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SECTION 1

WORK DETAILS			
Project/ Activity Name	Oakendale Road, Notts Creek Bridge Replacement	**Section undertaking Project / Activity**	Capital Works – Civil
Project Manager / Works Supervisor	Dylan Brake	**Timing and Duration**	2 October 2023 for a period of 10-12 weeks
Environmental Risk Level	MEDIUM	**Project / Job Number**	11507
		EDRMS	VF21/89

ACTIVITY DESCRIPTION		
Description	The existing bridge consists of a single span, single lane timber and concrete bridge with an asphalt paved deck and asphalt paved approach.	
Justification and Objectives	***Justification***	Oakendale Road is a gravel road with a small section of seal over this small bridge. The existing pavement and bridge structure is under additional stress from heavier vehicle use which has led to accelerated deterioration. It is the only access to the rural properties in the area at the end of this road and an access point for the National Park to the north. Reconstruction of the bridge will improve the safety to all road users including pedestrians and cyclists and provide a level of service which is expected by the community.
	Objectives	To improve the safety to all road users including pedestrians and cyclists and provide a level of service which is expected by the community

Scope of Works	***Activities prior to works commencing***	• Environmental impact assessment in accordance with Council's EMS.
		• Risk assessment in accordance with Council's Risk Management System.
		• Preparation of a CEMP.
		• Undertaking the following:
		  ○ Weed site inspection.
		  ○ Project site inspections.
		  ○ Geotechnical investigations.
		  ○ Due diligence assessment.
		  ○ Flora and fauna survey.
		  ○ Targeted microbat survey.
		  ○ Water quality monitoring.
		• Preparation of the following plans:
		  ○ Design plans including erosion and sediment control plan.
		  ○ Traffic guidance scheme.
		  ○ Dewatering Management Plan
		• Site survey and set out.
		• Site establishment including:
		  ○ Compound.
		  ○ Site facilities eg. work shed, toilets, parking etc.
		  ○ Site fencing and restricted entry signage erected.
		• Community and stakeholder consultation.
		• Establishment and implementation of environmental controls eg:
		  ○ Erosion and sediment controls.
		  ○ Traffic management controls.
		  ○ Extent of works with stakes and coloured tags or other suitable alternative where erosion and sediment control fencing is not installed.
		  ○ Tree protection fencing.
		• Transport of machinery and equipment and materials (excluding stockpile materials) to the project site.
		• Site induction.

	Activities during works	• Maintenance and inspection of environmental controls.
		• Site visits for project management, work health safety and environmental compliance.
		• Stockpile and waste management.
		• Removal of existing signage and other infrastructure.
		• Receipt of stockpile fill from haulage trucks for temporary storage onsite and placement of stockpile fill into haulage trucks for removal from site.
		• Fauna preclearance surveys.
		
		<u>Dewatering</u>
		• Installation of coffer dams/ berms upstream and downstream of works:
		  ○ Construction of upstream berm/ coffer dam:
		  ▪ Installation of geofabric on creek base.
		  ▪ Staking of geofabric to creek base
		  ▪ Installation of gravel.
		  ▪ Installation of waterproof membrane on upstream side of upstream berm to prevent water seepage.

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			○ Construction of downstream berm/ coffer dam: ▪ Installation of geofabric on creek base. ▪ Staking of geofabric to creek base. ▪ Installation of gravel contained in filter sock. ○ Installation of riprap as required to prevent bank erosion. ○ Pumping out of water to sprinkler system on adjacent paddocks prior to any excavation works onsite and pumping out of water as required based on rainfall. ○ Water quality monitoring and dewatering activities. <u>Construction of temporary access road</u> • Construction of table drains: ○ Excavation and removal of material. ○ Trimming for required batter steepness. ○ Spray seed/ hydromulch to stabilise swale surface. • Creation of earthen access ramps and installation of gravel surface. • Installation of material base. • Installation of twin concrete pipes. • Installation of remaining material. • Installation of aggregate for road surface. • Installation of armour rock as required. • Installation of temporary fencing delineating extents of travel lane. <u>Construction of bridge and approaches:</u> • Demolition of existing structure. • Excavation of material to depth and shaping as required. • Installation of base slab and rip rap on creek base: ○ Excavate for concrete footings and trim to desired levels. ○ Installation of formwork and steel bar reinforcement. ○ Pouring of concrete. ○ Removal of formwork. ○ Installation of geofabric and rip rap on base of Notts Creek to match natural surface of toe of bank. ○ Installation of Culvert Units. ○ Place culverts by crane. • Construction of wing walls ○ Benching of batters to create safe work area. ○ Shaping of bank as required. ○ Installation of formwork and steel bar reinforcement. ○ Pouring of concrete ○ Removal of formwork ○ Installation of geofabric. ○ Installation of subsoil drain with non-woven geometric filter sock. ○ Installation of compacted free draining crushed stone backfill material. • Installation of geofabric and rock revetment along banks of creek. • Installation of guardrail: ○ Installation of footings and reo cage. ○ Excavation and installation of terminals. ○ Linking of guard rail/ wire. • Hand installation of larger rip rap rock. • Filling of surface voids in rip rap with cobbles. • Construction of concrete slab over culvert: ○ Scabble top of concrete culvert prior to construction of concrete slab. ○ Installation of formwork and steel bar reinforcement. ○ Pouring of concrete. ○ Removal of formwork. ○ Backfilling around concrete. • Rehabilitation of bridge approaches: ○ Rip and reshape base as required. ○ Installation and placement of gravel ○ Installation of 14/7mm bitumen spray seal. ○ Placement of turf or spray seed to stabilise area. • Installation of signage and line marking. <u>Site stabilisation:</u> • Spray seed/ hydromulch progressively through works, excluding any remaining exposed areas that are to be replanted. <u>Removal of access road, coffer dams/ berms:</u> • Excavation and removal of access road. • Excavation and removal of upstream berm.

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	• Removal of downstream berm. Site and Riparian Rehabilitation • Planting with stake and guards. • Watering. • Mulching if required.
Activities upon completion of works	• Hydromulching/ spray seeding with a sterile cover crop/ installation of turf rolls to stabilise exposed areas. • Water quality monitoring. • Maintenance of stabilised areas as required. • Maintenance of bushland rehabilitated areas with watering, replanting if required and pest and weed control. • Removal of environmental controls including erosion and sediment control fencing and any other protective fencing. • General site clean-up, rubbish removal and removal of any excess waste. • Removal of site compound and facilities, restrictive access signage and fencing and traffic controls. • Site visits for practical completion of works.
Activities during operation and maintenance	Operation and maintenance will be undertaken in accordance with the EA for road and roadside maintenance. Activities may include site inspections, rubbish removal and removal of illegally dumped items and heavy and minor patching.
Plant and equipment list	The proposed activity may or will make use of the following plant, equipment and materials: • Portable toilet. • Site shed caravan/ shipping container. • Backhoe. • Excavator. • Watercart. • Concrete saw. • Concrete hand tools. • Crew truck/ ute. • Delivery trucks. • Concrete truck. • Franner Crane. • Water Pump. The works may or will use the following materials: • Sand. • Aluminium signs. • Epoxy resin. • Crusher dust. • Gravel. • Concrete. • Steel. • Timber. • Geofabric. • Guardrail. • Subbase. • Basecourse – DGB20 or similar. • Two coat seal. • Rock (rip rap for headwall scour protection). • Soil. • Turf/ hydromulch/ seed for stabilisation. • Road linemarking paint.
Materials	*Imported Material* / *Imported source* / *Imported amount* DGB20 / Quarry / 43m^3 Concrete / Concrete Batching Facility / EPRM / Council Stockpiles / Rock Protection / Quarry / 40m^3 *Export Type* / *Export Destination* / *Export Amount* Base slab - Concrete / Recycling facility / 4.4m^3 Benching – Road pavement material / Council Stockpiles / 34m^3 *Amount of material being disturbed onsite* / 1407m^2 *Proposed maximum excavation depth* / 0.7m
Traffic	*Traffic control required* ***Yes*** ☒ ***No*** ☐

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			Traffic control required for vehicles entering and exiting the site		***Yes*** ☒	***No*** ☐
			Single lane closure with access restricted but maintained		***Yes*** ☐	***No*** ☒
			Whole of road closure		***Yes*** ☒	***No*** ☐
			Other (specify)	Temporary access track will be constructed upstream of the bridge providing access for duration of the works.		
		Hours of operation	*Standard operating hours*	*Monday to Friday 7am to 6pm* *Saturday: 8am to 1pm*	***Yes*** ☒	***No*** ☐
			Outside standard operating hours	*No. of nights*	***Yes*** ☐	***No*** ☒
				Duration		
				Start time		
				Finish time		

LOCATION

Address (including Lot and DP)	*Street address*	Notts Creek Bridge, Oakendale Road, Glen Oak approximately 440m north of the intersection between Oakendale Road and Clarence Town Road.			**Land Zoning**	RU2
	Lot No.		*DP*			
Landowner/ Asset Owner	*Council owned and managed*		***Yes*** ☒	***No*** ☐	**Date of Site Inspection(s)**	Various
	Crown lands under care and control of Council		***Yes*** ☐	***No*** ☒		
	Adjacent to NPWS Lands		***Yes*** ☐	***No*** ☒		
	Other, specify:	*Private property Lot 5 DP1049674 (5 Notts Lane) – Side access track, rock protection and headwall.* *Lot 2 DP731412 (6 Oakendale Rd) – Erosion and sediment controls and outlet of pump via sprinkler.*				
Existing Environment	See Attachment 1 Existing Environment Checklist.					

