ECM Reference: PJ-4633

QMS Fm 121

REVIEW OF ENVIRONMENTAL FACTORS: REF03917

CONCLUSIONS AND SIGN-OFF OF OTFORD CAUSEWAY REPAIR WORKS

This report documents the outcomes of the Review of Environmental Factors (REF) undertaken for proposed works comprising of repair/replacement causeway crossing at Otford.

The proposed activity has been assessed against the SEPP (Transport and Infrastructure) 2021, and does not require consent under Chapter 2 Division 17 Roads and traffic

As the proposed activity does not require development consent, the environmental impacts have been considered in accordance with the environmental assessment requirements of Part 5, Division 5.1 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). In accordance with the requirements of Part 5 of the EP&A Act, the factors listed in Clauses 170 and 171 of the *Environmental Planning and Assessment Regulation 2021* have been taken into account in the consideration of the likely impacts of the proposed activity on the environment.

The results of the REF indicate that the proposed activity will have no significant environmental impacts, provided the safeguards identified in this report are strictly implemented.

If the scope of works or work methods described in this report change significantly, additional environmental assessment must be undertaken by an Environment Strategy Officer.

Works are to commence, and be substantially completed, within 2 years of the REF sign off date. Any substantial works to be undertaken outside this period will require a review of the REF.

Publication Requirements:

The application did not require publication in accordance with EP&A Regulation (clause 171(4)).

The EP&A Regulation (clause 171(4)) requires the REF to be published prior to works commencing (if possible, otherwise within a month) if the activity involves:

- a capital investment value of more than $5 million or,
- an approval or permit for activity that requires approval under:
  - **FM Act sections** 144, **201, 205** or 219, or
  - Heritage Act 1977 section 57, or
  - National Parks and Wildlife Act 1974 section 90 or
  - Protection of the Environment operations Act 1997 sections 47-49 or 122, or
- if the determining authority considers it to be in the public interest.

Community Consultation was undertaken, and feedback taken into account.

REF Preparation Sign Off:

I, the undersigned, certify that I have reviewed and endorsed the contents of this REF document, and, to the best of my knowledge, it is in accordance with the EP&A Act, the EP&A Regulation and the Guidelines approved under clause 170 of the EP&A Regulation, and the information it contains is neither false nor misleading.

REF Preparation:	Maria Byrne	REF Review:	Marina Porteous
Position:	Environment Strategy Officer	Position:	Environment & Quality Coordinator
Signature:	[redacted]	Signature:	[redacted]
Date:	5 July 2023	Date:	5 July 2023

Design certifies that the Design Specification will incorporate the requirements of this REF:

Name:		Name:	
Position:	*Project Coordinator*	Position:	*Designer Coordinator/Manager*
Signature		Signature:	
Date		Date:	

Construction certifies that the project will be carried out in accordance with this REF document:

Name:		Name:	

Position:	*Council Officer responsible for Site Management*	Position:	*One up Supervisor*
Signature		Signature:	
Date		Date:	

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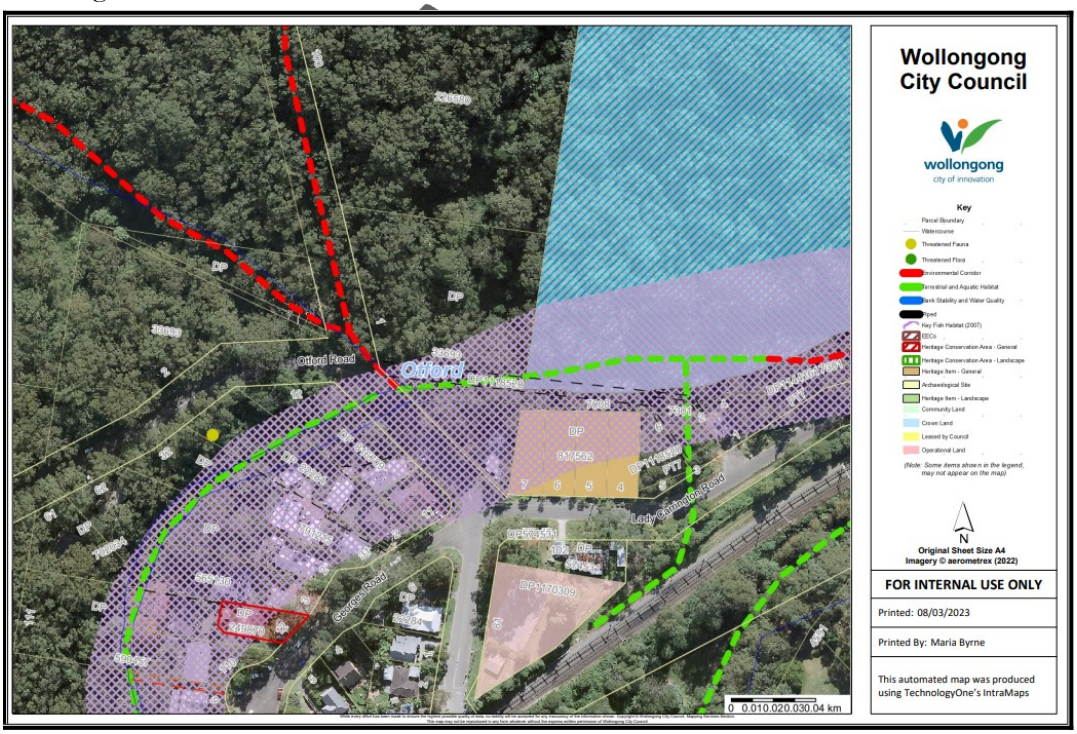
1. INTRODUCTION

As the proposed activity does not require development consent, the environmental impacts have been considered in accordance with the environmental assessment requirements of Part 5 of the EP&A Act. In accordance with the requirements of Part 5 of the EP&A Act, the factors listed in Clause 170 of the *Environmental Planning and Assessment Regulation 2021* have been taken into account in the consideration of the likely impacts of the proposed activity on the environment.

The assessment has been undertaken through impact identification and a risk management assessment. This report documents the outcomes of the assessment and identifies the environmental safeguards that must be implemented in conjunction with the proposal.

2. PROJECT DETAILS

Project Name	**Otford Causeway Repair Works**
Location	Hacking River at Otford Road Otford 
Land Ownership	Road Reserve
Land Classification	Land on which works are being undertaken is Road Reserve.
Project Description	The existing causeway has been damaged beyond repair during a flood event in February 2023. These works include replacement and repair works to re-open the causeway. Approximately 15m wide x 25m long x 1.5m deep. Depth of excavation approximately 1-1.5m. Site access will be from Otford Rd, with concrete trucks working from the road way. An excavator may need to enter the waterway to complete the works.
Proposed Start Date	2023/2024
Work Equipment & Machinery	Excavator, concrete trucks/pumps, water pumps, general hand tools, battery operated hand tools

Proposed work hours	Between 7.00 am and 6.00 pm Monday to Friday 8.00am and 1.00pm Saturday (Refer to Safeguards section in this REF)
Alternative proposals considered	The works are urgent due to the imminent bushfire season necessitating the structure be constructed quickly. Otford Road is currently closed at the causeway for vehicular crossing. Normally the causeway would provide access in a bushfire emergency and an escape route for residents. However, since the causeway was destroyed in February 2023, it has not been open to vehicular traffic. Council has undertaken to fast track the works with the intention of replacing the structure ahead of summer. The causeway structure that existed at the site spanned across the stream and acted as a physical and hydrological barrier to fish movement, thus isolating upstream and downstream habitats. Council had initially proposed to provide low level piped culverts under the main box culvert structure in an attempt to improve fish passage. On advice from NSW Fisheries that such pipes would be ineffective at providing fish passage, Council has subsequently refined the design by removing these pipes and lowering the floor of the culvert by 120mm below that of the current structure. This is approach should provide some improvement to fish passage but the proposed design will still continue to provide a permanent blockage to fish. There are a number of competing priorities at this site, which make the provision of a flooded floor culvert not feasible. Most notably, the fall risk for pedestrians using the culvert would be markedly increased if the floor was further lowered. The usual fall control measure of providing barriers is not feasible in this case because such barriers would accumulate debris and have adverse impact on flood levels immediately upstream, resulting in increased risk to life and property. The option of lowering the entire road/culvert profile was also considered but not pursued as the approach gradients are already steep and there is a documented history if traffic accidents here already. Given the geomorphology of the site and considerable flow rates during rain events, the river has and will continue to overtop the road here. Options to increase the height of the road embankment and culvert/bridge structure would need to address potential afflux due to the embankment and pedestrian and vehicle containment. Essentially, any such design would need to be located above the 1% AEP (approximately 5m higher than existing) and continue beyond the flood extent, i.e. some 95m. Such an option was not considered to provide value to the community and would cost well beyond what Council has available to fund the refurbishment project. It would also take some time to design and construct and a key objective for Council is to get Otford Rd opened again before the bushfire season commences. It is also noted that there are existing structures downstream that would appear to provide complete blockage to fish passage, such as the dam/weir off Lady Carrington Rd approximately 500m downstream. In conclusion, Council has produced a design that balances the factors and features of the site. It will continue to provide a permanent blockage to fish but the effective lowering of the base slab by 120mm is hoped to provide some level of improvement from the former arrangement.

If the scope of works or works methods described in this report change significantly following the awarding of the works contract, additional EIA must be undertaken. Any revised EIA must be approved by Council's Strategy Environment Officer.

3. ENVIRONMENTAL SAFEGUARDS

Ensure at induction that the work crew are informed of the following site-specific environmental controls and monitor controls throughout the works.

Project Manager	**Prior to construction, notification to Environment Strategy Officer of exact start date and finish date, so that an audit of works may be undertaken.**

Fisheries Permit Requirements/Response – permit at Appendix G

Given the engineering justifications, the location in the catchment, and the type of fish populations in the area, DPI Fisheries has agreed to accepting this design at this point of time. However, other as stated previously to Council a box culvert embedded into the substrate of the waterway or a bridge would have enabled complete fish passage at this location.

Please note that the attached permit providing authorisation under the Fisheries Management Act 1994, to undertake dredging and/or reclamation (s.200 or s.201), and/or harm marine vegetation (s.205) does not provide authorisation under any Act or planning instrument. It is the applicant's responsibility to ensure they have all appropriate approvals and landowner consents before the works occur. This may include, but is not restricted to, development consent under the Environmental Planning & Assessment Act, landowners' consent and/or a licence under the Crown Lands Management Act 2016, and a controlled activity approval under the Water Management Act 2000.

The permit PN23/381 was issued (and in force until 30 June 2025with the following conditions:

ADMINISTRATIVE CONDITIONS

1) The Acceptance of Conditions form (attached) must be completed and returned to ahp.central@dpi.nsw.gov.au and fisheries.compliance@dpi.nsw.gov.au before commencing any works authorised by this permit.

Reason – To remove any doubt that the Permit Holder understands and accepts the Conditions before work commences.

2) The Commence Works Notification form (attached) must be completed and sent to ahp.central@dpi.nsw.gov.au and fisheries.compliance@dpi.nsw.gov.au at least three to five (3-5) days BEFORE the commencement of works authorised by this permit.

Reason - To ensure that local DPI Fisheries staff are aware that the works authorised by this permit are about to commence.

3) The Active Works Notification form (attached) must be completed and sent to ahp.central@dpi.nsw.gov.au and fisheries.compliance@dpi.nsw.gov.au at least three to five (3-5) days BEFORE works are complete or machinery is removed from the site. Several colour photographs showing the work site and works completed to date must be included.

Reason – To provide an opportunity for local DPI Fisheries staff to inspect the site whilst machinery is still on site and available to do any remedial work that may be necessary.

4) This permit (or a true copy) must be carried by the permit holder or sub-contractor operating on-site at all times during works activity in the permit area.

Reason – DPI Fisheries staff may wish to check compliance of works with imposed conditions.

NATURE AND EXTENT OF WORKS

5) The permit holder must ensure that all works authorised by this permit are restricted to the permit area and are undertaken in a manner consistent with those described in the: permit application dated 15 June 2023; the environmental mitigation measures in the Review of Environmental Factors for this proposal (Wollongong City Council, REF03917); and the erosion and sediment control plan for these works. Other

works, which have not been described, excepting those activities required by this permit, are not to be undertaken.

Reason – This permit has been granted following an assessment of the potential impacts of the described works upon the aquatic and neighbouring environments. Other works, which were not described in the application have not been assessed and may have significant adverse impacts.

