

**Client: Iluka Resources Limited**

**Prepared By: Simon Welsh**

**Project: Public Roads Upgrade**

**Reviewed By: Joshua Kliemnt**

**Date: 11/11/2024**

**Construction Process: Clearing and Grubbing**

**Approved By: Simon Jaworksi**

**Date: 11/11/2024**

**Specifications: ETS100, 101, 102**

**Structure / Component:**

Lot No:                      Lot Details:                      Lot size/Quantity:                      Date:

Item No.	Task/Activity Description	Inspection/Test					HP/ WP/ AP/ IP/ TP/ SCP	Responsibility	Checked by:				
		Frequency	Acceptance Criteria	Reference Documents	Inspection / Test Method	Record of conformity			TfNSW	Fulton Hogan	PV	Date	
1	Preliminary												
1.01	Prepare and submit EWMS for Clearing and Grubbing	Once	<ul style="list-style-type: none"><li>EWMS prepared &amp; submitted to the Principal and any other relevant agencies <b>at least 14 working days prior to the commencement of clearing works.</b></li><li>Proposed changes to EWMS must be advised to TfNSW at least 14 days working days prior to being implemented.</li></ul>	G36.3.2.4 & BMP Appendix A		Verification Checklist		Environmental Rep.					
1.02	Prepare and submit Weed Management Plan	Once	Prepared & submit to the Principal a <b>Weed Management Sub-Plan</b> together with written notice that areas of weed infestation identified in the Ecologist/Weed Inspector's report (Clause 2.4a) are marked, <b>at least ten working days before starting any clearing.</b>	G40.6 & BMP Appendix F		Hold Point	HP	Environmental Rep.					
1.03	Working in or near Environmentally Sensitive Areas	Per Sensitive Area	<b>At least 5 working days prior</b> to commencing Physical Work on Site in or near an environmentally sensitive area, provide to the Principal a copy of the EWMS for working in or near the environmentally sensitive areas & written notice that the environmentally sensitive areas are clearly delineated with locations and boundaries signposted.	G36.4.13		Hold Point	HP	Site Engineer					
1.04	Submission of PESCP for area to be cleared	Per Area	Drawings prepared progressively for sections of the Site where work is to commence. Submit PESCP drawing(s) to the TfNSW Representative <b>at least ten working days before</b> disturbance of the surface of the section of the Site.	G38.3.1.1		Hold Point	HP	Environmental Rep.					
1.05	Check location of underground & above ground utilities	Per area / activity	<ul style="list-style-type: none"><li>Dial Before You Dig contacted</li><li>Ground Penetration Permit is obtained</li><li>Working near Overhead Services permit is obtained</li></ul>	WHSMP		Ground Penetration & Overhead Services Permits	AP	Utilities Engineer					
1.06	Install delineation for clearing limits & sensitive areas / no-go zones with highly visible continuous barrier or tape	Per area as Per TfNSW BG Guide 2: Exclusion zones	<ul style="list-style-type: none"><li><b>At least 5 days prior</b> to proposed commencement of clearing install highly visible markers such as bunting, nightline or other similarly robust and durable materials on each side of road formation, bridges and ancillary facilities as shown on the design drawings in a continuous line.</li><li><b>Demarcate &amp; implement exclusion zone in accordance with Biodiversity Guidelines – protecting and managing Biodiversity of TfNSW projects, Guide 2: exclusion zones (RMS 2011).</b></li></ul>	G40.2.4, G36.4.8, G36.4.13, TPP & TfNSW BG Guide 2		Verification Checklist	IP	Environmental Rep.					

