

Minor Works Environmental Impact Assessment (EIA) /Minor Works Review of Environmental Factors(REF) Form

This EIA form is used by WaterNSW to assess and approve minor works that are either *Development Without Consent* or *Exempt Development*. It records & assesses activities or project works where environmental impacts are minimal or not likely to significantly affect the environment.

If you are unsure how to answer anything in this Form, please contact the Environmental Services Team for assistance and advice.

SECTION 1 PROJECT SCOPE

	QUESTIONS	ANSWERS	GUIDANCE
1.1	Organisation/Business Unit/Team	Asset Delivery	
1.2	WaterNSW representative and contact details	[REDACTED]	
1.3	Has a site inspection been undertaken? If so by whom and when?	The sites have been inspected by representatives from WaterNSW, WSP and TDG Environmental in February 2023.	<i>It is recommended the person undertaking site inspection should also complete this Form.</i>
1.4	ARK Reference – Project Folder/Work Folder	F2020/6416	<i>Save your work to ARK and include the ARK numbers here. Provide project/works folder for background information</i>
1.5	Project Number/Budget Code	UN320037.21	<i>Environmental Services time taken to process this request will be assigned to the project. ①</i>
1.6	Project or Works Value	\$75,000.00	
1.7	Project or Works Title	Upper Canal Stormwater Drainage Infrastructure Condition Assessment and Renewal	<i>Include the full name for the project or work you propose undertaking.</i>
1.8	Scope of Works: What is to be undertaken and how?	<p>The scope of work includes:</p> <ul style="list-style-type: none"> - Cleaning of the Upper Canal syphons (about 60 in total) using jetting and a vacuum truck . - Undertaking a Condition Assessment of the Syphons using CCTV (Closed-circuit television) to determine work required to improve the drainage system - Fly over of the canal via un manned aerial vehicle (UAV) for canal baseline 3D model and drainage infrastructure condition assessment data <p>On 28/8/2023 Environmental Services Team were advised that the baseline 3D modeling required the installation of approximately 500 survey points beside the Canal along the road corridor so the imagery could be undertaken and ground truthed.</p> <p>The scope for the survey point installation is to place:</p> <ul style="list-style-type: none"> - a survey mark and marker paint on one of the concrete road paths/strips where the double concrete path/strips is present. This will be done by placement of a 20-25mm concrete anchor (5-6mm diameter) and paint spray over it using a standard template, and - where there is unformed roads or bitumen roads a 30x30cm Vinyl tile between the existing tracks will be placed and secured with a 200mm x 9mm galvanised decking spike. <p>Images of the intended works and description of methodology were advised in D2023/74006.</p> <p>Twenty to thirty survey marks were also requested on the actual Canal walls, headwalls, etc but as this is assessed as Exceptional fabric and this can not be undertaken without approval under the Heritage Act, 1977.</p>	<i>Clearly outline the full scope of work and activities, including equipment type, size, quantity; sequence and tasks involved including site establishment, stockpiles; temporary structures such as site sheds; any block banks and de-watering.</i>
1.9	Proposed Start Date and Expected Duration of works	Start in September 2023 with anticipated duration of 6 months.	
1.10	Planned Site Work Hours	<p>Mon-Fri - 6:00am to 6:00pm Sat, Sun & Public Holiday - No work (Works prior to 6am are not noisy - ie. tool box meetings)</p>	<p><i>Identify the planned site work hours.</i></p> <p><i>Standard Hours are : Mon-Fri 7am-6pm, Sat 8am-1pm, No work Sunday or Public Holidays.</i></p> <p><i>Non-standard hours may require additional noise assessments to be prepared</i></p>
1.11	One-off Project or Routine work	<input type="radio"/> One Off <input checked="" type="radio"/> Routine	
1.11.1	How many times per year is this project or work undertaken?	The syphon cleaning and investigation is a one off activity. The 3D model of the Canal will be run over a number of years and the survey markers may have to be replaced each time before the aerial monitoring is undertaken.	
1.12	Location	Upper Canal - from Cataract Tunnel (10000) to Prospect Reservoir	<i>Identify the location of the project or work (e.g. which asset). Be sure to include the access roads / route</i>
1.13	Site Plan / Photos / Aerial Photo:	Refer D2020/3779 Upper Canal Map book showing the	

Add Figures or ARK reference to figures

alignment of the Upper Canal.
Refer below photographs showing overview of some syphon structures along the canal

Add Figure or Photo

Remove Figure or Photo





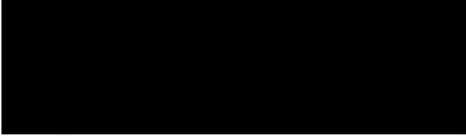
1.14	Is the land and/or asset owned by WaterNSW?	<input checked="" type="radio"/> Yes <input type="radio"/> No	Site ownership details can be found at; Vested orders (DOC11/8076) Land Titles Office NULA ⓘ
1.14.1	Provide evidence of ownership and detail what the land is used for	WaterNSW as confirmed in NULA. Controlled Area - no entry	Provide details of landuse e.g operational area, Special Area, Controlled Area, recreational area, agricultural area etc ⓘ http://www.watersw.com.au/supply/Greater-Sydney/system NULA
1.15	Lot and DP	Lot 3 - DP719962, Lot 1 - DP338801, Lot 1 - DP1006964 Lot 1 - DP625921, Lot 2 - DP625921, Lot 3 - DP625921 Lot 1 - DP730136, Lot 2 - DP730136 With the introduction of the survey marker works there are too many Lots to list and precise locations are not known at this stage as it is the entire length of the Upper Canal.	Find a property using NULA or the NSW Planning Portal
1.16	What is the Local Government Area (LGA)?	Wollondilly Council Campbelltown Council Liverpool Council Camden Council	Use: 1. LPI SIX Maps or 2. NSW Planning Portal or 3. NULA
1.17	What is the zoning of the site?	SP2 - Infrastructure : Water Supply System	Provide details of the zoning from the relevant Local Environmental Plan(s) ⓘ
1.18	Will the project or work be within the Sydney Drinking Water Catchment and/or a Special Area / Controlled Area?	<input checked="" type="radio"/> Yes <input type="radio"/> No	Check NULA to identify if the project or work is within the Sydney Drinking Water Catchment. For more information on undertaking a Neutral or Beneficial Effect Assessment refer to CD2016/89*
1.18.1	Are there any identifiable potential impacts on water quality?	<input type="radio"/> Yes <input checked="" type="radio"/> No	Potential pollutants are sediments (fine & coarse), nitrogen, phosphorus, pathogens and hazardous chemicals and contaminants such as oil/fuel.
1.18.5	Is it likely that a neutral or beneficial effect on water quality will occur? Why?	It is not anticipated that there will be impacts on the water quality within the canal, as the sediment will be removed using a vacuum truck and disposed off-site as appropriate. Sediment will be prevented from leaving the site through use of sand bags or similar. The proposed work is to allow a Condition Assessment of the syphons with CCTV to be undertaken to determine their condition and the work that may be required in order to	

		improve the drainage along the Upper Canal. The survey works will not have any impact to the Canal or surrounding waterways.	
SPECIAL AND CONTROLLED AREAS			
Select the appropriate safeguards to manage the impacts			
SP1	Special & Controlled Areas	All activities or work undertaken in Water NSW Special / Controlled Areas shall be carried out in a manner that will prevent or minimise impacts on water quality, environmental damage and fire.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
SP2	Special & Controlled Areas	Standard access requirements of Water NSW catchment lands shall be observed. This includes restricted access to the catchment after periods of significant rainfall (typically 10mm in a 24 hour period).	<input type="radio"/> Yes <input checked="" type="radio"/> N/A
SP3	Special & Controlled Areas	All gates and barriers shall be closed and locked at all times to prevent unauthorised access to the Special/Controlled Area	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
SP4	Special & Controlled Areas	Any suspected unauthorised access to the area shall be reported to the WaterNSW Incident Number 1800 061 069 (24/7 Service)	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
SP5	Special & Controlled Areas	All incidents, spills or fire sightings that occur in the WaterNSW Special / Controlled Area shall be immediately reported to the WaterNSW Incident Number 1800 061 069 (24/7 Service)	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
SP6	Special & Controlled Areas	Works shall not be undertaken and vehicles shall not travel on unsealed roads in the Water NSW Special / Controlled Areas when road surfaces are saturated, water is flowing down table drains or the catchment has been closed by Water NSW.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
SP7	Special & Controlled Areas	Portable fuel trailers shall be taken off catchment at the end of each working week.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
SP8	Special & Controlled Areas	Any imported fill material shall be restricted to 'Virgin excavated natural material' (eg clay, gravel, sand soil and rock) that is not mixed with any other waste. Coal waste materials shall not be used in the construction or maintenance of trails.	<input type="radio"/> Yes <input checked="" type="radio"/> N/A
SP9	Special & Controlled Areas	New gravel or borrow pits shall not be established within the Special Areas.	<input type="radio"/> Yes <input checked="" type="radio"/> N/A
SP10	Special & Controlled Areas	In the event Water NSW fire roads are damaged as a result of the works, they shall be repaired as soon as practicable.	<input type="radio"/> Yes <input checked="" type="radio"/> N/A
SP11	Special & Controlled Areas	All equipment transported to the site shall be thoroughly washed down, including underneath tractors and slashers, to remove mud, dirt and vegetative materials, prior to entering the Water NSW Special / Controlled Areas.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
1.19	Does the project or work require any vegetation to be cleared?	<input type="radio"/> Yes <input checked="" type="radio"/> No	Clearing means any one or more of the following: (a) cutting down, felling, thinning, logging or removing vegetation, (b) killing, destroying, poisoning, ringbarking, uprooting or burning native vegetation.
1.20	Is the project or work located on, in or adjacent to (within 40m) of a "water land" or waterway?	<input checked="" type="radio"/> Yes <input type="radio"/> No	'water land' means land submerged by water: (a) whether permanently or intermittently, or (b) whether forming an artificial or natural body of water, and includes wetlands and any other land prescribed by the regulations as water land to which this Division applies ⓘ
1.20.1	Provide details	The location of syphons and drainage system is adjacent to or underneath the Upper Canal. The syphons are also near waterways and as such sediment from cleaning is to be removed by vacuum truck and protection provided to prevent sediment entering these adjacent waterways.	Details to be included; name of waterway / waterbody, the proximity of works to the waterway / waterbody
1.21	Is the project or work likely to result in any soil disturbance?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
1.22	Will the project or work require the stockpiling of any materials?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
SOIL AND WATER			
Select the appropriate safeguards to manage the impacts			
SW1	Soil and Water	All works shall be undertaken in a manner that will minimise site disturbance and avoids or minimises erosion and sedimentation.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
SW2	Soil and Water	All areas disturbed during the works shall be protected by installing appropriate erosion and sedimentation control measures so that sediment-laden runoff does not enter any drainage line or wetland. Measures may include:	<input checked="" type="radio"/> Yes <input type="radio"/> N/A