6) Prior to the commencement of construction works the engineering plans for these works are to be updated with the following amendment and submitted to DPI Fisheries for approval:

a) All references in these plans to the '2 x 450 Dia. GRP Pipes cast into the working slab below the culvert being for fish passage to be confirmed following fisheries review and approval' is to be deleted.

Reason – The proposed 2 x 450 Diameter pipes will not provide for any improved fish passage. If Council wish to include these structures in the design of this crossing then DPI Fisheries does not authorise the reason for doing so as providing for fish passage.

7) Excavated spoil is to be deposited at an appropriately according to its waste classification.

Reason – To protect the aquatic environment.

SEDIMENT AND EROSION CONTROL

8) Erosion and sediment mitigation devices are to be erected in a manner consistent with currently accepted Best Management Practice (i.e., Managing Urban Stormwater: Soils and Construction 4th Edition, Landcom, 2004) to prevent the entry of sediment into the waterway prior to any earthworks being undertaken. These are to be maintained in good working order for the duration of the culvert repair works and subsequently until the site has been stabilised and the risk of erosion and sediment movement from the site is minimal.

In particular:

a) On completion of works all disturbed soil is to be levelled and smoothed and sown with a mixture of sterile grass seeds to encourage rapid revegetation and planted out with native endemic riparian vegetation.

Reason – To ensure that sediment generated by the exposure of soil is not transported into the main water body.

DEWATERING

9) The site shall not be dewatered unless a Dewatering Management Plan is prepared and approved by the contact officer. Any Dewatering Management Plan shall specifically consider any potential off-site impacts as a result of the dewatering operations and contain mitigation controls to effectively treat any discharge water to prevent off site pollution of any receiving waters.

Reason – Dewatering poses a significant risk to aquatic animals and needs to be carefully managed.

WORK IN WATERS

10) Machinery is not to enter or work from the waterway unless in accordance with works proposed in your application for the permit and the requirements of this permit.

Reason – To ensure minimal risk of water pollution from oil or petroleum products and to minimise disturbance to the streambed substrate.

11) Prior to use at the site and / or entry into the waterway, machinery is to be appropriately cleaned, degreased, and serviced. Spill kits are to be always available on-site during works.

Reason – To reduce the threat of an unintended pollution incident impacting upon the aquatic environment.

AVOIDING HARM TO SNAGS AND RIPARIAN VEGETATION

12) When working near riparian vegetation or water land these areas need to be identified and appropriately delineated as "No Go" areas (with the aim of avoiding harm to these areas). Harm to riparian

vegetation or water land outside the work footprint approved under the authority of this permit is not permitted and any harm caused is to be documented and reported to the contact officer. Any harm caused is to be restored in accordance with directions provided by the contact officer.

Reason – To ensure that impacts on aquatic habitat and the riparian zone are minimised.

13) Material storage and stockpiling is not to be undertaken on water land, or riparian vegetation. Stockpiling must be undertaken in a manner to avoid harm to these types of vegetation or water land. Stockpiles should also be located 20 metres away from adjacent water land. Stockpiles and/or dewatering areas should be appropriately controlled by sediment fencing or other materials prescribed in the "Blue Book" to ensure sediments do not enter the waterway.

Reason – To ensure that impacts on aquatic habitats, the riparian zone and threatened

saltmarsh communities are minimised. "Degradation of native riparian vegetation along NSW water courses" (excluding estuarine and marine waters) is listed as a Key Threatening Process (KTP) under the provisions of the FM Act.

14) No snags or large woody debris from trees and shrubs are to be removed, realigned, or relocated without first obtaining the written authority of the Contact Officer.

Reason – "Removal of large woody debris from NSW rivers and streams" is listed as a KTP under the provisions of the FM Act. This approval has been granted on the basis that snags are not to be removed.

15) On completion of the works the site is to be rehabilitated and stabilised including:

a) Surplus construction materials and temporary structures (other than silt fences and other erosion and sediment control devices) installed during the course of the works are to be removed.

b) Disturbed riparian areas are the be revegetated with local provenance native species. Appropriate maintenance of erosion and sediment control devices is to be undertaken until the vegetation has successfully established and the site has stabilised.

Reason – To ensure that habitats are restored as quickly as possible, public safety is not compromised, aesthetic values are not degraded and sediment inputs into the waterway are reduced.

FISH KILL CONTINGENCY

16) A visual inspection of the waterway for dead or distressed fish (indicated by fish gasping at the water surface, fish crowding in pools or at the creek's banks) is to be undertaken daily during the works. Observations of dead or distressed fish are to be immediately reported to the Contact Officer by the Permit Holder. In such a case all works are to cease until the issue is rectified and approval is given to proceed. If requested, the Permit Holder is to commit resources to the satisfaction of the Contact Officer for an effective fish rescue, if in the view of that officer, a fish kill event is imminent and likely to occur within or adjacent to the works area due to conditions associated with weather, water quality and other parameters.

Reason – DPI Fisheries needs to be aware of fish kills so that it can assess the cause and mitigate further incidents in consultation with relevant authorities. They are also potentially contentious incidents from the public perspective. Work practices may need to be modified to reduce the impacts upon the aquatic environment.

IMPORTANT NOTE:

In the event of any inconsistency between the conditions of this approval and:

- the drawings / documents referred to above, the conditions of this approval prevail to the extent of the inconsistency.
- any Government publication referred to in this permit, the most recent document shall prevail to the extent of the inconsistency; and
- the proponent's mitigation measures outlined in the application; the conditions of this approval prevail to the extent of the inconsistency.

STOP WORK ORDERS

A Fisheries Officer or other appropriate delegate, who has reasonable cause to suspect that the conditions of this permit have not been complied with, may order the work to stop immediately. The order may be given to the permit holder or any person who informs the officer that they are acting in any capacity on behalf of the permit holder. Any damage caused to the habitat outside the specified permit area, or the carrying out of works not in accordance with the conditions specified in this permit and/or the application and that were accepted by the permit holder, could result in a breach of the Fisheries Management Act 1994 or Regulations, and penalties of up to $220,000 may apply. Orders may also be made requiring work to rectify any damage caused by unauthorised works. Breaching a condition of a permit can incur an on-the-spot penalty notice of $500 or up to $11,000 through the courts pursuant to clause 225 of the *Fisheries Management (General) Regulation 2019*.

Environmental Awareness

The proposed works have the potential to create soil erosion and sediment pollution. Prior to works commencing, erosion and sediment controls should be implemented for the duration of the works.

Soil erosion and sediment control should be undertaken in line with *Managing Urban Stormwater: Soils and construction - Volume 1, 4th edition*. These guidelines, commonly known as the 'Blue Book', provide support for councils and industry to reduce the impacts of land disturbance activities on waterways by better management of soil erosion and sediment control. These are to be maintained in good working order for the whole duration of the works, and subsequently until the site has been stabilised and the risk of sediment/materials movement from the site is minimal.

The basic principles of erosion and sediment control are summarised below:

- Assess likely soil and water implications at planning stage.
- Plan for erosion and sediment control concurrently with engineering and landscaping design.
- Install erosion and sediment control measures as a first step in the works program and maintain these in an effective condition throughout the construction phase.
- Concentrate on source controls.
- Control water flow. Divert upslope waters around works and limit slope length to 80m on disturbed lands if rainfall is expected.
- Minimise onsite traffic movements.
- Rehabilitate disturbed lands quickly.

Flora & Fauna

- Where possible site compounds will be located on previously disturbed areas away from vegetation.
- Minimal vegetation/natural habitat to be disturbed. Consider ground cover/bush regeneration sites/proposed future use of the site.
- All native birds, reptiles, amphibians and mammals, except the dingo, are protected in NSW. All hollow bearing trees are to be retained.
- If fauna is present on site and there is the need to assess animal condition, obtain advice from Wires on 1300 094 737 or call a licensed wildlife operator.

- If a trench/pit remain open overnight, check for fauna prior to commencing machinery the next morning to prevent injury.
- Check hollow logs, rock crevices and burrows within the work site to prevent injury to fauna.
- Ensure when trimming vegetation that fauna is not injured (particularly heath/bottlebrushes) adjacent to the proposed footpath.

Microbats

- Ideally inspect all bridge, headwalls or old culverts and pipes for microbat potential habitat. If microbats are sighted works should only be undertaken either between the months of late August and the end of September, or during April and May. This is to avoid the critical microbat life phases of breeding, birth, lactation and overwinter torpor.
- Induction may include if the site is relevant the following microbat inspection procedure to deal with unexpected finds of microbats:
  - Immediately stop works in the vicinity of the find.
  - Do not attempt to touch, capture or handle the microbat.
  - Inform others in the area of the presence of the microbat.
  - Inform the WCC representative(s) of the presence of the microbat.
  - WCC representative is to contact an ecologist for advice on setting up an exclusion zone and giving approval for circumstances under which works can continue.
  - Vehicle and machinery movement must be confined to established or designated access tracks and pathways.
  - Lay down areas and set up sites are to be located on flat, cleared ground in a manner that minimises impacts on surrounding vegetation.

Green and Golden Bell Frog (GGBF)

- Within or near GGBF habitat, work should be done when frogs are active September-April.
- Breeding sites (ephemeral ponds) cannot have work done during breeding time (March - April).
- If a GGBF is found during the works, stop work and notify a Zoologist or Environmental Strategy Officer. Note there are other small green frogs species which are similar in appearance although they are much smaller (up to 5cm) than adult GGBF.
- Spraying of herbicides should not be undertaken in areas that support Cumbungi as this represents important refuge habitat for the GGBFs. Use other techniques such as hand-pulling soft plants, scraping vines, cutting or 'frilling' large woody weeds.

Platypus

- A strong positive relationship exists between the amount of cover provided by shrubs, trees and low-growing plants on creek or river banks and the quality of platypus foraging and burrow habitats. Once works is finished, consider re-planting the area with riparian vegetation to provide habitat and overhanging vegetation.
- Particular attention must be given to ensuring sediment plumes and contamination of water does not occur. Do not use sediment fences and boom within the watercourse, as platypus can get trapped and

drown. Utilise erosion control mechanisms outside of the water course, before any sediment enters the waterway.

- Inspect for any platypus burrows upstream and downstream of the works for at least 20m in the embankment, prior to works. If a burrow is located, avoid the area, stop works and notify an Environment Officer immediately.
- To avoid damaging platypus burrows, use of heavy machinery within about 10-15 metres of the water's edge should be avoided whenever possible in platypus habitats. Special care should be taken not to disrupt banks or cause them to become compacted in spring and summer when females are raising their young.
- Herbicides used to control riparian weeds should never be allowed to enter the water, either directly or through storm run-off. Areas of bare soil caused by herbicide use should be planted (or reseeded) as soon as possible with appropriate indigenous species.

Tree Protection

- Refer to the **Tree Protection Procedure** at Appendix B and below to prevent tree trunk and root damage. If impact occurs, contact a Level 5 AQF Arborist as soon as possible. Adopt the Arborist remedial recommendation so as to reduce any long-term adverse effect on the tree's health. Tree root systems are essential for the health and stability of the tree.
- All relevant trees must be protected using the provision of temporary fencing, barricades or No-Go Zones. These controls must be installed to prevent damage to the trunk or root system from materials; equipment and soil build up around tree base.
- The tree protection fencing post should not involve the severance of any roots greater than 50mm in diameter without the prior approval of the Level 5 AQF Arborist.
- Use hand excavation in and around the roots of trees, when encountered. Under the guidance of a Level 5 AQF Arborist, any roots 50mm or less in diameter may be pruned cleanly with a sharp saw. In general roots extend outward from the trunk and occupy irregularly shaped areas 4 to 7 times larger than the projected crown area with an average diameter of two or more times the height of the tree.
- If any tree pruning is required Council's Level 3 Arborist must complete A Tree Environmental Assessment Form prior to the works.
- Pruning must be undertaken in accordance with 'AS4373-2007 Pruning of Amenity Trees'.
- Tree protection must be undertaken in accordance with 'AS4970-2009 Protection of Trees on Development Sites'.

Summary of Arborist Controls

Hold Points for Arborist inspections:

Some vegetation will need to be removed on the upstream side around the existing headwall. Also some vegetation on the Helensburgh side of the causeway to be removed to improve site lines. There will likely be encroachment within some Tree Protection Zones of these trees. As such, a **construction hold point must be in place. The hold points much be adhered to as per Australian Standard AS 4970-2009 Protection of Trees on Development Sites.**

AQF5 Arborist determination:

- Remove 1 x *Tristaniopsis laurina* (Water Gum) Tree ID 56866
- Selectively prune several lowest 2nd and tertiary order branches of trees back to branch collar or branch internode, up to 75mm in diam. to provide required vehicular and sight line clearances.
- Remove/prune self-seeded weeds, low shrub vegetation and other self-seeded vegetation only within the road reserve, which includes the northern swale, 2m area from southern swale bitumen edge and bitumen

edge of road with no swale, to enable the undertaking of required cleaning and repairs of the storm water road swales, and to provide adequate vehicle site lines and clear vision of road traffic signs.

