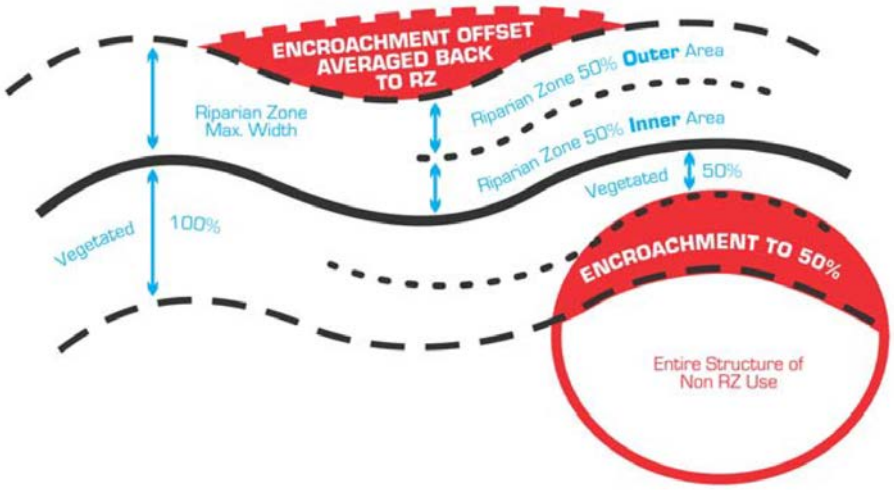

Figure 2 – Averaging rule (source: DPI 2012)

3.11 Landscaping

- The proposed landscape plan increases canopy cover over the site from 11,374m^2 to an estimated total of 28,791m^2. This provides a total tree canopy cover over the site of approximately 34%. There are currently no identified targets for campuses however in the context of the extent of built form, bushfire management requirements and the open space areas required for sporting fields this is significant coverage over the available site area (Appendix 19).
- Landscape design has amended the parking areas to 'soften the impact of the parking, queuing and drop off zones' (Appendix 17)
- Landscaping of the site shall comply with the Appendix 5 of *Planning for Bushfire Protection 2006.*
- Landscaping amendments are reliant on the finalisation of negotiations with RMS and SECA and additional advice will be provided when a resolution is delivered.

3.12 Ausgrid

Webber Architects have been in contact with Ausgrid and confirmed no formal response is required. The submission letter dated 1 August 2018 states "*Under the terms of the easement any works proposed within the easement, including changes to existing ground levels, must be approved by Ausgrid*". Therefore further consultation with Ausgrid will be required for construction works within the powerline easement.

3.13 Section 7.11 Developer Contributions

The request from Port Stephens Council to pay the Section 7.11 Developer Contributions as well as to cover costs for construction of various footpath linkages to nearby residential hubs may be considered '' double dipping'.

It suggested that either an agreement between Council and the client be entered into for a 'Works In Lieu Agreement' that could be facilitated in place of the Section 7.11 Development Contributions (Section 94) or the Section 7.11 Contributions are paid in full and no footpath construction works are undertaken to avoid "double dipping".

3.14 Exceptions to Development Standards

The Clause 4.6 submitted with the EIS was reviewed and some minor modifications were made to the justification for the variation to the development standards (Appendix 10).

3.15 Department of Industry

Each item raised by the Department of Industry may be addressed through a condition of consent as follows:

- The stormwater outlet structures will be designed in accordance with the Guidelines for Outlet Structures on Waterfront Land (2018) from NSW Department of Primary Industries: This is to provide mitigating measures for stormwater impacts to waterfront land.
- The Vegetation Management Plan will take into account the measures provided within the Guidelines for Vegetation Management Plans on Waterfront Land (2018).
- A water access licence will be applied for the removal of any groundwater during construction.