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			<ul style="list-style-type: none"> <li>Verify exclusion zones &amp; no-go areas have been marked out by surveyor and installed fencing &amp; signage is in accordance with G36 CL4.13 on the project work side to exclude all access for the duration of construction works.</li> <li>Areas within the assessed areas that do not need to be cleared to provide for construction activities are to be included as part of the exclusion areas and fenced accordingly</li> </ul>									
1.07	Engage Ecologist to conduct a pre-clearing assessment	Per Area	<p>Assessment done <b>at least 5 days prior to commencing any clearing works.</b></p> <p>The inspection report must:</p> <p>(a) includes a statement from a <b>suitably qualified</b> Ecologist that identifies the species &amp; location of any weeds growing anywhere in the road reserve over the length to be cleared and grubbed;</p> <p>(b) <b>includes a map clearly showing vegetation boundaries, and exclusions / no-go zone</b>, identifies all locations of threatened flora species and trees which have been marked or otherwise identified for preservation; and,</p> <p>(c) list any trees <b>identified by a suitably qualified arborist</b> outside the limits of clearing which are unsound and likely to fall upon the roadway or onto private property.</p>	G36.4.8, G40.2.4 & TfNSW BG Guide 4		Ecologist Report	AP	Environmental Rep.				
1.08	Notification for clearing any work area	Per Area	Notify the Principal of intention to clear & provide <b>Clearing and Grubbing Plan (Annexure G40/D)</b> and report on the presence of weeds and unsound trees together with written notice that limits of clearing and areas of weed infestation identified in the ecologist report (Clause 2.4 (a) are marked), <b>at least five (5) days before starting any clearing.</b>	G40.2.4 & BMP		Hold Point	HP	Environmental Rep.				
1.09	Site walk-over with Principal to confirm clearing boundaries	Per Area	Undertake a site walk-over with the Principal and appropriate site personnel to confirm clearing boundaries and sensitive location before the start of work. <b>Ensure there is no clearing outside the agreed boundaries without the prior approval of the Principal.</b>	G40.2.1, G40.2.4 & G36.4.8		Verification Checklist	IP	Foreman / Site Engineer				
1.10	Inspect the site for potential fauna habitat features	Per Area	<ul style="list-style-type: none"> <li><b>At least one week before commencing</b> clearing of native vegetation, engage a qualified ecologist to inspect the site for potential fauna habitat features including vegetation, leaf litter and existing culverts.</li> </ul>	G40.2.4		Verification Checklist	IP	Environmental Rep.				

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			<ul style="list-style-type: none"> <li>If any threatened fauna species are found, inform the Principal &amp; arrange to have the threatened fauna species relocated by a qualified ecologist in accordance with a relocation plan that is acceptable by the Principal and in accordance with relevant statutory requirements.</li> <li>Obtain all necessary approvals prior to relocation of fauna</li> </ul>									
1.11	Relocation of any threatened fauna species	As Required	Relocation of any threatened fauna species in accordance with your approved relocation plan and any associated permits/approvals. <i>Keep records of all fauna rescue events, including locations to where fauna have been relocated.</i>	G40.2.4		Witness Point	WP	Environmental Rep.				
1.12	Induction training for limits of vegetation clearing & weeds present on site	Per Area	<ul style="list-style-type: none"> <li>Ensure all workforce team are informed of the limits of vegetation clearing and the areas of vegetation to be retained and working adjacent to sensitive locations.</li> <li>Ensure all site staff are made aware of the Noxious Weeds present on-site and requirements related to the listing under the Noxious Weeds Act 1993.</li> </ul>	G36.4.13 & G40.2.4		Verification Checklist	IP	Environmental Rep.				
2.0	Weed Treatment											
2.01	Remove weed infestation	Per Area	<ul style="list-style-type: none"> <li>Weeds removed &amp; disposed of in accordance with requirements of Council &amp; details in the WRMP</li> <li>Removal &amp; disposal of weeds growing in the road reserve outside the area to be cleared and grubbed may be directed by the Principal as a Variation.</li> </ul>	G40.2.4, G36.4.12 & WARMP		Pesticide Application Record	IP	Environmental Rep.				
3.0	Clearing & Grubbing											
3.01	Mark out the areas of formation	Every 10m	<ul style="list-style-type: none"> <li>Unless shown otherwise on Drawings or <b>restricted by exclusion zones</b>, the area to be cleared for the formation is that which will be occupied by the completed formation plus a clearance of up to 4 m beyond tops of cuts and toes of embankments where the natural fall of the ground is towards the roadway and up to 2 m beyond the tops of cuts and toes of embankments where the natural fall of the ground either slopes away from roadway or is level <i>provided that the cleared area does not extend beyond the road reserve or private property boundaries.</i></li> <li>Also, clear areas to be occupied by <i>utility adjustment works</i> &amp; ancillary earth features on design dwgs, inc. sediment basins &amp; traps, open drains and diversion banks.</li> </ul>	G40.2.1, G40.2.3, G40.2.4 & G71.5.1.1		Verification Checklist	SCP	Surveyor				

