



Annual EPBC Act Approval Compliance Report

North East Link Program

EPBC Approval: 2018/8142

Reporting Period: 18 May 2022 – 18 May 2023

20 June 2023

NEL-PW-NEL-9990-EEC-REP-0003

Security Classification: OFFICIAL

Declaration of Accuracy

I declare that all the information and documentation supporting this compliance report is true and correct in every particular. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.

In making this declaration, I am aware that sections 490 and 491 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) make it an offence in certain circumstances to knowingly provide false or misleading information or documents. The offence is punishable on conviction by imprisonment or a fine, or both.

Signed:



Full Name: Duncan Elliott

Position: CEO of NELP, in my capacity as a statutory delegate of the Secretary to the Department of Transport and Planning (the Project Authority for North East Link project).

Organisation: North East Link Project (NELP) (a division of the Major Transport Infrastructure Authority (MTIA) (ABN 69 9812 087 82)

Date: 14/7/2023

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1 Introduction

1.1 Purpose of this report

This compliance report covers the reporting period between 18 May 2022 and 18 May 2023 in respect of EPBC Approval 2018/8142 issued to the Department of Transport and Planning (DTP) on 12 December 2019, as varied on 28 August 2020 and 29 June 2021 (EPBC Approval 2018/8142). The purpose of this report is to document compliance with the conditions for the Environment Protection Biodiversity Conservation Act 1999 (EPBC Act) Approval 2018/8142 Condition 12. Details of compliance are provided, and where appropriate, the timing of completion of individual actions is identified.

The key dates that relate to the approval are detailed in Table 1.

The map as presented in the EPBC Approval 2018/8142 is available in Attachment A.

Table 1 – Key NELP EPBC dates

Action	Key date
Commonwealth approval	12/12/2019
Commencement of the action	18/05/2020
Commonwealth Variation Approval	28/08/2020
Commonwealth Variation Approval	29/06/2021
Expiry of the Commonwealth Approval	03/10/2039

2 Description of activities

2.1 Overview of project

The North East Link Program (NELP) (a division of the Major Transport Infrastructure Authority (MTIA)), on behalf of the Victorian State government, is currently constructing the North East Link (NEL) project (referred to herein as 'the Project'). The NEL is a new freeway-standard road connection to the north-east of the Melbourne Central Business District that would complete Melbourne's ring road. Specifically, the NEL will connect the Metropolitan Ring Road (M80) to the Eastern Freeway and includes works along the Eastern Freeway from near Hoddle Street to Springvale Road. The NEL is an approved action under EPBC Approval 2018/8142.

The Project has been broken down into phases to allow seamless delivery. The initial phase - Early Works - allowed for utilities and secondary infrastructure to be prepared prior to the major development. Works included the relocation of utilities, relocation of Sports and Recreation spaces and development of Park and Ride services for Public Transport linkages. The following phases – Primary (Central) Package, and Secondary (Freeway) Packages - are the divisions of the road connections relevant to the development and construction of the tunnel, and interchanges with the M80 and Eastern Freeway and ancillary works respectively.

2.2 Works undertaken during the reporting period.

The following works have been undertaken in the approval area during the 2022-2023 reporting period:

2.2.1 Early works

- Utilities relocations
- Power utilities relocations along Greensborough Road
- Power and communications utilities relocations along the Eastern Freeway
- Communications utilities relocations near Watsonia train station
- Several utilities relocations work at Borlase Reserve, Yallambie including sewer reticulation, water mains, a pressure reducing station and Banyule Creek temporary diversion
- Relocation of the Yarra East Main Sewer
- Bulleen Park and Ride - New premium bus station incorporating multi-level carpark, bus interchange, road network improvements and a public open space 'green roof'.
- Templestowe Road Soccer Facilities – Construction of new sporting facilities including three soccer fields, pavilion and car park and associate civil infrastructure.

2.2.2 Central package

Table 2: Central Package works undertaken during the 2022/2023 reporting period.

Works Area	Activity	Description
Watsonia		
	Site Establishment	<ul style="list-style-type: none"> • Topsoil stripping, site clearing, grubbing and tree clearing • Installation of hoarding, fencing, concrete barriers and access gates • Utility relocation/removal works • Compound establishment including carparks, offices, cribs, ablutions, access and storage
	Piling Works	<ul style="list-style-type: none"> • Completion of 379 bored piles including the main box and ramps • Capping beam
	Watsonia Box	<ul style="list-style-type: none"> • Excavation and preparation for Tunnel Boring Machine (TBM) launch level (ongoing)
Diversion of Greensborough Hwy		
	Site clearing & grubbing	<ul style="list-style-type: none"> • Demolition of existing kerb, footpath, pavement and traffic islands • Excavation and earthworks • Safety barrier installation
	Windsor Reserve	<ul style="list-style-type: none"> • Site establishment – tree clearing, clear & grub, fencing & hoarding (ongoing), haul roads & hardstands, retaining wall (ongoing)

Works Area	Activity	Description
		<ul style="list-style-type: none"> Preparation for spoil shed & water treatment plant – foundation (ongoing)
Vent Tunnel		
	Site Establishment	<ul style="list-style-type: none"> Topsoil stripping, site clearing, grubbing and tree clearing Installation of hoarding, fencing, barriers and access gates Compound establishment including carparks, offices, cribs, ablutions, access and storage
Utility relocation/removal works		
	Piling Works & Excavation	<ul style="list-style-type: none"> Completion of 137 bored piles for vent tunnel cut and cover and Sequential Excavation Method vent tunnel launch
	Surface Road Works	<ul style="list-style-type: none"> Access and egress points along Greensborough Rd and Blamey Rd
Lower Plenty		
	Site Establishment	<ul style="list-style-type: none"> Topsoil stripping, site clearing, grubbing and tree clearing Installation of hoarding, fencing, barriers and access gates Landfill removal and abatement of contamination Compound establishment including carparks, offices, cribs, ablutions, access and storage Banyule creek diversion works
	Diaphragm Wall (D-Wall) Works	<ul style="list-style-type: none"> Preparation for piling works and D-Wall works
	Surface Road Works	<ul style="list-style-type: none"> Realignment of Shared User Path along Greensborough Highway Oban way site access intersection Access and egress points for site compound at Lower Plenty Road and Borlase Street Local road alterations to Kay Ct, Coleen St and Debra Ct
Manningham		
	Site Establishment	<ul style="list-style-type: none"> Demolition of existing structures Topsoil stripping, site clearing, grubbing and tree clearing Compound establishment including carparks, offices, cribs, ablutions, access, hoarding and storage at Ilma Ct Closure of Greenaway St Flood Bund Construction
	Diaphragm Wall (D-Wall) Works	Preparation for piling works and D-Wall works
	Bulleen Industrial Zone (BIZ)	<ul style="list-style-type: none"> Spark has taken possession of all 137 parcels of land BIZ Demolition – 86 of 106 buildings demolished (ongoing)
Bulleen		
	Site Establishment	<ul style="list-style-type: none"> Topsoil stripping, site clearing, grubbing and tree clearing Landfill removal and abatement of contamination Compound establishment including carparks, offices, cribs, ablutions, access, hoarding and storage Demolition of Trinity Grammar Tennis courts Dewatering and backfilling of Trinity Lake

Works Area	Activity	Description
	Diaphragm Wall (D-Wall) Works	<ul style="list-style-type: none">• Preparation for piling works and D-Wall works
	Surface Road Works	<ul style="list-style-type: none">• Commencement of a new carpark for Veneto Club• Commencement of Bulleen Rd diversion

3 Approval condition compliance

Condition No.	Approval Condition	Condition Currently Triggered	Compliance	Comments and supporting documentation																
1	Unless otherwise agreed to in writing by the Minister, the approval holder must not clear more than:	Yes																		
	a) 139 Matted Flax-lily plants and/or patches of Matted Flax-lily		Compliant	<p>The Project has so far salvaged 130 of the 139 plants/patches of Matted Flax-lily (MFL) and is therefore compliant within the scope of the approval.</p> <table border="1"> <thead> <tr> <th>Pre-Clearance survey</th> <th>Date of Salvage</th> <th>Location</th> <th>Number of plants</th> </tr> </thead> <tbody> <tr> <td>March 2020</td> <td>01/04/2020</td> <td>Simpson Barracks</td> <td>7</td> </tr> <tr> <td>July 2020</td> <td>02/09/2020</td> <td>Simpson Barracks</td> <td>20</td> </tr> <tr> <td>April 2021</td> <td>23/08/2021-24/08/2021</td> <td>Simpson Barracks</td> <td>103</td> </tr> </tbody> </table>	Pre-Clearance survey	Date of Salvage	Location	Number of plants	March 2020	01/04/2020	Simpson Barracks	7	July 2020	02/09/2020	Simpson Barracks	20	April 2021	23/08/2021-24/08/2021	Simpson Barracks	103
Pre-Clearance survey	Date of Salvage	Location	Number of plants																	
March 2020	01/04/2020	Simpson Barracks	7																	
July 2020	02/09/2020	Simpson Barracks	20																	
April 2021	23/08/2021-24/08/2021	Simpson Barracks	103																	