HOLD POINTS

- Spotter required when using excavator within 10m of trees.
- No excavation within 3m of Gum trees without AQF5 Arborist onsite
- If cutting hard surfaces, cut hard surfaces only to its thickness so as not to accidently cut tree roots that may be underneath.
- Remove hard surfaced materials carefully to avoid tree and tree root damage.
- Prune no roots greater than 50mm in diameter.
- Root pruning cuts must be made with a sharp clean tool such as secateurs, pruners, handheld saw, or reciprocating saw.
- If roots greater than 50mm encountered an AQF5 Arborist is required to make determination if roots greater than 50mm in diameter can be pruned and make recommendations.
- Tree protection must be undertaken in accordance with 'AS4970-2009 Protection of Trees on Development Sites'.
- In the event of accidental tree damage, immediately report to Councils Arborist Public Tree Management officer.

Tree Removal

- Trees proposed to be removed should be clearly identified and confirmed prior to removal to reduce risk of erroneous removal of tree.
- Any proposal of additional trees to be removed must be assessed by a Level 5 AQF Arborist and appropriate Tree Assessment completed.
- Any tree removal must be undertaken by a Level 3 AQF Arborist.
- Trees to be removed must be felled to avoid any impact to other vegetation or trees.
- To reduce potential impact to fauna sheltering in the tree/accidental removal of native vegetation, keep the impact footprint to a minimum to avoid unnecessary impacts to surrounding vegetation.

- Ensure that the appropriate protocols are carried out to minimise the spread of weed material during works and when travelling to/from site
- Prior to work, inspect the tree for fauna and if present, prevent injury or contact WIRES 1300094737.

Traffic & Access

Appropriate traffic management plan should be implemented and available for audit, including:

- A traffic route for all site vehicles is to be nominated.
- Public safety for access around the site is to be ensured.
- Well-defined work compound must be secured to prevent public access.

Water Quality

As the works are within a waterway, specific attention must be given to protection of water quality, and an Emergency Response Procedure must be in place for any spills that enter the waterway.

- Any waste water is to be contained and removed off site for disposal at an approved facility.
- Waste water is not allowed to enter any stormwater drain or waterway.
- At no time shall any material, soluble or non-soluble, be allowed to enter the waterway.
- A fully equipped spill kit is to be kept on site at all times and, if used, restock spill kit. (Refer to Incident Management Procedure in Appendix C)
- All chemicals and fuels will be stored in suitable bunded areas away from waterways and stormwater pits
- Bunded area capacity will be at least 120% of the largest container within the storage area.
- The stored containers will be identified with appropriate labels.
- The relevant Material Safety Data Sheets (MSDS) will also be kept on site.
- Where possible compounds will be located on previously disturbed areas away from waterways

In-Situ Waste Classification Summary

The desktop investigation has not identified any potential contamination (Intramaps – Contaminated Land; Landfill; Aerial Photographs; Previous Land Use).

All works are to be carried out in accordance with the following procedures (or equivalent if works being undertaken by a contractor):

- **City Works & Services Procedure for Waste Classification & Transportation**
- **Unexpected Finds Procedure – Council Owned Land/Worksites**

Potential contaminants or contamination indicators that should be monitored and reported include asbestos containing material; coal tar; oils; and other chemicals causing discolouration and/or emitting strong odours.

Material Removed Off-site / Waste Generation

In addition to the requirements of the Materials Handling Process, the following specific controls are applicable:

- After dewatering is completed, classify the materials and treat/remove as per classification.
- Any waste generated, including excavated materials, should be removed from the site and disposed of appropriately, according to waste classification.
- General waste (rubbish) is not to be allowed to lie or accumulate on the site. Provide appropriate receptacles (bins) to store all general wastes generated from the works. The receptacles are to be emptied immediately at works completion. Consideration is to be given to the source separation of recyclable and re-useable materials.

- **All dockets/receipts for waste management/disposal are to be kept and copies forwarded to the project manager and/or site coordinator as proof of disposal for environmental audit purposes.**
- Material/waste is not to be stored in any transit locations.

Imported Fill Material and Reuse on Site

- Only Virgin Excavated Natural Material (VENM) can be imported on site. VENM is natural material (clay, gravel, sand, soil or rock fines) that has been excavated or quarried from areas that are not contaminated. A Classification Docket with chemical assessment should be undertaken or requested from the supplier prior to importing the fill.
- Where excavated material cannot be classified as VENM it may be eligible for reuse on site if it is accompanied by appropriate documentation (from a qualified technician) confirming it does not contain any acid sulphate soils, asbestos and/or other potential contaminants.
- Documents/records of the transport and use of material imported onto site must be kept and submitted to the project manager and/or site coordinator as proof of correct waste management practices and for environmental auditing purposes.

Fill Material Managed within the Road Reserve

When working within the road reserve the following is applicable:

- Material excavated from within the road reserve must be classified.
- Excavated public road material includes rock; soil; sand; bitumen; asphalt pavement; gravel; slag; fly and bottom ash; concrete; brisk and ceramics.
- If the excavated material contains coal tar or asbestos; or any waste that is classified as hazardous; restricted solid; special or liquid waste, it cannot be reused on the road reserve.
- This excavated material that is not classified as hazardous can be stored and re-used within the road corridor.
- Excavated public road material cannot be applied to private land.

Acid Sulfate Soils

The *Wollongong Local Environmental Plan 2009* Acid Sulfate Soils Map has identified that the site may be affected by Classes 4 or 5 Acid Sulfate Soils. Acid Sulfate Soils contain iron sulfides which, when exposed to air due to drainage or disturbance, may produce sulfuric acid and release toxic quantities of iron, aluminium and heavy metals. The Acid Sulfate Soils Map is an indication only and acid sulfate soils may be encountered during the excavation for the proposed development.

Air Quality & Energy

The machinery chosen is to have been well maintained and is to be operated in a proper and efficient manner to minimise fumes and energy consumption.

Visual Environment

During the work period, the work site and site compound should be maintained in a neat and tidy condition.

Noise & Vibration

- If there is to be any significant noise impacts, neighbouring residents are to be notified.
- The machinery chosen is to have been well maintained and is to be operated in a proper and efficient manner to minimise noise.

Recommended Office of Environment and Heritage standard hours for construction work:

- **Normal construction - Monday to Friday 7 am to 6 pm, Saturday 8 am to 1 pm.**

- **No work on Sundays or public holidays.**

- Blasting - Monday to Friday 9 am to 5 pm, Saturday 9 am to 1 pm
- No blasting on Sundays or public holidays.
- Works that may be undertaken outside the recommended standard hours are:
  - The delivery of oversized plant or structures that police or other authorities determine require special arrangements to transport along public roads
  - Emergency work to avoid the loss of life or damage to property, or to prevent environmental harm
  - Maintenance and repair of public infrastructure where disruption to essential services and/or considerations of worker safety do not allow work within standard hours
  - Public infrastructure works that shorten the length of the project and are supported by the affected community
  - Works where a proponent demonstrates and justifies a need to operate outside the recommended standard hours.

European Heritage

Work is not to impact upon heritage items; in particular, no work shall occur within the boundary or the curtilage of any heritage item or property, until all necessary consultations and approvals have been undertaken / obtained.

Aboriginal Heritage

If any previously undetected archaeological site, object or artefact is uncovered or unearthed during the course of any works or activities associated with the proposal, works should cease in the vicinity of that site, object or artefact. Council's Heritage Advisor should be contacted immediately.

Heritage Unexpected Finds

What's an unexpected heritage find? - An 'unexpected heritage finds' can be defined as any unanticipated archaeological discovery that has not been identified during a previous assessment or is not covered by an existing permit under relevant legislation such as the NPW Act or Heritage Act. The find may have potential cultural heritage value, which may require some type of statutory cultural heritage permit or notification if any interference of the heritage item is proposed or anticipated.

The range of potential archaeological discoveries can include but are not limited to:

- Aboriginal stone artefacts, shell middens, burial sites, engraved rock art, scarred trees
- remains of rail infrastructure including buildings, footings, stations, signal boxes, rail lines, bridges and culverts
- remains of other infrastructure including sandstone or brick buildings, wells, cisterns, drainage services, conduits, old kerbing and pavement, former road surfaces, timber and stone culverts, bridge footings and retaining walls
- artefact scatters including clustering of broken and complete bottles, glass, ceramics, animal bones and clay pipes archaeological human skeletal remains.

In the event that an unexpected heritage finds (the 'find') is encountered on site, contact the following:

- The Contractor/Supervisor will Stop Work Immediately when an unexpected heritage find is encountered.
- The Contractor/Supervisor will cordon off area until Council's Heritage Officer advises that work can recommence.
- The Contractor's Environment Manager will:

- Manage the process of identifying, protecting and mitigating impacts on the 'find'.
- Liaise with Council Heritage Officer/Heritage advisor and maybe the relevant authorities on significance of the find, mitigation and regulatory requirements.
- Complete incident report and review CEMP for any changes required. Propose amendments to the CEMP if any changes are required.
- Advise Contractor/Supervisor to recommence work.

- Council's Heritage Officer/Heritage advisor will provide expert advice to the Contractor's Environment Manager on 'find' identification, significance, mitigation, legislative procedures and regulatory requirements.
- Contractor's Environment Manager will notify Council's ESO of 'find' and manage incident reporting once completed by Contractor's Environment Manager.
- The Department of Planning and Environment – Heritage NSW (for Aboriginal objects) will regulate the care, protection and management of Aboriginal objects and will issue Aboriginal heritage impact permits.
- The Department of Planning and Environment - Heritage NSW (for relics) will regulate the care, protection and management of relics and will issue excavation permits.

4. LEGISLATIVE REQUIREMENTS

The following legislative requirements have been assessed against the proposed works and under the SEPP (Transport and Infrastructure) 2021 the works do not require consent under Chapter 2 **Division 17 Subdivision 1 section 2.109 (1)**

SEPP (Transport and Infrastructure) 2021
Chapter 2
Division 17 Roads and Traffic
Subdivision 1 Roads and road infrastructure facilities
2.107 Definitions

Public road means—

(a) any road that is opened or dedicated as a public road, whether under the Roads Act 1993 or any other Act or law, and

(b) any road that is declared to be a public road for the purposes of the Roads Act 1993.

regular bus service means a public passenger service (within the meaning of the Passenger Transport Act 2014) that is conducted by bus according to regular routes and timetables and does not include a tourist service or a community transport service (within the meaning of the Passenger Transport Act 2014).

Road corridor means—

(a) land that is used for the purposes of a road or road infrastructure facilities and owned or managed by a public authority, or

(b) any land in respect of which the Minister has granted approval under Part 3A or Division 5.2 or (before its repeal) Division 4 of Part 5 of the Act, or consent under Part 4 of the Act, for the carrying out of development for the purpose of a road or road infrastructure facilities.

Road infrastructure facilities includes**—**

(a) tunnels, ventilation shafts, emergency accessways, vehicle or pedestrian bridges, **causeways**, road-ferries, retaining walls, toll plazas, toll booths, security systems, bus lanes, transit lanes, transitways, transitway stations, rest areas and road related areas (within the meaning of the Road Transport Act 2013), and

(b) associated public transport facilities for roads used to convey passengers by means of regular bus services, and

(c) bus layovers that are integrated or associated with roads (whether or not the roads are used to convey passengers by means of regular bus services), and

(d) bus depots, and

(e) bus stops and bus shelters, and

(f) traffic control facilities (within the meaning of Part 6 of the Transport Administration Act 1988), TfNSW road safety training facilities and safety works, and

(g) premises used for the purposes of testing and inspecting heavy vehicles (within the meaning of the Road Transport Act 2013) under the TfNSW Heavy Vehicle Authorised Inspection Scheme.

2.109 Development permitted without consent—general

(1) Development for the purpose of a **road** or **road infrastructure facilities may be carried out by or on behalf of a public authority without consent on any land.** However, such development may be carried out without consent on land reserved under the National Parks and Wildlife Act 1974 only if the development—

(a) is authorised by or under the National Parks and Wildlife Act 1974, or

(b) is, or is the subject of, an existing interest within the meaning of section 39 of that Act, or

(c) is on land to which that Act applies over which an easement has been granted and is not contrary to the terms or nature of the easement.