Locality Map/ Map of Works

See also Design Plans in Attachment 15.
Site Compound Location

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SECTION 2	APPROVAL PATHWAY		
	These Environmental Assessment forms are for Pathway 3: Part 5 Environmental Assessment under SEPP (Infrastructure) only. *See Environmental Assessment Guide - Planning Pathway Overview Chapter (and Flowcharts) for support in this Section.*		
	Pathway 1: Local Development (Part 4) ⟶ if YES, commence a Development Application		
	Are the works Permitted with Consent underSEPP (Infrastructure)? *See Environmental Assessment Guide : Planning Pathway Overview Chapter : Flowcharts Planning Pathway*	***Yes*** ☐	***No*** ☒
	Do the works trigger the SEPP (Coastal Management)? *See Environmental Assessment Guide : Planning Pathway Overview Chapter : Flowcharts SEPP (Coastal Management)*	***Yes*** ☐	***No*** ☒
	Pathway 2: Tree / Vegetation Removal ⟶ if YES commence an Environmental Assessment : Trees & Vegetation		
	Is this activity solely involving vegetation and/or tree removal? *See Environmental Assessment Guide : Planning Pathway Overview Chapter : Flowcharts tree removals*	***Yes*** ☐	***No*** ☒
	Pathway 3: Infrastructure SEPP (Part 5)		
	a) Is the activity permissible under the LEP? If NO, rethink the proposed activity and its location. If YES move to (b).	***Yes*** ☒	***No*** ☐
	b) Are the works permitted as Exempt under SEPP (Infrastructure) but assessed as greater than negligible in Section 3 Environmental Impact Triggers in the Environmental Assessment Level 1 Form? **Or**	***Yes*** ☒ ***Clause: 2.113***	***No*** ☐
	c) Are the works *Permitted without Consent* under SEPP (Infrastructure)? **If YES to either of these questions, move to Section 3: Environmental Impact Triggers of this Form.**	***Yes*** ☐ ***Clause: 2.109 (3)***	***No*** ☐

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SECTION 3	ENVIRONMENTAL IMPACT TRIGGERS			
	See Environmental Assessment Guide – Technical Specialists & Impact Assessments Chapters for support in this Section.			
	BIODIVERSITY • Known impact to Threatened Species or Ecological Communities • Known impact on SEPP (Koala Habitat Protection) • Known impact to areas mapped on the Biodiversity Values map • Working within a declared area of outstanding biodiversity value (AOBV)	Habitat values Vegetation onsite	The site is an existing road environment with a timber bridge constructed over a 3rd order watercourse which is fringed by a narrow strip of remnant vegetation with degraded understorey vegetation (Umwelt, 2021, see Attachment 10). Umwelt (2021, see Attachment 10) undertook a rapid data point survey and vegetation assessment on 25 August 2021 and identified PCT 1714 River Oak – White Cedar Grassy Riparian Forest of the Dungog Area and Liverpool Ranges which is listed as River-Flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions, an endangered ecological community under the *NSW Biodiversity Conservation Act 2016* and River-Flat Eucalypt Forest on Coastal Floodplains of Southern NSW and Eastern Victoria, an endangered ecological community under *Commonwealth Environment Protection and Biodiversity Conservation Act 1999*. Umwelt (2021, see Attachment 10) identified 22 flora species onsite with 23% being exotic species. Umwelt (2021, see Attachment 10) identified features conducive to native and threatened species onsite including the presence of nectar and fruit resources and perch sites, winter flowering eucalypt species, good proximity to water, evidence of fauna occupation (woodland birds, arboreal mammals and frogs), evidence of seedling recruitment including juvenile *Acacia spp* and *Casuarina spp* and presence of sap trees (*Euclayptus tereticornis)* for glider species. The site was in moderate condition with a moderate level of disturbance, with evidence of dogs being onsite and stock observed on adjacent lands, litter, road scour and signs of erosion (Umwelt, 2021, see Attachment 10). No threatened fauna were recorded during the site survey, however, 4 threatened species were recorded within 200m of the site as part of the Clarence Town Road Segment 270 surveys including Koala, Little Bent-winged Bat, Eastern (Large) Bent-winged Bat and Yellow-bellied Sheathtailed Bat (Umwelt, 2021, see Attachment 10). Suitable roosting habitat for microbats is present within the bridge structure at Notts Creek (Umwelt, 2021, see Attachment 10). On 21 and 22 July 2021 Umwelt (2021, see Attachment 11) undertook a microbat habitat assessment. The study was conducted in winter when bats regularly hibernate and would likely not have emerged from their roosts. However, a detailed visual inspection to identify presence/ absence of roost features within the bridge structure was undertaken, dusk watch, ultrasonic bat calling and incidental observations and recording of any secondary indicators e.g. guano were undertaken (Umwelt, 2021, see Attachment 11). Umwelt (2021, see Attachment 11) which found no secondary indications of microbats such as guano accumulation, bat bugs, areas showing signs of previous usage or feeding. Attributes considered conducive to microbats selecting the site as a roost were present, however, most suitable areas were susceptible to predators or complete inundation (Umwelt, 2021, see Attachment 11). Umwelt (2021, see Attachment 11) identified that the vegetated corridor of Notts Creek is likely to be utilised as an aerial foraging habitat for most microbat species and aquatic foraging habitat for the Southern Myotis. Umwelt (2021, see Attachment 11) recommended additional surveys. Preclearance surveys will be conducted prior to bridge removal and conducted in spring/ start of October within the preferred survey period for the majority of microbat species with potential habitat onsite. A diurnal inspection of the bridge with torch and inspection camera will be undertaken and dusk watch of the bridge entry points. The two species where surveys are outside the preferred survey period include Little-Bent winged Bat and Eastern (Large) Bent-winged Bat. These two species of microbat have a preferred survey period of December to March. Both species would be forming populations at maternity sites/ caves. The site does not represent breeding habitat for either species. The recommended method of survey for these species is harp trap at the	***No***

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		exits of caves, mines or tunnels identified as survey habitat. There is no suitable maternity site/ caves habitat onsite or within the locality.
	Bordered by National Parks Estate	National Parks is not located onsite and does not border the site.
	Biodiversity value mapped lands	Biodiversity Values Map lands are mapped within 200m of the site.
	Comprehensive Koala Plan of Management mapping	The Comprehensive Koala Plan of Management mapping identifies the site as containing Mainly Cleared Land, and the surrounding lands as containing Preferred Habitat Buffer over Cleared Land, Marginal, Preferred Habitat Buffer over Marginal, Preferred Koala Habitat Link over Cleared Land and Preferred Koala Habitat. An assessment in accordance with the performance criteria of the Port Stephens Comprehensive Plan of Management was conducted and no significant impacts to the koalas are likely. See Attachment 8.
	Fauna corridor connectivity	The site and surrounding lands are mapped as having fauna corridor connectivity including Local link and Landscape Habitat Link. Remnant vegetation occurs along the creek upstream and there is a large stand of remnant vegetation on the property downstream of the bridge (Umwelt, 2021, see Attachment 10). Whilst the road reserve immediately south of the bridge is clear there are stands of remnant vegetation along the riparian zone and remnant vegetation on private properties upstream and downstream of the site that would provide connectivity to Columbey National Park to the north east and west of the site (Umwelt, 2021, see Attachment 10).
	Aquatic flora and fauna habitat Downstream environment	Umwelt (2021, see Attachment 10) conducted a qualitative assessment of aquatic habitat on 25 August 2021 to inform the waterway classification and sensitivity in accordance with the *NSW Fisheries Policy and guidelines for fish habitat conservation and management (2013 update)*. Notts Creek is a third order watercourse with a defined channel and riparian vegetation, but it has been modified at the bridge structure with a concrete structure forming the bed of the watercourse. This structure presents a potential blockage to free fish passage (Umwelt, 2021, see Attachment 10). Upstream the creek has a narrow defined channel, less than one metre width, with minimal water depth and narrow band of regenerating riparian vegetation and no instream vegetation in the creek in the immediate environs of the bridge (Umwelt, 2021, see Attachment 10). Downstream of the bridge, Notts Creek has a cleared defined bank with semi-permanent to permanent waters with a permanent pool and stags instream, however, no instream native aquatic plants were observed (Umwelt, 2021, see Attachment 10). Umwelt (2021, see Attachment 10) concluded that upstream of Oakendale Road, Notts Creek was considered to provide Class 3 habitat and downstream Class 2 moderate key fish habitat as defined by the NSW Fisheries Policies and Guidelines. Notts Creek bridge is also located 700m upstream of the confluence with Tumbledown Creek which is predicted to provide habitat for the Purple Spotted Gudgeon which is listed as threatened under the *NSW Fisheries Management Act 1994*. Notts Creek downstream of Oakendale Road may provide habitat for this species (Umwelt, 2021, see Attachment 10).
	Priority weeds/ Feral fauna species	Priority Weeds are mapped onsite and within 200m of the site including African Olive and Mother of Millions. Umwelt when undertaking their site visits in August 2021 (see Attachment 10) identified the presence of Lantana, Purpletop, Lamb's Tongue, Crofton Weed and Blackberry and also witnessed dogs onsite. Due to the level of disturbance of the site, the site is also likely to be frequented by pest species such as feral dogs, feral cats, feral deer, foxes, feral goats, feral pigs, mice, pest birds and rabbits. A referral was sent to Council's Invasive Species Officer who inspected the site on 15 August 2023. The Invasive Species Officer found an unmapped site of Crofton Weed onsite. The advice of the Invasive Species Officer has been incorporated into the environmental controls and mitigation measures (QF-ENV-DRAFT- EA Invasive Species Referral).
	Potential impact on threatened species/ endangered ecological communities	Assessments of Significance were conducted in accordance with the *NSW Biodiversity Conservation Act 2016* and Significant Impact Assessments were conducted in accordance with the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* for all species with a high or moderate likelihood of occurrence or known

