

QMS Fm 121

REVIEW OF ENVIRONMENTAL FACTORS: REF03766

CONCLUSIONS AND SIGN-OFF OF OTFORD WEIR REPAIR

This report documents the outcomes of the Review of Environmental Factors (REF) undertaken for proposed works comprising of repair of bank scour at Otford Weir.

The proposed activity has been assessed against the SEPP (Transport and Infrastructure) 2021, and does not require consent under Chapter 2 Division 25 Waterway or foreshore management activities

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 does require publication in accordance with EP&A Regulation (clause 171(4)), as it required a Fisheries Permit.

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:	<i>Maria Byrne</i>	Signature:	<i>Marina Porteous</i>
Date:	20/12/2022	Date:	20/12/2022

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

Name:		Name:	
Position:	<i>Project Coordinator</i>	Position:	<i>Designer Coordinator/Manager</i>
Signature		Signature:	
Date		Date:	

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

Name:		Name:	
Position:	<i>Council Officer responsible for Site Management</i>	Position:	<i>One up Supervisor</i>
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 Weir Repair
Location	Otford Weir (Hacking River) Lady Carrington Road, Otford
Land Ownership	Road Reserve
Land Classification	Land on which works are being undertaken is Road Reserve.
Project Description	<p>Design for Immediate repair of bank scour at Otford Weir.</p> <p>Works Area: approx. 50m² works area, filling of scoured section including:</p> <ul style="list-style-type: none">• Sediment Fencing and Straw Bale Traps set up• Minor trimming to scour wall, filling of scoured sections in bank and behind weir wall• Remediation of exposed soil with topsoil & grass seed <p>Note: Works adjoining the watercourse, no proposed impact to natural banks, installation of obstructions or removal of materials.</p>
Proposed Start Date & Work Period	Jan 2023 to February 2023
Work Equipment & Machinery	Excavator, Small Padfoot Roller, Cement truck, 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	<p>Minor/maintenance works with minimal impact provided suitable safeguards are in place. The only alternative being not to proceed.</p> <p>Therefore, it is concluded that the proposal should proceed.</p>

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.
Watercourse Management (Fisheries Permit Requirements – Summary)	
<p>Administrative Conditions:</p> <p>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. <i>Reason – To remove any doubt that the Permit Holder understands and accepts the Conditions before work commences.</i></p> <p>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. <i>Reason - To ensure that local DPI Fisheries staff are aware that the works authorised by this permit are about to commence.</i></p> <p>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. <i>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.</i></p> <p>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. <i>Reason – DPI Fisheries staff may wish to check compliance of works with imposed conditions</i></p> <p>Nature and Extent of Works:</p> <p>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 13 December 2022; plans for the works (Wollongong City Council, TR- 1103, Plan No. 7325, date 10/22,) and Review of Environmental Factors for the works (Wollongong City Council, ECM Ref: TR-1103, REF03766). Other works, which have not been described, excepting those activities required by this permit, are not to be undertaken. <i>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.</i></p> <p>Sediment and Erosion Control:</p> <p>6) Erosion and sediment mitigation devices are to be erected in a manner consistent with currently accepted Best Management Practice (i.e., <i>Managing Urban Stormwater: Soils and Construction</i> 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 weir remediation works and subsequently until the site has been stabilised and the risk of erosion and sediment movement from the site is minimal. <i>Reason – To ensure that sediment generated by the exposure of soil is not transported into the main water body.</i></p> <p>Dewatering:</p> <p>7) 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.</p>	

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

8) Any Dewatering Plan submitted to the Department must, as a minimum, ensure that:

- a) Dewatering pumps are screened with mesh of no greater than 6mm in diameter where they are operating instream;
- b) Daily checks of the sediment levels in the dewatering sediment dams are conducted to ensure adequate storage capacity;
- c) Dewatering operations must ensure retention of turbid water for a sufficient period to ensure mobilised sediments settle out

Reason – To prevent fish being sucked into pump intakes and to prevent discharge of sediment laden water caused by insufficient retention time.

Work in Waters:

9) 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.

10) Only clean rock (no fines) is to be used in construction of works authorised by this permit.

Reason – To avoid fines, clay, and other sediment unnecessarily entering the waterway and potentially impacting on aquatic habitats.

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.

12) A floating boom and attached silt curtain that extends for the full depth of the water column is to be used to isolate the work site and minimise the impacts of turbidity and mobilised sediment during construction. The curtain is to be installed, prior to commencement of any instream works and retained until after the completion of works. The curtain is to be maintained to ensure it operates effectively.

Reason – Minimise the impact of the works and maintain fish passage at the site.

13) Geotextile fabric is to be used to isolate the natural bed of the waterway from any imported clean rock fill or other material used to create a work platform within the bed of the waterway.

Reason – Improve the ability to remove imported clean rock used in the rock platform.

Timing of Works for Low Flows

14) Works are to be undertaken during low flows in the Hacking River (and when the Bureau of Meteorological forecast for the Wollongong Region indicates several days of dry weather).

Reason – Timing the works for appropriate conditions can reduce delays and minimise impacts on the aquatic environments.

Avoiding Harm to Snags and Riparian Vegetation:

15) 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.

16) 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 and the riparian zone 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.

17) 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.

18) 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 soils around the works site is to be revegetated with grass.

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:

19) 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.

Environmental Awareness

- The work crew or contractor must have a copy of the REF in the site truck and be fully aware of the REF safeguards to be implemented.
- The work crew or contractor will undergo an induction prior to work commencing and complete the induction checklist. The induction may cover environmental constraints and incident responses. A register of inductions and induction checklist will be maintained and provided if requested.
- Dial Before you Dig (DBYD) as part of this scope preparation. It is expected that the contractor will organise their own DBYD.
- Site meetings may be frequently conducted to identify issues that arise during the works regarding environment, safety, community and production. A register of attendees will be maintained.
- An Environmental Audit may be conducted to assess compliance with the REF and provide feedback on ways to improve work practices.

Erosion & Sediment Control

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. 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.

Fish Habitat

- Refer above and to Fisheries Permit – Conditions at Appendix F.

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** 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'.

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 immediately adjacent to 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 D)
- 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

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; brick 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 – none identified

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.

- Works to be carried out with care at or adjacent to an existing heritage monument when undertaking tree management works, as branches are not to be dropped on heritage monuments.

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 25 Waterway or foreshore management activities**.

SEPP (Transport and Infrastructure) 2021

Chapter 2

Division 25 Waterway or foreshore management activities – permitted without consent.

2.164 Definition

In this Division—

waterway or foreshore management activities means—

- (a) riparian corridor and bank management, including erosion control, bank stabilisation, resnagging, weed management, revegetation and the creation of foreshore access ways, and
- (b) instream management or dredging to rehabilitate aquatic habitat or to maintain or restore environmental flows or tidal flows for ecological purposes, and
- (c) coastal management and beach nourishment, including erosion control, dune or foreshore stabilisation works, headland management, weed management, revegetation activities and foreshore access ways, and
- (d) salt interception schemes to improve water quality in surface freshwater systems, and
- (e) installation or upgrade of waterway gauging stations for water accounting purposes.