(3) In this section and section 2.112, a reference to development for the purpose of road infrastructure facilities includes a reference to development for any of the following purposes if the development is in

connection with a road or road infrastructure facilities—
(a) construction works (whether or not in a heritage conservation area), including—
(i) temporary buildings or facilities for the management of construction, if they are in or adjacent to a road corridor, and
(ii) creation of embankments, and
(iii) extraction of extractive materials and stockpiling of those materials, if—
(A) the extraction and stockpiling are ancillary to road construction, or
(B) the materials are used solely for road construction and the extraction and stockpiling take place in or adjacent to a road corridor, and
(iv) temporary crushing or concrete batching plants, if they are used solely for road construction and are on or adjacent to a road corridor, and
(v) temporary roads that are used solely during road construction,
(b) **emergency works** or routine maintenance works,
(c) alterations or additions to an existing road (such as widening, narrowing, duplication or reconstruction of lanes, changing the alignment or strengthening of the road),
(d) environmental management works, if the works are in or adjacent to a road corridor.

Local Government Act 1993

48 Responsibility for certain public reserves
(1) Except as provided by section 2.22 of the *Crown Land Management Act 2016*, a council has the control of:
(a) public reserves that are not under the control of any other body or lease from the Crown,
(b) public reserves that the Governor, places under the control of the council**.**

State Environmental Planning Policy (Biodiversity and Conservation) 2021

Note: This Policy works with the Biodiversity Conservation Act 2016 (BC Act) and the Local Land Services Act 2013 (LLS Act) to create a regulatory framework for the clearing of native vegetation in NSW

Chapter 2 Vegetation in Non-Rural Areas

This is not applicable under cl 2.3 (1)(a) as Wollongong LGA is not listed; however, allowable clearing rules for primary producers in Wollongong LGA on land zoned C3, C4 and R5 apply under cl 2.35.

An assessment pathway for clearing of native vegetation on urban land and land in environmental zones is not required.

Chapter 3 and Chapter 4 Koala Habitat Protection

Chapters 3 and 4 relate to development assessment under Part 4 of the EP&A Act, which requires consent from Council. The subject site occurs within the Wollongong LGA, which is a listed Council area under Schedule 2 of the SEPP. However, the SEPP does not apply to Part 5 'Activities'.

Nonetheless, the site of the works is not mapped requiring further assessment under the *EPBC Act.*

Chapter 6 - Bushland in Urban Areas

This Chapter is not applicable to Wollongong LGA as it is not listed in Schedule 5.

State Environmental Planning Policy (Resilience and Hazards) 2021

Chapter 2 – Coastal management – Not mapped as land within a coastal management area.

Chapter 4 – Remediation of land – not mapped as contaminated land nor previous use that would raise contamination concerns.

Biodiversity Conservation Act 2016 (BC Act)

The BC Act seeks to conserve biological diversity, to maintain the diversity and quality of ecosystems and enhance their capacity to adapt to change; to assess the extinction risk of species and ecological communities and identify key threatening processes; and to establish a framework to avoid, minimise and offset the impacts of proposed development and land use change on biodiversity.

The test for significant impact is described in section 7.3 of the Act. A significant impact also occurs if the activity is carried out in an area of outstanding biodiversity value. If a significant impact is likely to occur, the proponent of the activity must prepare a Species Impact Statement in accordance with section 7.20 or a Biodiversity Development Assessment Report.

Comment:

Provided the safeguards identified are implemented, the proposed works are not likely to significantly affect any threatened species, populations or ecological communities listed under the *BC Act* and the preparation of a Species Impact Statement is not warranted.

Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

The EPBC Act protects matters of National Environmental Significance (NES), such as threatened species and ecological communities, migratory species (protected under international agreements), and National Heritage places (among others). Any actions that will or are likely to have a significant impact on the matters of NES require referral and approval from the Australian Government Environment Minister. Significant impacts are defined by the Commonwealth (ref: http://www.environment.gov.au/epbc/guidelines-policies.html) for matters of NES.

Comment:

Matters of NES have been reviewed within the study area however, the works are not likely to impact on matters identified, therefore no significance assessments were undertaken for these works and no referral to the Commonwealth Department of the Environment is required.

***Fisheries Management Act 1994* (NSW)**

All endangered, vulnerable and endangered and vulnerable ecological communities or populations have been considered. A threat may be listed as a key threatening process under the NSW *Fisheries Management Act 1994* if it:

(a) it adversely affects threatened species, populations or ecological communities, or

(b) it could cause species, populations or ecological communities that are not threatened to become threatened.

Comment:

An application together with the draft REF for a permit to undertake the works has been sought from NSW Fisheries.

NSW Fisheries letter dated 30 June 2023 *noted that this permit application is provided for the activity of dredging and reclamation associated with the works, and that this permit is not required for the REF to be authorised. DPI Fisheries recommends that the REF be amended to clearly describe that the proposed structure will continue to permanently block fish passage at this at this site. Further, the REF should contain clear a justification outlining why the proposed design was chosen* (this REF has been amended and the design has been amended to remove pipes - refer to Alternative proposals considered on page 5**)**

Permit number PN23/381 has been issued (with Conditions). Refer to Appendix G

***Protection of the Environment Operations Act 1997* (POEO)**

Is the principal environmental protection legislation for NSW that defines 'waste' for regulatory purposes and establishes management and licensing requirements for waste. It defines offences relating to waste and sets penalties. The POEO Act also establishes the ability to set various waste management requirements via the POEO (Waste) Regulation.

Should it be necessary to remove any material from the work site (including sediment), it is considered waste, and must be classified by an appropriate officer, as per *Division 1 Waste Classifications of the* NSW *Protection of the Environment Operations Act 1997* (POEO). Waste may be classified as:

- Special waste
- Liquid waste
- Hazardous waste
- Restricted solid waste
- General solid waste (putrescible)
- General solid waste (non-putrescible)

If it's not possible to separate wastes, the whole waste must be classified according to the highest class of waste. All Waste must be disposed of at an appropriately licenced waste facility as landfill.
The Act 1997 defines VENM as: 'natural material (such as clay, gravel, sand, soil or rock fines):

- that has been excavated or quarried from areas that are not contaminated with manufactured chemicals or process residues, as a result of industrial, commercial, mining or agricultural activities, and
- that does not contain any sulfidic ores or soils or any other waste.'

No other criteria for VENM have been approved. **VENM cannot be 'made' from processed soils. Excavated material that has been stored or processed in any way cannot be classified as VENM.**

Part 7.3 of the Protection of the Environment Operations Act 1997
Appropriate documentation is to be maintained on the type and transport of material / waste.

Waste Avoidance and Resource Recovery Act 2001 (WARR Act)
The Act promotes waste reduction and better use of our resources in NSW and the NSW Waste and Resource Recovery Strategy 2014-21 was released in December 2014. Reducing waste generation and keeping materials circulating within the economy are priorities for NSW. To meet this challenge, the EPA prepares a new WARR Strategy every five years.

Protection of the Environment Operations (Waste) Regulation 2014
Provides for contributions to be paid by occupiers of scheduled waste facilities for each tonne of waste received at the facility or generated in a particular area; exempts certain occupiers or types of waste from these contributions; and allows deductions to be claimed in relation to certain types of waste. It also sets out provisions covering:

- the proximity principle
- record-keeping requirements, measurement of waste and monitoring for waste facilities
- tracking of certain waste
- reporting
- transportation of waste
- transportation and management of asbestos waste
- recycling of consumer packaging
- classification of waste containing immobilised contaminants
- miscellaneous topics.

Department of Environment & Climate Change NSW Fact Sheet: Virgin Excavated Natural Material
Only material excavated from site and classified as VENM may be stored on site for re-use or taken to another construction site for reuse.

Resource Recovery Exemption under Part 9, Clauses 91 and 92 of the Protection of the Environment Operations (Waste) Regulation 2014 – The Excavated Natural Material Order 2014
Where material cannot be classified as VENM and is proposed for re-use on a site, it must be accompanied by appropriate documentation confirming it does not contain acid sulphate soils or other contaminants.

Resource Recovery Exemption under Part 9, Clauses 91 and 92 of the Protection of the Environment Operations (Waste) Regulation 2014 – The Excavated Public Road Material Exemption 2014
Applies to excavated public road material that will be applied/reused to land within the road corridor for road related activities such as construction; maintenance and installation of road infrastructure facilities.

5. ENVIRONMENTAL FACTORS IDENTIFIED AND EVALUATED

The following table has been completed following a site inspection carried out and interrogation of Council's IntraMaps system.

ENVIRONMENTAL FACTOR	Impact L/M/H	Extent, Duration, Type Comment
Heritage		
Is there any Aboriginal Heritage within or close proximity to the worksite? (Refer to **AHIMS**)	**Overall impact – LOW**	No
Does the site have landscape features that are likely to indicate presence of Aboriginal objects? If the proposed activity is: • within 200m of waters • located within a sand dune system • located on a ridge top • ridge line or headland • located within 200m below or above a cliff face • within 20m of or in a cave, rock shelter, or a cave mouth • is on land that is not disturbed land particularly at any of the above locations		Yes – refer to Appendix A
Is there any European Heritage listed on the current LEP?		No
Will these Heritage Items be impacted by the project?		No
Water Quality/Erosion & Sedimentation/Demand on Resources/Waste Disposal		
Are the works likely to disturb any acid sulfate soils listed on the Current LEP?	**Overall impact – LOW**	No
Are the works to be conducted within 40m of watercourses or any other type of natural water body?		Yes
Will the works result in changes to water flow in any way?		Yes – improved design
Are the works within a flood affected zone?		Yes – improved design
Do the works involve the use or storage within the work areas of fuels or other chemicals (other than fuels contained within the work vehicles)?		Unlikely – refer to Safeguards at Section 3
Will the works create areas of unprotected soil or loose surface for more than 24 hours?		Likely – refer to Safeguards at Section 3

<table>
<tr><th>ENVIRONMENTAL FACTOR</th><th>Impact L/M/H</th><th>Extent, Duration, Type Comment</th></tr>
<tr><td>Could the works result in disturbance of contaminated land or contaminated material listed under WCC IntraMaps?</td><td rowspan="4"></td><td>Unlikely but refer to Safeguards in Section 3</td></tr>
<tr><td>Will the waste generated by the works include hazardous substances (such as lead, asbestos or other substances designated as hazardous by the National Occupational Health and Safety Commission)? Refer to Council's ARO</td><td>Unlikely – refer to Safeguards at Section 3</td></tr>
<tr><td>Are the works a Coastal Geotechnical risk under Coastal Zone Study under WCC IntraMaps?</td><td>No</td></tr>
<tr><td>Are the works subject to the Wollongong Coastal Zone Management Plan 2017?</td><td>No</td></tr>
<tr><td colspan="3">Flora & Fauna/Tree Protection/Access/Community Environmental Impacts</td></tr>
<tr><td>Is any vegetation required to be removed?</td><td rowspan="8">Overall impact – MED to HIGH</td><td>Yes – refer to Safeguards at Section 3</td></tr>
<tr><td>SEPP (Biodiversity and Conservation) 2021. Chapter 6 is not relevant as Wollongong is not listed in Schedule 5. Chapters 3 and 4 relate to development assessment which require consent from Council. It is not applicable to ‘activities’ assessed under Part 5 of the Act.</td><td>N/A
Wollongong LGA is mapped under the Koala Management Area; however, there are no trees for removal. As such, no assessment for koalas under the EPBC Act required.</td></tr>
<tr><td>Is the area within a Vegetation Community identified in NP-PCT Vegetation Layer under WCC IntraMaps Constraints?</td><td>MU16 – Illawarra Escarpment Blackbutt Forest
MU56d – Cleared</td></tr>
<tr><td>Are the works located on land identified as the Escarpment Management Plan Area under WCC IntraMaps Constraints?</td><td>No</td></tr>
<tr><td>Is the area within a Habitat Model in WCC IntraMaps Constraints?</td><td><table>
<tr><th>Common Name</th><th>Habitat</th><th>Area Ha</th><th>Code</th></tr>
<tr><td>Golden-crowned Snake</td><td>High</td><td>0.2</td><td>2647</td></tr>
<tr><td>Large-footed Myotis</td><td>High</td><td>78.92</td><td>1357</td></tr>
<tr><td>Grey-headed Flying-fox</td><td>High</td><td>1729.08</td><td>1280</td></tr>
<tr><td>Mountain Brushtail Possum</td><td>Moderate</td><td>52.42</td><td>1115</td></tr>
<tr><td>Green Catbird</td><td>High</td><td>96.36</td><td>676</td></tr>
<tr><td>Logrunner</td><td>Moderate</td><td>119.37</td><td>434</td></tr>
<tr><td>Powerful Owl</td><td>High</td><td>1.11</td><td>248</td></tr>
</table></td></tr>
<tr><td>Do the works occur within Key Fish Habitat? Refer to Threatened Fish Species List.</td><td>Yes – works occur within key fish habitat and will continue to block fish passage. An application was made to NSW Fisheries for a permit, which was provided (PN23/381) with the following comment: considering local environmental factors, it has been determined that a permit can be issued.</td></tr>
<tr><td>Are the works to be conducted within a Natural Area Asset? (Refer to the WCC IntraMaps Environmental Restoration layer)</td><td>No</td></tr>
</table>