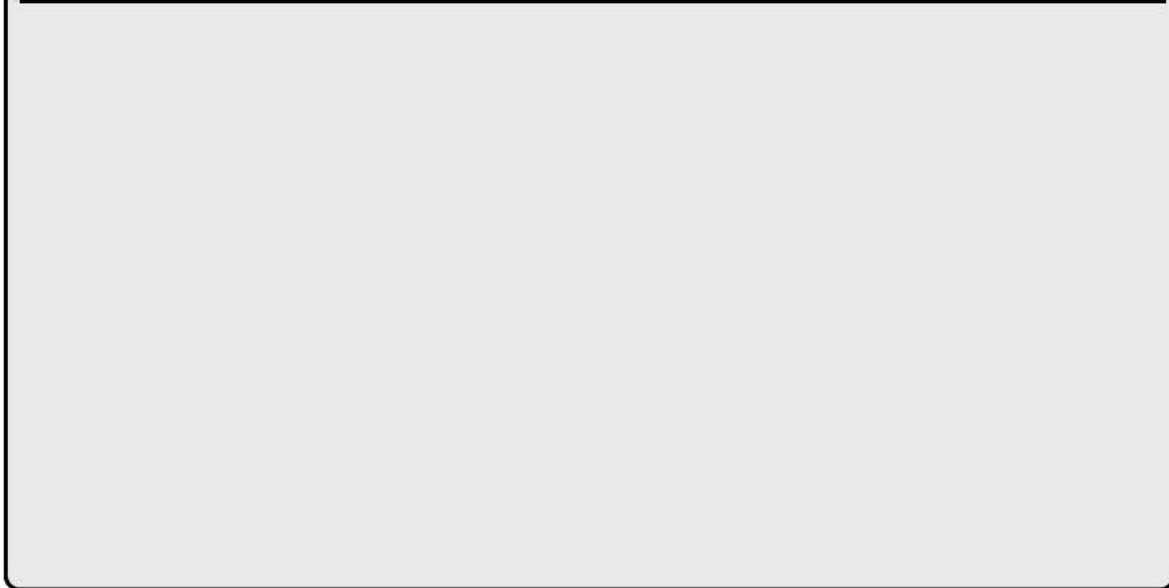
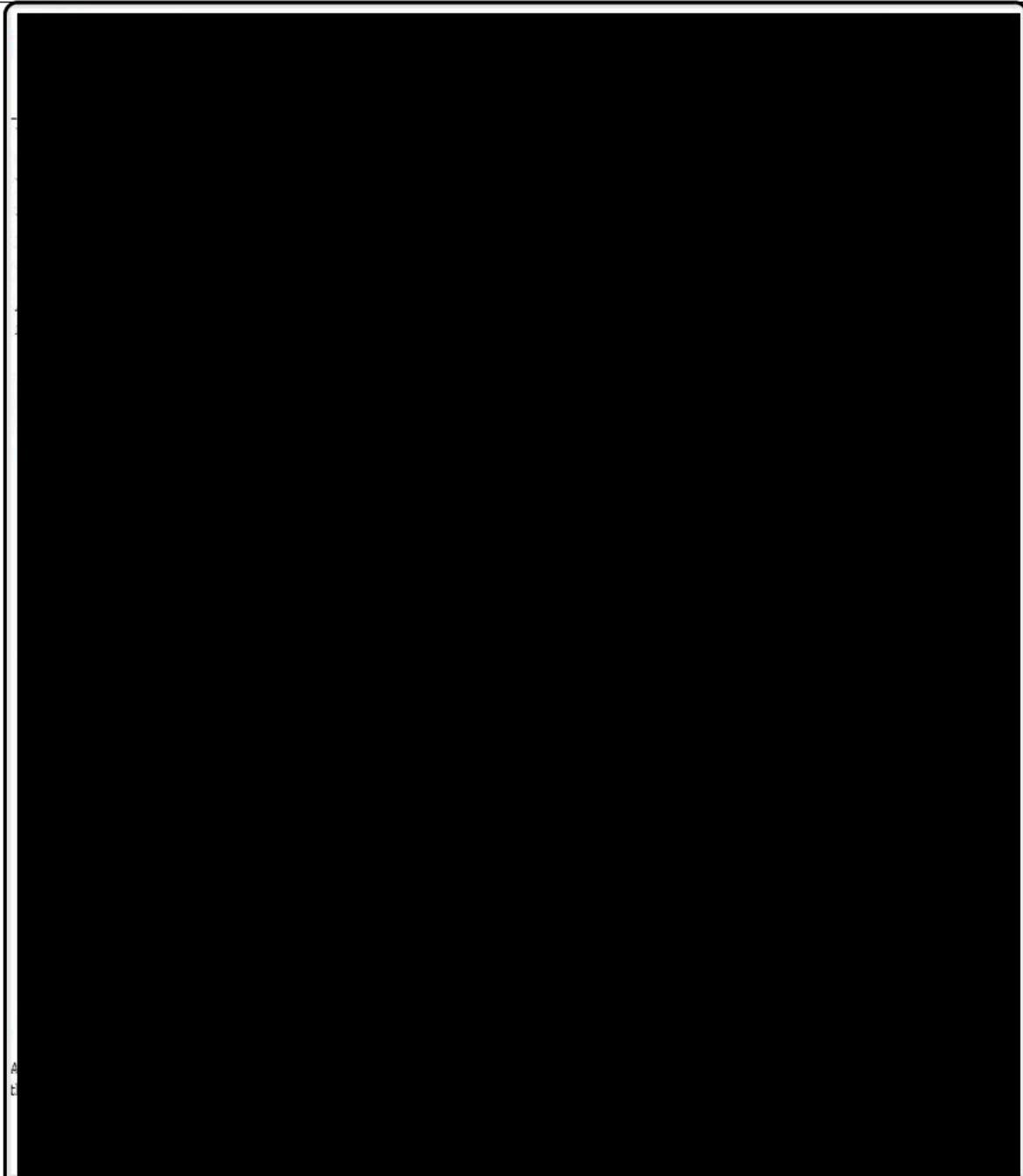
		<ul style="list-style-type: none"> o diverting any potential upslope runoff and stormwater away from the site; o installing temporary erosion control devices (eg sediment fencing, sand bags, sediment basins); o temporary surface protection (eg surface mulching, geotextile/erosion control matting). 	
SW3	Soil and Water	All erosion and sediment control measures shall be checked and maintained on a regular basis so that they work effectively at all times, including removing trapped sediment before or when 30% capacity is reached. Control measures shall not be removed before the ground surface is stabilised.	<input type="radio"/> Yes <input checked="" type="radio"/> N/A
SW4	Soil and Water	<p>A maintenance checklist shall be prepared for sites. Records shall be kept of all checks and maintenance and shall be provided to Water NSW on request. As a minimum this shall include a regular check of:</p> <ul style="list-style-type: none"> o sediment fencing/bunding o any sign of erosion of the site or material o any impact on adjacent vegetation (material shall be kept outside the dripline of any tree) o the safe storage of any chemicals, fuels or lubricants o the height, gradient and stability of any stockpile (<2m high and 2:1 slope) 	<input type="radio"/> Yes <input checked="" type="radio"/> N/A
SW5	Soil and Water	Chemicals, fuels and lubricants shall be securely stored in approved containers and spill containment material shall be kept on site ready for immediate use. Bund capacity is to be at least 110 % of the largest container & 25% of the total stored volume	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
SW6	Soil and Water	No chemicals, fuels and lubricants shall be stored overnight on site unless specifically approved by Water NSW. If approved, these materials shall be stored with bunding within an established site compound, on a level area clear of native vegetation and at least 40m from any natural or built drainage line or wetland.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
SW7	Soil and Water	Plant and equipment shall not be refuelled within 20m of any natural or built drainage line or wetland. During any refuelling, spill containment material shall be on hand ready for immediate use.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
SW8	Soil and Water	Weather forecasts shall be regularly checked so that expected storm events can be taken into account in project planning and erosion and sediment management.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
SW9	Soil and Water	<p>Temporary compounds and stockpiles shall be located:</p> <ul style="list-style-type: none"> o at least 40m from natural or built drainage lines or wetland; o on areas previously disturbed and that do not require the clearing of native vegetation; o on level, hard ground wherever possible, and shall not be located on slopes steeper than 1(V):10(H); o beyond tree drip lines; o where there is no risk of impact on any indigenous or non-indigenous heritage site. 	<input type="radio"/> Yes <input checked="" type="radio"/> N/A
SW10	Soil and Water	Topsoil shall be stockpiled separately from general spoil and reused wherever possible.	<input type="radio"/> Yes <input checked="" type="radio"/> N/A
SW11	Soil and Water	Concrete shall not be mixed within 20m of any natural or built drainage line or wetland. All concrete waste and any concrete washout shall be contained and removed for disposal off site at a lawful facility. Washout of trucks on site shall be minimised wherever possible.	<input type="radio"/> Yes <input checked="" type="radio"/> N/A
SW12	Soil and Water	<p>Waste water generated during works shall be captured and:</p> <ul style="list-style-type: none"> - tested and treated before release back into the environment ensuring all water quality criteria are met; - disposed offsite at a lawful receiving facility; - sediment laden waters can be discharged in a manner that prevents sediments entering natural or built drainage lines or wetlands. 	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
SW13	Soil and Water	Silt booms shall be installed in the stream or water body around the work site, or immediately downstream. The silt booms shall be appropriately anchored to maximise the capture of any sediment laden water.	<input type="radio"/> Yes <input checked="" type="radio"/> N/A