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			occurrence onsite. The Assessments of Significance and Significant Impact Assessments concluded that a significant impact was unlikely to occur as a result of the works. See Attachment 9.	
		Likely impacts	• Accidental harm to native flora and fauna on or near the site. • Tree pruning may occur which has the potential to decrease the viability of the tree and potential habitat or food source it provides. • Native habitat/ vegetation will be cleared/ disturbed which may increase impacts of edge effects and reduce the availability of habitat onsite. • Native habitat will be cleared within a habitat corridor however due to the small scale of the works proposed connectivity is unlikely to be disrupted. • Dust/ sediment deposition on adjacent vegetation or into waterways leading to loss of plant viability and/ or weed infestation. • Unauthorized vehicle or plant movements or storage or equipment and materials or rubbish dumping causing damage to or destruction of native fauna habitat. • Contamination of soils from uncontrolled releases or inappropriate storage or use of chemicals or fuels. • Potential impacts of noise and vibration which may disrupt the roosting or breeding or have other impacts on native fauna. • Increased soil erosion and sedimentation resulting in inability of area to regenerate. • Spread of weeds impacting native vegetation and habitats through poor hygiene practices. • Erosion and sedimentation. • Release of chemicals and other pollutants downstream. • Release of gross pollutants downstream.	
		Likely overall impact	Due to the small scale and short duration of the works, and provided the environmental mitigation measures are implemented, the works are unlikely to have a significant impact on biodiversity and any impacts would be contained within the site.	
	COASTAL Known impact to SEPP (Coastal Management) mapped area (including proximity) of Coastal Wetland and/or Littoral Rainforest while undertaking exempt works? *See Environmental Assessment Guide : Planning Pathway Overview Chapter : Flowcharts SEPP (Coastal Management)*	Coastal processes/ Vulnerable area	The works are not subject to coastal processes and are not located within a coastal vulnerability area.	***No***
		Littoral Rainforest	The works are not located within Littoral Rainforest or within the Littoral Rainforest Proximity Area. The site does not drain to Littoral Rainforest.	
		Coastal Wetland	The works are not located within Coastal Wetland or within the Coastal Wetland Proximity Area. The site drains to a Coastal Wetland approximately 20-30km downstream. Due to the small scale and short duration of the works and distance from the Coastal Wetland, no impacts are expected to occur.	
		Coastal Environment Area	The works are not located within the Coastal Environment Area.	
		Coastal Use Area	The works are not located within the Coastal Use Area.	
		Likely overall impact	Due to the small scale and short duration of the works, and provided the environmental mitigation measures are implemented, the works are unlikely to have a significant impact and any impacts would be contained within the site.	
	HERITAGE Known impact to Aboriginal and / or non-indigenous heritage?	Aboriginal heritage	A Due Diligence Assessment (Ecological Australia, 2021, see Attachment 12) identified a disturbed landscape absent of existing Aboriginal objects and area of potential archaeological deposit. EcoLogical Australia (2021, see Attachment 12) concluded that Aboriginal objects were unlikely to be present, and the proposed works were unlikely to impact sites and objects, and that no further assessment was required, provided that the recommended environmental mitigation measures are implemented to ensure no harm will occur. The recommended environmental mitigation measures were incorporated into the list of environmental mitigation measures for the site.	***No***
		Non-Aboriginal heritage	Searches of the National Heritage Register, State Heritage Register and Port Stephens Local Environment Plan were conducted and there are no heritage items within 0.5km of the works.	
		Likely overall impact	There is no non-Indigenous heritage item onsite and works will not impact a heritage item. There is a low potential for harm to Aboriginal heritage. The works are occurring in a previously highly disturbed area and will not extend beyond the previously disturbed areas of the site. Due to the small scale and short duration of the works and provided the environmental mitigation measures are implemented, the works are unlikely to impact on Aboriginal or non-indigenous heritage.	

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	NATIONALLY SIGNIFICANT Potential impact to Matters of National Environmental Significance? *Environment Protection and Biodiversity Conservation Act 1999*	World Heritage Properties, National Heritage Places and Commonwealth Heritage Places	There are no World Heritage Properties, National Heritage Places and Commonwealth Heritage Places located within the works area or within 0.5km of the proposed works. The proposed works are unlikely to have any impact on World Heritage Properties, National Heritage Places or Commonwealth Heritage Places	***No***
		Wetlands of International Importance	The site drains to the Hunter River Estuary 20-30km downstream. Due to the small scale and short duration of the works and distance from the estuary no impacts are expected to occur.	
		Commonwealth Lands	There are no Commonwealth Lands within 0.5km of the works.	
		State and Territory Reserves	Columbey National Park is located adjacent to the site/ within 0.5km from the site. There is potential for offsite impacts to occur. Due to the small scale of the works and provided the environmental mitigation measures are implemented no impacts are likely.	
		Threatened biodiversity and migratory species	See Biodiversity.	
		Likely overall impact	Due to the small scale and short duration of the works and provided the environmental mitigation measures are implemented no impacts are likely.	
	If all of the above are NO, continue with this Level 2 Environmental Assessment. ***STOP: If you've said YES to any of the above criteria, move to a Level 3 Environmental Assessment and / or talk to the relevant technical specialist. See Environmental Assessment Guide – Technical Specialists & Impact Assessments Chapters.***			

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SECTION 4 : Approvals, Concurrence, Licences and Permits				
*See Environmental Assessment Guide: External Agency Consultation for support in this Section. Specifically refer to **Flowchart: Publishing on the NSW Planning Portal** to determine if this assessment requires publication on the NSW Planning Portal. The permits/licences highlighted below may trigger publication onto the Portal.*				
Trigger		**Type**	**Authority**	**Applicability**
Land Owner	Working on land not owned or controlled by PSC, including Aboriginal Land Claim and Native Title	Land owner consent	Crown Land, Marine Parks, Forestry, National Parks, Australian Government	***No***
Roads	Working on a classified road not under PSC control or agreement	Concurrence	Transport for New South Wales	***No***
Water	Natural water usage (dewatering or ground water use)	Water Access License	NSW Department of Planning and Environment DPE (Water)	***No***
	Discharging to sewer	Trade Waste Agreement	Hunter Water	***No***
Utilities	Earthworks near services (gas, telecommunications, electricity, water)	Dial Before you Dig check	Dial before you dig	***Yes***
	Working in a mine subsidence area	Approval	Subsidence Advisory NSW Government	***No***
Heritage	Working near Heritage	Heritage Act: • S57(2) exempt notification • S60 approval • S140 excavation approval	NSW Department of Premier and Cabinet (Heritage)	***No***
	Harm or potential harm to Aboriginal objects and places	Aboriginal Heritage Impact Permit (AHIP) S90 NPW Act	NSW DPC (Heritage)	***No***
	Local heritage item	Concurrence	Port Stephens Council (PSC)	***No***
Waterways/ Marine	Working near or in a Marine Park	Marine Park Permit	Department of Primary Industries (Marine Parks)	***No***
	Dredging or reclaiming of waterways	Land owner consent 1. Fisheries Permit 2. Marine Park Permit 3. Crown Land License	Land owner: 1. DPI (Fisheries) 2. DPI (Marine Parks) 3. DPE (Crown Lands)	***No***
		Environmental Protection Licence (EPL)	NSW Environmental Protection Authority (EPA)	***No***
	Controlled activity in, on or under waterfront land	Controlled Activity Approval	NSW DPE (Water)	***No***
	Use explosives or electrical devices in a waterway	Fisheries Permit	DPI (Fisheries)	***No***
Flora and Fauna	Working near aquatic reserves, habitat or marine vegetation	Fisheries Permit	DPI (Fisheries)	***No***
	Obstructing fish passage	Fisheries Permit	DPI (Fisheries)	***Yes***
	Taking or possessing fish or marine vegetation	Fisheries Permit	DPI (Fisheries)	***No***
	Working near or with threatened species or part of an ecological community.	Threatened Species Licence	NSW DPE	***No***
	Research, education or conservation activities involving protected, threatened and/or endangered species.	Scientific Licence	NSW DPE	***No***
	Harm of protected native fauna	Licence	NSW DPE	***No***
Pollution and hazards	Noise	Showing inconsistency with *Construction Noise Guidelines*	NSW EPA	***No***
	Pollution / Scheduled Activity	Environmental Protection Licence (EPL)	NSW EPA	***No***
	Asbestos removal	Licenced removalist	SafeWork NSW	***No***
	Storage of hazardous chemicals	Hazardous chemical notification	SafeWork NSW	***No***
National	Matters of National Significance	Concurrence and permit EPBC Act	Australian Government (Department of Agriculture, Water and the Environment)	***No***

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SECTION 5 : Environmental Impact Assessment

Aspect: ***If the aspect is applicable to your activity undertake the impact assessment. If the aspect is not applicable to your activity, the impact assessment is not required but you may provide evidence as to why it is not applicable eg. dates and outcomes of GIS searches and communication with technical specialists.***

Impact Description: ***If the aspect is applicable, you must identify and describe the specific impacts from the activity. Descriptions can include the cause, extent, severity and duration; identification of any source and receivers; if the impact is current, occurs only during works or continues post works.***

Impact Without Control: ***Consider the level of impact from what you've described without any environmental controls identified.***

Environmental Controls: ***If impact without control is greater than negligible, identify appropriate environmental controls to reduce impact. Hierarchy of environmental controls include Elimination, Substitution, Engineering, Administration, Safeguards. Refer to the standard bank of controls document for further guidance.***

Impact With Control: ***Considering the initial impact of the activity and your identified environmental controls, determine the final impact on the environment from the activity.***

Aspect		Existing Environment	Impact Description (delete non applicable and for any additional impacts add additional rows)	Impact Without Control	Environmental Controls	Impact With Control
AIR	**Dust** ***Applicable***	There would be existing dust emissions from site and surrounding land uses including road use and agricultural activities. There are sensitive receivers within 50m of the works including rural residential properties (with 1 property within 100m and a further 5 properties within 200m) and agricultural lands and surrounding environment including bushland, Notts Creek and Tumbledown Creek which are identified as Key Fish Habitat.	***Prior to works commencing***	*Moderate: Dust generated during works that has potential to leave the site.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Dust generated during works but confined to the site.**
			Dust emissions from driving on unsealed roads for site inspections or geotechnical investigations with the potential to create a health hazard or environmental harm.			
			During works			
			Dust emissions due to soil exposure and disturbance with the potential to create a health hazard or environmental harm.			
			Dust emissions from the operation of plant and equipment with the potential to create a health hazard or environmental harm.			
			Unnecessary vehicle, plant and equipment movements creating unnecessary dust emissions with the potential to create a health hazard or environmental harm.			
			Dust emissions from vehicles transporting materials to and from the site with the potential to create a health hazard or environmental harm.			
			Dust emissions from handling stockpiled material onsite.			
			Upon completion of works			
			Exposed areas not stabilised resulting in dust emissions with the potential to create a health hazard or environmental harm.			
			Dust emissions from driving on unsealed roads with the potential to create a health hazard or environmental harm.			
			Conditions similar to that which existed prior to the works would persist. No impacts exceeding those impacts which would have existed prior to the works commencing would occur.			
			Operation and maintenance			