2.165 Development permitted without consent

(1) Development for the purpose of **waterway or foreshore management activities** may be carried out by or on behalf of a **public authority without consent on any land**.

(2) To avoid doubt, subsection (1) does not permit the subdivision of any land.

(3) In this section, a reference to development for the purpose of waterway or foreshore management activities includes a reference to development for any of the following purposes if the development is in connection with waterway or foreshore management activities—

- (a) construction works,
- (b) routine maintenance works,
- (c) emergency works, including works required as a result of flooding, storms or erosion,
- (d) environmental management works.

Local Land Services Act 2013 & SEPP

This SEPP is not applicable for the purpose of section 60B of the act. The area is not listed under section 60E for the purpose of Native Vegetation Regulatory Map or the Draft Native Vegetation map.

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.

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. Matters of NES have been reviewed within the study area however, the low impact works are not likely to impact on any of the 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)

One of the objectives of the Fisheries Management Act 1994 is to 'conserve key fish habitats'. All endangered, vulnerable and endangered and vulnerable ecological communities or populations must be considered. The site of the works is within an area mapped as key fish habitat; accordingly a permit has been sought from DPI Fisheries, which will form part of the requirements under this REF.

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.

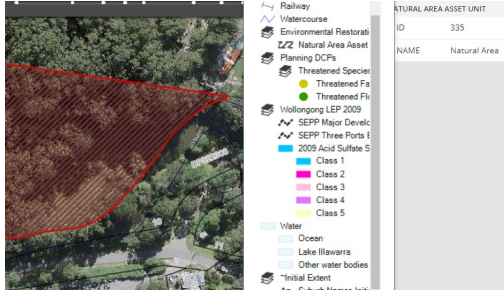
5. ENVIRONMENTAL FACTORS IDENTIFIED AND EVALUATED

The following table has been completed following a site inspection 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: i. within 200m of waters ii. located within a sand dune system iii. located on a ridge top iv. ridge line or headland v. located within 200m below or above a cliff face vi. within 20m of or in a cave, rock shelter, or a cave mouth vii. is on land that is not disturbed land particularly at any of the above locations		Yes – AHIMS indicates no Aboriginal Heritage and Safeguards for unexpected finds in Section 3.
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 – none identified within footprint of the proposed works.
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?		Unlikely – repair works
Are the works within a flood affected zone?		The proposal does not represent an increased risk to life or property in regard to flooding.
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)?		No
Will the works create areas of unprotected soil or loose surface for more than 24 hours?		Unlikely but refer to Safeguards in Section 3.

ENVIRONMENTAL FACTOR	Impact L/M/H	Extent, Duration, Type Comment
Could the works result in disturbance of contaminated land or contaminated material listed under WCC IntraMaps?		No – none identified near the footprint or within the footprint of the proposed works.
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		No
Are the works a Coastal Geotechnical risk under Coastal Zone Study under WCC IntraMaps?		No
Are the works subject to the <i>Wollongong Coastal Zone Management Plan 2017</i> ?		No
Flora & Fauna/Tree Protection/Access/Community Environmental Impacts		
Is any vegetation required to be removed?	Overall impact – LOW	No
Will the work occur within a regulated category listed under Part 5A of <i>Local Land Services Act 2013</i> ? Refer to the Native Vegetation Regulatory Map .		No
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.		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.
Is the area within a Vegetation Community identified in NP-PCT Vegetation Layer under WCC IntraMaps Constraints?		PCT Vegetation – weeds and exotics NP Vegetation – MU16 and nearby MU56c – weeds and exotics. Surrounding MU16 Escarpment Blackbutt Forest. Tree removal is not proposed or required. Refer to Appendix C
Are the works located on land identified as the Escarpment Management Plan Area under WCC IntraMaps Constraints?		No
Is the area within a Habitat Model in WCC IntraMaps Constraints?		Yes. The surrounding area is mapped as potential habitat of the following:



ENVIRONMENTAL FACTOR	Impact L/M/H	Extent, Duration, Type Comment
		<ul style="list-style-type: none"> • Greater Glider • Mountain Brushtail Possum • Green Catbird • Sooty Owl • Golden-crowned Snake • Grey-headed Flying fox • Southern Myotis <p>(Refer to details at Appendix C) Note: the proposed works do not require the removal of vegetation.</p>
Do the works occur within Key Fish Habitat? Refer to Threatened Fish Species List .		Yes
Are the works to be conducted within a Natural Area Asset? (Refer to the WCC IntraMaps Environmental Restoration layer)		<p>Adjacent – mapped as Natural Area - 335.</p> 
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?		Yes but the works will not adversely impact the bushfire constraints.
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 on the site but refer to for habitat assessment.
Amenity / Noise		
Are the works located on land identified as Community Land, on the WCC IntraMaps LEP Community Land Maps?	Overall impact – LOW	No
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		No

ENVIRONMENTAL FACTOR	Impact L/M/H	Extent, Duration, Type Comment
the future? Refer to Point of Interest in features on the Base Map Information		
Will the works cause excess noise?		During work hours – 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?		No – minor works with minimal visual impact
Does the works fall under SEPP (Transport and Infrastructure) 2021 Exempt Developments?		No
Cumulative Impact Assessment - existing or future?		No – minor works with minimal visual impact
Any applicable local strategic planning statement, regional strategic plan or district strategic plan made under Division 3.1 of the Act. Issues, objectives, policies and actions identified in local, district and regional plans Goals <u>We value and protect our environment</u> <u>We have an innovative and sustainable economy</u> <u>Wollongong is a creative, vibrant city</u> <u>We are a connected and engaged community</u> <u>We have a healthy community in a liveable city</u> <u>We have affordable and accessible transport</u>		Yes The proposal is consistent with the objectives and vision of ‘Our Wollongong Our Future 2032: Community Strategic Plan’ for the LGA. <i>‘From the mountains to the sea, we value and protect our natural environment and we will be leaders in building an educated, creative and connected community.’</i>