Condition No.	Approval Condition	Condition Currently Triggered	Compliance	Comments and supporting documentation
				The locations of the MFL salvaged to date are presented in Attachment A - Salvaged MFL Locations.
	b) 11.866 hectares of Plains Grassy Woodland within Simpson Barracks		Compliant	The Project has as of 25 December 2022 cleared 11.852 ha of Plains Grassy Woodland of the 11.866 ha allowed in this condition and is therefore compliant with this approval condition. The 2021/2022 annual compliance report confirmed the completion of Early Works project activities within the Simpson Barracks, with a total of 4.113 ha of Plains Grassy Woodland confirmed to be cleared. An additional 7.739ha of Plains Grassy Woodland was removed from Simpson Barracks during the 2022/2023 reporting period.
2	To compensate for the clearing the number of Matted Flax-lily plants and/or patches of Matted Flax-lily:	Yes		
	a) Prior to any clearance, the approval holder must undertake a pre-clearance survey to identify the total numbers of Matted Flax-lily plants and patches of Matted Flax-lily that, if not salvaged, would be impacted by the approved action		Compliant	As outlined above, pre-clearance surveys have occurred in March 2020, July 2020 and April 2021 prior to salvaging events of MFL. The pre-clearance surveys were undertaken in accordance with the MFL Salvage and Translocation Plan (October 2021). The project is therefore compliant with this condition.

Condition No.	Approval Condition	Condition Currently Triggered	Compliance	Comments and supporting documentation
	<p>b) Prior to construction, the approval holder must salvage all Matted Flax-lily plants and patches of Matted Flax-lily that were previously recorded in a pre-clearance survey and that would otherwise be impacted due to the approved action. In the event that construction occurs in stages, prior to commencing each stage the approval holder must salvage all Matted Flax-lily plants and patches of Matted Flax-lily that were previously recorded in a pre-clearance survey and that would otherwise be impacted by that stage of work</p>		<p>Compliant</p>	<p>MFL salvage and translocation has been completed for the early works stage and to facilitate the Primary Package of works in accordance with the MFL Salvage and Translocation Plan Rev 4 (October 2021) and is therefore compliant with this condition.</p> <p>Salvage (removal) will occur in three broad stages; to facilitate the Early Works program (completed), and a larger salvage to facilitate the Primary (completed) and Secondary Packages of Works (future). NELP is recording salvage and translocation information as it is completed in a MFL Asset Management Register spreadsheet.</p>

Condition No.	Approval Condition	Condition Currently Triggered	Compliance	Comments and supporting documentation
	<p>c) The approval holder must propagate the salvaged Matted Flax-lily plants and patches and translocate them, excepting some Matted Flax-lily plants and patches that may be kept as an insurance population, to a recipient site. The number of Matted Flax-lily plants and patches kept as an insurance population must not be the majority of Matted Flax-lily plants or patches propagated. All propagated Matted Flax-lily plants and patches of Matted Flax-lily, excepting those kept as an insurance population, must be translocated within 2 years of salvage of each Matted Flax-lily plant and patch of Matted Flax-lily.</p>		Compliant	<p>As outlined in the MFL Salvage and Translocation Plan Rev 4 (October 2021), sufficient material was taken from each plant to generate the required six (6) clones per plant/ patch, the project is therefore compliant with this condition. The individuals were salvaged and processed at the selected nursery in accordance with the MFL Salvage and Translocation Plan Rev 4 (October 2021). At least six (6) clones have been propagated from each original individual and are surviving at time of reporting. 108 MFLs have been translocated to the Cherry Street Reserve recipient site as of 2 August 2022. No further translocations to identified recipient sites have occurred within the reporting period.</p>
	<p>d) The approval holder must manage the recipient site for a period of 10 years commencing on the date that the first Matted Flax-lily plant or patch of Matted Flax-lily is translocated to the recipient site</p>		Compliant	<p>108 MFLs have been translocated to the Cherry Street Reserve recipient site as of 2 August 2022. NELP has commenced management of this recipient site as of 2 August 2022, the project is therefore compliant with this condition.</p>

Condition No.	Approval Condition	Condition Currently Triggered	Compliance	Comments and supporting documentation						
	e) The approval holder must monitor the recipient site for a period of at least 10 years, commencing on the date that the first Matted Flax-lily plant or patch of Matted Flax-lily is translocated to the recipient site and, concluding no sooner than 5 years after the last Matted Flax-lily plant or patch of Matted Flax-lily is translocated to the recipient site		Compliant	<p>108 MFLs have been translocated to the Cherry Street Reserve recipient site as of 2 August 2022. NELP has commenced monitoring of this recipient site as of 10 August 2022.</p> <p>Monitoring since 10 August 2022 has included;</p> <ul style="list-style-type: none"> - One month of weekly monitoring following translocation - Monthly monitoring for the next three months - Quarterly monitoring for the next two years <p>After two years monitoring will reduce to twice yearly until year 5 post translocation.</p> <p>The MFL annual monitoring report (Attachment B) includes monitoring dates completed, the project is therefore compliant with this condition.</p>						
	f) The approval holder must, until otherwise agreed in writing by the Minister, provide the Department with a report each year as part of the compliance report, which must detail the numbers of Matted Flax-lily plants and patches that have been translocated to the recipient site and the numbers of translocated and propagated plants and patches that have survived until the end of the period reported on. The report must also document threats to the translocated Matted Flax-lily plants and patches and any management actions, including corrective actions, taken or proposed		Compliant	<p>The MFL annual monitoring report (Attachment B) details the number, condition, and threats faced by MFL plants, as well as any maintenance and/or corrective actions will be emailed to the Department, the project is therefore compliant with this condition.</p> <p>The table below outlines the survivorship of MFLs following the translocation of 108 MFL clones to Cherry Street Reserve in August 2022. The table below shows the survivorship of MFLs at this site on each monitoring event. As of October 2022, 100% of translocated MFLs have survived.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: left;">Monitoring Event</th> <th style="text-align: left;">Date</th> <th style="text-align: left;">MFL Survivorship</th> </tr> </thead> <tbody> <tr> <td>Baseline Monitoring</td> <td>August 2022 (Week 1)</td> <td>100%</td> </tr> </tbody> </table>	Monitoring Event	Date	MFL Survivorship	Baseline Monitoring	August 2022 (Week 1)	100%
Monitoring Event	Date	MFL Survivorship								
Baseline Monitoring	August 2022 (Week 1)	100%								

Condition No.	Approval Condition	Condition Currently Triggered	Compliance	Comments and supporting documentation																					
				<table border="1"> <tr> <td data-bbox="1153 309 1339 395">2</td> <td data-bbox="1350 309 1563 395">August 2022 (Week 2)</td> <td data-bbox="1574 309 1787 395">100%</td> </tr> <tr> <td data-bbox="1153 427 1339 513">3</td> <td data-bbox="1350 427 1563 513">August 2022 (Week 3)</td> <td data-bbox="1574 427 1787 513">100%</td> </tr> <tr> <td data-bbox="1153 545 1339 632">4</td> <td data-bbox="1350 545 1563 632">August 2022 (Week 4)</td> <td data-bbox="1574 545 1787 632">100%</td> </tr> <tr> <td data-bbox="1153 663 1339 750">5</td> <td data-bbox="1350 663 1563 750">September 2022</td> <td data-bbox="1574 663 1787 750">100%</td> </tr> <tr> <td data-bbox="1153 782 1339 868">6</td> <td data-bbox="1350 782 1563 868">October 2022</td> <td data-bbox="1574 782 1787 868">100%</td> </tr> <tr> <td data-bbox="1153 900 1339 986">7</td> <td data-bbox="1350 900 1563 986">November 2022</td> <td data-bbox="1574 900 1787 986">99%*</td> </tr> <tr> <td data-bbox="1153 1018 1339 1104">8</td> <td data-bbox="1350 1018 1563 1104">December 2022</td> <td data-bbox="1574 1018 1787 1104">99%*</td> </tr> </table> <p data-bbox="1144 1098 2080 1152">* 1 of the 108 MFLs was missing and presumed dormant. Further detail is captured in the annual monitoring report (Attachment B, p. 16).</p> <p data-bbox="1144 1161 2080 1248">The annual monitoring report (Attachment B) documented an increase in biomass at Cherry Street Reserve since the original translocation. No specific action is required at this time.</p> <p data-bbox="1144 1257 2080 1278">There is currently little evidence of herbivory stress on MFLs.</p>	2	August 2022 (Week 2)	100%	3	August 2022 (Week 3)	100%	4	August 2022 (Week 4)	100%	5	September 2022	100%	6	October 2022	100%	7	November 2022	99%*	8	December 2022	99%*
2	August 2022 (Week 2)	100%																							
3	August 2022 (Week 3)	100%																							
4	August 2022 (Week 4)	100%																							
5	September 2022	100%																							
6	October 2022	100%																							
7	November 2022	99%*																							
8	December 2022	99%*																							