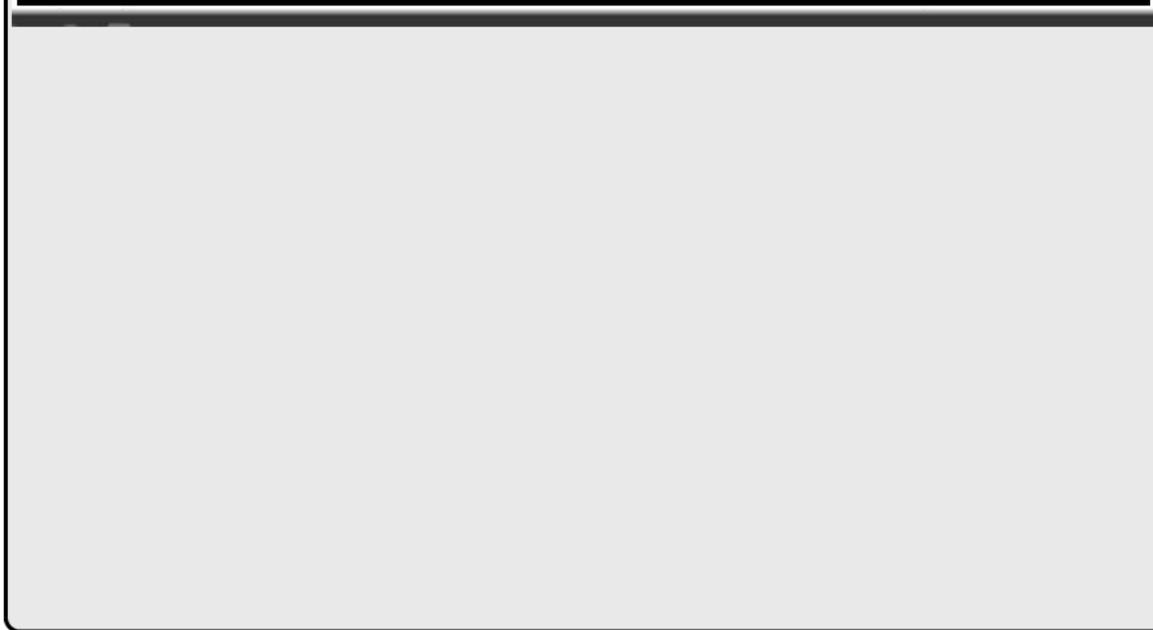
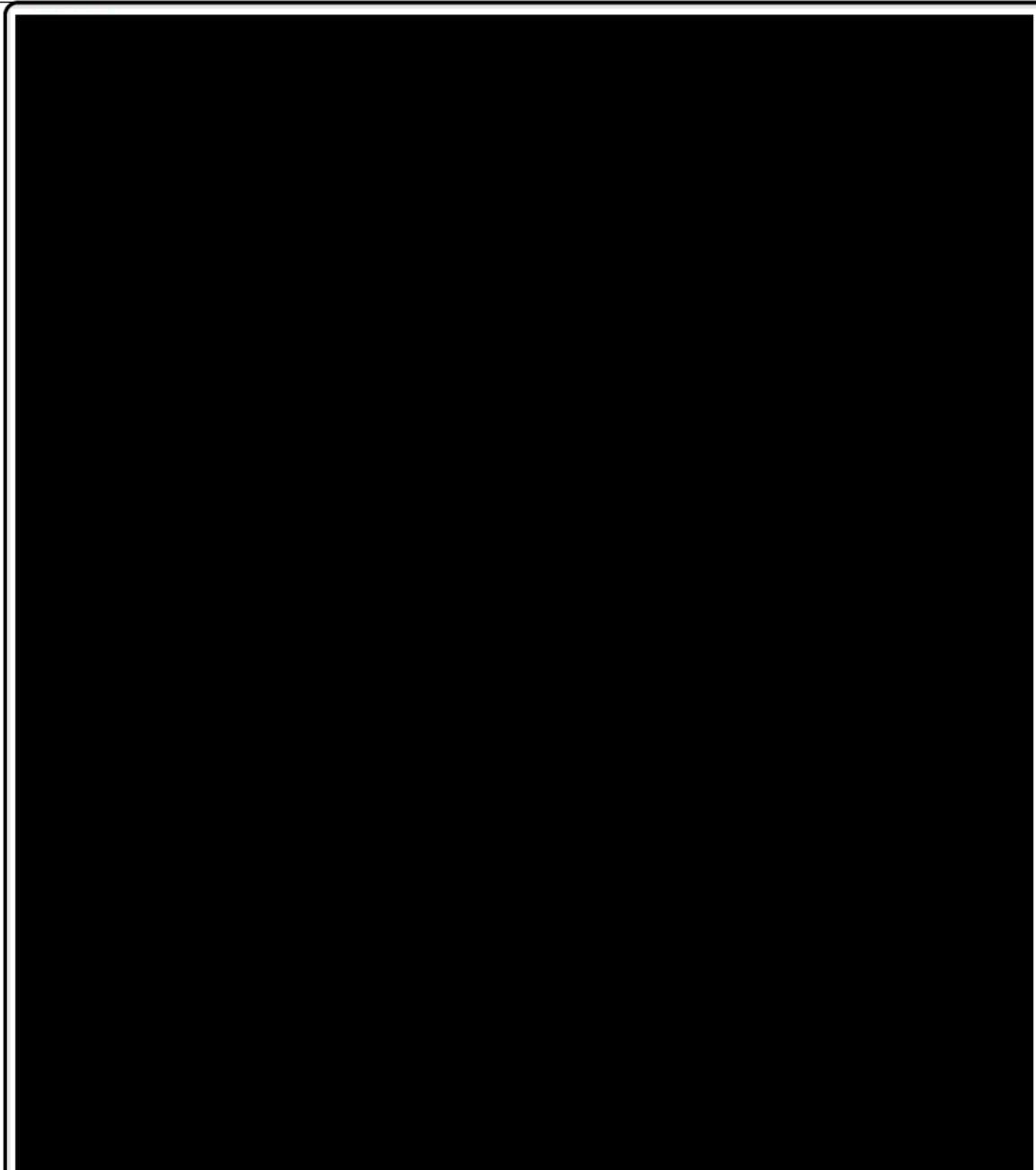
SW14	Soil and Water	Any mixing of paints is to be carried out over a waterproof membrane of at least 4 square metres in area. The contractor is to take all reasonable steps to prevent spillage of paint.	<input type="radio"/> Yes <input checked="" type="radio"/> N/A
1.23	Will the project or work result in the generation of any waste materials?	<input checked="" type="radio"/> Yes <input type="radio"/> No	<i>This may include spoil, concrete, building materials, vegetation, wastewater, oil and grease.</i> <i>Will portable toilets be needed at the site?</i>
1.23.1	Provide details of the nature, amount of waste likely to be generated and proposed disposal	The waste materials will likely be sediment. The material will be removed from syphons using a vacuum truck and disposed off-site as appropriate. Waste docket will be provided at the end of the project. The survey work will generate used and empty spray cans of paint that must be disposed of by the contractor in an appropriate manner as per the instructions on the container.	Refer to Waste Classification Guidelines for classifying waste If the project or work involves the use and disposal of, or exposure to, contaminated/hazardous materials, dangerous goods or controlled chemicals, approval may be required from SafeWork NSW or EPA
WASTE			
Select the appropriate safeguards to manage the impacts			
W1	Waste	All working areas shall be maintained, kept free of rubbish and cleaned up at the end of each working day. Equipment and materials shall be securely stored.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
W2	Waste	If the contractor is working at the same location for more than one day, self-contained portable ablution and toilet facilities shall be provided, unless otherwise specifically negotiated with Water NSW. These facilities shall be located at least 20m from any natural or built drainage line or wetland.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
W3	Waste	The contractor shall be appropriately licensed to remove and dispose of all hazardous materials. Hazardous materials shall be handled and disposed in accordance with relevant Australian Standards, SafeWork NS and regulatory agency (EPA) guidelines.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
W4	Waste	All waste fluids generated during the works, including concrete wash, the washing of painting equipment and human effluent, shall be contained for proper disposal offsite in accordance with SafeWork NSW and NSW government guidelines.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
W5	Waste	All waste removal, transport and disposal, including excess spoil, shall be in accordance with the EPA current guidelines for waste. Materials shall be recycled wherever possible. Dockets or equivalent evidence shall be obtained for all recycling and waste disposal, detailing the weights, materials, time and date and waste facility used. These docket shall be available onsite and submitted with monthly reports and placed in ARK folder F2018/3432.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
1.24	Will the project or work have an impact on members of the public or surrounding areas?	<input type="radio"/> Yes <input checked="" type="radio"/> No	<i>Types of impact may include noise, dust, access, visual amenity. Surrounding land uses may be agricultural/other rural land uses, residential, recreational etc.</i>
1.25	Will the project require new access tracks to be developed or fences to be installed?	<input type="radio"/> Yes <input checked="" type="radio"/> No	
1.26	Are there any impacts on any utilities and/or roads?	<input checked="" type="radio"/> Yes <input type="radio"/> No	<i>Carry out a dial-before-you-dig if necessary or conduct a survey to indicate if any underground infrastructure is present, eg, water, sewer, power, telecommunications, council roads, otherwise contact the supply authority or local Council (cl.13 ISEPP) </i>
1.26.1	Provide details of the impact and consultation outcomes.	The survey markers (both types) will be installed on the Upper canal road corridor. WaterNSW staff have been advised that they can be driven over and will not impact the thoroughfare. There will be inconsequential impact to the roads as the metal pin anchor and decking spike are shallow installations.	Details to be included are; the infrastructure that will be impacted, owner of the infrastructure and outcomes of any consultation 
TRAFFIC			
Select the appropriate safeguards to manage the impacts			
T1	Traffic and Utilities	A Traffic Management Plan shall be prepared as part of the CEMP, addressing the traffic and site access issues identified in the EIA.	<input type="radio"/> Yes <input checked="" type="radio"/> N/A
T2	Traffic and Utilities	Care shall be taken to ensure other infrastructure including underground electrical, fibre optic, gas and water pipes as well as road surfaces and overhead assets is not damaged as result of the works. The appropriate utility owner shall be notified in the event of any damage to their utility/assets Undertake a <i>Dial Before You Dig</i> search before works commence.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A