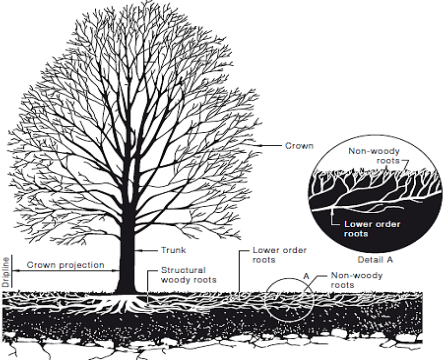
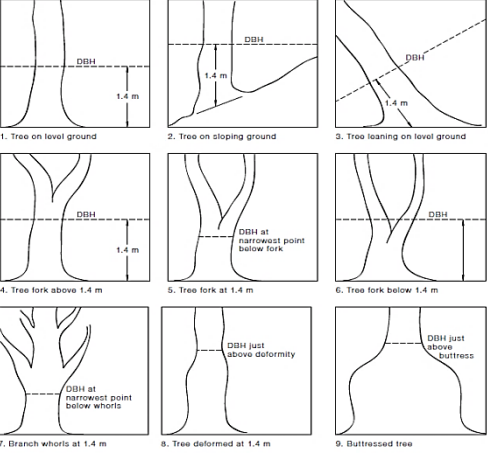
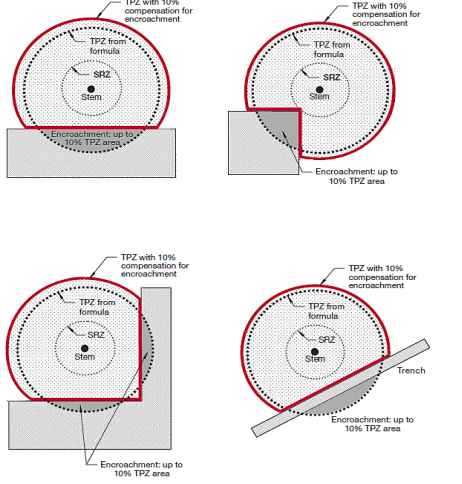
Wollongong City Council’s requirements are considered to have been satisfied through the identification and assessment of environmental issues and risks undertaken in this report. Provided there are no changes to the scope of works identified in this report, no further EIA is required.

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.**

- 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 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.










Appendix B: Tree Protection Procedure


 <p>FIGURE B1 STRUCTURE OF A TREE IN A NORMAL GROWING ENVIRONMENT</p> <p>www.standards.org.au © Standards Australia</p>	<p>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.</p> <p>TPZ standard should be:</p> <ul style="list-style-type: none"> 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
	<p>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:</p> <ul style="list-style-type: none"> 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. <p>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).</p>
	<p>The indicative SRZ radius can be determined from the trunk diameter measured immediately above the root buttress using the following formula:</p> <ul style="list-style-type: none"> SRZ radius = $(D \times 50)0.42 \times 0.64$ (Where D = trunk diameter in metres measured above the root buttress) <p>Note: The SRZ for trees with trunk diameter less than 0.15m will be 1.5m</p> <p>Encroachment into TPZ is sometimes unavoidable:</p> <ul style="list-style-type: none"> 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) <p>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.</p>

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 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.

Scientific Name	Common Name	BC Act	EPBC Act	Habitat Requirements	Likelihood
<i>Trichosurus caninus</i> 	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.
<i>Petauroides volans</i> 	Greater Glider	P	V	Found in a variety of Eucalypt forests, and utilises the tree hollows of these mature forests. It once occurred in the Eucalypt forests along the entire Illawarra escarpment, but seems to have suffered local extinctions in the Royal National Parks and the northern escarpment around Coalcliff. It has recently been recorded at a number of locations between Cataract Reservoir and Macquarie Pass.	Unlikely It is unlikely that this species will be impacted due to the nature and isolation of the works.
<i>Ailuroedus carassirostris</i> 	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.
<i>Tyto tenebricosa</i> 	Sooty Owl	VP		Occurs in rainforest, including dry rainforest, subtropical and warm temperate rainforest, as well as moist eucalypt forests. Roosts by day in the hollow of a tall forest tree or in heavy vegetation; hunts by night for small ground mammals or tree-dwelling mammals such as the Common Ringtail Possum or Sugar Glider. Nests in very large tree-hollows.(OEH)	Unlikely It is unlikely that this species will be impacted due to the nature and isolation of the works.
<i>Cacophis squamulosus</i> 	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.	
<i>Myotis macropus</i> (formally <i>Myotis adversus</i>) 	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.

<p><i>Pteropus poliocephalus</i></p> 	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 <i>the Eucalyptus, gummifera, E. muellerana, E. globoidea and E. botryoides</i> , 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.
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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
<p>MU56c Weeds and Exotics</p> <p>Infestation by weeds and other exotic species is common on the Illawarra Escarpment and Coastal Plain. Lantana (<i>Lantana camara</i>) is the most conspicuous of these species, often forming scrambling impenetrable scrubs. These areas are prominent on former grazing and mining sites on escarpment benches and gullies. Weeds and exotics have been mapped as a feature where they dominate and as a disturbance descriptor where they occur in combination with native vegetation communities. Roadside plantations have been included in this map unit. Remnant vegetation along riparian strips are often a combination of Willow Trees (<i>Salix</i> spp.), Coral Trees (<i>Erythrina X sykesii</i>) and isolated native species.</p> 	<p>BC Act: Not Listed</p> <p>EPBC Act: Not Listed</p>	Unlikely Provided safeguards outlined in this report are in place, it is unlikely that this Community will be impacted by the works, given the distance from the site and the closed nature of the proposal.

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.