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			Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.			
	Odours ***Applicable***	There would be potential existing minor odour emissions from site and surrounding land uses including road use and agricultural activities. There are sensitive receivers within 50m of the works including rural residential properties (with 1 property within 100m and a further 5 properties within 200m) and agricultural lands and surrounding environment including bushland, Notts Creek and Tumbledown Creek which are identified as Key Fish Habitat.	**Prior to works commencing** Vehicle, plant and equipment emissions when conducting site visits and/ or investigations with the potential to create unsightly odours, a health hazard or environmental harm. **During works** Vehicle, plant and equipment releasing emissions (gases, liquid droplets or solid particles) during works with the potential to create unsightly odours, a health hazard or environmental harm Chemical usage related emissions with the potential to create unsightly odours, a health hazard or environmental harm. Wind borne rubbish with the potential to create unsightly odours, a health hazard or environmental harm. Generation of carbon dioxide from vehicle emissions associated with driving to and from the site and operation of plant and machinery on the site with the potential to create a health hazard or environmental harm. Odour emissions from waste generated and/ or stored on site with the potential to create unsightly odours, a health hazard or environmental harm **Upon completion of works** Conditions similar to that which existed prior to the works would persist. No impacts exceeding those impacts which would have existed prior to the works commencing would occur. **Operation and maintenance** Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.	*Minor: Minor odour detectable during works with complaints unlikely.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Minor odour detectable during works with complaints unlikely.**
	Emissions ***Applicable***	There would be existing emissions from site and surrounding land uses including road use and agricultural activities. There are sensitive receivers within 50m of the works including rural residential properties (with 1 property within 100m and a further 5 properties within 200m) and	**Prior to works commencing** Vehicle, plant and equipment emissions when conducting site visits and/ or investigations with the potential to create unsightly odours, a health hazard or environmental harm. **During works** Vehicle, plant and equipment releasing emissions (gases, liquid droplets or solid particles) during works with the potential to create unsightly odours, a health hazard or environmental harm. Chemical usage related emissions with the potential to create unsightly odours, a health hazard or environmental harm.	*Minor: Minor emissions release short-term.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Minor emissions release short-term.**

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		agricultural lands and surrounding environment including bushland, Notts Creek and Tumbledown Creek which are identified as Key Fish Habitat.	Wind borne rubbish with the potential to create unsightly odours, a health hazard or environmental harm. Generation of carbon dioxide from vehicle emissions associated with driving to and from the site and operation of plant and machinery on the site with the potential to create a health hazard or environmental harm. Odour emissions from waste generated and/ or stored on site with the potential to create unsightly odours, a health hazard or environmental harm. **Upon completion of works** Conditions similar to that which existed prior to the works would persist. No impacts exceeding those impacts which would have existed prior to the works commencing would occur. **Operation and maintenance** Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.			
NOISE	**Noise** ***Applicable***	There would be existing noise emissions from site and surrounding land uses including road use and agricultural activities. There are sensitive receivers within 50m of the works including rural residential properties (with 1 property within 100m and a further 5 properties within 200m) and agricultural lands and surrounding environment including bushland, Notts Creek and Tumbledown Creek which are identified as Key Fish Habitat.	***Prior to works commencing & during works*** See attached Standard and Non-Standard Noise Mitigation Assessment. Overall ranking is MEDIUM risk. MEDIUM to HIGH risk impacts include: • Duration of works: Medium-duration work (e.g. lasting several weeks). For linear projects (e.g. road and rail construction and maintenance), the duration relates to the total time that work is adjacent to sensitive receivers. • Noise-making equipment and processes: Use of medium-sized equipment (e.g. light to medium excavators, graders and loaders). Use of hand-held jackhammers and small rock breakers and medium sized drills and cutting machines. Light and medium-sized vehicles on the worksite. Occasional deliveries and removals by large vehicles. Use of large-sized equipment (e.g. medium to large excavators, graders, dozers, loaders and compactors). Regular deliveries and removals by medium and large vehicles. Use of rock breakers, piling equipment, power saws, grinders. ***Upon completion of works*** Conditions similar to that which existed prior to the works would persist. No impacts exceeding those impacts which would have existed prior to the works commencing would occur. ***Operation and maintenance*** Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.	*Moderate: Offensive noise generated during works which could cause complaints.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Noise detectable during works with complaints unlikely.**

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	Vibration ***Applicable***	There would be existing minor vibrations from site and surrounding land uses including road use and agricultural activities. There are sensitive receivers within 50m of the works including rural residential properties (with 1 property within 100m and a further 5 properties within 200m) and agricultural lands and surrounding environment including bushland, Notts Creek and Tumbledown Creek which are identified as Key Fish Habitat.	***Prior to works commencing*** Plant and equipment vibration when conducting site visits and/ or investigations with the potential to create a public nuisance, superficial or structural damage or environmental harm. ***During works*** Use of vibration generating plant and/or equipment with the potential to create a public nuisance, superficial or structural damage or environmental harm. ***Upon completion of works*** Conditions similar to that which existed prior to the works would persist. No impacts exceeding those impacts which would have existed prior to the works commencing would occur. ***Operation and maintenance*** Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, heavy or minor patching would have similar impacts to the capital works just on a lesser scale.	*Minor: Minor vibration detectable during works with complaints and asset damage unlikely.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Minor vibration detectable during works with complaints and asset damage unlikely.**
WATER	**Stormwater** ***Applicable***	See WATER – Waterbodies & Sensitive Receiving Environments. Existing stormwater runoff would consist of road runoff which has the potential to be contaminated with gross pollutants, oils, grease, heavy metals and other chemicals. Stormwater runoff from agricultural lands/ residential lands may consist of sediment and pesticides, herbicides or fertilisers applied to the land and/ or animal faeces. Stormwater runoff would lead to water pollution of downstream receiving environments. The site is located on/within the environs of Notts Creek which flows into Tumbledown Creek approximately 700m downstream, then the Williams River which joins	See Impacts of SOILS – Erosion and Sediment. ***Prior to works commencing*** Gross pollutants entering waterways from littering at site visits with the potential to cause unsightly aesthetics, water pollution and environmental harm. Chemicals, oils or heavy metals or other similar pollutants, contaminants leaching into soils from vehicles, plant and equipment used during site visits, causing water pollution and environmental harm. ***During works*** Gross pollutants from littering with the potential to cause unsightly aesthetics and water pollution and environmental harm. Release of chemicals, oils or heavy metals or other similar pollutants/ contaminants into soil, drainage systems, channels or watercourses through accidental leaks and spills, with the potential to cause unsightly aesthetics and water pollution and environmental harm. Dewatering of waterway will be required potentially discharging polluted water with the potential to cause unsightly aesthetics and water pollution with the potential for environmental harm within Notts Creek and within the surrounding paddocks. ***Upon completion of works*** Minor increase in impervious area through road widening, which will increase stormwater runoff volumes and velocity, and have minor potential for increased sedimentation and erosion impacts downstream, with the potential to cause unsightly aesthetics, water pollution and environmental harm.	*Moderate: Temporary change to stormwater quality or flows that may leave the site and cause pollution.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Minor temporary change to stormwater quality or flows that is contained within the site.**

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		the Hunter River at Raymond Terrace and flows to the Hunter River Estuary approximately 20-30km downstream.	Conditions similar to that which existed prior to the works would persist. No impacts exceeding those impacts which would have existed prior to the works commencing would occur. ***Operation and maintenance*** Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.			
	Groundwater ***Applicable***	(Hunter Civilab 2021 see Attachment 13) as part of the Notts Creek bridge replacement investigations, drilled 8 boreholes to depths varying between 1.2m to 10.7m and groundwater was not encountered. Groundwater is likely to be at depth at the site and Notts Creek is unlikely to be groundwater dependant.	See Impacts for WATER & SOIL. ***Prior to works commencing*** No groundwater is expected to be encountered during site investigations. Potential leaching of chemicals onsite potentially contributing to localised small scale groundwater contamination. ***During works*** No groundwater is expected to be encountered. Potential leaching of chemicals onsite from construction activities (e.g. leaks from vehicles, plant and equipment) potentially contributing to localised small scale groundwater contamination. ***Upon completion of works*** Conditions similar to that which existed prior to the works would persist. No impacts exceeding those impacts which would have existed prior to the works commencing would occur. ***Operation and maintenance*** Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.	*Negligible: No disturbance of groundwater.*	See Environmental Mitigation Measures in Attachment 2.	**Negligible: No disturbance of groundwater.**
	Water Bodies ***Applicable***	The site is located within the environs of Notts Creek which flows into Tumbledown Creek approximately 700m downstream, then the Williams River which joins the Hunter River at Raymond Terrace and flows to the Hunter River Estuary approximately 20-30km downstream. The lands are also located within Hunter Water Special Area Catchment and Williams River Catchments	See Impacts for WATER, SOIL & NATIVE FLORA & FAUNA.	*Moderate: Works will be carried out within a water body and will cause isolated permanent change.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Works will be carried out within a water body and will cause minor temporary change.**

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SOIL	**Erosion and Sediment** ***Applicable***	Topographically the site slopes down from the north towards Notts Creek at up to 20^0. Notts Creek runs west to east, The site is relatively flat to the south of Notts Creek and there is some minor outcropping in the banks (Hunter Civilab, 2021, see Attachment 13). Reference to the 1:250 000 Newcastle Geological Map indicates that the site is underlain by the Nerong Volcanics consisting of toscanite, dacite, andesite ignombrite, agglomerate, conglomerate, sandstone and siltstone (Hunter Civilab, 2021, see Attachment 13). Reference to the 1:100 000 Newcastle Soil Landscape Sheet indicates that the site is underlain by the Sandy Creek soil landscape which is characterised by narrow alluvial plains on recent alluvium derived from the carboniferous sediments and volcanics in the Paterson Mountains and Clarencetown Hills regions (Hunter Civilab, 2021, see Attachment 13). Slopes are generally less than 1% on local reliefs of less than 2m and soils consist of moderately well-drained, moderately deep alluvial soils on alluvial plains with moderately deep, moderately well drained siliceous sands in stream channels (Hunter Civilab, 2021, see Attachment 13). There would be existing erosion and sedimentation caused by the condition and lack of soil coverage on the roadside, and within the	***Prior to works commencing*** Erosion and sedimentation from site investigation works which has the potential to contribute to: • Increased sedimentation in waterways smothering habitats and damaging the health of aquatic fauna. • Increased turbidity levels in local waterbodies decreasing the amount of light available for aquatic plants. • Accumulation of sediment in drainage depressions or channels or waterbodies altering flow regimes. • Increased nitrification of waterways due to increased sedimentation of nutrient laden sediment. Sedimentation in local drainage networks causing blockage and flooding impacts. ***During works*** Increased erosion and sedimentation through exposure of soil onsite, tracking of dirt onto sealed roadways and rainfall washing dirt into the local drainage system or receiving waterbodies contributing to: • Smothering of habitats. • Damaging the health of aquatic fauna. • Increased turbidity levels in local waterbodies decreasing the amount of light available for aquatic plants. • Accumulation of sediment in drainage depressions or channels or waterbodies altering flow regimes. • Increased nitrification of waterways due to increased sedimentation of nutrient laden sediment. Loss of soil leading to land degradation through loss of soil seedbank and soil nutrients for plant growth and regeneration potential. Minor change to site land formation altering drainage patterns and facilitation erosion. ***Upon completion of works*** Exposed areas not being stabilised resulting in erosion and sedimentation (see ***during works***). Conditions similar to that which existed prior to the works would persist. No impacts exceeding those impacts which would have existed prior to the works commencing would occur. **Operation and maintenance** Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.	*Potentially Significant: Erosion disturbance and release of sediment that will leave the site and cause pollution to downstream sensitive environments and Key Fish Habitat.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Erosion disturbance and release of sediment but contained within the site.**