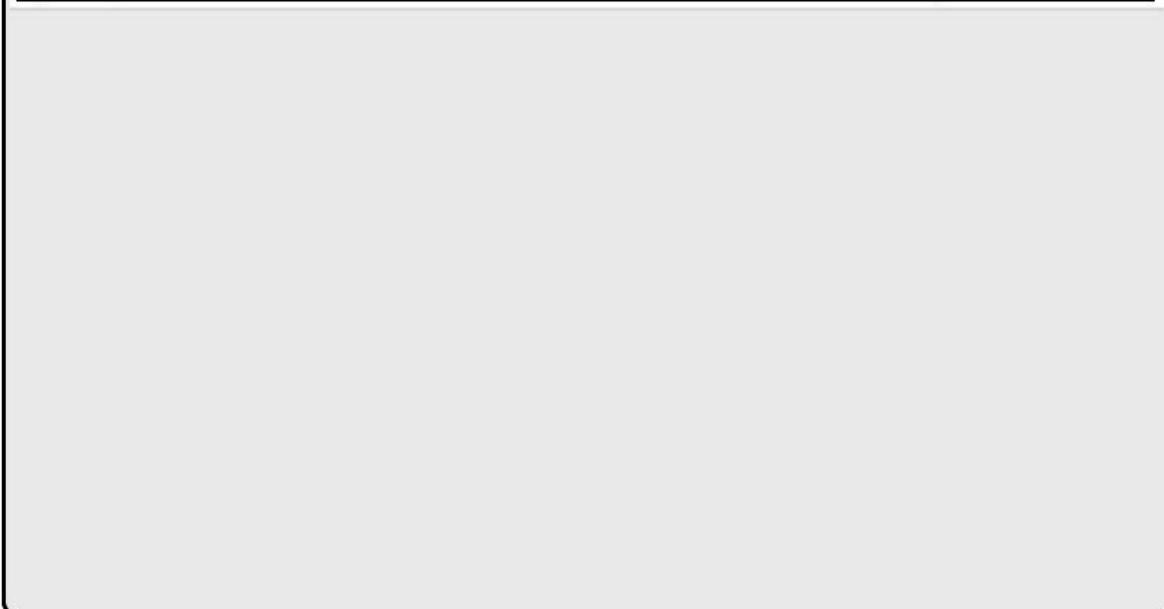
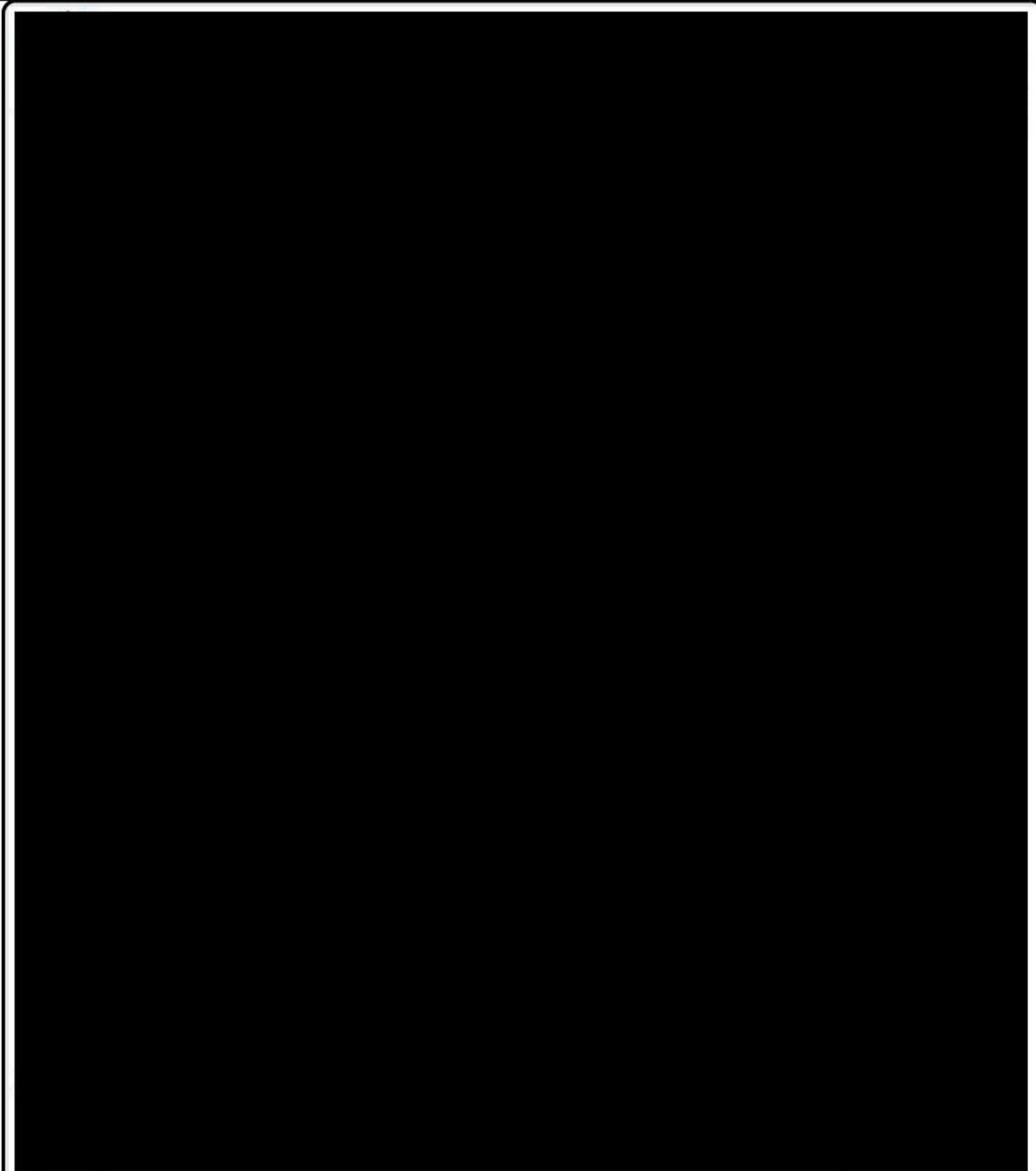
T3	Traffic and Utilities	Where works are conducted on or adjacent to public roads or need to be closed temporarily for safety reasons, appropriate traffic control procedures shall be implemented.	<input type="radio"/> Yes <input checked="" type="radio"/> N/A
T4	Traffic and Utilities	Vehicles and machinery shall use existing tracks wherever possible, avoid making new tracks and be kept out of swamps, wetlands and drainage lines.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
T5	Traffic and Utilities	All practical measures shall be taken to prevent tracking of soil or materials from the worksite onto public roadways. If tracking occurs, affected roadways shall be swept at least daily.	<input type="radio"/> Yes <input checked="" type="radio"/> N/A
1.27	Add specific stakeholder requirements or other measures that need to be included in the Environmental Approval.	The survey markers can be replaced in the financial year 24 /25 – after that time the EIA Minor Works Form should be reviewed for relevancy and updated if required in line with changes to legislation, guidelines, etc.	<i>Note: State Environmental Planning Policy (Infrastructure) 2007, Part 2 Division 1 and Division 4 outlines specific conditions where affected stakeholders need to be consulted and the timeframes for consultation.</i>
1.28	Are there any post-construction rehabilitation or future maintenance requirements?	<input type="radio"/> Yes <input checked="" type="radio"/> No	<i>Post rehabilitation may include replanting, rip rap and making good of a disturbed area.</i>
1.29	Is a Construction Environmental Management Plan (CEMP) required?	<input type="radio"/> Yes <input checked="" type="radio"/> No	<i>A CEMP demonstrates how & where site specific environmental controls or safeguards will be implemented at the project site. Not all projects or works need to have a CEMP prepared, for example small scale works with few potential impacts. The CEMP must address the safeguards identified in the EIA for the project. (refer to CD2015/188* - CEMP Condensed Template)</i>
1.29.1	Explain why a CEMP would not be necessary for this project or work	CEMP is not required as there is no construction or excavation work to be undertaken. The proposed work involves removal of accumulated sediment from the syphons and the investigation and condition assessment. The survey works are minor in nature and will not impact heritage significance if installed in the roadway as scoped.	
1.30	Are there any special environmental safeguards, controls or mitigation measures that need to be implemented during this project or works?	<input checked="" type="radio"/> Yes <input type="radio"/> No	<i>Minor and routine works not requiring a CEMP can still require specific mitigation measures.</i>
1.30.1	Provide details. Include a list of any project specific controls or mitigation measures that need to be implemented during this project or works.	A SWMS will be prepared by the Contractor to include all specific controls that need to be implemented for the work. SWMS will be submitted to WaterNSW for review and comment prior to commencing work.	
Thank you for completing Section 1 of this Minor Works Environmental Impact Assessment . Ensure you have saved this form to ARK and included the ARK reference number above. Go to myWaterNSW, click 'Request Something' & create a service request for Environmental Services.			Save to ARK and go to myWaterNSW to create a service request
<input checked="" type="radio"/>	Environmental Services Team - Once Section 1 has been submitted, check that all questions are completed. If Section 1 is incomplete refer back to the Project Manager with comments. Environmental Services will complete section 2 & 3 of the assessment.		