Condition No.	Approval Condition	Condition Currently Triggered	Compliance	Comments and supporting documentation
				<p>Waterlogging has been identified as a threat to MFLs. MFLs that had roots exposed as a result of this threat were covered with extra soil and sand during September 2022 to protect from waterlogging. As of December 2022, no MFLs have an active risk of water logging stress. Plants will continue to be monitored and soil will be added to plants on an as needed basis. No additional maintenance activities are recommended at this point.</p>
3	<p>By implementing contingency measures, the approval holder must ensure that a minimum of 85 per cent of 4 times the number of salvaged Matted Flax-lily plants and patches have survived at the recipient site at least 5 years after the date the last Matted Flax-lily plant or patch, excepting plants or patches from the insurance population, is translocated to the recipient site. The approval holder must ensure that the location of each translocated Matted Flax-lily plant and patch is recorded in the Atlas of Living Australia and Victorian Biodiversity Atlas within 6 months of being translocated</p>	Yes	Compliant	<p>MFL salvage and translocation is being undertaken in stages. 108 MFLs have been translocated to the Cherry Street Reserve recipient site as of 2 August 2022. The first stage of translocation has been uploaded to Atlas of Living Australia and Victorian Biodiversity Atlas. The second stage will be uploaded within 6 months of final translocation. Locations will be revised pending survival following 5 years. The project is therefore compliant with this condition.</p>

Condition No.	Approval Condition	Condition Currently Triggered	Compliance	Comments and supporting documentation
4	If the Minister is not satisfied that the requirements of condition 3 have been, or are likely to be, achieved, and has given the approval holder written notice to this effect, the approval holder must:	No		
	a) Within 1 year of receiving written notification by the Minister to this effect, plant propagated Matted Flax-lily plants and/or patches to the recipient site in accordance with directions made by the Minister		Not Applicable	As described in Condition 4, NELP has not received written notification from the Minister indicating that the Minister is not satisfied that the requirements of condition 3 have been, or are likely to be, achieved. Therefore, Condition 4a has not been triggered.
	b) Provide the Department with a report each year for an additional 5 years as part of the compliance report, which must detail the numbers of Matted Flax-lily plants and patches that have been translocated to the recipient site and the numbers of translocated and propagated plants and patches that have survived until the period reported on. The report must also document threats to the translocated Matted Flax-lily plants and patches and any management		Not Applicable	NELP has not received written notification from the Minister to this effect as described in Condition 4. Therefore, Condition 4b has not been triggered.

Condition No.	Approval Condition	Condition Currently Triggered	Compliance	Comments and supporting documentation
	actions, including corrective actions, taken or proposed			
	c) Each 12 months, for the following 5 years, the approval holder must translocate an additional number of Matted Flax-lily plants and/or patches to the recipient site equal or greater than the number which have not survived during the preceding 12 months. The translocated Matted Flax-lily plants and patches must be sourced from the plants and patches propagated as required under condition 2c		Not Applicable	NELP has not received written notification from the Minister to this effect as described in Condition 4. Therefore, Condition 4c has not been triggered.
5	Prior to the commencement of the action at Simpson Barracks, to compensate for the loss of up to	Yes	Compliant	In accordance with Victorian Government guidelines, the project has established native vegetation offsets to compensate for the loss of the 11.852 ha of the allowed 11.866 ha of Plains Grassy Woodland removed to date at

Condition No.	Approval Condition	Condition Currently Triggered	Compliance	Comments and supporting documentation
	11.866 hectares of Plains Grassy Woodland, the approval holder must establish an offset in accordance with the Victorian Government Guidelines and provide to the Department written evidence that DELWP is satisfied that the offset meets the requirements of the Victorian Government Guidelines. Within 2 weeks of the offset being established, the approval holder must provide the Department with evidence that the offset has been established			<p>Simpsons Barracks; the project is therefore compliant with this part of the condition.</p> <p>Offsets were secured and evidence provided to the Department in 2020.</p>
6	The approval holder must implement the Studley Park Gum Management Framework for the period of effect of the approval. The approval holder must provide the Department with a report, as part of the compliance report, every year for 3 years, commencing from the date the first Studley Park Gum tree is planted in accordance with the Studley Park Gum Management Framework. This report must detail the number, condition, and threats faced by the Studley Park Gum trees that have been planted, as well as any maintenance or corrective actions that have been taken or are proposed	Yes	Compliant	<p>Implementation of the Studley Park Gum (SPG) Management Framework (October 2021) was undertaken during this reporting period, the project is therefore compliant with this condition. The SPG Management Framework is available on the NELP website.</p> <p>A SPG Management Plan (November 2021) has been developed and implemented in consultation with the Victorian Department of Energy, Environment and Climate Action (DEECA) during the period of this compliance report as per the SPG Management Framework obligations.</p> <p>The SPG annual monitoring report (Attachment C) detailing the number, condition, and threats faced by the SPG trees, as well as any maintenance and/or corrective actions will be emailed to the Department. 310 SPG saplings were planted at three recipient sites between May 2021 and November 2021. The table below outlines the monitoring events undertaken for 2022/2023 reporting period.</p>

				<table border="1"> <thead> <tr> <th data-bbox="1153 236 1352 284">Date</th> <th data-bbox="1352 197 1574 284">Living Plants (no.)</th> </tr> </thead> <tbody> <tr> <td data-bbox="1153 320 1352 427">Baseline Monitoring (2021)</td> <td data-bbox="1352 320 1574 427">310</td> </tr> <tr> <td data-bbox="1153 475 1352 523">August 2022</td> <td data-bbox="1352 475 1574 523">293</td> </tr> <tr> <td data-bbox="1153 563 1352 611">October 2022</td> <td data-bbox="1352 563 1574 611">282</td> </tr> <tr> <td data-bbox="1153 651 1352 699">February 2023</td> <td data-bbox="1352 651 1574 699">238</td> </tr> <tr> <td data-bbox="1153 738 1352 786">March 2023</td> <td data-bbox="1352 738 1574 786">244</td> </tr> </tbody> </table> <p data-bbox="1144 818 2087 1276"> The SPG annual monitoring report identified threats to SPG establishment and survival. SPGs were moved from locations prone to waterlogging. Parts of the recipient sites were waterlogged with deep puddles during heavy rain seasons; when replanting events occurred these sites were avoided. Effects of excess water from rain events will be monitored. Fence condition and herbivory prevention is being threatened by erosion at one recipient site. Fencing maintenance was undertaken during the reporting period. Slashing or brush cutting of fence boundaries is proposed beyond March 2023 to allow easy inspection of fence condition and to reduce risk of herbivore egress. Weed cover ranged between 53% - 86% at recipient sites. SPG condition does not appear significantly compromised by weed cover. Grassy weed biomass is being managed by brushcutting – this approach will continue provided that SPG health is maintained and SPGs are free of weeds to at least 50 cm from their base. Control of woody weeds and forbs will continue as per the Studley </p>	Date	Living Plants (no.)	Baseline Monitoring (2021)	310	August 2022	293	October 2022	282	February 2023	238	March 2023	244
Date	Living Plants (no.)															
Baseline Monitoring (2021)	310															
August 2022	293															
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March 2023	244															

Condition No.	Approval Condition	Condition Currently Triggered	Compliance	Comments and supporting documentation
				Park Gum Management Plan (November 2021). Handweeding within the SPG mulch circle will be implemented beyond March 2023.
7	The approval holder must notify the Department in writing of the date of commencement of the action within 10 business days after the date of commencement of the action	Yes	Compliant	Letter was sent to DCCEEW on 28 May 2020 notifying of the commencement of the action on 18 May 2020, the project is therefore compliant with this condition
8	The approval holder must maintain accurate and complete compliance records	Yes	Compliant	NELP is maintaining compliance records in accordance with this condition. The project is therefore compliant with this condition
9	If the Department makes a request in writing, the approval holder must provide electronic copies of requested compliance records to the Department within the timeframe specified in the request, or an alternative timeframe agreed in writing with the Department	No	Not Applicable	Condition 9 has not been triggered as no request from the Department has been made at the time of preparing this report.
10	The approval holder must:	Yes		

Condition No.	Approval Condition	Condition Currently Triggered	Compliance	Comments and supporting documentation
	a) Publish the Salvage and Translocation Plan and Studley Park Gum Management Framework, not as an attachment or appendix within a larger document, on the website within 20 business days of the date of this approval of the action, or of the date a revised action management plan is submitted to the Minister or the Department, unless otherwise agreed to in writing by the Minister		Compliant	Plans were initially published on the North East Link website on 19/12/2019. The 'Salvage and Translocation Plan' (Rev 4 updated October 2021) and 'Studley Park Gum Management Framework' (Rev 3 updated October 2021) remain available on the website. The project is therefore compliant with this condition.
	b) Exclude or redact sensitive ecological data from plans published on the website or provided to a member of the public; and		Compliant	No information was required to be redacted. The project is therefore compliant with this condition.
	c) Keep plans published on the website until the end date of this approval		Compliant	The SPG Management Framework and Salvage and Translocation Plan continue to be available on the NELP website. The project is therefore compliant with this condition.
11	The approval holder must ensure that any monitoring data (including sensitive ecological data), surveys, maps, and other spatial and metadata	Yes	Compliant	The SPG and MFL annual compliance reports (Attachment B and C) containing monitoring data will be provided to speciesmetadata@environment.gov.au as required by the Department's Guidelines for biological survey and mapped data (2018), the project is therefore compliant with this condition.