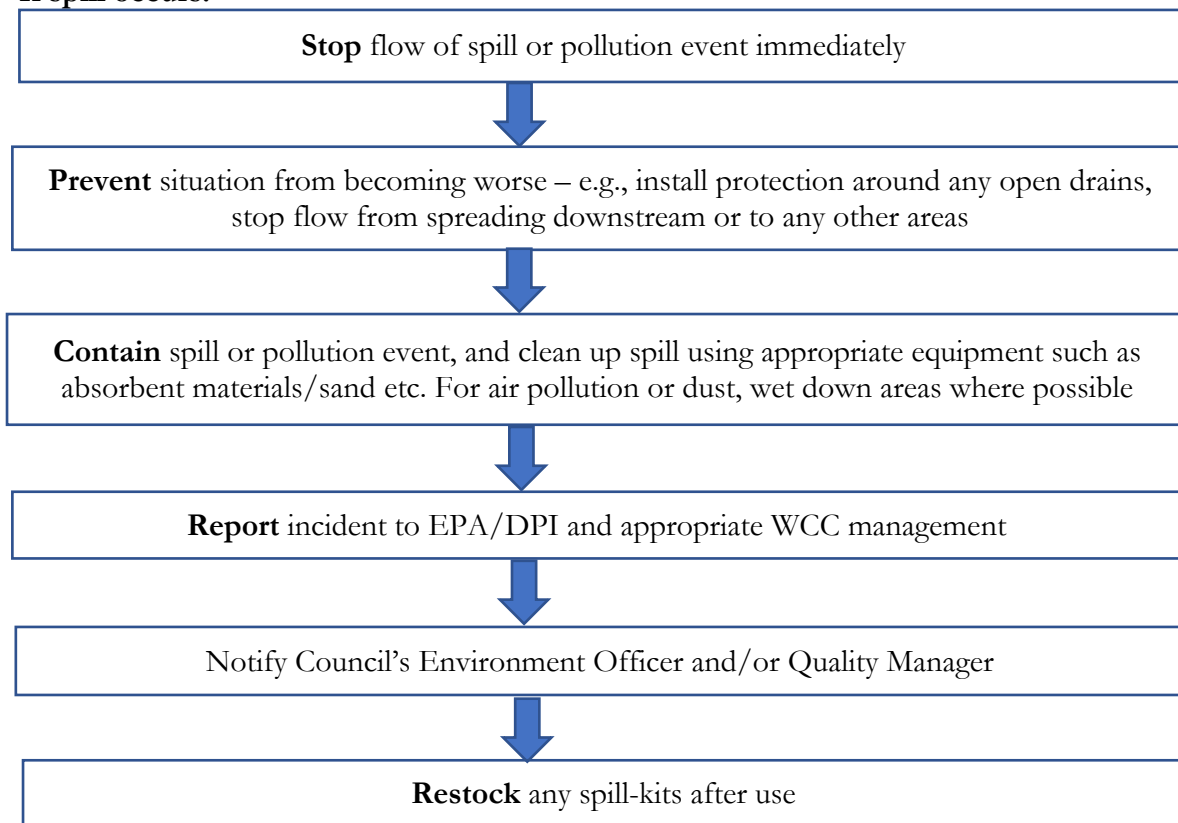
APPLICATION

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:



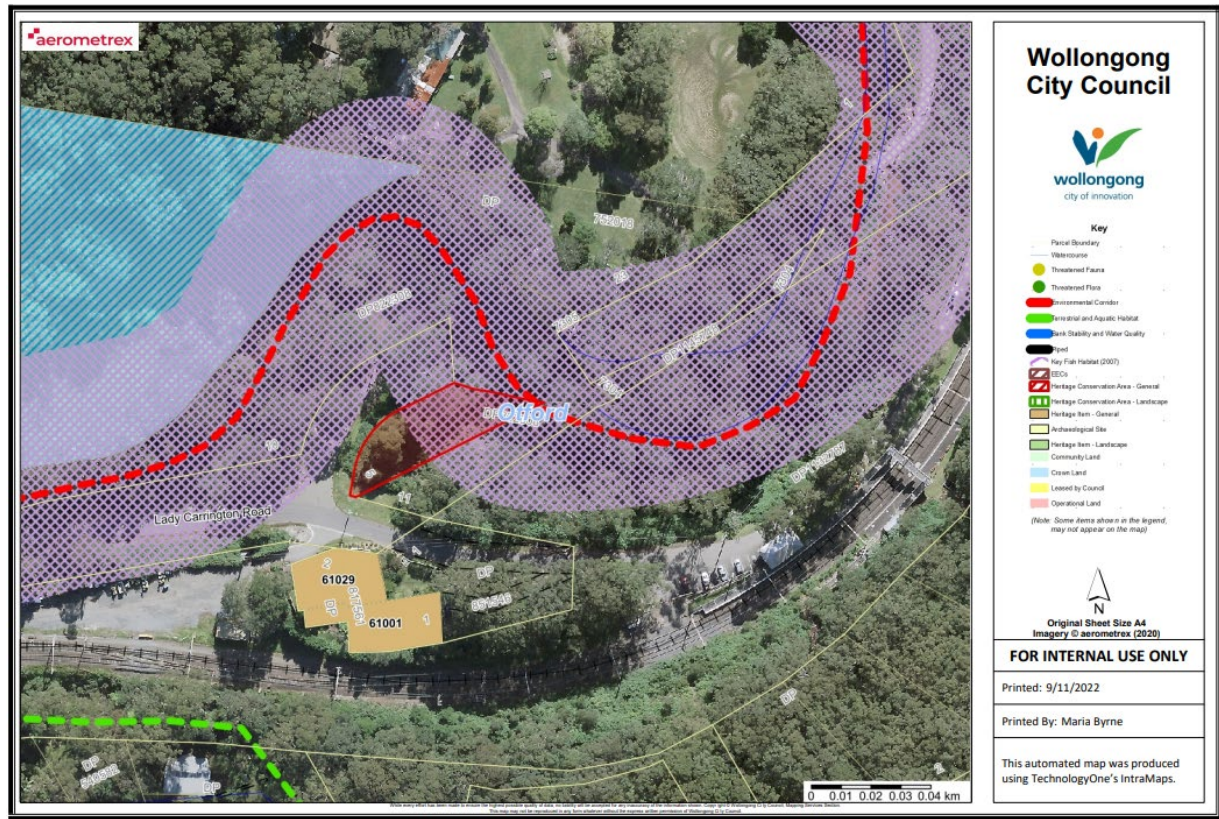
CHECKLIST

- 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 / Plans



OTFORD WEIR REPAIR LADY CARRINGTON ROAD, OTFORD

TR-1103 PLAN No. 7325

DRAWING SCHEDULE

SHEET No.	DESCRIPTION
D01	COVER SHEET AND LOCATION PLAN
D02	NOTES
D03	ENVIRONMENTAL SITE MANAGEMENT PLAN
D04	DEVELOPMENT AND STAGE 1 WORKS PLAN
D05	STAGE 2 WORKS PLAN
D06	STAGE 3 RE-DEVELOPMENT WORKS PLAN



LOCATION PLAN
LADY CARRINGTON ROAD

PRELIMINARY PLAN - NOT FOR CONSTRUCTION									
CITY OF WOLLONGONG									
OTFORD WEIR REPAIR LADY CARRINGTON ROAD OTFORD COVER SHEET AND LOCATION PLAN									
SCALES		VERTICAL		HORIZONTAL		AS NOTED			
PROJECT NO.		7325		DRAWN BY		D00			
DATE		9/11/2022		CHECKED BY		D00			

REF03766

[illegible]

QUALITY GENERAL

1. THE CONTRACTOR SHALL SELECT AND MAINTAIN A QUALITY CONTROL SYSTEM TO MONITOR THE PERFORMANCE OF HIS PERSONNEL. THE QUALITY SYSTEM SHALL BE SUBMITTED FOR REVIEW BY ALL ASPECTS OF THE OWNER.
2. DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR SHALL MAINTAIN ADEQUATE AND AVAILABLE TO THE OWNER RECORDS AND SHALL HAVE INFORMATION AVAILABLE TO THE SUPERVISOR FOR REVIEW. FAILURE TO MAINTAIN RECORDS AS REQUESTED WILL RESULT IN THE CONTRACTOR BEING FINED OR BEING FINED TWICE IF REQUESTED TO DO SO DURING THE COURSE OF THE PROJECT.
3. AT THE COMPLETION OF EACH LINE OF THE WORK, THE CONTRACTOR SHALL NOTIFY THE TRUCKING OWNER. NO LINE IS TO BE OPENED AND TO BE OPENED IN ACCORDANCE WITH THE DESIGNER, SUPERVISOR AND INSPECTOR'S ORDER DURING THE COURSE OF THE PROJECT.