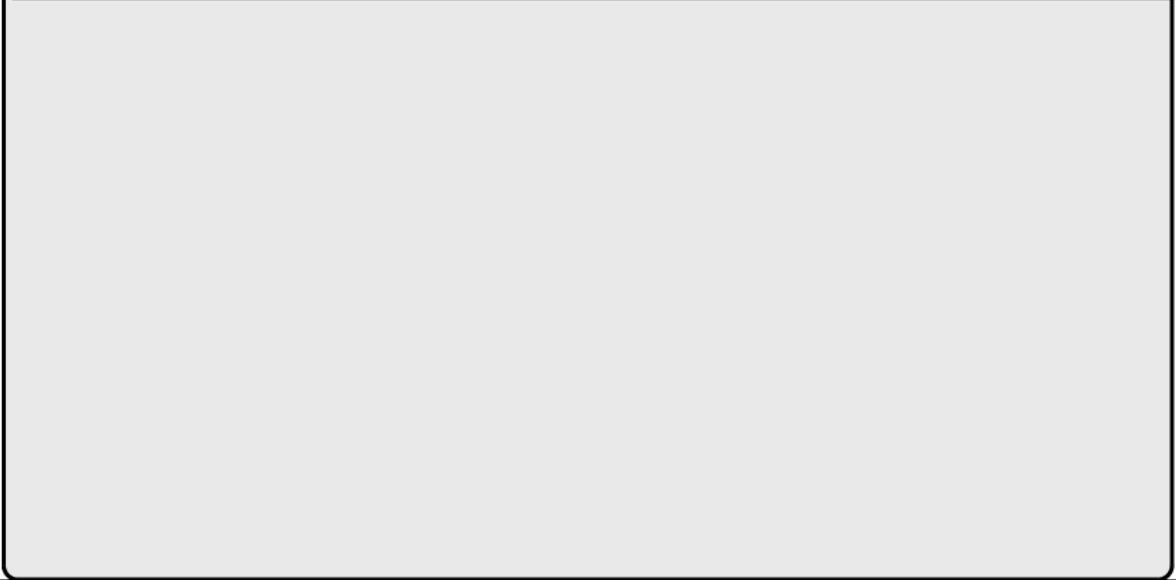
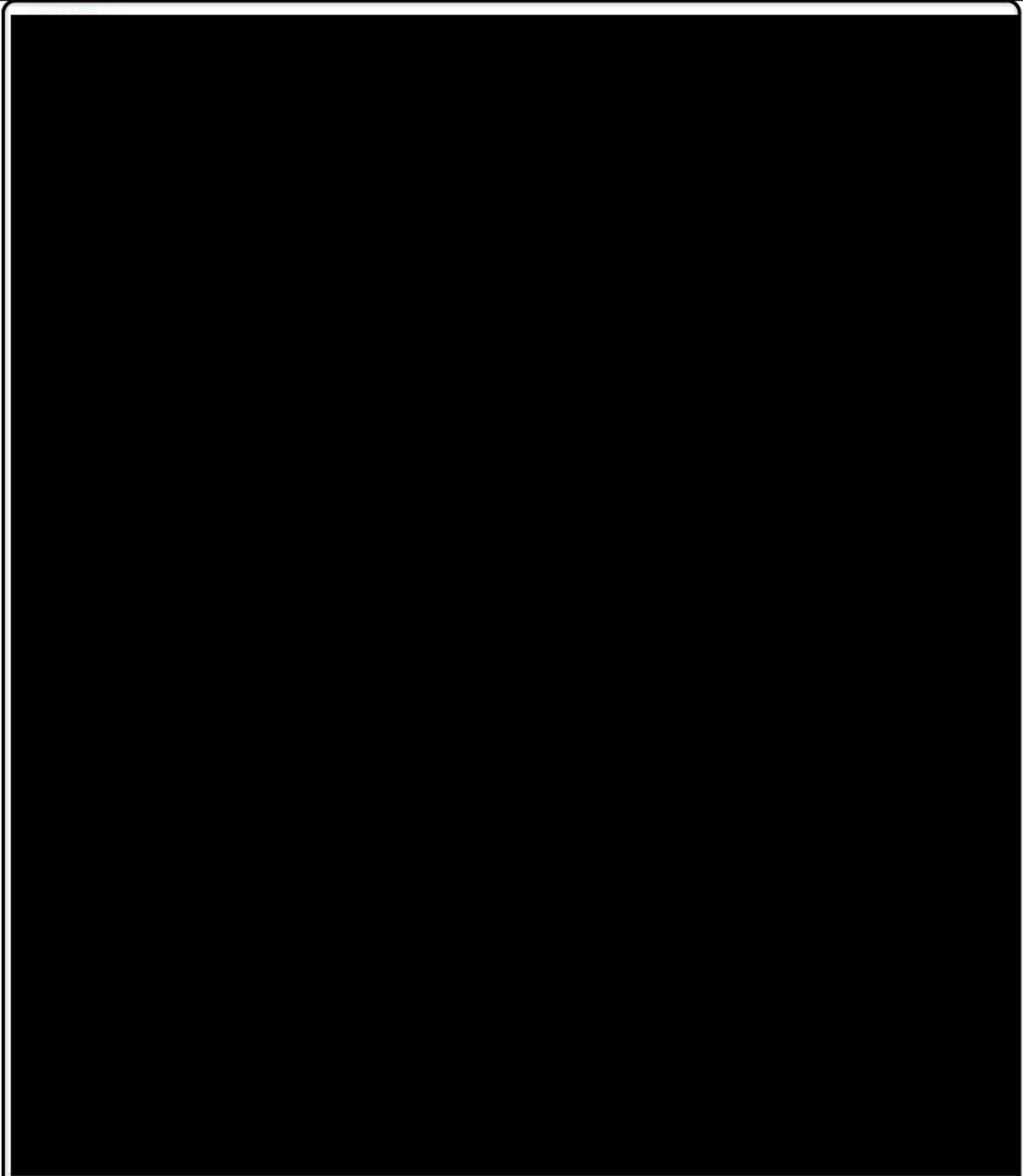
SECTION 2 ENVIRONMENTAL CONSIDERATIONS			
	QUESTIONS	ANSWERS	HERITAGE TO BE CHECKED
2.1	Will the project / work occur on a heritage item? Is the work site or asset identified on the WaterNSW s170 heritage register or the State heritage register or identified as a local heritage item on the LEP?	<input checked="" type="radio"/> Yes <input type="radio"/> No	Heritage to be checked: 1. WaterNSW S170 Register (D2016/73126) 2. NSW Planning Portal ⓘ 3. Relevant Council LEP
2.1.1	Identify and describe the works with regard to the heritage significance.	The Upper Canal is on the Stage Heritage Register (#01373). It is also listed on the Campbelltown LEP 2015 (I01373) and Wollondilly LEP 2011 (I16). 	
2.1.2	Is the item identified on the LEP as locally significant?	<input type="radio"/> Yes <input checked="" type="radio"/> No	If yes notification to Council with provision of a heritage impact assessment for the works is required, and any comments received within 21 days must be considered. Consult the Heritage Specialist for advice ⓘ
2.1.4	Are the proposed works permissible under the Heritage NSW Standard Exemptions? Consult the Heritage Specialist or Adviser	<input checked="" type="radio"/> Yes <input type="radio"/> No	Refer to the Heritage NSW Standard Exemptions as guidance for works which may be done under the Standard Exemptions if they have little to no impact to an item's heritage significance and meet the relevant standards. If the work can be done as a Standard Exemption it must be recorded in D2020/133333. If the proposed activities/works would not comply with the Standard Exemptions or site-specific exemptions, approval under the Heritage Act 1977 is required. Consult the Heritage Specialist for advice ⓘ
2.1.5	Include details that support the above conclusions and outcomes of consultation with the heritage specialist.	The Upper Canal is state heritage listed (SHR 01373) and the listing is from 'fence to fence'. The syphons and drainage system are located adjacent to or underneath the Upper Canal. The proposed works are considered to be minor activities with little or no adverse impact on heritage significance, as per Standard Exemption 1 of the Heritage NSW Standard Exemptions: Maintenance and cleaning - removing vegetation and litter from gutters and drainage systems. The removal of sediment to allow for a condition assessment, is not considered to result in any changes to the significance of this heritage item, provided the works are undertaken in accordance with the relevant standards prescribed by Heritage NSW to avoid damaging the 'exceptional heritage significance' of the fabric: - Specified activities/works must not involve removal of or damage to significant fabric. - Cleaning of significant fabric may only use low-pressure water less than 100 psi and neutral detergents. The survey markers work can be undertaken in line with WaterNSW Heritage Exemption 2: General Maintenance and Repair and specifically (b). The relevant standard (d) can be met while the others are not applicable. The road corridor is assessed as having 'moderate' significance in the Upper Canal CMP (2016) and much of the significance is derived from the single lane nature of the road which will remain as a result of these very minor works. The proposed survey markers to be installed on the three different types of road surfaces will have inconsequential impact to the Upper Canal. The works only require a small metal pin anchor or decking spike to be used for survey purposes. The painting and vinyl tiles will also be installed and will have minor visual impact directly where installed but these are required for the survey work and aerial monitoring which will ultimately lead to the development of a 3D model to assist WaterNSW in the management of the historic asset. There is no archaeological impact as the anchor and spikes do not impact any archaeological items or will be installed in the known archaeological areas (former camps now in bushland beside the Canal).	
2.1.6	Detail specific requirements or measures that need to be included in the Environmental	-The location of each marker newly installed should be recorded and forwarded to the Heritage Specialist at	Any measures provided here are shown in the approval as project specific requirements.