Condition No.	Approval Condition	Condition Currently Triggered	Compliance	Comments and supporting documentation
	required under conditions of this approval, is prepared in accordance with the Department's Guidelines for biological survey and mapped data (2018) and submitted electronically to the Department as part of the reports required under condition 2f, condition 4b and condition 6			
12	Unless otherwise agreed to in writing by the Minister, the approval holder must prepare a compliance report for each 12-month period following the date of commencement of the action until the approval expires, or otherwise in accordance with an annual date that has been agreed to in writing by the Minister. The approval holder must:	Yes		This report has been prepared to satisfy this condition. It will be published on the NELP website. The project is therefore compliant with this condition.
	a) Publish each compliance report on the website within 60 days following the relevant 12-month period;		Compliant	<p>The compliance report for the 2020/21 reporting period was completed 18th May 2021 and published on the website by 15th July 2021. The commencement of the 2021/2022 annual report was the 18th May 2022, and published on the website by 16th July 2022. The project is therefore compliant with this condition.</p> <p>The commencement of the 2022/2023 annual report was the 18th May 2023, and as such, the due date for this report is 16th July 2023.</p>

Condition No.	Approval Condition	Condition Currently Triggered	Compliance	Comments and supporting documentation
	b) Notify the Department by email that a compliance report has been published on the website and provide the weblink for the compliance report within five business days of the date of publication;		Compliant	<p>The Department was notified by email within five business days of the 2020/2021 and 2021/2022 report being published. The project is therefore compliant with this condition.</p> <p>The Department will be notified by email at such time as the 2022/2023 report is published.</p>
	c) Keep all compliance reports publicly available on the website until this approval expires;		Compliant	<p>The report will remain publicly available on the website. (A link will be provided to the Department as per Condition 12b). The project is therefore compliant with this condition.</p>
	d) Exclude or redact any sensitive ecological data or other sensitive information from compliance reports published on the website; and		Not Applicable	<p>The compliance report has been reviewed to determine if any sensitive ecological data was required to be redacted. Condition 12d was not triggered as no sensitive ecological data was identified.</p>

Condition No.	Approval Condition	Condition Currently Triggered	Compliance	Comments and supporting documentation
	e) Where any sensitive ecological data or other sensitive information has been excluded from the version published, submit the full compliance report to the Department within 5 days of publication		Not Applicable	The compliance report has been reviewed to determine if any sensitive ecological data was required to be redacted. Condition 12e was not triggered as no sensitive ecological data was excluded.
13	The approval holder must notify the Department in writing of any: incident, non-compliance with the conditions, or non-compliance with the commitments made in plans. The notification must be given as soon as practicable, and no later than two business days after becoming aware of the incident or non-compliance. The notification must specify:	Yes	Compliant	There have been no notifiable incidents or non-compliances during the reporting period. The Project is therefore compliant with this condition.
	a) Any condition which is or may be in breach;		Compliant	

Condition No.	Approval Condition	Condition Currently Triggered	Compliance	Comments and supporting documentation
	b) A short description of the incident and/or non-compliance; and		Compliant	
	c) The location (including co-ordinates), date and time of the incident and/or non-compliance. In the event the exact information cannot be provided, provide the best information available		Compliant	
14	The approval holder must provide to the Department the details of any incident or non-compliance with the conditions or commitments made in plans as soon as practicable and no later than 10 business days after becoming aware of the incident or non-compliance, specifying:	No	Not Applicable	There have been no notifiable incidents or non-compliances during the 2022/2023 EPBC compliance reporting period.
	a) Any corrective action or investigation which the approval holder has already taken or intends to take in the immediate future;		Not Applicable	
	b) The potential impacts of the incident or non-compliance; and		Not Applicable	

Condition No.	Approval Condition	Condition Currently Triggered	Compliance	Comments and supporting documentation
	c) The method and timing of any remedial action that will be undertaken by the approval holder		Not Applicable	
15	The approval holder must ensure that independent audits of compliance with the conditions are conducted as requested in writing by the Minister	No	Not Applicable	Condition 15 has not been triggered as no request has been made for an independent audit.
16	For each independent audit, the approval holder must:	No		
	a) Provide the name and qualifications of the independent auditor and the draft audit criteria to the Department		Not Applicable	Not applicable- refer to Condition 15.
	b) Only commence the independent audit once the audit criteria have been approved in writing by the Department		Not Applicable	Not Applicable- refer to Condition 15.
	c) Submit an audit report to the Department within the timeframe specified in the approved audit criteria		Not Applicable	Not Applicable- refer to Condition 15.
17	The approval holder must publish the audit report on the website within 10	No	Not Applicable	Not Applicable- refer to Condition 15.

Condition No.	Approval Condition	Condition Currently Triggered	Compliance	Comments and supporting documentation
	business days of receiving the Department's approval of the audit report and keep the audit report published on the website until the end date of this approval			
18	Within 30 days of the completion of the action, the approval holder must notify the Department in writing and provide completion data	No	Not Applicable	Not Applicable- the action has not been completed.

4 New environmental risks

No new environmental risks have been identified.

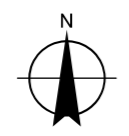
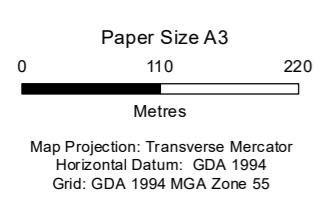
As the project advances, the Environment team will continue to monitor and manage environmental risks through Contractor's ISO 14001-compliant environmental management systems.

5 Attachments

A. Salvaged Matted Flax Lily Locations

B. Matted Flax Lily Annual Compliance Report

C. Studley Park Gum Annual Compliance Report



- Legend**
- ★ MFL salvaged at Simpson Barracks
 - NEL Project Boundary (PSA GC98/Inc Doc/SCO)



North East Link Project

**Simpson Barracks
Salvaged Matted Flax-lily Locations**

Job Number	31-35006
Revision	A
Date	20 Jun 2022



NORTH EAST LINK PROJECT

MATTED FLAX-LILY ANNUAL MONITORING REPORT - DEC 2022

NEL-PW-GHD-9990-EEE-REP-0026

Revision 0

30 June 2023

Document prepared by:



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Refer to the relevant GHD **Work Verification Record** for detail on Designer/Author/Originator, Checker/Verifier and Approver

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Appendices

- Appendix A – Photo Monitoring Points
- Appendix B – Representative Photos of Matted Flax-lilies
- Appendix C – Monitoring Data (December 2022)
- Appendix D – Previous maintenance or corrective actions

Abbreviations

Abbreviations	
cm	Centimetre
DCCEEW	Department of Climate Change, Environment, Energy and Water
DEECA	Department of Energy, Environment and Climate Action
EPBC Act	Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPR	Environmental Performance Requirement
EVC	Ecological vegetation class
FFG Act	<i>Flora and Fauna Guarantee Act 1988</i>
ha	Hectare
m	Metre
MFL	Matted Flax-lily
MTIA	Major Transport Infrastructure Authority
NEL	North East Link (the 'project')
NELP	North East Link Program (the 'client')
VBA	Victorian Biodiversity Atlas

1. Introduction

1.1 Project Background

The North East Link Program (NELP) is a division of the Major Transport Infrastructure Authority (MTIA) and on behalf of the Victorian State government, is currently undertaking the North East Link (NEL) project (referred to herein as 'the project'). The project is a new freeway-standard road connection to the north-east of the Melbourne Central Business District that would complete Melbourne's ring road. Specifically, the project will connect the Metropolitan Ring Road (M80) to the Eastern Freeway and includes works along the Eastern Freeway from near Hoddle Street to Springvale Road.

The biodiversity values within the NEL project boundary were determined during a rigorous survey and assessment process. These assessments informed the development of an Environment Effects Statement (EES) in accordance with the Victorian *Environment Effects Act 1978* and a Public Environment Report (PER) in accordance with the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The ecological impact assessment identified the project had the potential to impact *Dianella amoena* (Matted Flax-lily), which is classified as 'Endangered' under the EPBC Act and 'Critically endangered' on the Victorian *Flora and Fauna Guarantee Act 1988* (FFG Act) threatened flora list.

1.2 Approval conditions

Conditions 1, 2, 3 and 4 of the EPBC 2018/8142 approval requires NELP to not clear more than 139 Matted Flax-lilies (MFLs), and to salvage, propagate and translocate the impacted MFLs into an appropriate recipient site (Section 4). Following translocation, NELP must also monitor the translocated MFLs each year for at least 10 years and provide a series of reports to the Department of Climate Change, Energy, the Environment and Water (DCCEEW) detailing the progress of the salvage and translocation plan. Annual reports will be prepared following December monitoring events every year for the life of the monitoring program (finishing in August 2032).