ENVIRONMENTAL FACTOR	Impact L/M/H	Extent, Duration, Type Comment
Are the works near a seed collection point on the WCC IntraMaps Environmental Restoration layer?		No
Is there any Bush Care or other Environmental Restoration undertaken at the site?		No
Is the worksite listed as Bushfire Prone Land under the WCC IntraMaps Planning DCP layer?		Bushfire - Vegetation Category 1 Workers must keep abreast of Bushfire Alerts ph. 1800 679 737
Are there any Endangered Ecological Communities or potential habitat for threatened species as listed on the Planning DCP layer or on the BC Act BioNet or the EPBC Act SPRAT on or adjacent to the work site?		None identified
Amenity / Noise		
Are the works located on land identified as Community Land, on the WCC IntraMaps LEP Community Land Maps?	**Overall impact – LOW**	No – road reserve
Will the works result in a reduction of the aesthetic and/or recreational qualities of the area or restrict the beneficial uses of the area in the future? Refer to Point of Interest in features on the Base Map Information		No – clean up after emergency flooding
Will the works cause excess noise?		Possibly during works – refer to Safeguards at Section 3
Are the works within the management areas defined by SEPP (Resilience and Hazards) 2021.Chapter 2 - Coastal Management?		No
Any transformation of a locality? Human and non-human environment?		Reinstatement of existing causeway crossing in this location.
Does the works fall under SEPP (Transport and Infrastructure) 2021 Exempt Developments?		No
Cumulative Impact Assessment - existing or future?		Minor
Any applicable local strategic planning statement, regional strategic plan or district strategic plan made under Division 3.1 of the Act.		Yes The proposal is consistent with the objectives and vision of 'Our Wollongong Our Future 2032: Community Strategic Plan' for the LGA.

Wollongong City Council's requirements are considered to have been satisfied through the identification and assessment of environmental issues and risks undertaken in this report. Provided there are no changes to the scope of works identified in this report, no further EIA is required.

Appendix A: Aboriginal Heritage Due Diligence Assessment

Council's Intramap records indicated that there was not a possible presence of an Aboriginal heritage item within the vicinity of the proposed works. A NSW Heritage (former OEH) Aboriginal Heritage Information Management System (AHIMS) search was undertaken to confirm the presence of Aboriginal heritage within or close to the works site. **The AHIMS search identifies 0 Aboriginal sites or places recorded in within 200m of the proposed works.**

As a precautionary approach, the Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (DECCW) was followed. It was determined that the proposed activity would not harm any Aboriginal heritage due to the following:

- Although the proposed works will disturb the ground surface, the works are a low impact activity on land that has already been disturbed;
- Vegetation will not need / need to be removed and all other trees will be protected on site;
- There are no Aboriginal objects located within or close to the site (AHIMS confirmation);
- A REF has been prepared and identifies that if during the course of the works any unknown Aboriginal objects are found, works must cease immediately.

As such, an **Aboriginal Heritage Impact Permit (AHIP) is not required.**

AHIMS Web Services (AWS)
Search Result

Your Ref/PO Number : WCC
Client Service ID : 791023

Maria Byrne
41 Burelli Street
Wollongong New South Wales 2500
Attention: Maria Byrne

Email: mbyrne@wollongong.nsw.gov.au

Date: 14 June 2023

Dear Sir or Madam:

AHIMS Web Service search for the following area at Lat, Long From : -34.2129, 150.9971 - Lat, Long To : -34.2107, 151.001, conducted by Maria Byrne on 14 June 2023.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.

A search of Heritage NSW AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

0	Aboriginal sites are recorded in or near the above location.
0	Aboriginal places have been declared in or near the above location. *

Appendix B: Tree Protection Procedure

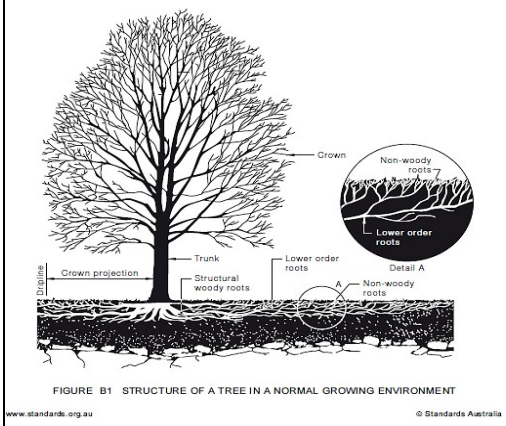
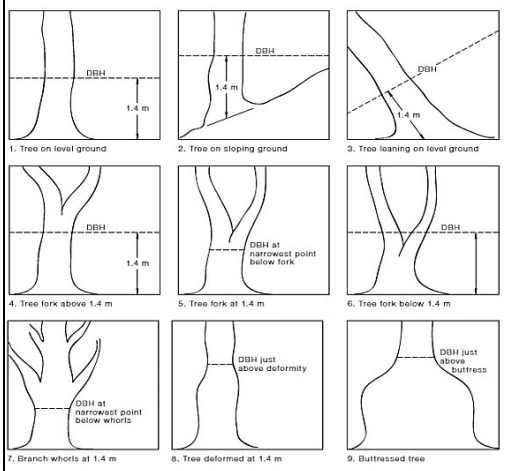


FIGURE B1 STRUCTURE OF A TREE IN A NORMAL GROWING ENVIRONMENT

A Tree Protection Zone (TPZ) is an important area around the trunk of a tree in which key feeder and stabilising roots can be found just beyond the tree canopy. This area must be protected to prevent instability and minimise loss of health of the woody root system of the tree. **Restricted activities include excavation, storage, dumping of waste and parking of vehicles/plant.**

TPZ standard should be:

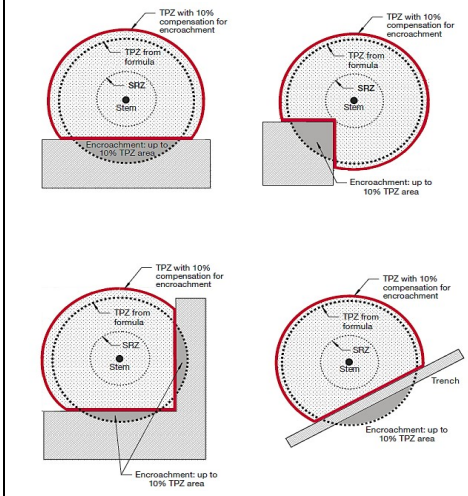
- TPZ = DBH x 12 (Where DBH is the trunk diameter measured at 1.4m above ground).
- Not greater than 15m.
- **TPZ should not be less than 2m nor greater than 15m** (Except where crown protection is required).
- **TPZ of palms, tree ferns, other monocots and cycads should not be less than 1m outside the crown projection.**
- Refer to the Arborist Report for dimensions for the TPZ / Buffers



Due to a range of growing environments the Tree DBH is measured using a range of methods to suit the situation. See adjacent image or Australian Standard AS 4970-2009. Delineate an area with the use of appropriate signage for:

- Protective fencing installed or no-go zones will be created and maintained for the duration of works
- Ground protection (e.g. mulch) if temporary access for machinery is required.

The Structural Root Zone (SRZ) is an area within the TPZ that is particularly significant for stability. A larger area is required to maintain a viable tree. The SRZ only needs to be calculated when major encroachment into a TPZ is proposed. Many factors affect the size of the SRZ (e.g. tree height, crown area, soil type, soil moisture, rocks, footings etc).



The indicative SRZ radius can be determined from the trunk diameter measured immediately above the root buttress using the following formula:

- SRZ radius = (D x 50)0.42 x 0.64 (Where D = trunk diameter in metres measured above the root buttress)

Note: The SRZ for trees with trunk diameter less than 0.15m will be 1.5m

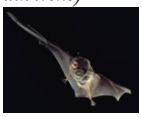
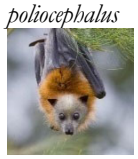
Encroachment into TPZ is sometimes unavoidable:

- Minor encroachment is possible without root investigations. (Must be under 10% of the TPZ area and outside the SRZ)
- Major encroachment is possible if an arborist can prove the tree will be sustained. (Refer to AS 4790 for recommended considerations)

Any additional Encroachment must be reviewed by the Level 5 AQF Arborist for works within the TPZ (E.g. excavation) is possible with variation to the above standards.

Appendix C: Flora and Fauna Assessment

Table of all threatened species and endangered ecological communities listed under the NSW *Biodiversity Conservation Act* 2016 and Commonwealth *Environmental Protection & Biodiversity Conservation (EPBC) Act 1999*, within a 2 km radius, has been searched as identified by the threatened fauna & flora and EECs layers in Intramaps. The table also considers the potential habitat at the site for native fauna by using the Habitat Model layer and Key Fish Habitat layer.

Scientific Name	Common Name	BC Act	EPBC Act	Habitat Requirements	Likelihood
Myotis macropus (formally Myotis adversus) 	Southern myotis (formerly Large footed myotis)	VP		The Large-footed myotis tend to roost in caves, tree hollows, under bridges, in mines, road culverts and stormwater drains near permanent water. They prefer vegetated low lying, undulating land. Colonies are usually less than 15 in number. This species feed on small fish, prawns and aquatic macro-invertebrates like water boatman, backswimmers and whirligig beetles. They fly 15-100 cm above the water and trawl through the water with their feet. They will also hunt flying insects that congregate around water. Dominant males form a harem in the colony with 1 male and up to 12 females. Known to born up to two young per year, one in October and the other in January.	Unlikely It is unlikely that this species will be impacted due to the nature and isolation of the works.
Pteropus poliocephalus 	Grey-headed flying-fox	VP	V	The Grey-Headed Flying-Fox has a variety of habitats including rainforests, tall sclerophyll forests and woodlands, heaths and swamps. Urban gardens with cultivated fruit crops also provide habitat for this species. The species feeds on flowers from *the **E**ucalyptus, gummifera, E. muellerana, E. globoidea and E. botryoides*, and fruits from a wide range of rainforest trees, including Fig.	Unlikely It is unlikely that the Flying-fox will be impacted due to the minor nature of works and isolation of the asset from the natural surrounding areas.
Cacophis squamulosus 	Golden-crowned Snake	P		Wet forests, under stones, logs and in leaf litter. The continued survival of the Wollongong population may be important to the survival of the species regionally. It was found at Mangerton Park.	Unlikely It is unlikely that this species will be impacted due to the nature and isolation of the works.
Trichosurus caninus 	Mountain Brush Tail Possum	P		Inhabits tall, open and closed forests, particularly wet forest and rainforest. It has been located at a number of locations along the escarpment.	Unlikely It is unlikely that this species will be impacted due to the nature and isolation of the works.
Ailuroedus carassirostris 	Green Catbird	P		Listed as uncommon in the Illawarra. It usually inhabits moist forests; including rainforests, though it will venture into more open habitats, including gardens.	Unlikely It is unlikely that this species will be impacted due to the nature and isolation of the works.
Orthonyx temminckii 	Logrunner	P		Habitat occurring chiefly along the escarpment. It inhabits the floor of rainforests and utilises weed species such as Lantana (Lantana camara) and Blackberry (Rubus species) as habitat and for movement through cleared land.	Unlikely It is unlikely that this species will be impacted due to the nature and isolation of the works.

Scientific Name	Common Name	BC Act	EPBC Act	Habitat Requirements	Likelihood
Ninox strenua 	Powerful Owl	VP		Habitat preference may be a result of distribution of prey (common Ringtail Possums and Greater Gliders). Usually breeds and roosts in closed forest, including rainforests and wet sclerophylls. It roosts by day in dense vegetation comprising species such as *Syncarpia glomulifera, Allocasuarina littoralis, Acacia melanoxylon, Angophora floribunda, Exocarpus cupressiformis* and a number of eucalypt species.	Unlikely It is unlikely that this species will be impacted due to the nature and isolation of the works.