	Approval.	<p>WaterNSW so the works can be recorded on the s170 heritage listing. An Excel spreadsheet or other format as agreed is appropriate.</p> <ul style="list-style-type: none"> - Survey markers should not be installed in the road corridor on any features beside the roads such as syphons, culverts, flumes, bridges, etc. Installation should be only as per the described scope of works and images. - There should be NO survey markers on the actual built canal fabric without approval under s60 of the Heritage Act 1977 - this includes the walls - dressed stone or concrete, headwalls, aqueducts, tunnels and bridges and other fabric identified as having high or exceptional significance in the Upper Canal CMP (2016). There is no current approval in place. 	
2.2	<p>Are there any:</p> <ul style="list-style-type: none"> • relevant confirmed site records or other associated landscape feature information on AHIMS? and/or • other sources of information of which a person is already aware? and/or • landscape features that are likely to indicate the presence of Aboriginal objects? • ILUA in place? 	<p><input checked="" type="radio"/> Yes <input type="radio"/> No</p>	<p>Landscape features that indicate the likely existence of Aboriginal objects.</p> <p><i>Is the proposed activity</i></p> <ul style="list-style-type: none"> • within 200 metres of waters • within sand dunes on a ridge top/ridge line/headland • within 200 metres of the top or bottom of a cliff face • within 20m of or within a cave, rock shelter ora cave mouth <p>AND the land is NOT previously disturbed ⓘ</p> <p>An Aboriginal Heritage Information Management System (AHIMS) Web Services search must be undertaken using 200m buffer of the project or work and if positive undertake within 50m.</p> <p>ILUA - Indigenous Land Use Agreement search tool</p>









2.2.1	Can harm to Aboriginal objects listed on AHIMS or identified by other sources of information and/or can the carrying out of the activity at the relevant landscape features be avoided?	<input checked="" type="radio"/> Yes <input type="radio"/> No	Possible solutions may include reducing the footprint area, re-positioning elements, re-routing infrastructure trenching or incorporating a no-development area into the site design.
HERITAGE			
Select the appropriate safeguards to manage the impacts			
H1	Heritage	Site induction shall include awareness of the heritage significance of the site. This shall include the importance of preventing accidental damage to any structure or historical remnants such as roads, steps & stairs, curbing, footings & foundations and picnic area facilities or interfering with any material associated with the heritage item.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
H2	Heritage	All activities or work undertaken within the heritage precinct shall be carried out in a manner that will protect the fabric of the heritage item from damage or interference during the work.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
H3	Heritage	If problems are encountered that necessitate a major change in the work method, works shall cease until the significance of the change can be assessed. The Water NSW Environmental Services Team shall be contacted for advice. Note: the works may require re-approval prior to recommencing, depending on the changes.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
H4	Heritage	Replacement of missing, damaged or deteriorated fabric shall match existing fabric in appearance, material and method of fixing. If this is not possible, specific advice shall be obtained from the Water NSW Environmental Services Team before undertaking the replacement.	<input type="radio"/> Yes <input checked="" type="radio"/> N/A
H5	Heritage	Painting shall be done using the Water NSW approved colour scheme available from the Heritage Adviser. If any specified colour is not available, Water NSW Heritage Adviser approval shall be obtained before an alternative colour is used.	<input type="radio"/> Yes <input checked="" type="radio"/> N/A
H6	Heritage	If any items which have the potential to be of heritage significance are encountered, works shall cease until the significance of the item can be established. The Water NSW Environmental Services Team should be contacted for advice on the appropriate course of action to take.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
H7	Heritage	The Upper Canal is potentially fragile due to its age and is heritage listed. The works shall be designed and undertaken in such a way that the Upper Canal is adequately protected from ground vibration and structural damage.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
H8	Heritage	If any Aboriginal cultural material (e.g. relics such as stone tools, worked bone or fire hearths) is encountered within or immediately adjacent to the work area, work shall stop immediately until the significance of the item can be established. Water NSW Procedure CD2012/184* - Unexpected Aboriginal Objects Procedure should be followed.	<input checked="" type="radio"/> Yes <input type="radio"/> N/A
2.3	Is the project or work within or likely to affect any of the following? - Declared Wilderness Area - Declared Area of Outstanding Biodiversity Value - Critical habitat of an endangered species, population or ecological community	<input type="radio"/> Yes <input checked="" type="radio"/> No	There are 49 areas of Wilderness across NSW, 4 affecting the Sydney Drinking Water Catchments: Look up details using NULA. For land declared critical habitat, check: 1. OEH Critical Habitat Register 2. DPI Fisheries Register of Critical Habitat Exempt development cannot be carried out in critical habitat of an endangered species, population or ecological community (identified under the Biodiversity Conservation Act or the Fisheries Management Act) An Area of Outstanding Biodiversity Value is declared under the Biodiversity Conservation Act 2016 and includes critical habitat.
2.3.1	Add any information relevant to the searches undertaken.	No threatened species identified within the work area, however NULA identifies several records for the Southern Myotis, Large Bent-winged Bat and the Vulnerable Brown Treecreeper near or within the Upper Canal area.	
2.4	Is the project or works within or likely to affect any of the following areas: - World Heritage Land or land to which SEPP (Coastal Management) 2018 applies - Wetlands and/or migratory birds - National Parks or Land covered by a Conservation Agreement	<input type="radio"/> Yes <input checked="" type="radio"/> No	The Warragamba Special Area is within the Greater Blue Mountains World Heritage Area . See SEPP (Exempt & Complying Development) 2008 Clause 1.5 for inclusions of environmentally sensitive areas, use hyperlink to check: - an aquatic reserve under the Fisheries Management Act 1994 or a marine park under the Marine Parks Act 1997 - A RAMSAR wetland or a World Heritage area declared under the World Heritage Convention ⓘ If works will impact on National Park or area with a conservation agreement consultation is required.