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		catchment, caused by agricultural activities and historically modified hydrology causing erosion and sedimentation and channelization of Notts Creek.				
	Acid Sulphate Soils ***Not Applicable***	Reference to the NSW Office of Environment and Heritage's online database 'ESPADE' indicates that the site lies in an area of no known occurrence of acid sulfate soils (Hunter Civilab, 2021, see Attachment 13)	***Prior to works commencing*** There will be no ground disturbance or ground disturbance will not extend to a depth or be of a volume where acid sulfate soils will be exposed and have the potential to cause environmental harm during site investigation works. ***During works*** There will be no ground disturbance or ground disturbance will not extend to a depth or be of a volume where acid sulfate soils will be exposed and have the potential to cause environmental harm. ***Upon completion of works*** Conditions similar to that which existed prior to the works would persist. No impacts exceeding those impacts which would have existed prior to the works commencing would occur. ***Operation and maintenance*** Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.	*Negligible: No Acid Sulphate Soils likely to be disturbed.*	See Environmental Mitigation Measures in Attachment 2.	**Negligible: No Acid Sulphate Soils likely to be disturbed.**
	Contamination ***Applicable***	A search of the NSW State Contaminated Lands register identified that there are no registered contaminated lands sites onsite, adjacent, or within 200m of the site. There is a risk past land uses including imported fill for prior road construction, use of pesticides, herbicides and/ or fertilisers etc may have caused minor localised contamination. The risk of gross contamination from off-site land uses is low.	***Prior to works commencing*** There will be limited ground disturbance e.g. during the pavement investigations, and contaminated lands are unlikely to be disturbed or encountered. Due to previous land use types and previous land uses there is a possibility of contamination however the environmental risk is considered to be low. ***During works*** Due to previous land use types and previous land uses there is a possibility of contamination however the environmental risk is considered to be low. Potential leaching of chemicals onsite from construction activities (e.g. leaks from vehicles, plant and equipment) potentially contributing to localised small scale groundwater contamination. ***Upon completion of works*** Conditions similar to that which existed prior to the works would persist. No impacts exceeding those impacts which would have existed prior to the works commencing would occur. ***Operation and maintenance***	*Moderate: Contamination is known within the site which has the potential to be disturbed: or contaminants are used and have the potential to be released.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Contamination is known within the site but won't be disturbed: or contaminants are used but will not be released.**

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			Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.			
FLORA & FAUNA	**Native Fauna (Animals)** ***Applicable***	The site is an existing road environment with a timber bridge constructed over a 3rd order watercourse which is fringed by a narrow strip of remnant vegetation with degraded understorey vegetation (Umwelt, 2021, see Attachment 10). Remnant vegetation occurs along the creek upstream and there is a large stand of remnant vegetation on the property downstream of the bridge (Umwelt, 2021, see Attachment 10). Whilst the road reserve immediately south of the bridge is clear there are stands of remnant vegetation on private properties to the north and south of the site that would provide connectivity to Columbey National Park to the north east and west of the site (Umwelt, 2021, see Attachment 10). Umwelt (2021, see Attachment 10) conducted a site visit on 25 August 2021 and 31 August 2021 to conduct daytime and nocturnal surveys. The survey also included a qualitative assessment of aquatic habitat on 25 August 2021 to inform the waterway classification and sensitivity in accordance with the *NSW Fisheries Policy and guidelines for fish habitat conservation and management (2013 update)*. Features conducive to native and threatened species onsite included	***Prior to works commencing*** Due to the minor scale of the site investigation works e.g. site survey and geotechnical investigations; the site investigation works are unlikely to have a significant impact on native fauna and/ or their habitats. Vehicle, plant or equipment movements causing damage to native fauna habitat. Dust/ sediment deposition from site investigation works on adjacent vegetation or into waterways leading to loss of plant viability and/ or weed infestation. **During works** Accidental harm to native fauna on or near the site. Tree pruning will occur which has the potential to decrease the viability of the tree and potential habitat or food source it provides. Native habitat will be cleared/ disturbed which may increase impacts of edge effects and reduce the availability of habitat onsite. Native habitat will be cleared within a habitat corridor disrupting minor connectivity. No koala feed trees or habitat trees are identified for removal. Dust/ sediment deposition on adjacent vegetation or into waterways leading to loss of plant viability and/ or weed infestation. Unauthorized vehicle or plant movements or storage of equipment and materials or rubbish dumping causing damage to, or destruction of native fauna habitat. Contamination of soils from uncontrolled releases or inappropriate storage or use of chemicals or fuels. Potential impacts of noise and vibration which may disrupt the roosting or breeding of or have other impacts on native fauna. Assessments of Significance were conducted in accordance with the *NSW Biodiversity Conservation Act 2016* and Significant Impact Assessments were conducted in accordance with the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* for all species with a high or moderate likelihood of occurrence or known occurrence onsite. The Assessments of Significance and Significant Impact Assessments concluded that a significant impact was unlikely to occur as a result of the works. See Attachment 9. An assessment in accordance with the performance criteria of the Port Stephens Comprehensive Plan of Management was conducted and no significant impacts to the koala are likely. See Attachment 8.	*Moderate: Native fauna and/or its habitat on-site which will be impacted.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Native fauna and/or its habitat will have minor impacts in accordance with specialist advice and/or a licence.**

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		nectar and fruit resources and perch sites, winter flowering eucalypt species, good proximity to water, evidence of fauna occupation (woodland birds, arboreal mammals and frogs), evidence of seedling recruitment including juvenile *Acacia spp* and *Casuarina spp* and presence of sap trees (*Euclayptus tereticornis)* for glider species (Umwelt, 2021, see Attachment 10). The site is in moderate condition with a moderate level of disturbance, with evidence of dogs being onsite and stock observed on adjacent lands, litter, road scour and signs of erosion (Umwelt, 2021, see Attachment 10). No threatened fauna were recorded during the site survey, however, 4 threatened species were recorded within 200m of the site as part of the Clarence Town Road Segment 270 surveys including Koala, Little Bent-winged Bat, Eastern (Large) Bent-winged Bat and Yellow-bellied Sheathtailed Bat (Umwelt, 2021, see Attachment 10). Suitable roosting habitat for microbats is present within the bridge structure at Notts Creek (Umwelt, 2021, see Attachment 10). On 21 and 22 July 2021, Umwelt (2021, see Attachment 11) undertook a microbat habitat assessment. The study was conducted in winter when bats regularly hibernate and would likely not have emerged from their roosts, however, a detailed visual inspection to identify presence/ absence of roost features within the bridge structure was undertaken, dusk watch, ultrasonic bat calling	***Upon completion of works*** See ***During Works*** ***Operation and maintenance*** Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.			

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		and incidental observations and recording of any secondary indicators e.g. guano were undertaken (Umwelt, 2021, see Attachment 11). Umwelt (2021, see Attachment 11) found no secondary indications of microbats such as guano accumulation, bat bugs, areas showing signs of previous usage or feeding. Attributes considered conducive to microbats selecting the site as a roost were present, however, the most suitable areas within the bridge structure were susceptible to predators and complete inundation (Umwelt, 2021, see Attachment 11). Umwelt (2021, see Attachment 11) identified that the vegetated corridor of Notts Creek is likely to be utilised as an aerial foraging habitat for most microbat species and aquatic foraging habitat for the Southern Myotis. From the Flora and Fauna Survey (Umwelt, 2021, see Attachment 10) the following microbat species were identified as having potential habitat onsite: • Large-eared Pied Bat • Eastern False Pipistrelle • Eastern Free-tailed Bat • Little Bent-winged Bat • Eastern (Large) Bent-winged Bat • Southern Myotis • Yellow-bellied Sheathtail Bat The targeted microbat survey focused on a habitat assessment for the following species: • Eastern False Pipistrelle. • Eastern Free-tailed Bat.				

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		• Little Bent-winged Bat. • Eastern Bent-winged Bat. • Southern Myotis. • Greater Broad-nosed Bat. • The Eastern Cave Bat was also considered due to calls being heard from the *Vespadelus* group which could not be distinguished to species level. The impact assessments in accordance with the *NSW Biodiversity Conservation Act 2016* and *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* consider all microbat species listed above as having potential to occur onsite. Umwelt (2021, see Attachment 11) recommended additional surveys. Preclearance surveys will be conducted prior to bridge removal and conducted in Spring/ start of October, within the preferred survey period for the majority of microbat species with potential habitat onsite. A diurnal inspection of the bridge with torch and inspection camera will be undertaken and dusk watch of the bridge entry points. The two species where surveys are outside the preferred survey period include Little-Bent winged Bat and Eastern (Large) Bent-winged Bat. These two species of bat have a preferred survey period of December to March. Both species would be forming populations at maternity sites/ caves. The site does not represent breeding habitat for either species. The recommended method of survey for these species is				

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		harp trap at the exits of caves, mines or tunnels identified as survey habitat. There is no suitable maternity site/ caves habitat onsite or within the locality. Biodiversity Values Map lands are mapped within 200m of the site. The Comprehensive Koala Plan of Management mapping identifies the site as containing Mainly Cleared Land however, the surrounding bushland contains Preferred Habitat Buffer over Cleared Land, Marginal, Preferred Habitat Buffer over Marginal, Preferred Koala Habitat Link over Cleared Land and Preferred Koala Habitat. The site and surrounding lands are mapped as having fauna corridor connectivity including Local link and Landscape Habitat Link.				
	Native Flora (Vegetation including trees) ***Applicable***	The site is an existing road environment with a timber bridge constructed over a 3rd order watercourse which is fringed by a narrow strip of remnant vegetation with degraded understorey vegetation (Umwelt, 2021, see Attachment 10). Remnant vegetation occurs along the creek upstream and there is a large stand of remnant vegetation on the property downstream of the bridge (Umwelt, 2021, see Attachment 10). Whilst the road reserve immediately south of the bridge is clear there are stands of remnant vegetation on private properties to the north and south of the site that would provide	***Prior to works commencing*** The site investigation works are unlikely to have a significant impact on native flora. Vehicle, plant or equipment movements causing damage to native flora. Dust/ sediment deposition from site investigation works on adjacent vegetation or into waterways leading to loss of plant viability and/ or weed infestation. ***During works*** The works are unlikely to have a significant impact on native flora. Accidental harm to native flora on or near the site. Tree pruning will occur which has the potential to decrease the viability of the tree. Native vegetation will be cleared/ disturbed which may increase impacts of edge effects and reduce the availability of habitat onsite. Native habitat will be cleared within a habitat corridor disrupting minor connectivity. Dust/ sediment deposition on adjacent vegetation or into waterways leading to loss of plant viability and/ or weed infestation.	*Moderate: Native flora and/or its habitat on-site which will be impacted.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Selected individuals of native flora will be harmed in accordance with an approval and specialist advice.**