Native Vegetation of the Illawarra Escarpment and Coastal Plain (NVIE&CP 2002)		
Map Unit/Name (NVIE&CP 2002) **Habitat description / characteristic species**	**Ecological Community Status** **(BC Act and EPBC Act)**	**Likelihood of impact**
Escarpment Blackbutt Forest MU16  Occurs on steep escarpment slopes, spurs and foothills of the northern escarpment. It is a tall to very tall forest supporting a canopy dominated by *Eucalyptus pilularis, E.botryoides* and *Syncarpia glomulifera subsp. Glomulifera.* A small tree layer of *Allocasuarina torulosa, Acacia maidenii, Pittosporum undulatum and synoum glandulosum subsp. Glandulosum* is consistently found within this community. Example locations include Stanwell Tops, Stanwell Park, Buttenshaw Drive, Coledale, Foothills at Austinmer, Thirroul and Woonona; Bulli Pass; West Corrimal; Tarawanna; Mangerton and Blackbutt Reserve. *marginata* (bordered panic), *Entolasia stricta* (wiry panic), *Lepidosperma laterale* (saw sedge), *Microlaena stipoides* var. *stipoides* (weeping grass), *Oxalis perennans* (wood-sorrel), *Pomax umbellata, Pratia purpurascens* (white root), *Solanum prinophyllum* (forest nightshade) and *Themeda australis* (kangaroo grass)	**BC Act:** Southern Sydney sheltered forest on transitional sandstone soils in the Sydney Basin Bioregion **Conservation Status: E3** Include *Angophora costata, Eucalyptus piperita and occasionally Eucalyptus pilularis, particularly around Helensburgh. Corymbia gummifera* occurs frequently within the community, although generally at lower abundance than the other eucalypts. Occurs widely in the Illawarra. **EPBC Act:** Not listed.  DEC	Unlikely Provided safeguards outlined in this report are in place as tree removal is not proposed or required.

Appendix D: Incident Management Procedure

TITLE

Accidental spills in waterways, marine environments, and constructed drains, plus other air/noise/land pollution events.

PURPOSE

To ensure all practicable means are used to prevent spillage or other pollution during construction or maintenance works near any types of watercourses.

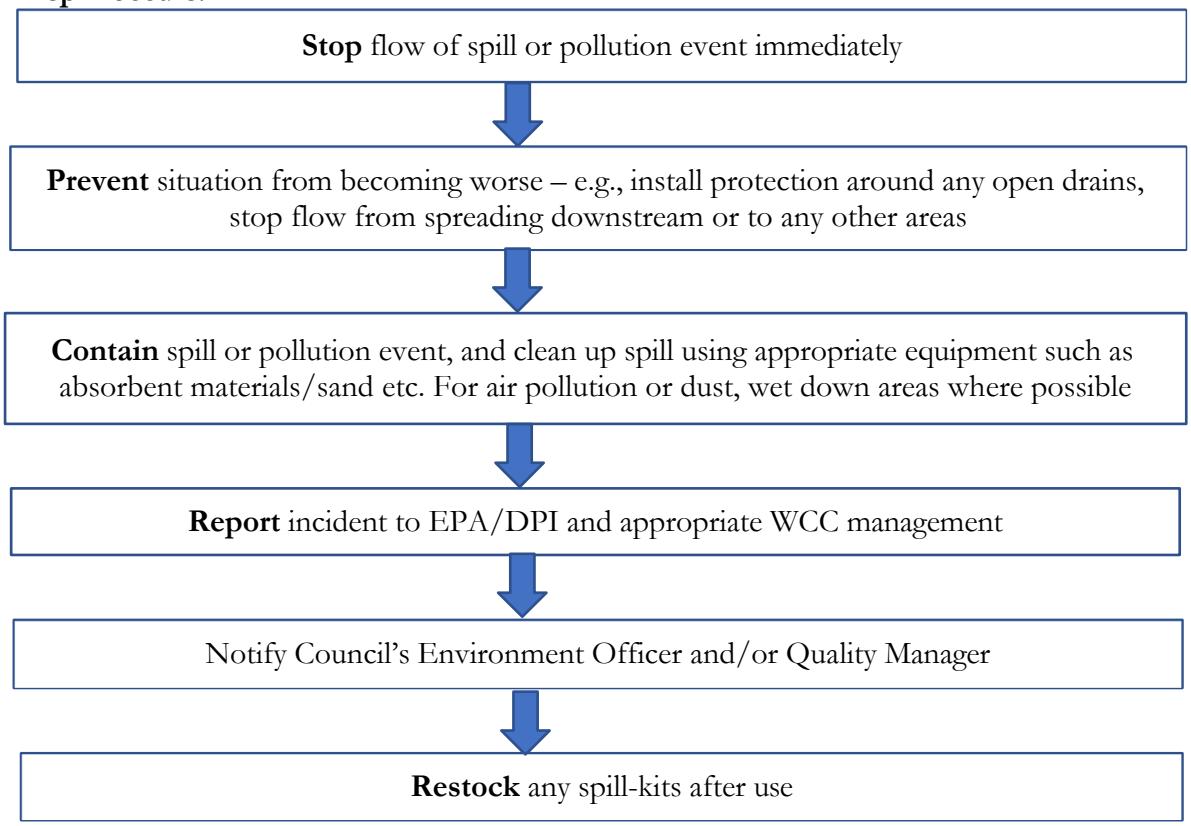
APPLICATION

This procedure applies to all watercourses including coastal water, rivers, lakes, dams, natural watercourses, artificial channels, ditches and gullies, and stormwater drains. It also applies to all air and land pollution incidents.

Project Managers and Works Co-ordinators are to ensure all operators working near water courses are trained in this procedure. Contractors undertaking works should also be aware of the requirements in this procedure.

PROCEDURE

If spill occurs:



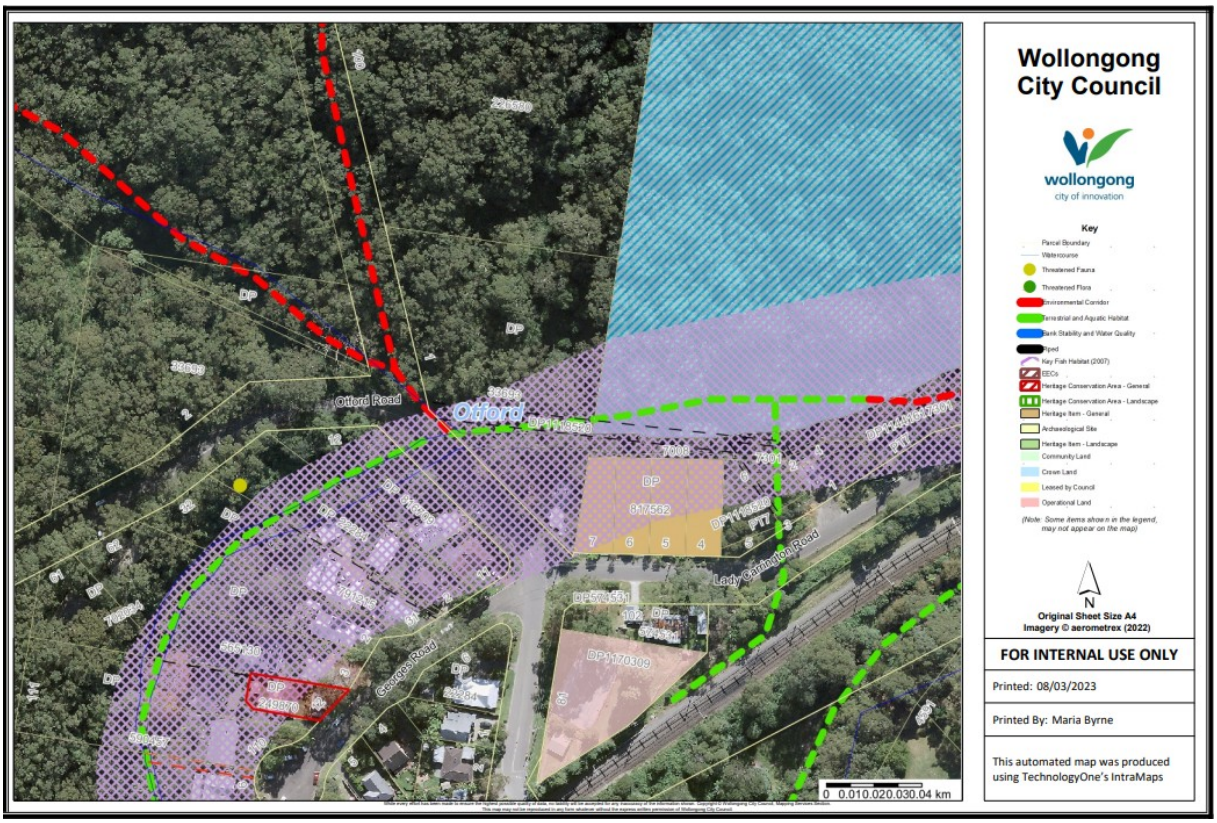
CHECKLIST

- Spill kit kept at site and kept in order
- All relevant staff at the work site are aware of this Procedure

CORRESPONDANCE AND NOTIFICATION

- For all spills in any waterways, air pollution, or land pollution, notify the EPA first and follow all instructions. Notify Environment Officer, and either Manager Project Delivery or Manager City Works.
- For any spills where there is the potential to impact on Key Fish Habitat, or there is a Permit in place from DPI, notify both DPI and EPA and follow any instructions. Notify Environment Officer and either Manager Project Delivery or Manager City Works.

Appendix E: Environmental Constraints Aerial / Photographs



Wollongong City Council May 31 2023

Appendix F: Standard Operating Procedures-Unexpected Finds Protocols

Description of Work:	**Unexpected Find Procedure – Council Owned Land/Worksites**

This procedure has been developed to outline the process to be followed in the event that an unexpected find (hazard) is identified.

Hazards that may be encountered could be Asbestos material, contaminated soils, or archaeology/heritage finds.

In most cases the finds would occur during excavation operations on a worksite

In some instances ACM may be left by MOP's or work its way up through the ground

Main Hazards:

- **Exposure to Contaminated soils (Asbestos Containing Materials (ACM), chemicals, Acid Sulphate)**
- **Exposure to ACM or chemicals to public**
- **Damage to archaeology/heritage artefacts**

PPE REQUIRED –: ***Standard PPE for daily tasks, in event of unexpected find for ACM or substances, will require P2 disposable mask & hazard tape to provide barrier to prevent access by staff/public or to isolate area if archaeological/Heritage find***

*** If unexpected find is ACM**

Note: P2 masks not suitable if employee has a beard – prevents sealing

SAFETY RULES

- In event of unexpected find – cease work immediately
- Isolate the worksite
- Keep public away
- Contact Supervisor/Coordinator

Permits: (associated with task)

- Asbestos Removal Control Plan if asbestos material identified as Friable and is to be removed by licenced contractor

Checklists: (associated with task)

- Waste Classification Docket as reference

Team Training / Skills Required:

- Asbestos Awareness
- Waste Classification Docket
- Collection and disposal of Asbestos Containing Material (ACM) under 10Sq mtrs (optional for nominated staff)

References:

- WHS Regulations 2011 Chapter 8
- COP How to Safely Remove Asbestos
- COP How to Manage & Control Asbestos in the Workplace
- Managing Asbestos in or on soil (Wkcvr 2014)

Relevant Documentation:

Asbestos and Hazardous Materials Guidelines – Corporate

Sampling materials request form

Clearance certificate - Asbestos or Contaminated soils

SOP Collection & Disposal of Bonded Asbestos Containing Material (ACM) under 10SQ mtrs

1. PRE-Operation (must include environmental controls)

- If site is a construction site (K&G, Road, Drainage etc.) Waste Classification process and/or CEMP/REF to be checked/recorded
- Do a visual inspection of site prior to works commencing – looking for loose ACM, soil discoloration/smell.

2. Operation

- In the event of an unexpected find of contaminated material or archaeological/heritage artefacts (through excavations), cease work immediately
- If the find is considered to be illegal dumping which may contain asbestos or hazardous material, contact the customer service team (42277111) and provide details of the location, size and type of material – do not attempt to remove or "sift" through the material
- In the event excavated material is loaded onto truck and then material is suspected ACM:_

  > If on site, tip the load back onto the site and go through assessment process,

  > If the load has been transported to another site and suspected ACM is identified prior to tipping the load, contact the Coordinator/Supervisor who will assess the load and determine if a qualified person is required to provide advice on management of the load.