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3.02	Mark out areas to be cleared for Bridges	Per Bridge	<ul style="list-style-type: none"> <li>At bridges all trees &amp; stumps and all built structures must be removed within Annexure G40/A areas, except: <ul style="list-style-type: none"> <li>- where shown otherwise on the Design drawings; or</li> <li>- marked to be preserved; or,</li> <li>- within 5m of the bank of any stream or waterway.</li> </ul> </li> <li>Trees outside this area but having branches overhanging the bridge must have these lopped to 3m clear of bridge.</li> </ul>	G40.2.3		Verification Checklist	SCP	Surveyor				
3.03	Obtain internal Pre-clearing Permit	Per Area	<ul style="list-style-type: none"> <li>Permit is obtained from the Environmental Manager or environmental delegate.</li> <li>Works Supervisor to review document.</li> <li>Ensure 'PART D. APPROVAL' is signed-off by all parties.</li> </ul>	BMP Appendix B		Permit	AP	Site Engineer				
3.04	Prior to commencement of clearing ensure surveyor has checked exclusion zones & no-go areas	Per Area	<ul style="list-style-type: none"> <li>The location of clearing limit delineations have been checked and verified as correct by the project surveyor.</li> <li>All areas have been fenced off in accordance with G36 Clause 4.13 requirements and the <i>Tree Protection Plan</i></li> </ul>	G40.2.4, G36.4.13 & TPP		Verification Checklist	SC	Surveyor				
3.05	Install erosion and sedimentation controls	Per Area	<ul style="list-style-type: none"> <li>Before commencing clearing &amp; grubbing all soil erosion and sedimentation controls required for C&amp;G must be installed as per TfNSW G38.</li> <li>Insure these are installed in accordance with the approved area PESCP.</li> </ul>	G40.2.4 & G38.3.1		Verification Checklist	IP	Environmental Rep.				
3.06	Carry out clearing works	Per Area	<ul style="list-style-type: none"> <li>Remove any rubbish on the Site prior to starting Work</li> <li>The method of clearing, the extent and sequencing of clearing must be in accordance with <b>Guide 4: Clearing Vegetation and Bush Rock of the Biodiversity Guidelines: Protecting and managing biodiversity on TfNSW projects.</b></li> <li>Trees remaining within the road reserve, but outside limits of clearing, which the Principal has agreed to be unsound <i>and are likely to fall upon the roadway or onto private property</i>, must be cleared or pruned as per AS 4373.</li> <li>Any branch, overhanging the road formation, must be cut back flush with the tree trunk in accordance with AS 4373.</li> <li>Existing trees, grasses &amp; other ground cover must be retained within 15 m of rivers, creeks, watercourses and in all drainage lines until immediately before construction commences in the area.</li> <li><i>An access track may be constructed across these areas on an alignment that will minimise erosion.</i></li> </ul>	BMP Appendix A G36.4.8, G40.2.1, G402.2, G40.2.3 & G40.2.4		Verification Checklist	IP	Site Engineer				

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			<ul style="list-style-type: none"> <li>Where existing ground cover is to be retained, all trees in these areas must be felled manually, leaving grasses and small understorey species wherever possible.</li> <li>Trees within 10 m of the bridge centreline and within 5 metres of the bank of any stream or other waterway must be cleanly cut off between 300 mm and 600 mm above the adjacent ground level so that stable vegetation is retained on the banks. <i>This work must be undertaken in consultation with the Principal.</i></li> </ul>									
3.07	Clearing in areas with bushland topsoil	As Required	<ul style="list-style-type: none"> <li>Where tree density does not allow effective slashing or the stripping of bushland topsoil remove trees and stumps in a manner that does not mix sub soil with bushland topsoil. Slash the understorey to within 50mm of ground level, leaving the slashed trash insitu.</li> </ul>	R178.2.1.1		Site Inspection Report / Verification Checklist	IP	Environmental Scientist / Engineer				
3.08	Clearing of built structures	Per Structure	<ul style="list-style-type: none"> <li>Built structures, including stormwater drainage systems and concrete paving inc. roundabouts, medians &amp; footpaths other than those marked or identified for preservation, must be completely removed, inc. footings.</li> <li>Built structures which are discovered during clearing &amp; grubbing are to be retained until the Principal authorises their removal.</li> <li>Excavations must be backfilled with surplus material from excavations or other material acceptable to the Principal &amp; compacted in accordance with R11.4.9.</li> </ul>	G40.2.5		Verification Checklist	IP	Site Foreman				
3.09	Carry out grubbing works	Per Area	<ul style="list-style-type: none"> <li>All trees &amp; stumps, on or within the limits of clearing defined in G40 CI's 2.1, 2.2 and 2.3, which are unable to be felled and removed by clearing methods must be removed by grubbing</li> <li>Grubbing to be carried out to a depth of 0.5m below natural ground level and 1.5m below top of select material zone.</li> </ul>	G40.3		Verification Checklist	IP	Site Forman				
3.10	Fill holes after grubbing	Per Area	<ul style="list-style-type: none"> <li>Holes remaining after trees &amp; stumps have been grubbed and redundant drainage, and other structures removed must be backfilled promptly with sound material to prevent the infiltration and ponding of water. Backfilling material must be compacted to at least the relative compaction of the material existing in the adjacent ground.</li> <li>If the holes are outside the formation (refer to G40.2.2), the final 50mm of backfilling must be topsoil and surface</li> </ul>	G40.3		Verification Checklist	IP	Site Foreman				