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		connectivity to Columbey National Park to the north east and west of the site (Umwelt, 2021, see Attachment 10). Umwelt (2021, see Attachment 10) undertook a rapid data point survey and vegetation assessment on 25 August 2021 and identified PCT 1714 River Oak – White Cedar Grassy Riparian Forest of the Dungog Area and Liverpool Ranges which is listed as River-Flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions, an endangered ecological community under the *NSW Biodiversity Conservation Act 2016* and River-Flat Eucalypt Forest on Coastal Floodplains of Southern NSW and Eastern Victoria, an endangered ecological community under *Commonwealth Environment Protection and Biodiversity Conservation Act 1999*. Umwelt (2021, see Attachment 10) identified 22 flora species onsite with 23% being exotic species. Biodiversity Values Map lands are mapped as occurring within 200m of the site.	Unauthorized vehicle or plant movements or storage or equipment and materials or rubbish dumping causing damage to or destruction of native flora. Contamination of soils from uncontrolled releases or inappropriate storage or use of chemicals or fuels. Increased soil erosion and sedimentation resulting in inability of area to regenerate. Assessments of Significance were conducted in accordance with the *NSW Biodiversity Conservation Act 2016* and Significant Impact Assessments were conducted in accordance with *the Commonwealth Environment Protection and Biodiversity Conservation Act 1999* for all species with a known, high or moderate likelihood of occurrence. The Assessments of Significance and Significant Impact Assessments concluded that a significant impact was unlikely to occur as a result of the works. See Attachment 9. ***Upon completion of works*** See ***During Works*** Conditions similar to that which existed prior to the works would persist. No impacts exceeding those impacts which would have existed prior to the works commencing would occur. ***Operation and maintenance*** Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.			
	Aquatic Flora & Fauna ***Applicable***	See Existing Environment for WATER – Waterbodies & Stormwater and FLORA & FAUNA – Native Fauna (Animals) & Native Flora (Vegetation). Notts Creek is a third order watercourse with a defined channel and riparian vegetation, it has been modified at the bridge structure with	See Impacts for SOIL, WATER, WASTE AND HAZARDOUS MATERIALS.	*Potentially Significant: Aquatic flora and fauna are known within the locality and will be impacted.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Aquatic flora and fauna are known within the locality but won't be impacted.**

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		a concrete structure forming the bed of the watercourse. This structure presents a potential blockage to free fish passage (Umwelt, 2021, see Attachment 10). Upstream the creek has a narrow defined channel, less than one metre width, with minimal water depth and narrow band of regenerating riparian vegetation and no instream vegetation in the creek in the immediate environs of the bridge (Umwelt, 2021, see Attachment 10). Downstream of the bridge, Notts Creek has a cleared defined bank with semi-permanent to permanent waters with a permanent pool and stags instream, however, no instream native aquatic plants were observed (Umwelt, 2021, see Attachment 10). Umwelt (2021, see Attachment 10) concluded that upstream of Oakendale Road, Notts Creek was considered to provide Class 3 habitat and downstream Class 2 moderate key fish habitat as defined by the NSW Fisheries Policies and Guidelines. Notts Creek bridge is also located 700m upstream of the confluence with Tumbledown Creek which is predicted to provide habitat for the Purple Spotted Gudgeon which is listed as threatened under the *NSW Fisheries Management Act 1994* AN Notts Creek downstream of Oakendale Road may provide habitat for this species (Umwelt, 2021, see Attachment 10).				
	Threatened Species & Endangered Ecological Communities	See Existing Environment for FLORA & FAUNA – Native Fauna (Animals), FLORA & FAUNA – Native Flora (Vegetation) and FLORA & FAUNA – Aquatic Flora & Fauna.	See Impacts for FLORA & FAUNA – Native Fauna (Animals), FLORA & FAUNA - Native Flora (Vegetation) and FLORA & FAUNA - Aquatic Flora & Fauna.	*Moderate: Species, populations or communities are known within the locality and will be impacted.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Species, populations or communities are known within the locality but won't be impacted.**

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	Applicable					
	Sensitive Areas ***Applicable***	See Existing Environment for WATER – Waterbodies and FLORA & FAUNA – Native Fauna (Animals) & Native Flora (Vegetation).	See Impacts for ALL.	*Potentially Significant: Sensitive areas are known within the locality and will be impacted.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Sensitive areas are known within the locality but won't be impacted.**
	Priority Weeds, Feral Animals and Pathogens (Biosecurity) ***Applicable***	Priority Weeds are mapped onsite and within 200m of the site including African Olive and Mother of Millions. Umwelt when undertaking their site visits in August 2021 (see Attachment 10) identified the presence of Lantana, Purpletop, Lamb's Tongue, Crofton Weed and Blackberry. A referral was sent to Council's Invasive Species Officer who inspected the site on 15 August 2023. The Invasive Species Officer found an unmapped site of Crofton Weed onsite. The advice of the Invasive Species Officer has been incorporated into the environmental mitigation measures (see Attachment 7 QF-ENV-DRAFT- EA Invasive Species Referral). The site is disturbed and likely to be frequented by pest species such as feral dogs, feral cats, feral deer, foxes, feral goats, feral pigs, mice, pest birds and rabbits.	***Prior to works commencing*** Spread of weeds impacting native vegetation and habitats through poor hygiene practices. A referral was sent to Council's Invasive Species Officer who inspected the site on 15 August 2023 (See Attachment 7). An unmapped site of Crofton Weed was located on the proposed site. This will be treated by Biosecurity Officers prior to the commencement of works. ***During works*** Spread of weeds impacting native vegetation and habitats through poor hygiene practices. ***Upon completion of works*** See ***During works*** Conditions similar to that which existed prior to the works would persist. No impacts exceeding those impacts which would have existed prior to the works commencing would occur. ***Operation and maintenance*** Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.	*Potentially Significant: Noxious weeds, feral animals and pathogens are known within the locality and will be aggravated by the activity.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Noxious weeds, feral animals and pathogens are known within the locality and controlled in accordance with a permit or order.**
HERITAGE	**Aboriginal** ***Applicable***	Eco Logical Australia (2021) completed a Due Diligence Assessment (see Attachment 12). Eco Logical Australia (2021) found: • No previously identified Aboriginal site within the search parameters and only a	***Prior to works commencing*** The site investigation works are occurring in a previously highly disturbed area and will not extend beyond the previously disturbed areas of the site. The site investigation works are unlikely to harm Aboriginal artefacts ***During works*** The works are occurring in a previously highly disturbed area and will not extend beyond the previously disturbed areas of the site. The works are	*Minor: Aboriginal artefact, object or places are likely to occur within the locality but won't be impacted.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Aboriginal artefact, object or places are likely to occur within the locality but won't be impacted.**

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		few studies or investigations had been conducted within the locality. • A site inspection conducted on 8 July 2020 determined that the area of the works had been significantly disturbed making it unlikely that Aboriginal archaeological sites were present. • The redevelopment of Notts Creek bridge and the construction of a temporary vehicle crossing will disturb the ground surface and will not impact on culturally modified trees. • The study area was located in a location where landscape features indicated the presence of Aboriginal objects (waterway of Notts Creek). • That Aboriginal objects were unlikely to be present in the area and the proposed works will not impact sites and objects. As such no further assessment and mitigation measures will be required to ensure no harm will occur.	unlikely to harm Aboriginal artefacts. Works may potentially cause harm to unexpected finds. ***Upon completion of works*** See ***During Works*** Conditions similar to that which existed prior to the works would persist. No impacts exceeding those impacts which would have existed prior to the works commencing would occur. **Operation and maintenance** Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.			
	Non-Indigenous ***Applicable***	Eco Logical Australia (2021, see Attachment 12) conducted searches of the Australian Heritage Database, State Heritage Register and Port Stephens Council Local Environment Plan 2013 using the terms 'Notts Creek Bridge' and 'Oakendale Road' to determine if any places of archeological significance are located within the study area. Eco Logical Australia (2021) No archeological sites or heritage items	**Prior to works commencing** There is no non-Indigenous heritage item onsite and site investigation works will not impact a heritage item. The site investigation works are occurring in a previously highly disturbed area and will not extend beyond the previously disturbed areas of the site. The site investigation works are unlikely to harm non-Indigenous heritage. **During works** There is no non-Indigenous heritage item onsite and works will not impact a heritage item. The works are occurring in a previously highly disturbed area and will not extend beyond the previously disturbed areas of the site. The works are unlikely to harm non-Indigenous heritage. ***Upon completion of works*** See ***During Works***	*Negligible: Non-Indigenous heritage items are not known within the locality.*	See Environmental Mitigation Measures in Attachment 2.	**Negligible: Non-Indigenous heritage items are not known within the locality.**

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		were recorded on these databases within the area of the works. An updated search of the Australian Heritage Database, State Heritage Register and Port Stephens Council Local Environment Plan 2013 was conducted in 2023 which revealed no non-indigenous heritage items onsite or within 200m of the site.	Conditions similar to that which existed prior to the works would persist. No impacts exceeding those impacts which would have existed prior to the works commencing would occur. **Operation and maintenance** Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.			
SOCIAL	**Amenity & Community Disturbance** ***Applicable***	The site and surrounding land consist of: • Roads. • Rural residential development. • Agricultural grazing lands. • Bushland. There are sensitive receivers within 50m of the works including rural residential properties (with 1 property within 100m and a further 5 properties within 200m) and agricultural lands and surrounding environment including bushland, Notts Creek and Tumbledown Creek which are identified as Key Fish Habitat. There are no active community groups/ businesses at the site.	See Impacts for AIR, NOISE and VIBRATION and SOCIAL (Public Access & Safety and Traffic).	*Moderate: Amenity and/or the community will be disturbed during works and requires specific management.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Amenity and/or the community will be disturbed during works but is managed in accordance with standard operating procedures.**
	Public Access & Safety ***Applicable***	There is currently public access permitted through the site. The site is a rural roadside environment and therefore pedestrian access is likely to be infrequent. There is no community events planned within the locality of the site during the works period. Specific notification was/ will be provided to residents, businesses,	See Impacts for SOCIAL – Traffic and Land Use ***Prior to works commencing*** The site investigation works pose a public safety threat. ***During works*** The works pose a public safety threat with heavy machinery and vehicle movements on site. ***Upon completion of works*** The operation of the site does not pose a public safety threat except during any future maintenance works. ***Operation and maintenance*** Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such	*Moderate: Public access and safety will be disturbed during works and requires specific management.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Public access and safety will be disturbed during works but is managed in accordance with standard operating procedures.**