The ministerial assessment of the EES also included several recommendations relating to the Environmental Performance Requirements (EPRs) for NELP. The only EPR addressing the potential impact to MFLs is EPR FF7, which states, '*Where direct impacts on Matted Flax-lily occur, a salvage and translocation plan must be developed and implemented to the satisfaction of the Department of Environment, Land, Water and Planning and the Commonwealth Department of Environment and Energy, prior to the commencement of relevant works.*' This North East Link Project Salvage and Translocation Plan has been produced (2021) and this report is part of the implementation requirements of the plan.

A detailed assessment of the Salvage and Translocation Plan against the above-mentioned conditions has been carried out in Section 4. The monitoring plan is compliant with all conditions and is on track to meet all targets of the Salvage and Translocation Plan (GHD 2021a).

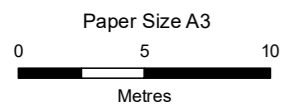
1.3 Purpose of this report

The purpose of this report is to demonstrate compliance with the conditions of the EPBC Act approval (EPBC 2018/8142) and the requirements of the Matted Flax-lily Salvage and Translocation Plan (GHD 2021a). Following this annual report, a report will be prepared every year for the life of the monitoring program (10 years).

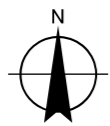
This monitoring report provides a description of the method, results, and an assessment of the health and condition of the MFLs associated with the monitoring program undertaken from August 2022 to December 2022. December is the preferred time for annual monitoring as the Matted Flax-lilies are typically flowering by this time. This includes the method applied to assess and record the condition of the MFLs four months after the translocation event at Cherry Street Reserve, Macleod (the recipient site) (Figure 1, Section 2).



Recommendations for management and protection of the MFLs until the next monitoring event have also been provided (Section 3.6.2).



Map Projection: Transverse Mercator
 Horizontal Datum: GDA 1994
 Grid: GDA 1994 MGA Zone 55



Legend

- Matted Flax-lily locations
- Site boundary

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North East Link Project

Matted Flax-lily
 Cherry Street Reserve Translocation Site

Job Number	31-35006
Revision	A
Date	28 Apr 2023

Figure 1

2. Method

The method applied to translocate and monitor the MFLs outlined below is in accordance with the Matted Flax-lily Salvage and Translocation Plan (GHD 2021a). As is the case with all translocation programs spanning a 10 year period, there are uncertainties that may impact the effectiveness of the translocation program. Accordingly, based on the results of the annual monitoring, this method may be periodically adapted to meet the goals and performance criteria of the program. This will allow practitioners to respond to unforeseen events or trajectories in the MFL’s condition. At this point no changes have been made to the method.

2.1 Monitoring program

Monitoring was planned to occur more frequently immediately following replanting to confirm the new transplants have established themselves successfully at the new site. After four weeks of weekly monitoring, the frequency reduced to monthly for three months and is now progressing quarterly for the next two years. After that, monitoring will be reduced to twice a year (Table 1).

It is expected that a reduced monitoring program would be implemented for Years 5-10, compared to years 1-5. This schedule may be revised, with approval of DCCEEW and Department of Energy, Environment and Climate Action (DEECA), depending on establishment rates and achievement of performance benchmarks. A final site assessment would be conducted at the end of the tenth year after the initial translocation event to confirm that performance benchmarks have been met.

Table 1 Monitoring event schedule for the first five years of the monitoring plan.

Year	Monitoring Event	Expected date of event	Date Event completed
1	Planting of salvaged MFL	August 2022	2 August 2022
1	Event 1 – Weekly	August 2022	10 August 2022
1	Event 2 - Weekly	August 2022	18 August 2022
1	Event 3 - Weekly	August 2022	24 August 2022
1	Event 4 - Weekly	August 2022	31 August 2022
1	Event 5 - Monthly	September 2022	26 September 2022
1	Event 6 - Monthly	October 2022	21 October 2022
1	Event 7 – Monthly	November 2022	24 November 2022
1	Event 8 – Monthly	December 2022	13 December 2022
1	Event 9 - Quarterly	March 2023	
1	Event 10 - Quarterly	June 2023	
2	Event 11 - Quarterly	September 2023	
2	Event 12 - Quarterly	December 2023	
2	Event 13 - Quarterly	March 2024	

Year	Monitoring Event	Expected date of event	Date Event completed
2	Event 14 - Quarterly	June 2024	
3	Event 15 - Biannually	December 2024	
3	Event 16 - Biannually	June 2025	
4	Event 17 - Biannually	December 2025	
4	Event 18 - Biannually	June 2026	
5	Event 19 - Biannually	December 2026	
5	Event 20 - Biannually	June 2027	

Monitoring of the Matted Flax-lilies (MFLs) at Cherry Street Reserve took place in August (10, 18, 24, 31), 26 September, 21 October, 24 November and 13 December 2022 (Table 1). Monitoring has been conducted by the following staff:

- Rose Baulch
- Rebecca Korossy-Horwood
- Jessie Moyses
- Brendan Janissen
- Meg Cabral

2.2 Monitoring data

Monitoring at the recipient site has been undertaken or overseen by a qualified botanist approved by DEECA and in consultation with land managers (e.g. Council biodiversity officer). The site has been prepared according to the Site Management Plan (GHD 2021b) and the site was divided into three zones, Zone A, B, C for management purposes. Currently all MFLs in the Cherry Street Reserve are planted in Zone B. Future translocations will use areas in Zone A as well (Figure 2). To assess the MFL translocation program against the performance criteria the following data was collected.

2.2.1 Total number of living translocated plants

A population count of all translocated MFLs has been conducted during each monitoring event.

MFLs have been counted as living if they have any green material above ground. Plants that cannot be found or have no living material above ground have been counted as dormant for the first year and if they are dormant the second year they will be counted as dead.

2.2.2 Condition monitoring

The following data is captured for each quarterly monitoring event conducted at the site:

- Location and population of individual plants
- Health condition of individual plants (representative photos are presented in Appendix B)
- Evidence of herbivory or pathogens (yes/no)
- Presence of weed species within 0.5m (yes/no)
- Other potential or occurring threats or management issues

- Presence of flowers and/or fruits and height of inflorescence or infructescence (presence/absence)
- Maintenance or corrective actions completed or recommended
- Rainfall data from the proceeding three month period, and compared to annualized values

2.2.3 Quadrat monitoring

To capture more detail on a subset of plants two 25m² quadrats have been established within this batch of translocated MFLs. In December, the following additional data was captured for the MFLs within these two quadrats:

- Plant cover and growth (basal diameter and height of each patch, number of ramets per patch)
- Presence of buds (yes/no)
- Presence of flowers (early – new flower, barely opened, mid – open fresh flower, late – dried up/dead flower)
- Presence of fruits (early – small fruit, mid – fresh full size fruit, late – dried up/dead fruit)
- Height of inflorescence or infructescence

These data will be collected every December when growth and inflorescence/infructescence numbers are expected to be highest.

The value of measuring the health of the plants is that it could give advance warning of any issues that may cause problems for the translocation program. A small number of MFLs in poor condition or dormant (i.e. no leaves) is not unusual for this species. However, a large proportion of the plants in moderate or poor condition could indicate a change in condition of the site and that adaptive management is needed before the plants are beyond recovery. Details of the condition assessment and results from the monitoring event are shown in Table 5.

2.2.4 Condition of the recipient site

The general site conditions and threats to the MFLs were assessed at each monitoring event to inform management.

2.2.5 Photopoint monitoring

Photopoints have been taken showing representative views of the translocated population. These photos are taken at each monitoring event. Photos taken during event 8 monitoring in December 2022 are in Appendix A.

2.3 Adaptive management

The health and survivorship of the translocated plants will continue to be monitored according to the method described in Section 2.2 (Table 2). If the translocated population appears to be declining and/or performance benchmarks are not being met the root cause of the decline will be investigated and further adaptive management measures developed in consultation with DEECA. If the root cause is determined to be an aspect of the management of the recipient sites (such as insufficient watering or weed control), then modifications to site management would be evaluated and implemented as needed. In addition, if survivorship criteria are not being met, the number of clones in the nursery can be increased by creating further divisions of established nursery stock so that sufficient clones are available to replace losses. If contingency measures were implemented (at the end of the five-year monitoring period), the monitoring period would be extended until the 10- year period.

The primary criteria triggering replanting would be the plant mortality at the recipient sites. This is based on the judgement of the project botanist. If all clones of an original plant died, replacements would be required immediately to meet EPBC approval conditions. Plants in poor health or which are not sufficiently growing

either in width or number of ramets should first be watered or otherwise given extra care before being considered for replacement.