2.5	Are there any known contamination/hazardous materials issues?	<input type="radio"/> Yes <input checked="" type="radio"/> No	Examples may include asbestos, contaminated soil. NULA Contaminated Land Risk Register (D2016/135491) and Hazardous Materials Register (D2015/74763) . Register - Gauging Stations, 26 November 2014 - Asbestos NSW Office of Water D2015/74762
2.6	Does the project or works require consent under State Environmental Planning Policy (Vegetation Non-Rural Areas) or the Local Land Services Act 2013? Note: Vegetation removal that is part of an activity that is assessed as development without consent is approved under Part 5 of the EP&A Act, removing the need for Council consent or LLS Act approval.	<input type="radio"/> Yes <input checked="" type="radio"/> No	Vegetation clearing works are likely to be permissible as part of an activity that is being assessed under Part 5 of the EP&A Act or; as works under a WM Act approval or; as bush fire management activities and authorised by other legislation. Additional permissibilities under the LLS Act and State Environmental Planning Policy (Vegetation- Non-Rural Areas) 2017. Refer to the Local Land Services Act 2013 Section 60 O for a list of authorisations and permissibilities. Use the OEH Native Vegetation Regulatory Maps to determine vegetation category.
2.6.1	Provide details	No vegetation removal required.	Ensure no ancillary activities require clearing. Record justification if clearing can be undertaken without approval. Attach evidence of consultation where required.
2.7	Is the project or work likely to have only a minimal impact on the environment?	<input checked="" type="radio"/> Yes <input type="radio"/> No	A project is likely to have more than a minimal impact if for example: <ul style="list-style-type: none"> • a license or permit is required • it is carried out in a waterway where flow interruptions are required • there is likely to be a community impact • it will result in the clearing of mature trees or a large area of understorey or native grasses • it will impact on an aboriginal heritage item • it will result in largescale soil disturbance • it will result in an increase in hard surfaces • it will result in the creation of new tracks, roads • it will result in more than minimal modifications / alterations to items of State or local significance ⓘ
2.7.1	Provide any additional information relevant to and that supports the above assessment.	Works are not intrusive and involve the removal of sediment/ sludge from the syphons with a vacuum truck. The works would allow a camera to inspect the structures and assess their condition. There would be no significant impact to the Upper Canal's heritage significance. The works are minor in nature, would be undertaken in accordance with the relevant standards prescribed by Heritage NSW and would not impact on the overall significance of the Upper Canal. The survey markers in the road can be installed under WaterNSW Heritage Exemption 2: General Maintenance and Repair and will not have a significant impact on the heritage significance of the Upper Canal. Earthworks are not required.	Details here will not appear elsewhere on the approval
2.7.2	Does the project or work fall within one of the development categories & associated exempt development types listed under SEPP (Infrastructure) 2007 Clause or Schedule 1 or alternative Environmental Planning Instrument?	<input checked="" type="radio"/> Yes <input type="radio"/> No	If SEPP clauses don't adequately describe the project or works including Schedule 1, consider State Environmental Planning Policy (Exempt and Complying Development Codes) 2008 ⓘ
2.7.3	Detail the planning instrument, development category and exempt development type that best describes the project or works?	SEPP (Transport and Infrastructure) 2021 Division 24 Water Supply Systems Assessment of syphons 2.162 Exempt development Development for the following purposes carried out by or on behalf of a public authority is exempt development if the development is in connection with a water supply system and complies with section 2.20 and if it involves no greater soil or vegetation disturbance than necessary and no increase in stormwater drainage or run-off from the site— (c) removal of litter, silt or debris from any part of the water supply system, Survey markers Schedule 5 - Exempt development Geotechnical investigations and other testing, surveying and sampling for the purposes of the design or assessment of proposed development or for the purposes of system development or determining the safety or condition of infrastructure	

		<p>Development standards:</p> <ul style="list-style-type: none"> • Must not involve greater disturbance of the ground or vegetation than is necessary. • Must not result in an increase in stormwater drainage or runoff from the site concerned. <p>While located on a State heritage listed item, given the nature of the works and being undertaken in accordance with the relevant standards, they would not result in any greater impact than minimal on the heritage significance .</p>	
2.8	Are there any special environmental safeguards, controls or mitigation measures that need to be implemented during this project or works?	<input checked="" type="radio"/> Yes <input type="radio"/> No	
2.8.1	Provide details. Add specific stakeholder requirements or safeguards that need to be included in the Environmental Approval	<p>Works are to be undertaken in accordance with the relevant standards as prescribed by Heritage NSW:</p> <ul style="list-style-type: none"> - Specified activities/works must not involve removal of or damage to significant fabric. - Cleaning of significant fabric may only use low-pressure water less than 100 psi and neutral detergents. <p>To ensure the fabric of the syphons is not damaged (ie mortar in the brickwork), testing of the work method is to be undertaken prior to ensure the water pressure used is appropriate. The syphons are also near waterways and as such sediment from cleaning is to be removed by vacuum truck and protection provided to prevent sediment entering these adjacent waterways.</p> <p>If works are outside the standard hours, please complete an OOHW Application Form (CD2015/210*) prior to the works.</p>	
2.9	Does the project or works require notification under the Fisheries Management Act ?	<input type="radio"/> Yes <input checked="" type="radio"/> No	<p>Activities that could trigger requirement include:</p> <ul style="list-style-type: none"> • Dredging or reclamation on water land (S198A and C263) • Construction, alteration or modifications to a dam, weir or reservoir (S218) • Interruptions to water flows or does the project or work obstruct the passage of fish (S219) ⓘ
Project or works can be approved as exempt development. Go to Section 4 Environmental Approvals			

SECTION 4 ENVIRONMENTAL APPROVAL			
Project Details			
myWaterNSW Request #: RITM	RITM0508585	ARK Minor Works EIA Form #	D2023/052037[v3]
WaterNSW Contact	[REDACTED]	Project Location	Upper Canal - from Cataract Tunnel (10000) to Prospect Reservoir
Project Title	Upper Canal Stormwater Drainage Infrastructure Condition Assessment and Renewal		
Approved Activity	<p>The scope of work includes:</p> <ul style="list-style-type: none"> - Cleaning of the Upper Canal syphons (about 60 in total) using jetting and a vacuum truck . - Undertaking a Condition Assessment of the Syphons using CCTV (Closed-circuit television) to determine work required to improve the drainage system - Fly over of the canal via un manned aerial vehicle (UAV) for canal baseline 3D model and drainage infrastructure condition assessment data <p>On 28/8/2023 Environmental Services Team were advised that the baseline 3D modelling required the installation of approximately 500 survey points beside the Canal along the road corridor so the imagery could be undertaken and ground truthed.</p> <p>The scope for the survey point installation is to place:</p> <ul style="list-style-type: none"> - a survey mark and marker paint on one of the concrete road paths/strips where the double concrete path/strips is present. This will be done by placement of a 20-25mm concrete anchor (5-6mm diameter) and paint spray over it using a standard template, and - where there is unformed roads or bitumen roads a 30x30cm Vinyl tile between the existing tracks will be placed and secured with a 200mm x 9mm galvanised decking spike. <p>Images of the intended works and description of methodology were advised in D2023/74006.</p> <p>Twenty to thirty survey marks were also requested on the actual Canal walls, headwalls, etc but as this is assessed as Exceptional fabric and this can not be undertaken without approval under the Heritage Act, 1977.</p>		
Project Manager Responsibilities			
<p>In carrying out the project or works, it is the Project Manager's responsibility to ensure that the works are carried out as described within this assessment and that all safeguards listed within this approval are complied with. The Project Manager must also ensure that all licences, permits and approvals are obtained and maintained as required and that all statutory and regulatory requirements are complied with throughout the project or works. The Project Manager is also to ensure compliance with the Building Code of Australia and other relevant technical, manufacturer or industry standards.</p>			
Environmental Safeguards			
General			
G1	All WaterNSW Work Health and Safety requirements must be adhered to.		
G2	All complaints and compliments shall be directed to - feedback@watnsw.com.au or 1300 662 077.		
G3	All environment incidents shall be addressed in accordance with WaterNSW's Environmental Incident Management Procedure CD2016/6*.		
G4	If works have not commenced within 2 years of this approval, the EIA form must be re-submitted prior to the commencement of works, to ensure the controls remain in line with current legislation and internal procedures including re-approval by the Environmental Services team.		
G5	Site inductions shall include all aspects, impacts and controls identified in the EIA/REF and Environmental Approval.		
G6	For any shutdown, completion of Site Shutdown (RACS requirement) shall be completed at least 24 hours prior to shutdown commencing.		
G7	Approved Standard Hours are : Mon-Fri 7am-6pm, Sat 8am-1pm, No work Sunday or Public Holidays. For any proposed works outside approved standard construction hours, an Out of Hours Application CD2015/210* shall be submitted to the Environmental Services team, allowing 10 working days for approval.		
G8	If any items which have the potential to be of heritage significance are encountered, works shall cease until the significance of the item can be established. The Water NSW Environmental Services Team should be contacted for advice on the appropriate course of action to take.		
G9	If any Aboriginal cultural material (e.g. relics such as stone tools, worked bone or fire hearths) is encountered within or immediately adjacent to the work area, work shall stop immediately until the significance of the item can be established. Water NSW Procedure CD2012/184* - Unexpected Aboriginal Objects Procedure should be followed.		
G10	All sediment and erosion controls shall be installed according to the requirements of <i>Managing Urban Stormwater: Soils and Construction - Volume 1, 4th Edition 'Blue Book'</i> .		
G11	WaterNSW Tree Clearing Permit CD2021/110* must be completed and authorised by the works supervisor before vegetation removal activities commence.		
Community			
Traffic and Utilities			
T2	Care shall be taken to ensure no disturbance of underground infrastructure (optic fibre cables, gaslines, water lines etc), or infrastructure (powerlines, sealed road pavement etc).		