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		National Parks (access to National Park along Oakendale Road), waste services, emergency services and utilities.	as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.			
	Traffic ***Applicable***	The site is located on Oakendale Road which is an Access Street. The site would be used by residents, businesses, National Parks (access), waste services, emergency services and utilities. Existing traffic infrastructure onsite includes safety barriers, road signage and road line marking.	***Prior to works commencing*** Traffic access through the site would be restricted to facilitate site investigation works in particular site survey and geotechnical investigations. ***During works*** Traffic access through the site would be restricted to facilitate the works with one way traffic flow permitted over a constructed temporary causeway for the duration of the works under the guidance of traffic control/traffic lights. ***Upon completion of works*** Traffic access through the site would be restored and conditions similar to that which existed prior to the works would persist. No impacts exceeding those impacts which would have existed prior to the works commencing would occur ***Operation and maintenance*** Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.	*Moderate: Traffic is impacted during works and requires specific treatment and management.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Traffic is impacted during works but is managed in accordance with a Traffic Management Plan where required.**
	Aesthetics (visual) ***Applicable***	The site and surrounding land consists of: • Roads. • Rural residential development. • Agricultural grazing lands. • Bushland. There are sensitive receivers within 50m of the works including rural residential properties (with 1 property within 100m and a further 5 properties within 200m) and agricultural lands and surrounding environment including bushland, Notts Creek and Tumbledown Creek which are identified as Key Fish Habitat.	***Prior to works commencing*** Visual impacts of waste onsite from potential illegal dumping or littering from vehicles. Visual impacts of water pollution for rural land management practices. ***During works*** Visual impacts of waste onsite. Visual impacts of water pollution. Visual interruption of views and amenity. Visual impacts of dust emissions. ***Upon completion of works*** See ***During works*** Conditions similar to that which existed prior to the works would persist. No impacts exceeding those impacts which would have existed prior to the works commencing would occur. ***Operation and maintenance*** Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.	*Moderate: Impacts during works which could cause complaints.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Minor impact during works with complaints unlikely.**

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	Land Use ***Applicable***	The site and surrounding land consist of: • Roads. • Rural residential development. • Agricultural grazing lands. • Bushland. There are sensitive receivers within 50m of the works including rural residential properties (with 1 property within 100m and a further 5 properties within 200m) and agricultural lands and surrounding environment including bushland, Notts Creek and Tumbledown Creek which are identified as Key Fish Habitat. The site is located on Oakendale Road which is an Access Street. The site would be used by residents, businesses, National Parks (access), waste services, emergency services and utilities. Existing traffic infrastructure onsite includes safety barriers, road signage and road line marking. Existing traffic infrastructure onsite includes Notts Creek Bridge.	See Impacts for SOCIAL – Traffic ***Prior to works commencing*** Access through the site will be restricted to facilitate site investigation works in particular site survey and geotechnical investigations. **During works** Access through the site will be restricted to facilitate the works. Works will temporarily alter the existing land use through restriction of access or use of the site. ***Upon completion of works*** See ***During works*** Conditions similar to that which existed prior to the works would persist. No impacts exceeding those impacts which would have existed prior to the works commencing would occur. Change of land use to (specify): ***Operation and maintenance*** Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.	*Minor: Change to existing land use which will not impact future uses.*	See Environmental Mitigation Measures in Attachment 2.	**Negligible: Improvements / maintenance of existing land use.**
	Asset Maintenance ***Applicability***	Existing maintenance activities include maintenance activities such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching.	***Prior to works commencing*** The existing infrastructure is already maintained by Council. ***During works*** No maintenance works required due to works. ***Upon completion of works*** The existing infrastructure will be maintained by Council as per prior to works occurring. The works will likely reduce the frequency and duration and reduce the risk of impacts of maintenance works due to improved asset condition. ***Operation and maintenance***	*Negligible: Asset maintenance will require existing Council resources.*	See Environmental Mitigation Measures in Attachment 2.	**Negligible: Asset maintenance will require existing Council resources.**

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			Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.			
WASTE	**Waste** ***Applicable***	The site has limited waste present. Any existing waste is likely to be illegally dumped or from littering.	See Impacts for AIR (Dust and Odour) ***Prior to works commencing*** General waste and littering resulting in environmental damage and harm. Illegal dumping resulting in environmental damage and harm. ***During works*** Illegal dumping resulting in environmental damage and harm. Littering and inappropriate disposal of waste by personnel onsite resulting in environmental damage and harm. Environmental footprint and/ or inappropriate disposal of construction waste. Environmental footprint and/ or inappropriate disposal of sewage onsite. ***Upon completion of works*** Waste left behind from construction such as erosion and sediment fencing or exclusion fencing, tree tags, litter etc. resulting in environmental damage and harm. The works will increase the waste generation of the site increasing the potential for environmental harm due to inappropriate disposal and environmental footprint for disposal and/ or recycling. Conditions similar to that which existed prior to the works would persist. No impacts or additional waste generation exceeding those impacts which would have existed prior to the works commencing would occur. ***Operation and maintenance*** Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.	*Moderate: Waste generated may require EPA Licence or specific treatment and management.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Waste generated but is managed in accordance with a Licence or Waste Management Plan where required.**
	Stockpiles ***Applicable***	There are currently no stockpiles present onsite.	See Impacts for AIR (Dust and Odour) and BIODIVERSITY (Flora) ***Prior to works commencing*** Illegal dumping resulting in environmental damage and harm. ***During works*** General waste and littering. Illegal dumping resulting in environmental damage and harm. Environmental footprint and/ or inappropriate disposal of construction waste. ***Upon completion of works*** Waste left behind from construction such as spoil resulting in environmental damage and harm.	*Minor: Temporary stockpiling required.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Temporary stockpiling required.**

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			Conditions similar to that which existed prior to the works would persist. No impacts or additional waste generation exceeding those impacts which would have existed prior to the works commencing would occur. ***Operation and maintenance*** Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.			
HAZARDOUS MATERIALS	**Hazardous & Dangerous Goods** ***Applicable***	There are currently no hazardous and dangerous goods stored onsite. Some hazardous and dangerous goods may be used in operation and maintenance activities and on surrounding lands as part of agricultural activities.	See WATER (Stormwater) and SOIL (Contamination). ***Prior to works commencing*** Hazardous and/ or dangerous goods will be used during site investigation works which have the potential to cause environmental harm. ***During works*** Hazardous and/ or dangerous good will be used during works which have the potential to cause environmental harm. Poor storage, use and management of hazardous materials leading to leakages of substances causing soil contamination, groundwater contamination and contamination of stormwater and waterbodies. ***Upon completion of works*** Incomplete site cleanup leaving hazardous materials onsite with the potential to leak and cause soil contamination, groundwater contamination or contamination of stormwater and waterbodies. Conditions similar to that which existed prior to the works would persist. No impacts exceeding those impacts which would have existed prior to the works commencing would occur. ***Operation and maintenance*** Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.	*Moderate: Hazardous and dangerous goods are present or used and could pose a threat to environmental pollution and human health.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Hazardous and dangerous goods are present or used but are managed in accordance with a Licence / standard operating procedures and are unlikely to pose a threat to environmental pollution and human health.**
	Asbestos ***Not Applicable***	The Port Stephens Council asbestos register was checked and no sites within the construction footprint are identified. There are no buildings built prior to 1990 which exist on site or that require demolishing.	***Prior to works commencing*** Asbestos is not known on site and due to the nature of the site investigation works and/ or locality asbestos is unlikely to be disturbed. ***During works*** Asbestos is not known on site and due to the nature of the works and/ or locality asbestos is unlikely to be disturbed. ***Prior to the commencement of works*** Conditions similar to that which existed prior to the works would persist. No impacts exceeding those impacts which would have existed prior to the works commencing would occur. ***Operation and maintenance***	*Negligible: No disturbance of asbestos or less than 10 square meters of non-friable asbestos to be removed.*	See Environmental Mitigation Measures in Attachment 2.	**Negligible: No disturbance of asbestos or less than 10 square meters of non-friable asbestos to be removed.**

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			Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.			
	Chemicals ***Applicable***	There are currently no chemicals stored onsite. Some chemicals may be used in maintenance activities. There would also be chemical usage on the surrounding lands.	See Impacts for WATER (Stormwater) and HAZARDOUS MATERIALS (Hazardous and Dangerous Goods).	*Moderate: Chemicals are used and could pose a threat to environmental pollution and human health.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Chemicals used but are managed in accordance with a Licence / standard operating procedures and are unlikely to pose a threat to environmental pollution and human health.**
NATURAL HAZARDS	**Bushfire** ***Applicable***	The site is bushfire prone.	***Prior to works commencing*** The work site and surrounding lands are bushfire prone and have the potential to cause harm to human health and the environment during site investigation works. ***During works*** The work site and surrounding lands are bushfire prone and have the potential to cause harm to human health and the environment. ***Upon completion of works*** The works would not increase the bushfire affectation of the site. Conditions similar to that which existed prior to the works would persist. No impacts exceeding those impacts which would have existed prior to the works commencing would occur. ***Operation and Maintenance*** Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.	*Moderate: Bushfire risk is High to Extreme and requires specific treatment and management.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Bushfire risk is High to Extreme but can be managed in accordance with existing plans and procedures.**
	Flooding ***Applicable***	The site is flood prone.	***Prior to works commencing*** The work site and surrounding lands are flood prone and have the potential to cause harm to human health and the environment during site investigation works. ***During works*** The work site and surrounding lands are flood prone and have the potential to cause harm to human health and the environment. ***Upon completion of works***	*Moderate: Location is mapped as Flood Prone Land and the activity/asset may contribute to or be affected by flooding.*	See Environmental Mitigation Measures in Attachment 2.	**Moderate: Location is mapped as Flood Prone Land and the activity/asset may contribute to or be affected by flooding.**