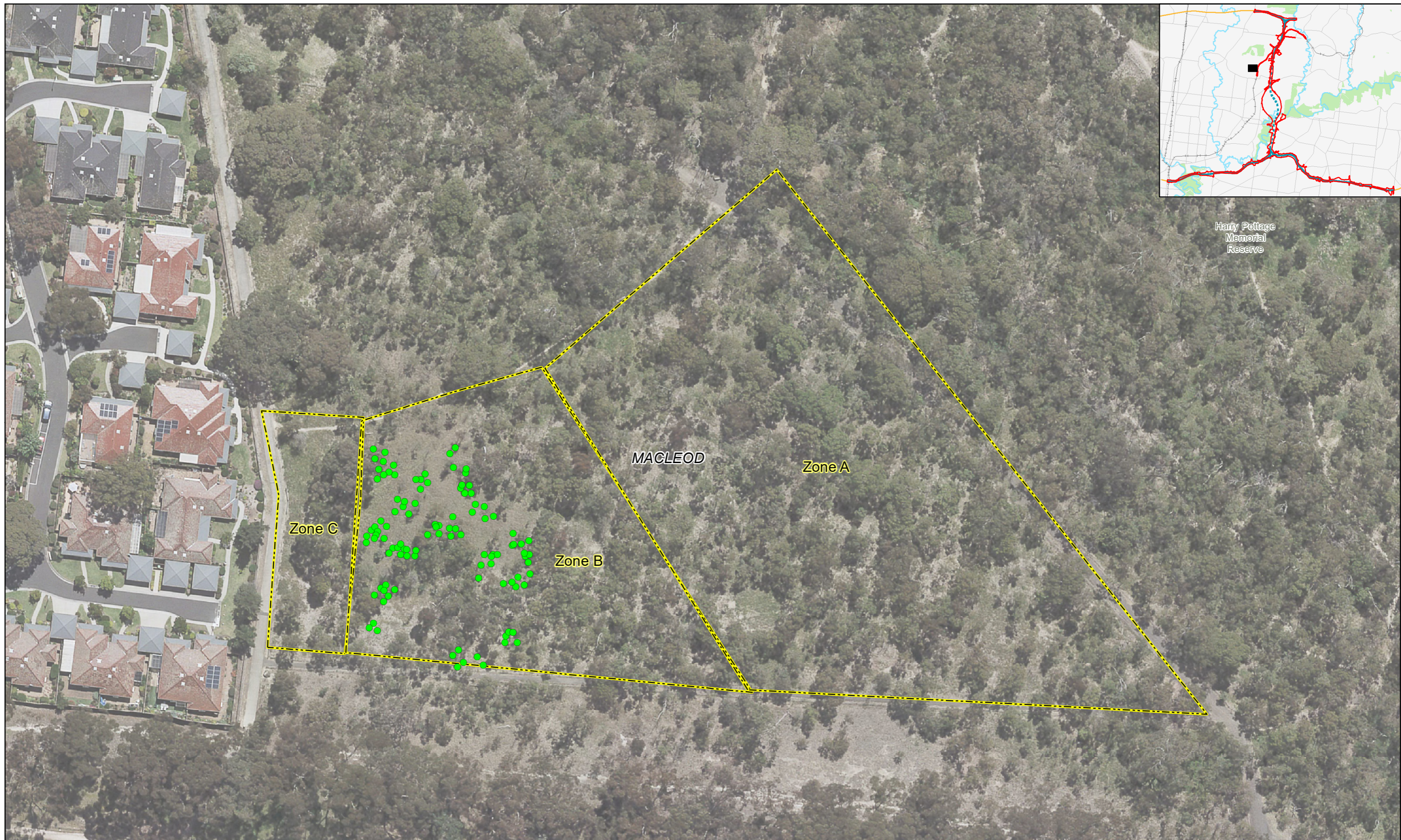
As monitoring continues, a sufficient number of clones would be propagated and retained in the nursery to replace any losses of the translocated plants at the recipient sites to ensure 100 percent genetic survivorship of salvaged material. This is critical to the success of the monitoring program. Based on previous translocation programs, MFL can be successfully propagated in a nursery setting and a large number of clones can often be produced from a single parent plant.

2.4 Reporting

Following the baseline report (GHD 2022), the second report after the first three months of monitoring will be prepared and then every year after for the life of the monitoring program (10 years). This is the first annual report and captures the first four months of data.

The annual reports will discuss the survivorship, condition and growth of the plants and include information on conditions at the recipient site and the nursery and an assessment of the status of the translocation program relative to the performance criteria. The reports will also discuss occurring or potential threats, management issues and maintenance or corrective actions taken or proposed. The reports will include rainfall and watering data, the monitoring forms for each monitoring event and the quarterly photos taken from each established photo point.

A final report will be provided after the tenth year and include an analysis of whether the translocation program has achieved the long-term performance criteria, or whether further management and monitoring is required, and a summary of lessons learned and recommendations for future translocation programs.



Harry Pottage
Memorial
Reserve

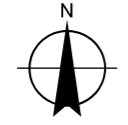
MACLEOD

Zone A

Zone C

Zone B

Paper Size A3
0 20
Metres



Legend

- Translocated Matted Flax-lilies
- Management zones (Indicative)

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

Security Classification: **OFFICIAL: Sensitive**



North East Link Project

Job Number 31-35006
Revision A
Date 28 Apr 2023

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Matted Flax-lily Cherry Street
Reserve Management Zones

Figure 2

Table 2 Performance management and contingency planning

Year of completion of activity	Standard to be achieved	Contingency	Outcome
Pre-planting	100% of salvage of pre-clearance plants Where achievable six clones to be created to replace salvaged plants.	If the six clones cannot initially be established, additional clones to be produced when plant mass is sufficient. Two clones maintained in nursery conditions	Compliant
End of 1 st year	>85% survivorship	Do nothing and continue to monitor	On track to meet this criterion by August 2023
	<85% survivorship	Replant up to 85% survivorship of four clones	
End of 2 nd year	>85% survivorship	Do nothing and continue to monitor	
	<85% survivorship	Replant up to 85% survivorship of four clones	
End of 3 rd year	>85% survivorship	Do nothing and continue to monitor	
	<85% survivorship	Replant up to 85% survivorship of four clones	
End of 4 th year	>85% survivorship	Do nothing and continue to monitor	
	<85% survivorship	Replant up to 85% survivorship of four clones	
End of 5 th year	Achieved a performance target of at least 85% of clones surviving? If so the salvage and translocation plan is declared a success.	No contingency management is required. Amend monitoring program years 5-10. Actively manage sites to 'maintain' population through threat management.	
Years 5-10	If the performance target has not been met at the end of the 5-year period continue with replanting strategy for a further five years.	Review the existing strategy and explore options to improve success rates. Replant with 'insurance clones' as required to achieve performance target and monitor until performance target achieved.	

3. Annual monitoring summary

3.1 Weather

The following weather conditions (Table 3) were observed at the recipient site between Event 1 and Event 8 (2 August to 13 December 2022). Data was collected from the BOM Viewbank Weather Station (station 086068) (BoM 2022).

Table 3 Weather conditions at Viewbank since the previous report and historical average for the time period

	Actual from Viewbank Station (134 days)	10 year average over the 4 month period
Average Min temp C	8.7	9.5
Average Max temp C	18.5	20.6
Total rainfall (mm)	496.8	249.9
Number of days with rain >1 mm	58	42.5
Abnormal weather events	La Niña weather pattern has led to a substantially higher than average amount of rainfall.	

3.2 Maintenance

The reserve has been sprayed for broadleaf and grassy weeds and hand weeding around the MFLs has been undertaken. This will assist with the establishment of plants and enable them to put on biomass, enabling plants to compete with the grass and weeds in the reserve. This is part of the planned maintenance, and the current schedule is sufficient at this time. Hand weeding has been completed by the land managers every month between August 2022 and December 2022. Herbicide spraying of perennial grasses has occurred regularly between August 2022 and December 2022.

The maintenance and corrective actions specified in Table 4 have taken place during the monitoring program between August – December 2022.

Table 4 Maintenance actions planned and completed in Cherry Street Reserve for the Matted Flax-lilies (MFL)

Action	Date notified	Timing	Outcome
Filled in planting locations where soil had washed away.	August 2022	Ongoing as needed from August 2022 to December 2022	Exposed roots covered with new soil.
Sprayed for perennial grassy weeds	August 2022	Ongoing as needed from August 2022 to December 2022	Complete
Hand weeding around MFLs.	September 2022	Every month to December 2022	Complete

Action	Date notified	Timing	Outcome
Annual and broadleaf weeds herbicide spray	October 2022		Planned for April 2023
Watering MFLs	Triggered after one week of no significant rainfall.	August 2022-December 2022	Complete
Slashing/biomass reduction	December 2022		Planned for February

3.3 Survivorship

As at Event 8 (the most recent data captured by this report) the survival rate of the MFLs at Cherry Street Reserve is 99% (107 MFLs) (Figure 3; Appendix C). It is strongly suspected that the final MFL is alive and was missed due to biomass growth making it difficult to find the individual. It will not be recorded as dead unless it is not found for another year.

The survivorship of the MFLs has remained high over the course of the monitoring program. Only in Event 7 and Event 8 have any of the MFLs not been recorded as present. However, it has been a different MFL plant not recorded each time, suggesting that the issue is finding the plant, not that the plant has not survived. Figure 3 shows the number of “missing” plants which were not found during surveys but not considered dead at this point.