3.16 Design

- The Medowie Planning Strategy highlights areas to the immediate north of the proposed school as locations for future rural residential development and a future residential precinct. The residential precinct is predicted to provide an additional 336 dwellings, which is almost 15% of the total proposed residential release areas in Medowie. The rural residential area is marked for investigation into lot size with a potential transition to a residential release area. The proposed development areas as outlined within the Medowie Planning Strategy are in close proximity to the proposed development and as such the new school will complement the surrounding areas.
- Elevations have been redrawn to show the photovoltaic cells on the roof plans. (Appendix 13)
- New constructions will comply with AS3959-2009 'Construction of buildings in bushfire-prone areas' or NAS standard and *Planning for Bushfire Protection 2006.*
- Water, electricity and gas will comply with Section 4.2.7 of *Planning for Bushfire Protection 2006.*

3.17 Public Submissions

One public objection was received during the exhibition period from a local within Kingfisher Close. The submitter was an overall supporter of the development but raised concerns around the reduction in safety of the Medowie Road and South Street intersection due of the potential of increased traffic along Medowie Rd, the access to the site via Kingfisher Close and the implications of parking for the residents.

There will be no formal access from Kingfisher Close. The cul-de-sac will only be used as an alternate access for emergency vehicles. The EIS and associated plans show that more than adequate parking will be provided on site and as such there will be no need for teachers, students, parents or other attendees to park on either Blueberry Road or Kingfisher Close surrounding the development.

A traffic impact assessment was undertaken and included as Appendix 18 with the original EIS submission. This assessment has addressed the following issues:

- Assess impact on the local road network due to the additional traffic flows;
- Assess the impact of the additional parking generated by the proposed development;
- Review the access arrangements for the development;
- Review the service arrangement for the development;
- Assess any other transport impacts associated with the development

4. MODIFICATIONS TO THE PROPOSAL

4.1 Introduction

A review of the submissions has resulted in a number of changes to the project. Changes are also proposed to the environmental mitigation measures presented in the EIS. These changes do not alter the original findings of the EIS that the proposal will not have a significant impact on the environment, including threatened species, populations or ecological communities, or their habitats. Approval is not required under the EPBC Act.

4.2 Proposal Changes

- Minor changes have been made to the Chapel to increase the width slightly to provide sufficient circulation and aisle spaces for the seating of 500 people in the pews.

Table 4 – Changes to Chapel

		EIS	Current	Increase
A	Overall width of Congregation area	27,075mm	27,315	240mm
B	External truss column centreline	36,300mm	37,008mm	708mm
C	Overall width of Roof	36,698mm	39,008mm	2,310mm

- Alternate layouts for flexible learning village have been provided to show an arrangement of learning spaces and outdoor areas more in line with the spaces within the future school buildings. The area created will provide learning spaces and outdoor areas conducive to flexible learning and accommodating varying group sizes.
- The site analysis plan has been updated to include information from GANSW comments.
- Parking space numbers/layout to be finalised after intersection design.
- Landscaping at front of development has been amended to soften impact of parking areas and will be finalised once intersection and parking designs negotiations are complete.

4.3 Environmental Management Changes

4.3.1 Deleted Environmental Management Measures

No environmental management measures have been deleted as a result of submissions.

4.3.2 Modified Environmental Management Measures

No environmental management measures have been modified as a result of submissions.

4.3.3 Additional Environmental Management Measures

Additional environmental management measures as a result of submissions are:

<u>Heritage</u>

- Comply with recommendations of the Aboriginal Cultural Heritage Assessment Report (Biosis, 2018) and the Cultural Heritage Management Plan (Biosis, 2018).

<u>Traffic and Access</u>

- Comply with Green travel Plan developed by SECA Solution (SECA Solution, 2018).
- The intersection design negotiations are ongoing with RMS and PSC and additional advice will be provided when a resolution is delivered.

<u>Stormwater</u>

- Comply with Stormwater Management Plan prepared by MPC (August 2018)

<u>Flooding</u>

- Comply with conclusion of Floor Risk and Impact Assessment prepared by BMT (2018).