  > If the material has been unloaded offsite and suspected material found Coordinator/Supervisor to assess if ACM, type and amount, option to collect & remove if bonded and under 10sqmtrs or contact qualified person to provide advice

  Note: Depending on the condition of the material, the load may require wetting down to minimise dust/contamination until a management plan has been developed
- Isolate the immediate work area (barriers or Hazard tape)
- Where required contact the Supervisor and/or Coordinator, provide details to determine if they need to attend the site
- An assessment of the find is to be undertaken if potential ACM identify if bonded or friable
- If contaminated soil contact Environment Planning Manager (ESP) 42277574 to attend and assess
- If Archaeological or Heritage find contact Strategic Project Officer (ESP) 42277524 to attend and assess the find.
- Based on the find and assessment a suitably qualified person may be required to attend the site and advise what action should be taken
- Where required a sampling materials request is to be completed and issued to the qualified person
- Keep the area isolated until a determination is made – qualified person will provide advice on best option(s)
- In the event the unexpected find is confirmed as contaminated material or heritage artefact, record the details in Pathways (Action Request generated)
- Qualified person provides results of testing or assessment and develops an action plan
- If identified as Bonded ACM and is under 10sq Mtrs in content, trained WCC personnel can collect and bag as per SOP (Collection & Removal of Bonded ACM under 10Sq mtrs)
- If after all tests and searches have been completed and the material is not ACM or archaeological then continue works as normal & file the survey report on the project file
- If material is identified as ACM or Archaeological then the Action Request is updated through Pathways via Coordinator/project manager, record details of the find in the project file
- If the Asbestos material is considered to be a potentially significant hazard to employees or the public the supervisor/coordinator is to contact their manager and provide details and through consultation with council officers determine how to manage
- For Friable ACM, Archaeological, Heritage or other contaminated soil, an action plan is to be developed by the qualified person to manage the site. This may include temporary measure of barricades, tape, Geo Textile or plastic sheeting
- Works to be undertaken as per Action Plan, this may be by WCC personnel or specialist contractors depending on the action plan developed by the qualified person

- Where required a clearance certificate (ACM/Soil) is to be issued by a competent person and a copy sent to Land Use Planning for recording on the 149 Contaminated Land Register, a copy of the clearance certificate to be placed on the project file
- Advise crew/staff of the clearance certificate
- Update the Action Request information
- Planned Works to then continue
- For Archaeological or Heritage finds, an action plan to be implemented by qualified person which will include any references to clearances or other permits that may be required.
- Refer to "management of suspected or known asbestos contaminated stockpiles (short term storage only) for management of all unexpected finds requiring stockpiling

3. POST-Operation

- Pathways request to be closed off
-

Supervisor Name:	**Date:**
Print Name:	**Signature of worker:**

Record of induction/training to be recorded in Divisional HPE container **-925.09. ***.and in site diary if applicable

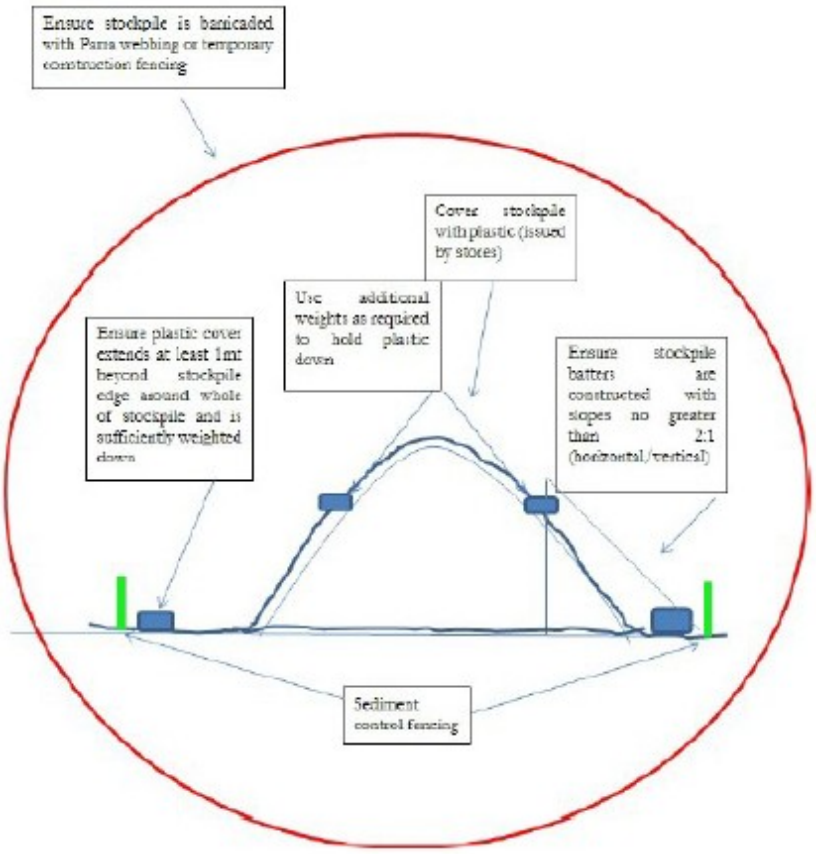
Bonded ACM


Contaminated soils (Sulphates)

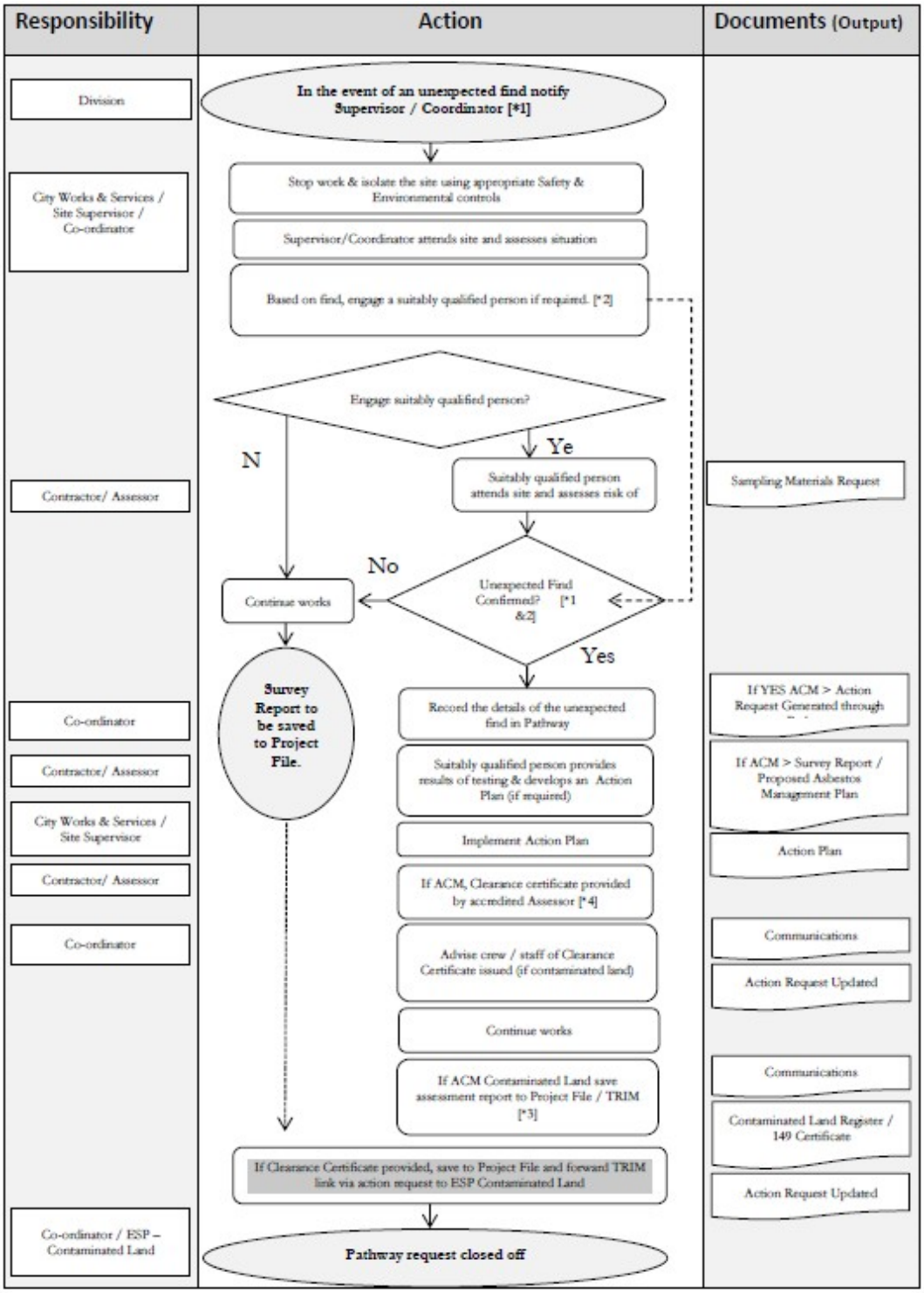
Archaeological & heritage finds

Friable Asbestos – in no circumstances is this material to be touched – must be a licenced removalist

Management of Suspected or Known Asbestos Contaminated Stockpiles (Short-term Storage Only)



This diagram applies to suspected or confirmed asbestos contaminated stockpiles awaiting removal by a licenced contractor



Notes:

[1] Unexpected finds associated to Contaminated Land include: Hazardous Substances – ACM (Asbestos Contaminated Material), Archaeology / Heritage, Contaminated Soil – ASS (Acid Sulphate soil)

[2] If ACM and under 10sqm bonded, Council employees to collect and remove find > refer to Process Chart [Z14/65578] & SOP [Z15/26538]

[3] If reportable to Contaminated land Unit > refer to Process Chart [Z14/465578] & SOP [TO DO]??

[4] Planning + Environment > Environmental Strategy + Planning > Contaminated Land email is contaminatedland@wollongong.nsw.gov.au

Appendix G: Fisheries Permit

Permit under Part 7 of the *FISHERIES MANAGEMENT ACT 1994*

Permit	Permit Number	**PN23/381**
	Expiry Date	Unless cancelled or suspended sooner, this permit shall remain in force until **30 June 2025**
Permit Holder:		Wollongong City Council 41 Burelli St (Locked Bag 8821), Wollongong DC, NSW 2500 Contact person: Maria Byrne Phone: 4227 7329 Email: mbyrne@wollongong.nsw.gov.au
Permit Area:		Waterway crossing near 108 Otford Road, Otford – Hacking River **(Refer to Attachment 1)**
Permit Activity:		Dredging and reclamation in association with or in relation to culvert reconstruction
Departmental Contact Officer:		Carla Ganassin Ph: 4222 8342 Email: carla.ganassin@dpi.nsw.gov.au
District Fisheries Officer:		Daniel Minter Ph: 4220 8499 Email: daniel.minter@dpi.nsw.gov.au

This permit is subject to the following Conditions:

ADMINISTRATIVE CONDITIONS

1) The **Acceptance of Conditions** form (attached) must be completed and returned to ahp.central@dpi.nsw.gov.au and fisheries.compliance@dpi.nsw.gov.au before commencing any works authorised by this permit.

   Reason – To remove any doubt that the Permit Holder understands and accepts the Conditions before work commences.

2) The **Commence Works Notification** form (attached) must be completed and sent to ahp.central@dpi.nsw.gov.au and fisheries.compliance@dpi.nsw.gov.au at least three to five (3-5) days BEFORE the commencement of works authorised by this permit.

   Reason - To ensure that local DPI Fisheries staff are aware that the works authorised by this permit are about to commence.

3) The **Active Works Notification** form (attached) must be completed and sent to ahp.central@dpi.nsw.gov.au and fisheries.compliance@dpi.nsw.gov.au at least three to five

(3-5) days BEFORE works are complete or machinery is removed from the site. Several colour photographs showing the work site and works completed to date must be included.

Reason – To provide an opportunity for local DPI Fisheries staff to inspect the site whilst machinery is still on site and available to do any remedial work that may be necessary.

4) This permit (or a true copy) must be carried by the permit holder or sub-contractor operating on-site at all times during works activity in the permit area.

Reason – DPI Fisheries staff may wish to check compliance of works with imposed conditions.

NATURE AND EXTENT OF WORKS

5) The permit holder must ensure that all works authorised by this permit are restricted to the permit area and are undertaken in a manner consistent with those described in the: permit application dated 15 June 2023; the environmental mitigation measures in the Review of Environmental Factors for this proposal (Wollongong City Council, REF03917); and the erosion and sediment control plan for these works. Other works, which have not been described, excepting those activities required by this permit, are not to be undertaken.