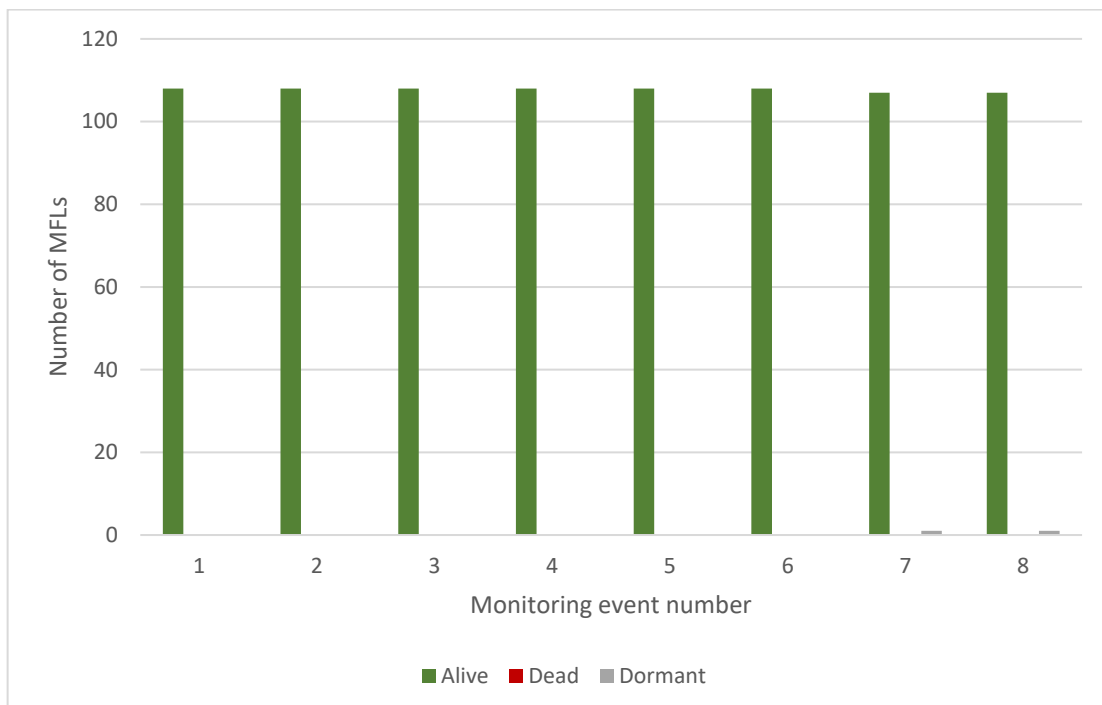


Figure 3 MFL survivorship in Cherry Street Reserve between August to December 2022

The health of the MFLs started off high after being translocated from the nursery (Figure 4). The proportion of plants with good health (>70% green leaves) decreased over the next 4 weeks to a low of 63%. In September, the proportion of good condition plants increased to 82% and stayed at 80% or above through to December.

The proportion of plants in poor condition (<30% green leaves) has remained low, only increasing to 4% at the end of August before decreasing again.

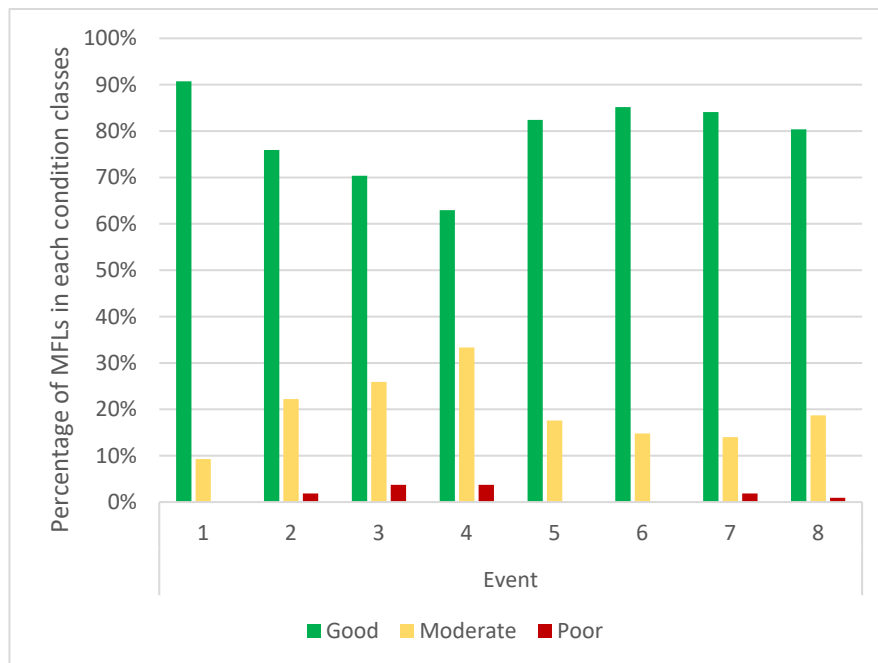


Figure 4 MFL condition in Cherry Street Reserve between August to December 2022

October was the first time any inflorescences were observed, with 25.9% of plants (28 plants) with at least one inflorescence. This is in line with the MFLs expected flowering period. This increased in November with 89% of MFLs showing some stage of reproduction (buds, flowering or fruiting) and then decreased slightly in December with 87% of MFLs in some stage of reproduction (Figure 5). The high proportion of plants displaying some stage of reproductive behaviour is a good sign of Matted Flax-lily health.

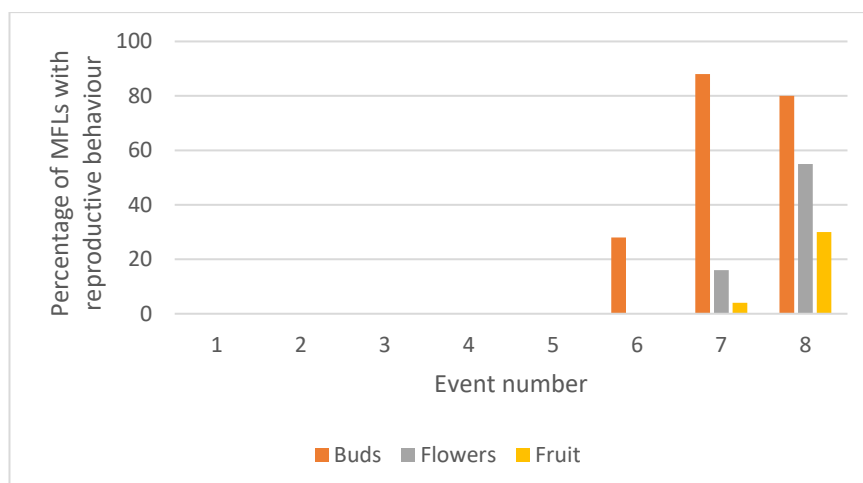


Figure 5 MFL buds, flowering and fruiting percentages from August to December 2022

3.4 Genetic diversity

100% of the parent plants are represented by living clones at Cherry Street Reserve. Steps will be taken over the life of the program to ensure that at least one clone of each salvaged plant is preserved.

3.5 Threats

3.5.1 Biomass

The biomass at Cherry Street Reserve has increased since the original translocation. The site was burnt as part of the preparation to receive the translocated MFLs, which resulted in a lower than average biomass following the burn. Over the first three months of the monitoring, biomass increased to a point where some MFLs were covered by grass and were difficult to locate amongst the biomass. Increasing biomass is expected in the months after a burn as well as coming into spring and summer. At this point in time no specific action needs to be taken, but high biomass can overshadow or smother MFLs over time if left to grow to excessive levels.

3.5.2 Herbivory

After the initial translocation there were signs of herbivory with leaves of many MFLs being chewed across the reserve (Figure 6). However, since then there has been little evidence of continued herbivory stress on the plants. This will be monitored over the life of the program in case conditions change.