Remedial Action Plan

- Comply with Remedial Action Plan developed by RCA (2018) for the contaminated areas on site, and as such it was recommended that a cap and contain method is to be implemented to the contaminated areas.

Flora, Fauna and Bushfire

- Comply with standard for an asset protection zone (APZ) as outlined within Section 4.2.7 and Appendix 5 of *Planning for Bushfire Protection 2006* and the NSW RFS document 'Standards for asset protection zones'.
- A further 10m of understorey and ground cover will be managed as an outer protection zone to the west of the development. This is to be maintained in current state and will not require revegetated and as such will not affect the development.
- A staged fire trail will be constructed to maintain access to all areas of development during the varying construction stages.
- Installation and provision of water, electricity and gas will comply with Sections 4.1.3 and 4.2.7 of *Planning for Bushfire Protection 2006*.
- An Evacuation and Emergency Management Plan will be prepared in compliance with Section 4.2.7 of *Planning for Bushfire Protection 2006*.
- A 10m revegetated buffer will be maintained along the riparian corridor of the watercourse that runs to the south of the development. This area will be managed via the averaging rule as described within Controlled activities on waterfront land – Guidelines for Riparian Corridors on Waterfront Land prepared by the NSW Office of Water.

Landscaping

- Landscaping will comply with principles of Appendix 5 of *Planning for Bushfire Protection 2006*
- Landscaping amendments are reliant on the finalisation of negotiations with RMS and SECA for the intersection design and additional advice will be provided when a resolution is delivered.

Department of Industry

- The stormwater outlet structures will be designed in accordance with the Guidelines for Outlet Structures on Waterfront Land (2018) from NSW Department of Primary Industries: This is to provide mitigating measures for stormwater impacts to waterfront land.
- The Vegetation Management Plan will take into account the measures provided within the Guidelines for Vegetation Management Plans on Waterfront Land (2018).
- A water access licence will be sought for the removal of any groundwater during construction.

4.3.4 Revised Environmental Management Measures

A list of all environmental mitigation measures relevant to the project is provided in Appendix 20. All environmental mitigation measures will be implemented.

5. CONCLUSION

The Response to Submissions Report has addressed submissions received during exhibition of the EIS for the Catholic College. It is considered that the report has addressed all submissions and provided a response to issues raised. The conclusion of the EIS that the proposal will not have a significant impact on the environment, including threatened species, populations or ecological communities, or their habitats is not changed. Approval is not required under the EPBC Act.

We request that you issue draft conditions of consent for review by the Trustees of the Roman Catholic Church for the Diocese of Maitland – Newcastle as outlined in this document.

APPENDICES

APPENDIX 1

Aboriginal Cultural Heritage Assessment Report

APPENDIX 2

Cultural Heritage Management Plan

APPENDIX 3

Revised Design Verification Statement

APPENDIX 4

Green travel Plan

APPENDIX 5

Revised Stormwater Management Plan + MUSIC

APPENDIX 6

Flood Risk and Impact Assessment

APPENDIX 7

Remedial Action Plan

APPENDIX 8

Biosis – Response to Submission (BDAR)

APPENDIX 9

Proposed Staged Fire Trail

APPENDIX 10

Revised Clause 4.6 – Height

APPENDIX 11

Revised Site Plan

APPENDIX 12

Archaeology Report

APPENDIX 13

Revised Roof Plans – Solar (Photovoltaic Cells)

APPENDIX 14

Biodiversity Offset proposal Letter and Calculations

APPENDIX 15

Revised Block B Plans

APPENDIX 16

Revised Flexible Learning Village Plans

APPENDIX 17

Revised Site Analysis Plan

APPENDIX 18

Department of Defence correspondence

APPENDIX 19

Tree Canopy Targets letter

APPENDIX 20

Revised Environmental Mitigation Measures