Reason – This permit has been granted following an assessment of the potential impacts of the described works upon the aquatic and neighbouring environments. Other works, which were not described in the application have not been assessed and may have significant adverse impacts.

6) Prior to the commencement of construction works the engineering plans for these works are to be updated with the following amendment and submitted to DPI Fisheries for approval:

   a) All references in these plans to the '2 x 450 Dia. GRP Pipes cast into the working slab below the culvert being for fish passage to be confirmed following fisheries review and approval' is to be deleted.

Reason – The proposed 2 x 450 Diameter pipes will not provide for any improved fish passage. If Council wish to include these structures in the design of this crossing then DPI Fisheries does not authorise the reason for doing so as providing for fish passage.

7) Excavated spoil is to be deposited at an appropriately according to its waste classification.

Reason – To protect the aquatic environment.

SEDIMENT AND EROSION CONTROL

8) Erosion and sediment mitigation devices are to be erected in a manner consistent with currently accepted Best Management Practice (i.e., *Managing Urban Stormwater: Soils and Construction* 4th Edition, Landcom, 2004) to prevent the entry of sediment into the waterway **prior to** any earthworks being undertaken. **These are to be maintained in good working order for the duration of the culvert repair works and subsequently until the site has been stabilised and the risk of erosion and sediment movement from the site is minimal.**

   In particular:

   a) On completion of works all disturbed soil is to be levelled and smoothed and sown with a mixture of sterile grass seeds to encourage rapid revegetation and planted out with native endemic riparian vegetation.

Reason – To ensure that sediment generated by the exposure of soil is not transported into the main water body.

DEWATERING

9) The site shall not be dewatered unless a Dewatering Management Plan is prepared and approved by the contact officer. Any Dewatering Management Plan shall specifically consider any potential off-site impacts as a result of the dewatering operations and contain mitigation controls to effectively treat any discharge water to prevent off site pollution of any receiving waters.

   Reason – Dewatering poses a significant risk to aquatic animals and needs to be carefully managed.

WORK IN WATERS

10) Machinery is not to enter or work from the waterway unless in accordance with works proposed in your application for the permit and the requirements of this permit.

    Reason – To ensure minimal risk of water pollution from oil or petroleum products and to minimise disturbance to the streambed substrate.

11) Prior to use at the site and / or entry into the waterway, machinery is to be appropriately cleaned, degreased, and serviced. Spill kits are to be always available on-site during works.

    Reason – To reduce the threat of an unintended pollution incident impacting upon the aquatic environment.

AVOIDING HARM TO SNAGS AND RIPARIAN VEGETATION

12) When working near riparian vegetation or water land these areas need to be identified and appropriately delineated as “No Go” areas (with the aim of avoiding harm to these areas). Harm to riparian vegetation or water land outside the work footprint approved under the authority of this permit is not permitted and any harm caused is to be documented and reported to the contact officer. Any harm caused is to be restored in accordance with directions provided by the contact officer.

    Reason – To ensure that impacts on aquatic habitat and the riparian zone are minimised.

13) Material storage and stockpiling is not to be undertaken on water land, or riparian vegetation. Stockpiling must be undertaken in a manner to avoid harm to these types of vegetation or water land. Stockpiles should also be located 20 metres away from adjacent water land. Stockpiles and/or dewatering areas should be appropriately controlled by sediment fencing or other materials prescribed in the “Blue Book” to ensure sediments do not enter the waterway.

    Reason – To ensure that impacts on aquatic habitats, the riparian zone and threatened saltmarsh communities are minimised. “Degradation of native riparian vegetation along NSW water courses” (excluding estuarine and marine waters) is listed as a Key Threatening Process (KTP) under the provisions of the FM Act.

14) No snags or large woody debris from trees and shrubs are to be removed, realigned, or relocated without first obtaining the written authority of the Contact Officer.

    Reason – “Removal of large woody debris from NSW rivers and streams” is listed as a KTP under the provisions of the FM Act. This approval has been granted on the basis that snags are not to be removed.

15) On completion of the works the site is to be rehabilitated and stabilised including:

a) Surplus construction materials and temporary structures (other than silt fences and other erosion and sediment control devices) installed during the course of the works are to be removed.

b) Disturbed riparian areas are the be revegetated with local provenance native species. Appropriate maintenance of erosion and sediment control devices is to be undertaken until the vegetation has successfully established and the site has stabilised.

Reason – To ensure that habitats are restored as quickly as possible, public safety is not compromised, aesthetic values are not degraded and sediment inputs into the waterway are reduced.

FISH KILL CONTINGENCY

16) A visual inspection of the waterway for dead or distressed fish (indicated by fish gasping at the water surface, fish crowding in pools or at the creek's banks) is to be undertaken daily during the works. **Observations of dead or distressed fish are to be immediately reported to the Contact Officer by the Permit Holder.** In such a case all works are to cease until the issue is rectified and approval is given to proceed. If requested, the Permit Holder is to commit resources to the satisfaction of the Contact Officer for an effective fish rescue, if in the view of that officer, a fish kill event is imminent and likely to occur within or adjacent to the works area due to conditions associated with weather, water quality and other parameters.

Reason – DPI Fisheries needs to be aware of fish kills so that it can assess the cause and mitigate further incidents in consultation with relevant authorities. They are also potentially contentious incidents from the public perspective. Work practices may need to be modified to reduce the impacts upon the aquatic environment.

IMPORTANT NOTE:

In the event of any inconsistency between the conditions of this approval and:

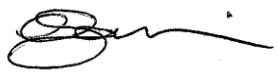
- the drawings / documents referred to above, the conditions of this approval prevail to the extent of the inconsistency.
- any Government publication referred to in this permit, the most recent document shall prevail to the extent of the inconsistency; and
- the proponent's mitigation measures outlined in the application; the conditions of this approval prevail to the extent of the inconsistency.

STOP WORK ORDERS

A Fisheries Officer or other appropriate delegate, who has reasonable cause to suspect that the conditions of this permit have not been complied with, **may order the work to stop immediately.** The order may be given to the permit holder or any person who informs the officer that they are acting in any capacity on behalf of the permit holder. Any damage caused to the habitat outside the specified permit area, or the carrying out of works not in accordance with the conditions specified in this permit and/or the application and that were accepted by the permit holder, could result in a breach of the *Fisheries Management Act 1994* or *Regulations*, and penalties of up

to $220,000 may apply. Orders may also be made requiring work to rectify any damage caused by unauthorised works. **Breaching a condition of a permit can incur an on-the-spot penalty notice of $500 or up to $11,000 through the courts pursuant to clause 225 of the *Fisheries Management (General) Regulation 2019.***

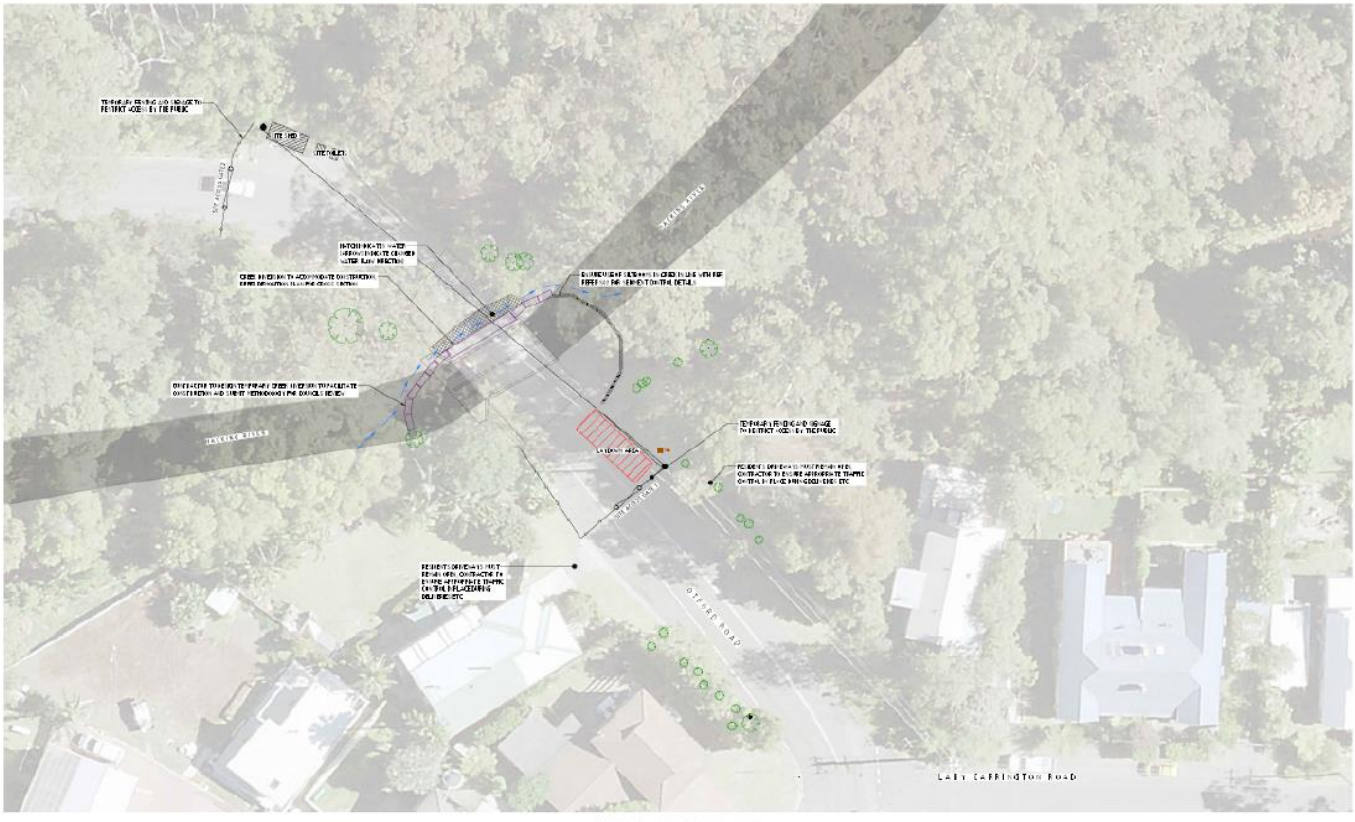
Sincerely



Carla Ganassin
Senior Fisheries Manager, Coastal Systems
DPI Fisheries
Authorised delegate of the Minister of Agriculture

30 June 2023

Attachment 1 – Location diagram of works (including erosion and sediment control plan) authorised under PN23/281



ESCP & SITE MANAGEMENT PLAN

Permit No. PN23/281 issued under Part 7 of the *Fisheries Management Act 1994*

PLEASE COMPLETE THIS PAGE AND RETURN TO DPI FISHERIES

In reference to Permit No. PN23/281 associated with culvert reconstruction to be undertaken at 108 Otford Rd, Otford:

Acceptance of Conditions Form

I the undersigned, acknowledge that I have read and understood and agree to comply with the conditions specified. I understand that penalties can be imposed for non-compliance with conditions.

Permit Holder's name: _____

Permit Holder's signature: _____

Date: _____

Please ensure you have SIGNED this page and RETAINED a copy for your records before you email it to:

ahp.central@dpi.nsw.gov.au

fisheries.compliance@dpi.nsw.gov.au

Permit No. PN23/281 issued under Part 7 of the *Fisheries Management Act 1994*

PLEASE COMPLETE THIS PAGE AND RETURN TO DPI FISHERIES

In reference to Permit No. PN23/281 associated with culvert reconstruction to be undertaken at 108 Otford Rd, Otford:

Commence Works Notification Form

(Note: to be completed and returned 3 – 5 working days before commencement of works)

Permit Holder's name: _____

Expected commencement date: _____

Permit Holder's signature: _____

Date: _____

Comments:

Please ensure you have SIGNED this page and RETAINED a copy for your records before you email it to:

ahp.central@dpi.nsw.gov.au

fisheries.compliance@dpi.nsw.gov.au

Permit No. PN23/281 issued under Part 7 of the *Fisheries Management Act 1994*

PLEASE COMPLETE THIS PAGE AND RETURN TO DPI FISHERIES

In reference to Permit No. PN23/281 associated with culvert reconstruction to be undertaken at 108 Otford Rd, Otford:

Active Works Notification Form

(Note: to be completed and returned 3 – 5 working days before completion of works or before machinery in removed from the site)

Permit Holder's name: _____

Anticipated completion date: _____

Permit Holder's signature: _____

Date: _____

Comments:

Please ensure you have SIGNED this page and RETAINED a copy for your records before you email it to:

ahp.central@dpi.nsw.gov.au

fisheries.compliance@dpi.nsw.gov.au

Appendix H: Plans