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			vegetated within 7 days of removal of the stump and comply with TfNSW Spec R178									
4.0	Production & Stockpiling of Mulch											
4.01	Mulch	Per Area	<ul style="list-style-type: none"> <li>Native trees removed during clearing &amp; grubbing may be used in conjunction with soil ESC measures.</li> <li>All other native trees removed must be converted to mulch &amp; stockpiled for use during landscape planting under the Contract. Subject to the following constraints:               <ul style="list-style-type: none"> <li>(a) Where native vegetation on Site is insufficient to provide quantities of mulch needed during landscape planting, all native trees removed during clearing and grubbing must be mulched and stockpiled. <i>Under no circumstances must the extent of clearing and grubbing be extended or weeds or exotic species used to make up any shortfall of mulch;</i></li> <li>(b) Where the quantity of mulch produced exceeds the quantity required under the Contract, the excess mulch must be removed from the Site.</li> </ul> </li> </ul>	G40.4.1, G40.4.2, G40.5 & G36.4.8		Verification Checklist	IP	Environmental Rep.				
4.02	Mulch Stockpiles	Per Cleared Area	<ul style="list-style-type: none"> <li>Ensure all much stockpiles are within designated areas.</li> <li>If stockpile site not shown on the Drawings, submit an application to the Principal ≥ 10 working days prior to commencement of stockpiling. State the max dimensions of the proposed stockpile in application.</li> <li>Stockpile sites must be located away from drainage lines &amp; watercourses and must be arranged to minimise damage to natural vegetation &amp; trees. Position stockpile so material may be transported away at any time.</li> <li>Temporary erosion and sediment control measures installed as required.</li> <li>Stockpiles must be monitored and turned over as required to avoid spontaneous combustion.</li> <li>Ensure risk of tannin leachate from mulch is controlled in accordance with site stockpile procedure.</li> </ul>	G40.4.2 & G38.3.6		Verification Checklist	IP	Environmental Rep.				
5.0	Disposal of Materials											

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5.01	Waste Disposal	Per Cleared Area	<ul style="list-style-type: none"><li>All materials cleared, pruned and grubbed <b>and redundant drainage, concrete structures (including concrete median and concrete pavement) removed</b> in accordance with G40 to be removed from the site for recycling or disposal.</li><li>Disposal must be in accordance with your Waste Management Plan.</li></ul>	G40.2.5, G40.5, G36.4.11.4 & WARMP		Waste Register	IP	Environmental Rep.				

Final Inspection

The signature below verifies that this ITP has been completed in accordance with the Fulton Hogan's Quality system Procedures and verifies lot compliance with specifications.

Print Name:

Position:

Signature:

Date: / /

Legend:					
HP	Hold Point	Work shall not proceed past the HP until released by the Project Verifier	IP	Inspection point	Formal Inspection to be done and recorded
HP*	Fulton Hogan Hold Point	Work shall not proceed past the HP* until released by Fulton Hogan	TP	Test Point	Product compliance test to be undertaken and recorded/reported
WP	Witness Point	An inspection which must be witnessed by the Project Verifier	SCP	Survey conformance point	A qualified surveyor to check product/section/structure and report
AP	Approval Point	Written or verbal approval given by the Project Verifier			

Notes