SAFETY GENERAL

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES AND STRUCTURES EXISTING ON THE PROJECT SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES AND STRUCTURES EXISTING ON THE PROJECT SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES AND STRUCTURES EXISTING ON THE PROJECT SITE.
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EXISTING SERVICES GENERAL

5. EXISTING SERVICES HAVE BEEN FILTERED FROM SUPPLIED DATA. THE COMPANY IS NOT GUARANTEED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CHECK LOGS, TAPES AND RECORDS OF ALL SERVICES FROM TO CORRECTING AND ALL CORRECTIONS AND REPAIRS SHALL BE OBTAINED BY THE CONTRACTOR FROM THE HOLDING SERVICE WITHOUT FEE TO THE CONTRACTOR'S LOSS.

[illegible][illegible]

1. EXISTING MATERIAL WHICH IS NOT TO BE REMOVED SHALL BE TAKEN OFF AND REINFORCED PROPERLY.

2. ALL EXISTING AND EXISTING MATERIAL SHALL BE DISMANTLED IN PLACE TO PREVENT THE REMOVAL THEREOF AND REINFORCE. REMOVED MATERIAL SHALL BE PROPERLY STORED AND REUSE. EXISTING MATERIAL WHICH IS BEING RE-USE TO REINFORCE SHALL BE AS GOOD AS NEW.

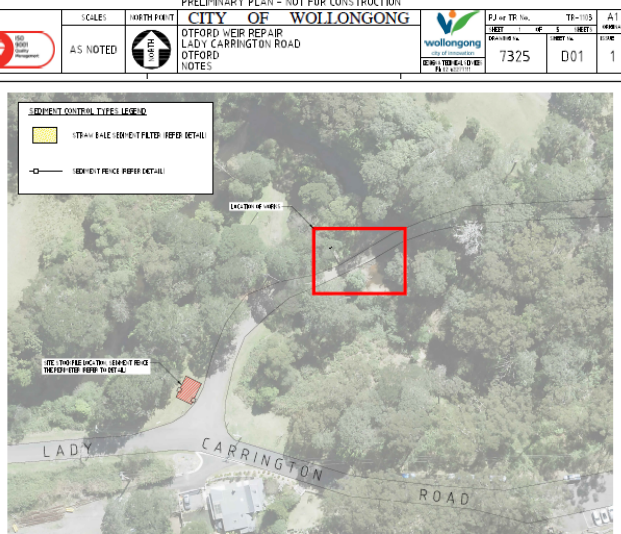
3. ALL EXISTING AND EXISTING STRUCTURE, INCLUDING ALL EXISTING, TO BE REMOVED SHALL BE REMOVED IN PLACE TO PREVENT THE REMOVAL THEREOF AND REINFORCE. EXISTING MATERIAL SHALL BE DISMANTLED IN PLACE TO PREVENT THE REMOVAL THEREOF AND REINFORCE. EXISTING MATERIAL SHALL BE DISMANTLED IN PLACE TO PREVENT THE REMOVAL THEREOF AND REINFORCE.

HOLD POINT SCHEDULE

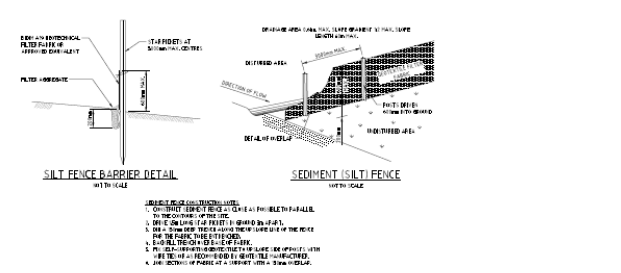
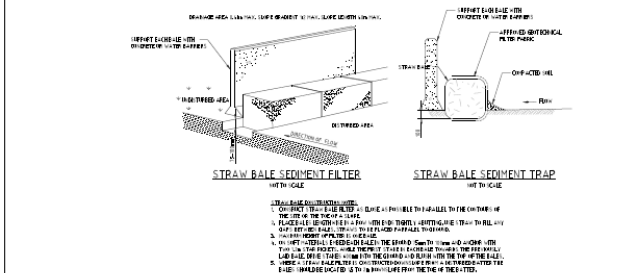
1. THE CONTRACTOR IS TO FOLLOW THE HOLD AND RELEASE POINT SCHEDULE FOR ALL CONTRACTS THIRD PARTY SUBMITTALS.




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ENVIRONMENTAL MANAGEMENT PLAN