T4	Vehicles and machinery shall use existing tracks wherever possible, avoid making new tracks and be kept out of swamps, wetlands and drainage lines.
Special and Contolled Areas	
SP1	All activities or work undertaken in Water NSW Special / Controlled Areas shall be carried out in a manner that will prevent or minimise impacts on water quality, environmental damage and fire.
SP3	All gates and barriers shall be closed and locked at all times to prevent unauthorised access to the Special/Controlled Area
SP4	Any suspected unauthorised access to the area shall be reported to the Water NSW supervisor and report in RACS system.
SP5	All incidents, spills or fire sightings that occur in the WaterNSW Special / Controlled Area shall be immediately reported to the Water supervisor/Project Manager and reported in RACS system.
SP6	Works shall not be undertaken and vehicles shall not travel on unsealed roads in the Water NSW Special / Controlled Areas when road surfaces are saturated, water is flowing down table drains or the catchment has been closed by Water NSW.
SP7	Portable fuel trailers shall be taken off catchment at the end of each working week.
SP11	All equipment transported to the site shall be thoroughly washed down, including underneath tractors and slashers, to remove mud, dirt and vegetative materials, prior to entering the Water NSW Special / Controlled Areas.
Soil and Water	
SW1	All works shall be undertaken in a manner that will minimise site disturbance and avoids or minimise erosion and sedimentation.
SW2	All areas disturbed during the works shall be protected by installing appropriate erosion and sedimentation control measures so that sediment-laden runoff does not enter any drainage line or wetland. Measures may include: <ul style="list-style-type: none"> o diverting any potential upslope runoff and stormwater away from the site; o installing temporary erosion control devices (eg sediment fencing, sand bags, sediment basins); o temporary surface protection (eg surface mulching, geotextile/erosion control matting).
SW5	Chemicals, fuels and lubricants shall be securely stored in approved containers and spill containment material shall be kept on site ready for immediate use. Bund capacity is to be at least 110 % of the largest container & 25% of the total stored volume
SW6	No chemicals, fuels and lubricants shall be shall be stored overnight on site unless specifically approved by Water NSW. If approved, these materials shall be stored with bunding within an established site compound, on a level area clear of native vegetation and at least 40m from any natural or built drainage line or wetland.
SW7	Plant and equipment shall not be refuelled within 20m of any natural or built drainage line or wetland. During any refuelling, spill containment material shall be on hand ready for immediate use.
SW8	Weather forecasts shall be regularly checked so that expected storm events can be taken into account in project planning and erosion and sediment management.
SW12	Any wastewater generated during the works shall be contained for disposal offsite at a lawful facility. Water contaminated with sediment can only be discharged in a manner that prevents the sediment entering natural or built drainage lines or wetland.
Flora and Fauna	
Pest and Weed Control	
Air Quality	
Noise and Vibration	
Heritage	
H1	Site induction shall include awareness of the heritage significance of the site. This shall include the importance of preventing accidental damage to any structure or historical remnants such as roads, steps & stairs, curbing, footings & foundations and picnic area facilities or interfering with any material associated with the heritage item.
H2	All activities or work undertaken within the heritage precinct shall be carried out in a manner that will protect the fabric of the heritage item from damage or interference during the work.
H3	If problems are encountered that necessitate a major change in the work method, works shall cease until the significance of the change can be assessed. The Water NSW Environmental Services Team shall be contacted for advice. Note: the works may require re-approval prior to recommencing, depending on the changes.
H7	The Upper Canal is potentially fragile due to its age and is heritage listed. The works shall be designed and undertaken in such a way that the Upper Canal is adequately protected from ground vibration and structural damage.
Waste	
W1	All working areas shall be maintained, kept free of rubbish and cleaned up at the end of each working day. Equipment and materials shall be securely stored.

W2	If the contractor is working at the same location for more than one day, self-contained portable ablution and toilet facilities shall be provided, unless otherwise specifically negotiated with Water NSW. These facilities shall be located at least 20m from any natural or built drainage line or wetland.
W3	The contractor shall be appropriately licensed to remove and dispose of all hazardous materials. Hazardous materials shall be handled and disposed in accordance with relevant Australian Standards, WorkCover and regulatory agency (EPA) guidelines.
W4	All waste fluids generated during the works, including from the washing of painting equipment and human effluent, shall be contained for proper disposal offsite in accordance with Workcover and NSW government guidelines.
W5	All waste removal, transport and disposal, including excess spoil, shall be in accordance with the regulatory agency's (EPA) current guidelines for waste. Materials shall be recycled wherever possible. Dockets or equivalent evidence shall be obtained for all recycling and waste disposal, detailing the weights, materials, time and date and waste facility used. These dockets shall be available onsite and submitted with monthly reports.
Site Decommissioning and Restoration	
Fencing	
PROJECT SPECIFIC SAFEGUARDS	
PS1	A SWMS will be prepared by the Contractor to include all specific controls that need to be implemented for the work. SWMS will be submitted to WaterNSW for review and comment prior to commencing work.
STAKEHOLDER REQUIREMENTS	
SR1	The survey markers can be replaced in the financial year 24 /25 - after that time the EIA Minor Works Form should be reviewed for relevancy and updated if required in line with changes to legislation, guidelines, etc.
SR2	-The location of each marker newly installed should be recorded and forwarded to the Heritage Specialist at WaterNSW so the works can be recorded on the s170 heritage listing. An Excel spreadsheet or other format as agreed is appropriate. - Survey markers should not be installed in the road corridor on any features beside the roads such as syphons, culverts, flumes, bridges, etc. Installation should be only as per the described scope of works and images. - There should be NO survey markers on the actual built canal fabric without approval under s60 of the Heritage Act 1977 - this includes the walls - dressed stone or concrete, headwalls, aqueducts, tunnels and bridges and other fabric identified as having high or exceptional significance in the Upper Canal CMP (2016). There is no current approval in place.
SR9	Works are to be undertaken in accordance with the relevant standards as prescribed by Heritage NSW: - Specified activities/works must not involve removal of or damage to significant fabric. - Cleaning of significant fabric may only use low-pressure water less than 100 psi and neutral detergents. To ensure the fabric of the syphons is not damaged (ie mortar in the brickwork), testing of the work method is to be undertaken prior to ensure the water pressure used is appropriate. The syphons are also near waterways and as such sediment from cleaning is to be removed by vacuum truck and protection provided to prevent sediment entering these adjacent waterways. If works are outside the standard hours, please complete an OOHW Application Form (CD2015/210*) prior to the works.
DECLARATION AND SIGN-OFF	
The proposed project/works described within this document are classified as 'exempt development' in accordance with the <i>Environmental Planning and Assessment Act 1979</i> (EP&A Act) and the <i>State Environmental Planning Policy (Infrastructure) 2007</i> . WaterNSW is satisfied that the proposed project/works: <ul style="list-style-type: none"> - will have no more than a minimal impact on the environment, - will not significantly impact critical habitat of an endangered species, population or ecological community, or a wilderness area, - satisfy the requirements of clause 20 of the <i>State Environmental Planning Policy (Infrastructure) 2007</i>; and - do not involve the removal of asbestos unless that removal is undertaken in accordance with <i>Working with Asbestos: Guide 2008</i> published by the WorkCover Authority. <p>If the scope of work or work methods described in this report change either prior to or during works, additional Environmental Impact Assessment must be undertaken.</p>	
Approval ARK # ⓘ	D2023/052037[v4]
Environmental Adviser Approval Environmental Impact Assessment for Minor Works was approved/endorsed by	