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			The works would not increase the flood affectation of the site. Conditions similar to that which existed prior to the works would persist. No impacts exceeding those impacts which would have existed prior to the works commencing would occur. ***Operation and maintenance*** Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.			
	Coastal Processes ***Applicable***	The site is not subject to coastal processes. The site is not mapped within Coastal Wetlands, Coastal Wetlands Proximity Area, Littoral Rainforest, Littoral Rainforest Proximity Area, Coastal Environment Area or Coastal Use Area. The site drains to a Coastal Wetland, Hunter River Estuary approximately 20-30km downstream.	See WATER (Stormwater), SOIL (Erosion and Sedimentation, Contamination and Acid Sulfate Soils), FLORA AND FAUNA (Native Fauna and Native Flora), WASTE (Waste and Stockpiles) and HAZARDOUS MATERIALS (Hazardous and Dangerous Goods and Chemicals) ***Prior to works commencing*** The work site and surrounding lands are not subject to coastal processes and coastal processes are therefore unlikely to cause harm to human health and the environment during site investigation works. The site drains to a Coastal Wetland, Hunter River Estuary approximately 20-30km downstream, however, due to the limited scope of the site investigation activities and distance downstream, impacts are unlikely. **During works** The work site and surrounding lands are not subject to coastal processes and coastal processes are therefore unlikely to cause harm to human health and the environment during works. The site drains to a Coastal Wetland, Hunter River Estuary approximately 20-30km downstream, however, due to the limited scope of works and distance downstream, impacts are unlikely. ***Upon completion of works*** The works will not increase the risks of coastal hazards. Conditions similar to that which existed prior to the works would persist. No impacts exceeding those impacts which would have existed prior to the works commencing would occur. ***Operation and maintenance*** Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.	*Moderate: Location is mapped in Proximity Area to Coastal Wetland and the activity/asset may contribute to degradation of the Coastal Wetland.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Location is mapped in Proximity Area to Coastal Wetland and the activity/asset is unlikely to contribute to degradation of the Coastal Wetland.**
	Extreme Weather Events ***Applicable***	Min Mean Temp (ºC): 12 Max Mean Temp (ºC): 27.4 Max High Temp (ºC): 43.7 Min Low night Temp (ºC): 14.1	***Prior to works commencing*** The work site and surrounding lands are prone to extreme weather events which have the potential to cause harm to human health and the environment during site investigation works.	*Minor: The activity/asset could be affected by extreme weather*	See Environmental Mitigation	**Negligible: The activity/asset could be affected by extreme weather**

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		Mean rainfall (mm): 77.6-82 Mean Rain Days: 10.9-11.7 High Rainfall (mm): 166.8 The site is prone to extreme weather events.	***During works*** The work site and surrounding lands are prone to extreme weather events which have the potential to cause harm to human health and the environment during works. ***Upon completion of works*** The works would not increase the affectation of the site to extreme weather events. Conditions similar to that which existed prior to the works would persist. No impacts exceeding those impacts which would have existed prior to the works commencing would occur. ***Operation and maintenance*** Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.	*events and requires specific treatment and management.*	Measures in Attachment 2.	**events but is managed in accordance with plans and procedures.**
ENVIRONMENTAL SUSTAINABILITY	**Natural Resources** ***Applicable***	There would be minimal natural resources used onsite including small amounts of raw materials, energy and water usage associated with road maintenance activities.	***Prior to works commencing*** The use, wastage, and destruction of natural resources through the use of minimal quantities of fuel and other resources during site investigation works. **During works** The use, wastage, and destruction of natural resources through the use of minimal quantities of fuel and other resources during works. Increased water usage will be required for use in the water cart. Materials will be used such as excavated public road material, concrete and rock etc. ***Upon completion of works*** No or limited demand on natural resources. Conditions similar to that which existed prior to the works would persist. No impacts exceeding those impacts which would have existed prior to the works commencing would occur. ***Operation and maintenance*** Future Operation and Maintenance Impacts would be covered by the EA for road and roadside maintenance. Any operation and maintenance works such as site inspections, rubbish removal and removal of illegally dumped items and heavy or minor patching would have similar impacts to the capital works just on a lesser scale.	*Moderate: The activity or development will commit to natural resource consumption with sustainable alternatives not investigated.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: The activity or development will commit to natural resource consumption with sustainable alternatives investigated and implemented.**
	Ecological Sustainability ***Applicable***	See Existing Environment for AIR, NOISE, WATER, SOIL, BIODIVERSITY, HERITAGE, SOCIAL, WASTE AND HAZARDOUS MATERIALS.	See Impacts for AIR, NOISE, WATER, SOIL, BIODIVERSITY, HERITAGE, SOCIAL, WASTE AND HAZARDOUS MATERIALS.	*Minor: The activity will temporarily disrupt the ecological processes at the site.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: The activity will temporarily disrupt the ecological processes at the site.**

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ONGOING EFFECT	**Cumulative, Accumulative, Degrading** ***Applicable***	There are maintenance works that occur regularly however no other works have been recently undertaken or proposed.	It is unlikely that there will be any significant cumulative impacts as a result of carrying out of the proposed activity/ the activity will be short in duration and impacts restricted to the construction period. Once construction is complete the works will not intensify or cause the deterioration of the environment. Conditions similar to that which existed prior to the works would persist. No impacts exceeding those impacts which would have existed prior to the works commencing would occur.	*Minor: Minor cumulative / accumulative / degrading effect at the location from the activity.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Minor cumulative / accumulative / degrading effect at the location from the activity.**
	Transformative, Long-Term ***Applicable***	The activity will have a long-term transformative impact by improving road safety and access for any residents and visitors using Oakendale Road and Notts Creek Bridge. The scale of this impact is isolated to the location.	Conditions similar to that which existed prior to the works would persist. No impacts exceeding those impacts which would have existed prior to the works commencing would occur.	*Minor: Long-term or transformative impact which are isolated to the location.*	See Environmental Mitigation Measures in Attachment 2.	**Minor: Long-term or transformative impact which are isolated to the location.**

OVERALL ENVIRONMENTAL IMPACT

The highest impact outcome with controls is the overall impact of the activity.

☐ Positive ☐ Negligible ☐ Minor ☒ Moderate ☐ Potentially Significant

If all final impacts are negligible or minor, complete Section 6: Declaration and Section 7: Authorisation.

If any final impact is moderate or potentially significant, reconsider Environmental Controls (refer to the Environmental Assessment Guide – Standard Environmental Control Chapter), reconsider design, or move to a Level 3 Environmental Assessment.

	Aspect		***Impact Description***	***Justification for Level 2 Environmental Assessment***
Nominate any moderate or higher impacts:	NATURAL HAZARDS	Flooding	Location is mapped as Flood Prone Lands and the activity/asset may contribute to or be affected by flooding.	*The asset is already flood affected and will continue to be flood affected upon completion of the work. The flood affectation of the lands will not be altered by the works. There will be minor localised changes to the water flow during a rainfall event on site as a result of the works however, this will not alter the flood affectation. A Level 3 Environmental Assessment was not prepared as there will be no increase in flood impacts/ affectation to surrounding lands as a result of the works.*

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This Form is a report for the consideration and control of potential negative impacts on the environment to determine if the activity should be undertaken. It does not constitute permission to undertake works.
Refer to EMS 3.0 Environmental Assessment Procedure for appropriate delegations and training requirements for the Assessing and Authorising Officer.

SECTION 6: DECLARATION

Assessing Officer:

- I am delegated to undertake this assessment.
- I have assessed the activity in accordance with Council's EMS 3.0 Environmental Assessment Procedure and the Environmental Assessment: Level 2 Form.
- The activity has been assessed to have a minor or negligible environmental impact.

Name	Position/Title	Service Unit	Signature	Date
Natalie Nowlan	**Project Support Environmental Officer**	**Capital Works**	[redacted]	**27/09/2023**

SECTION 7: AUTHORISATION

Authorising Officer:

- I am delegated to authorise this assessment.
- The activity has been assessed in accordance with Council's EMS 3.0 Environmental Assessment Procedure and the Environmental Assessment: Level 2 Form.

Name	Position/Title	Service Unit	Signature	Date
Phil Miles	**Capital Works Section Manager**	**Capital Works**	[redacted] (A/ SECTION MANAGER)	27/9/23

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SECTION 8: APPENDICIES		
Item	**CEMP Inclusion**	
QF-ENV-DRAFT-EA Existing Environment Checklist	*Yes* ☐	*No* ☒
QF-ENV-DRAFT-EA Mitigation Measures and Environmental Controls	***Yes*** ☒	***No*** ☐
QF-ENV-DRAFT-EA Unexpected Finds Procedure	***Yes*** ☒	***No*** ☐
QF-ENV-DRAFT - EA Standard Noise Assessment	*Yes* ☐	*No* ☒
QF-ENV_DRAFT - EA Non-Standard Noise Assessment	*Yes* ☐	*No* ☒
Oakendale Road, Glen Oak 02.08.2023 - EA Invasive Species Referral (CAP WORKS) 15.08.2023	*Yes* ☐	*No* ☒
QF-ENV-DRAFT - EA CKPoM Assessment (CAP WORKS)	*Yes* ☐	*No* ☒
QF-ENV-DRAFT - EA Threatened Biodiversity Assessments (CAP WORKS)	*Yes* ☐	*No* ☒
Biodiversity Survey	*Yes* ☐	*No* ☒
Targeted Survey Microbats	*Yes* ☐	*No* ☒
Due Diligence Assessment	*Yes* ☐	*No* ☒
Pavement Investigation and Design Report	*Yes* ☐	*No* ☒
Protected Matters - MNES layers - August 23rd 2023	*Yes* ☐	*No* ☒
Design Plan W11507-01	*Yes* ☐	*No* ☒
QF-ENV-DRAFT - Preclearance Survey (CAP WORKS)	***Yes*** ☒	***No*** ☐
QF-ENV-DRAFT - Vegetation & Tree Removal (with no Habitat Trees) Report (CAP WORKS)	***Yes*** ☒	***No*** ☐
QF-ENV-DRAFT - Vegetation and Tree Removal Procedure including Tree Tagging Procedure (CAP WORKS)	***Yes*** ☒	***No*** ☐
QF-ENV-DRAFT - Tree Protection Requirements	***Yes*** ☒	***No*** ☐