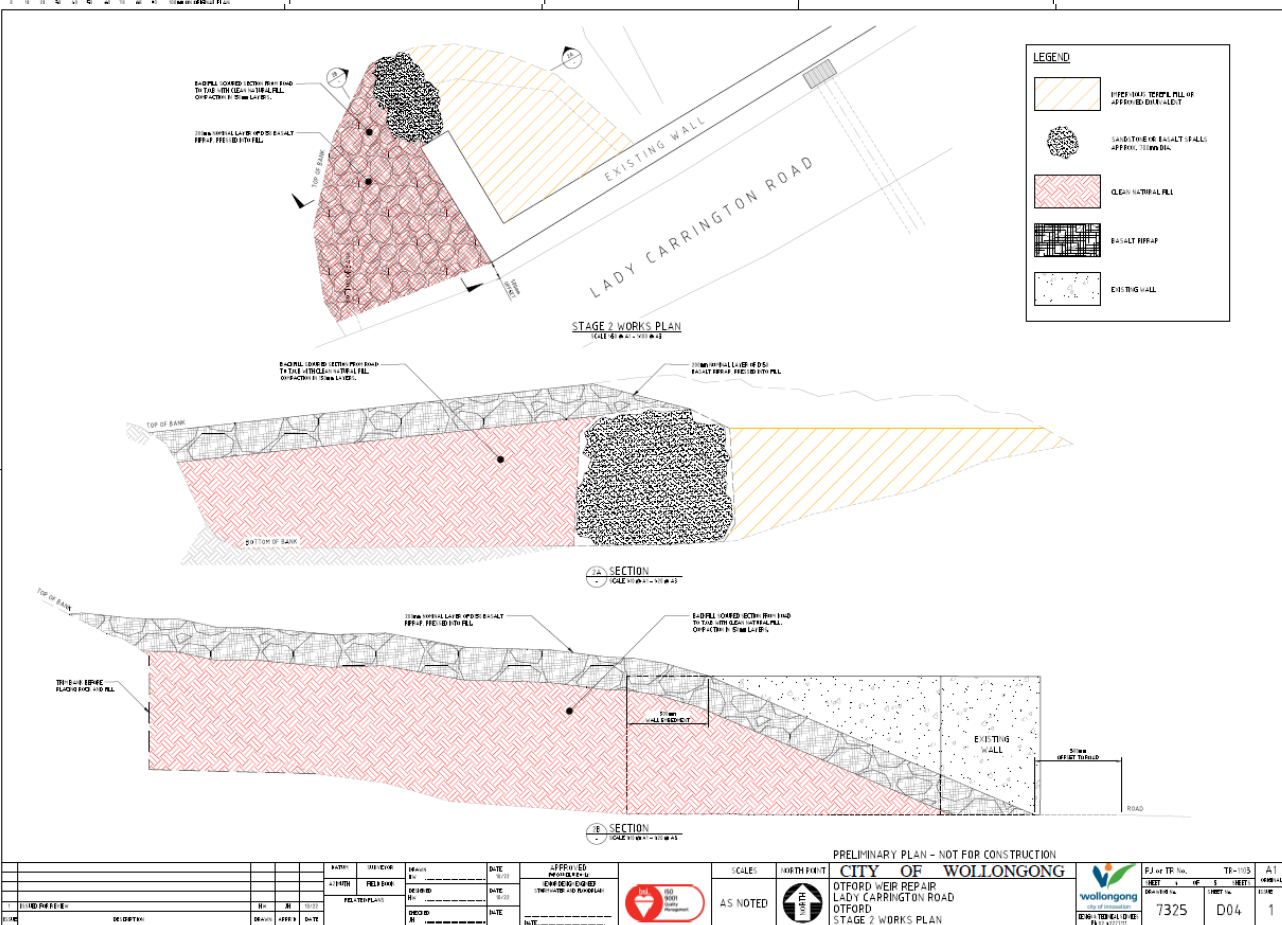
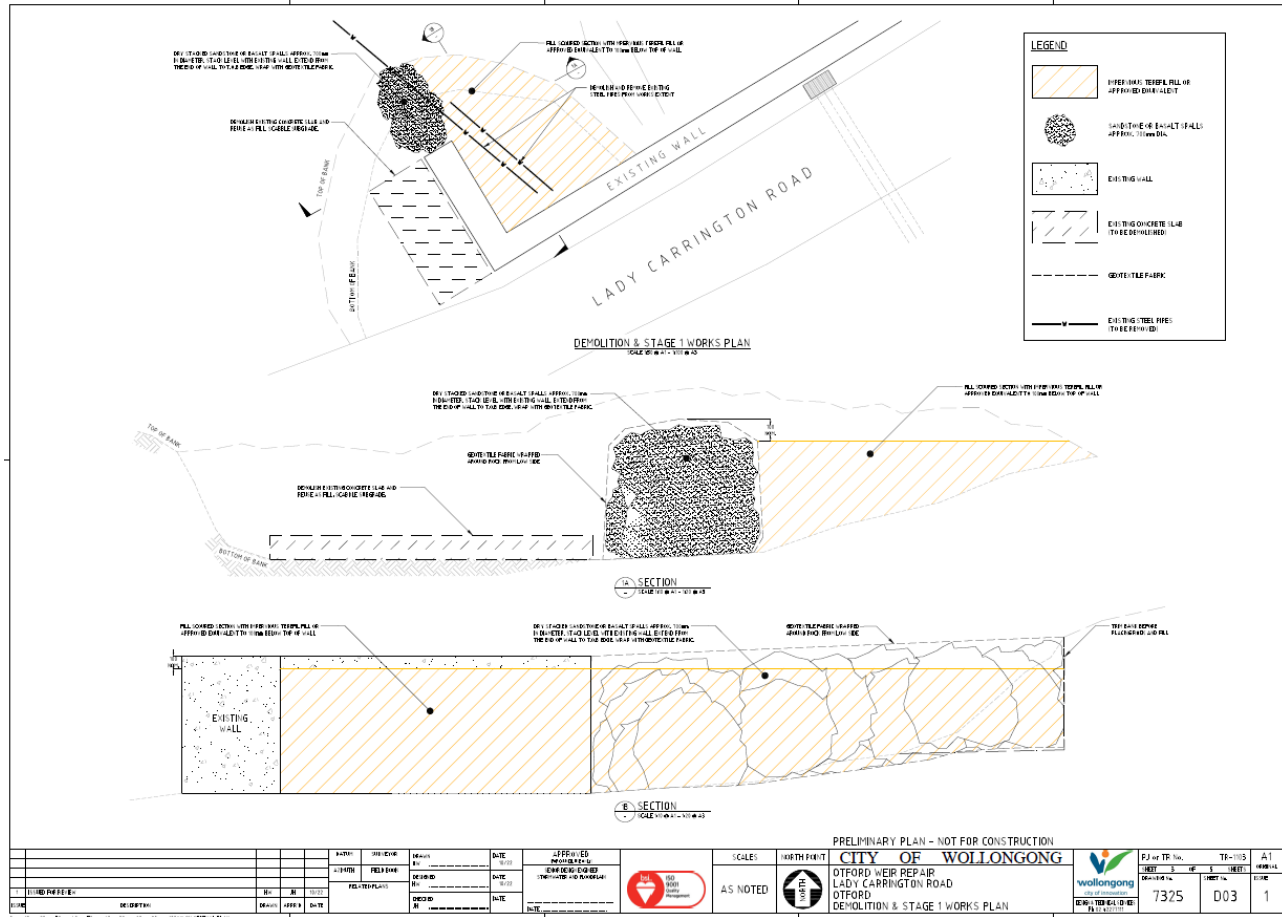


SITE MANAGEMENT PLAN

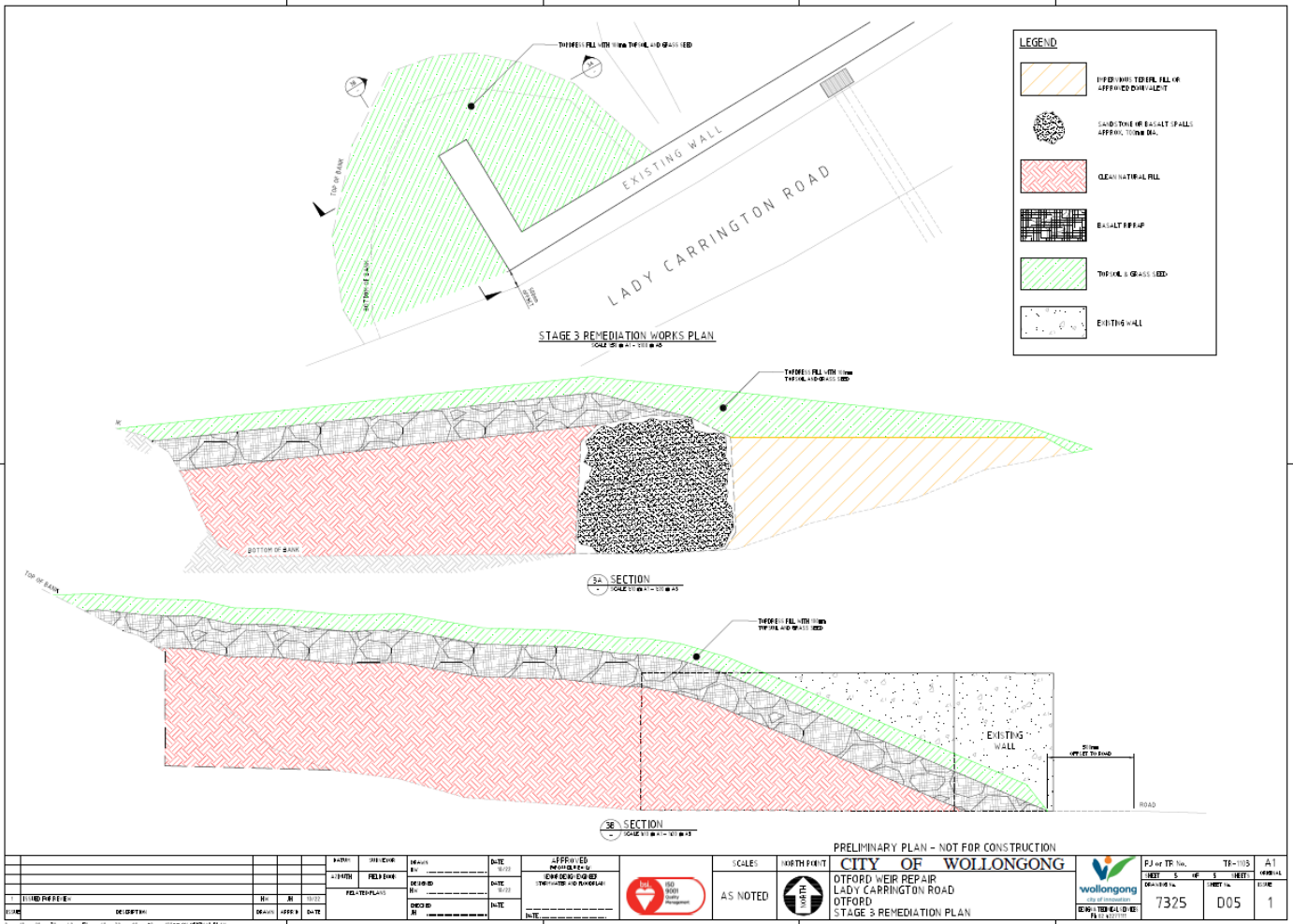
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PRELIMINARY PLAN - NOT FOR CONSTRUCTION					
SCALE:	NORTH POINT	CITY OF WOLLONGONG		P2 or TP No.	TP-103
AS NOTED		OTFORD WEIR REPAIR LADY CARINGTON ROAD OTFORD ENVIRONMENTAL & SITE MANAGEMENT PLAN		Sheet No.	002
				7325	1

Review of Environmental Factors REF03766



Review of Environmental Factors
REF03766



Appendix F: DPI – Fisheries

Department of Primary Industries
Department of Regional NSW



PN22/557
20 December 2022

General Manager
Wollongong City Council
41 Burrelli Street
WOLLONGONG NSW 2500

Attn: Joel Harris

Re: Fisheries Permit PN22/557 – Dredging and reclamation – weir remediation works – Otford Weir, Hacking River (Lot 12 DP 816709)

Dear Mr Harris,

I refer to your application dated 13 December 2022 for a permit under Part 7 of the *Fisheries Management Act 1994* (FM Act). DPI Fisheries, a division of NSW Department of Primary Industries, assesses applications for dredging and reclamation in accordance with Part 7 of the FM Act, Part 14 of the *Fisheries Management (General) Regulation 2019* and the *Policy and Guidelines for Fish Habitat Conservation and Management (2013)*.

This application attracts a minimum fee of \$358.00. The fee comprises \$179.00 application fee plus \$179.00 for the first three hours of assessment. An invoice of \$358.00 has been raised and will be emailed separately.

The environmental assessment has been completed and it has been determined that a permit can be issued. The permit is attached and takes effect on receipt of payment.

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), 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*.

Please carefully read and note the conditions included in the permit. If you agree that all the conditions are reasonable, appropriate, and achievable, you must sign and date the attached form (Acceptance of Conditions) and return it to the Departmental Contact Officer as soon as possible. If you believe that you cannot comply with all the Conditions, then you must not commence work. Instead, you should contact the Departmental Contact Officer listed on the first page of the permit so that your concerns can be considered.

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02 4222 8342
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If you intend to have the work undertaken by a contractor, please ensure that the contractor receives a full copy of the permit and understands the importance of abiding by the conditions. As the permit holder, you are responsible for ensuring compliance with all conditions therein and with any other legislative obligations. Breaching a condition of a permit can incur an on-the-spot penalty notice of \$500 of up to \$11,000 through the courts in accordance with clause 225 of the *Fisheries Management (General) Regulation 2019*.

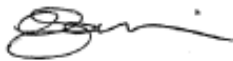
The extent of work is to be restricted to that outlined in the application and plans submitted to the Department. If for any reason, other works are required, or the works need to be extended to other areas, you must seek specific approval beforehand. DPI Fisheries will require a justification for these variations and may charge additional assessment fees as outlined in the permit application. Similarly, please note the expiry date on the permit. If the works are not completed by the expiry date you will need to obtain an extension. Requests for an extension after the expiry date will incur the \$179.00 permit application fee. Requests for an extension before the expiry date will not incur an application fee.

DPI Fisheries, places particular importance upon the need to minimise the harm to the natural environment both at the work site and in downstream/adjacent waters. The Department expects implementation of Best Management Practice with respect to erosion and sediment control as outlined in the publication "Managing Urban Stormwater: Soils and Construction" (4th Edition Landcom, 2004), commonly referred to as "The Blue Book" (see <https://www.environment.nsw.gov.au/research-and-publications/managing-urban-stormwater-soils-and-construction-volume-1-4th-edition>).

The extent and magnitude of works is such that I have included a condition requiring the preparation of a Construction Environmental Management Plan (CEMP) to be submitted to and approved by DPI Fisheries prior to the commencement of works. The CEMP is to incorporate erosion and sediment control measures to be used at the site, dewatering procedures, and site rehabilitation / revegetation provisions.

If you have any queries regarding this permit, please contact Carla Ganassin on 4222 8342.

Sincerely



Carla Ganassin

Senior Fisheries Manager, Coastal Systems

DPI Fisheries

Authorised delegate of the Minister of Primary Industries

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

Permit	Permit Number	PN22/557
	Expiry Date	Unless cancelled or suspended sooner, this permit shall remain in force until 20 December 2024
Permit Holder:	Wollongong City Council 41 Burelli Street, Wollongong NSW 2500 Contact person: Maria Byrne Phone: 4227 7111 Email: mbyrne@wollongong.nsw.gov.au	
Permit Area:	Adjacent to Otford Weir, Hacking River (Lot 12 DP 816709) (Refer to Attachment 1)	
Permit Activity:	Dredging & reclamation in association with or in relation to weir remediation works	
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

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(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 13 December 2022; plans for the works (Wollongong City Council, TR- 1103, Plan No. 7325, date 10/22,) and Review of Environmental Factors for the works (Wollongong City Council, ECM Ref: TR-1103, REF03766). 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.

SEDIMENT AND EROSION CONTROL

- 6) 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 weir remediation works and subsequently until the site has been stabilised and the risk of erosion and sediment movement from the site is minimal.

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

DEWATERING

- 7) 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.

- 8) Any Dewatering Plan submitted to the Department must, as a minimum, ensure that:
- a) Dewatering pumps are screened with mesh of no greater than 6mm in diameter where they are operating instream;
 - b) Daily checks of the sediment levels in the dewatering sediment dams are conducted to ensure adequate storage capacity;
 - c) Dewatering operations must ensure retention of turbid water for a sufficient period to ensure mobilised sediments settle out

Reason – To prevent fish being sucked into pump intakes and the prevent discharge of sediment laden water caused by insufficient retention time.

WORK IN WATERS

- 9) 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.

- 10) Only clean rock (no fines) is to be used in construction of works authorised by this permit.

Reason – To avoid fines, clay, and other sediment un-necessarily entering the waterway and potentially impacting on aquatic habitats.

- 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.

- 12) A floating boom and attached silt curtain that extends for the full depth of the water column is to be used to isolate the work site and minimise the impacts of turbidity and mobilised sediment during construction. The curtain is to be installed, prior to commencement of any instream works and retained until after the completion of works. The curtain is to be maintained to ensure it operates effectively.

Reason – Minimise the impact of the works and maintain fish passage at the site.

- 13) Geotextile fabric is to be used to isolate the natural bed of the waterway from any imported clean rock fill or other material used to create a work platform within the bed of the waterway.

Reason – Improve the ability to remove imported clean rock used in the rock platform.

TIMING OF WORKS FOR LOW FLOWS

- 14) Works are to be undertaken during low flows in the Hacking River (and when the Bureau of Meteorological forecast for the Wollongong Region indicates several days of dry weather).

Reason – Timing the works for appropriate conditions can reduce delays and minimise impacts on the aquatic environments.

AVOIDING HARM TO SNAGS AND RIPARIAN VEGETATION

- 15) 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.

- 16) 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 and the riparian zone 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.

- 17) 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.

- 18) 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 soils around the works site is to be revegetated with grass.

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

- 19) 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:

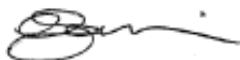
In the event of any inconsistency between the conditions of this approval and:

- 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

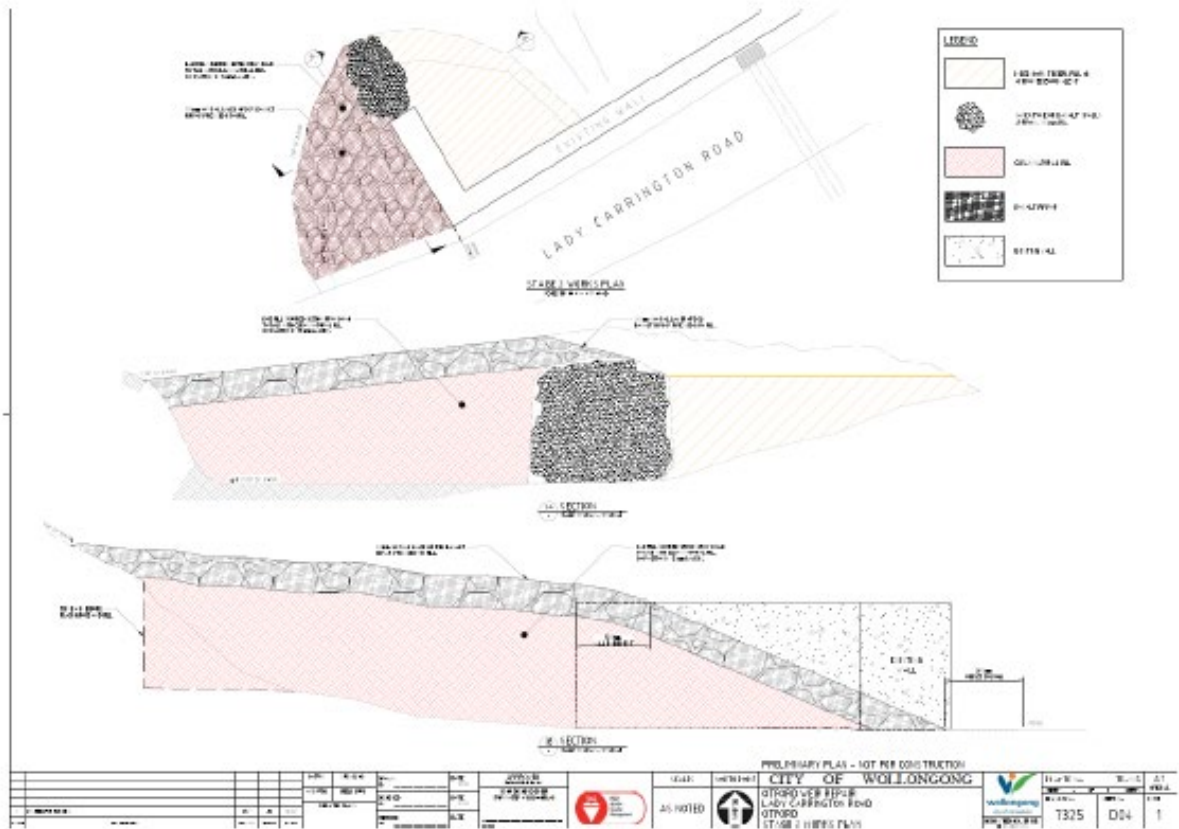


Carla Ganassin
Senior Fisheries Manager, Coastal Systems
DPI Fisheries
Authorised delegate of the Minister of Primary Industries

20 December 2022

Attachment 1 – Location diagram of works authorised under PN22/557





**Permit No. PN22/557 issued under Part 7 of the
*Fisheries Management Act 1994***

PLEASE COMPLETE THIS PAGE AND RETURN TO DPI FISHERIES

In reference to Permit No. PN22/557 associated with dredging and reclamation to be undertaken at
Otford Weir:

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. PN22/557 issued under Part 7 of the
*Fisheries Management Act 1994***

PLEASE COMPLETE THIS PAGE AND RETURN TO DPI FISHERIES

In reference to Permit No. PN22/557 associated with dredging and reclamation to be undertaken at
Otford Weir:

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:**

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PLEASE COMPLETE THIS PAGE AND RETURN TO DPI FISHERIES

In reference to Permit No. PN22/557 associated with dredging and reclamation to be undertaken at
Otford Weir:

Active Works Notification Form

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

Permit Holder's name: _____

Anticipated completion date: _____

Permit Holder's signature: _____

Date: _____

Comments:

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