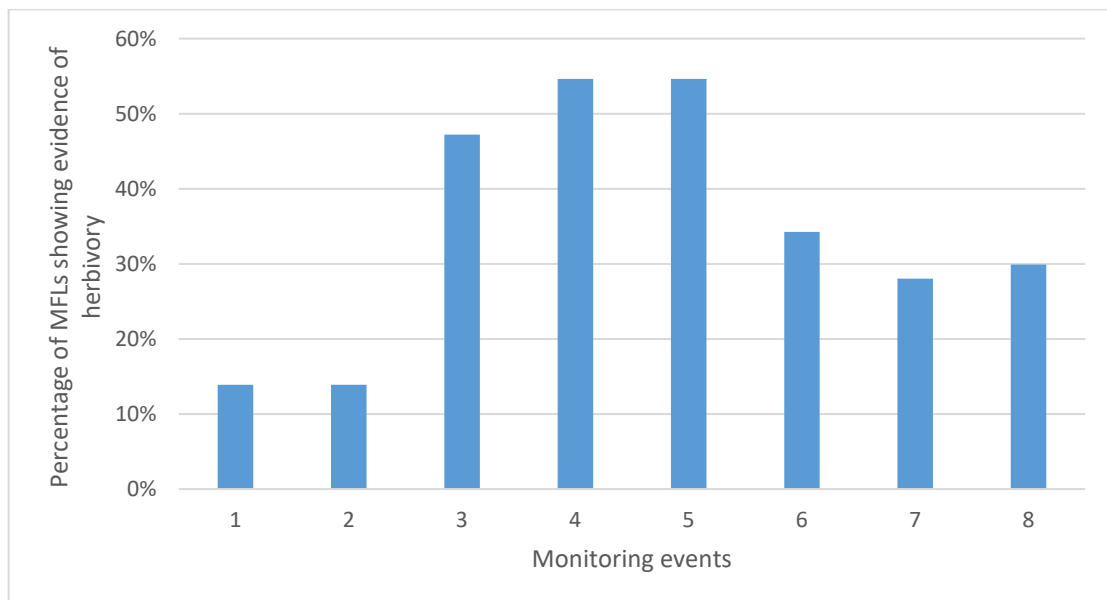


Figure 6 The percentage of MFLs impacted by herbivory

3.5.3 Waterlogging

Waterlogging is a threat to MFLs with some plants in the east side of the reserve having their soil washed away and water pooling at the base of the plants (Plate 1). Corrective actions have been taken including adding soil near the base of plants to ensure water is unable to pool around the root zone. At the completion of monitoring Event 8 no MFLs have an active risk of waterlogging stress. Ongoing monitoring will continue to check for this stress.



1a - 24 August 2022



1b - 26 September 2022

Plate 1 Matted Flax-lily from Event 3 (1a) waterlogged due to soil washing away and recent rain. The same Matted Flax-lily during Event 5 (1b) after soil has been added back to the base of the plant.

3.6 Corrective actions or recommended additional maintenance

Details of the maintenance and corrective actions undertaken at Cherry St Reserve are explained in Appendix D. More detail is explained in sections 3.6.1 and 3.6.2.

3.6.1 Waterlogging

The MFLs that had their roots exposed after water washed away the soil were covered with extra soil and sand during September 2022 to protect from water logging and drying out in the sun. Plants have been checked each visit by the land managers and soil added to plants on an as needed basis.

3.6.2 Recommended maintenance

No additional maintenance activities are recommended at this point. Land managers should continue to follow the current schedule and review if conditions change.

3.7 Summary of results

Overall, the translocation program is considered to be on track as 99% of MFLs have been observed to have survived within the August 2022 to December 2022 timeframe, with most plants showing more than 70% healthy green leaves in that timeframe. The high proportion of plants showing reproductive behaviour is also encouraging for the long-term survival of this translocated population.

Table 5 summarises the results at the end of the four months of monitoring. The annual monitoring data shown in Table 6 are collected in December of each year of the monitoring program to gain a deeper understanding of the condition of the translocated MFLs.

Table 5 Monitoring data collected at each event

Data collected every monitoring event	Event 1	Event 2	Event 3	Event 4	Event 5	Event 6	Event 7	Event 8
Living plants (no.)	108	108	108	108	108	108	107	107
Missing	0	0	0	0	0	0	1	1
Dead plants (no.)	0	0	0	0	0	0	0	0
% of plants with >70% of healthy leaves (good condition)	91%	76%	70%	63%	82%	85%	84%	80%
% of plants with 30<70% of healthy leaves (moderate condition)	9%	22%	26%	33%	18%	15%	14%	19%
% of plants with <30% of healthy leaves (poor condition)	0%	2%	4%	4%	0%	0%	2%	1%

Table 6 Monitoring data collected on a subset of the population in December 2022 - 15 MFLs

Annual monitoring data collected December 2022 – 15 MFLs	
Average leaf height (cm)	36.8
Average Basal diameter (cm)	15.1
Proportion of plants with flowering / fruiting present	87%
Noxious weeds present (within 5 m radius)	Not recorded
Herbivory Present (%)	30%
Programmed maintenance undertaken satisfactorily	Yes
Previous additional maintenance/ adaptive measures undertaken	Yes. See section 3.6
Additional maintenance required	No

4. Assessment of compliance with approval conditions

As noted in Section 1, the purpose of this report is to demonstrate compliance with the EPBC Approval (EPBC 2018/8142) conditions and the translocation criteria within the Salvage and Translocation Plan (GHD 2021). Conditions 1, 2, 3 and 4 of the EPBC 2018/8142 approval requires NELP to not clear more than 139 Matted Flax-lilies (MFLs), and to salvage, propagate and translocate the impacted MFLs into an appropriate recipient site (Section 4). Following translocation, NELP must also monitor the translocated MFLs each year for at least 10 years and provide a series of reports to the Department of Climate Change, Energy, the Environment and Water (DCCEEW) detailing the progress of the salvage and translocation plan. Annual reports will be prepared following December monitoring events every year for the life of the monitoring program (finishing in August 2032).

The ministerial assessment of the EES also included several recommendations relating to the Environmental Performance Requirements (EPRs) for NELP. The only EPR addressing the potential impact to MFLs is EPR FF7, which states, *‘Where direct impacts on Matted Flax-lily occur, a salvage and translocation plan must be developed and implemented to the satisfaction of the Department of Environment, Land, Water and Planning and the Commonwealth Department of Environment and Energy, prior to the commencement of relevant works.’*

In summary, the monitoring plan is considered on track to meeting the survivorship targets. This is based on the numbers of currently living MFLs as well as the health and reproduction data that suggests the MFLs are successfully translocated into Cherry Street Reserve.

Table 7 provides an assessment of the results of the MFL monitoring program against the Salvage and Translocation Plan translocation criteria.

Table 7 Translocation criteria for success of the Matted Flax-lily translocation program from the Salvage and Translocation Management Plan (2021)

Translocation Criteria	Outcome
1. At least 85 percent of transplanted clones survived, including representatives from the range of genetic individuals salvaged	As of December 2022, four months into the translocation program, 99% of the MFL plants have survived, including representatives from the range of genetic individuals salvaged.
2. The translocated populations displayed similar growth, development and vigour as naturally occurring populations	The health and condition of the MFL plants range from 63% to 91% in good health, with no more than 4% of plants assessed as in poor health in the four month period.
3. Transplants survived to a reproductive stage (producing flowers and fruit)	Over the 2022 spring and summer season 87% of plants were observed in some stage of reproduction (presence of any buds, flowers or fruit).
4. If plants didn't survive to reproductive stage, then the plants were replaced	No plants have been assessed as dead and required replacement at this stage. If Matted Flax-lilies die and are not found for at least 12 months (to allow time for dormant plants to reshoot) then they will be replaced, meeting the criterion.

Translocation Criteria	Outcome
5. Regeneration occurred in the translocated individuals (since the recruitment of Matted Flax-lily through seed is thought to be rare, the production of ramets at a rate similar to naturally occurring populations is considered sufficient to meet this criterion)	Not applicable at this stage of the monitoring program. By the next annual report there will be enough data to compare number of ramets across the years and determine whether this criterion is being met.
6. The number of individuals within the population was stable, or had increased by natural (including vegetative) recruitment	The number of individuals in the population is stable compared to the numbers originally planted, well above the 85% target for August 2023.
7. Adequate levels of genetic diversity were maintained	As of December 2022, 100% of the salvaged plants are represented by living clones.

Table 8 provides an assessment of the results of the MFL monitoring program against the EPBC Approval (EPBC 2018/8142) conditions.

Table 8 EPBC 2018/8142 Approval Conditions relevant to Matted Flax-lily plants

Condition no.	Approval Condition	Condition currently triggered	Compliance	Comments and supporting documentation																
1	Unless otherwise agreed to in writing by the Minister, the approval holder must not clear more than: a) 139 Matted Flax-lily plants and/or patches of Matted Flax-lily	Yes	Compliant	The project has so far salvaged 130 of the 139 plants/patches of Matted Flax-lily and is therefore compliant within the scope of the approval.																
				<table border="1"> <thead> <tr> <th>Pre-Clearance survey</th> <th>Date of Salvage</th> <th>Location</th> <th>Number of plants</th> </tr> </thead> <tbody> <tr> <td>March 2020</td> <td>01/04/2020</td> <td>Simpson Barracks</td> <td>7</td> </tr> <tr> <td>July 2020</td> <td>02/09/2020</td> <td>Simpson Barracks</td> <td>20</td> </tr> <tr> <td>April 2021</td> <td>23/08/2021-24/08/2021</td> <td>Simpson Barracks</td> <td>103</td> </tr> </tbody> </table>	Pre-Clearance survey	Date of Salvage	Location	Number of plants	March 2020	01/04/2020	Simpson Barracks	7	July 2020	02/09/2020	Simpson Barracks	20	April 2021	23/08/2021-24/08/2021	Simpson Barracks	103
				Pre-Clearance survey	Date of Salvage	Location	Number of plants													
				March 2020	01/04/2020	Simpson Barracks	7													
				July 2020	02/09/2020	Simpson Barracks	20													
April 2021	23/08/2021-24/08/2021	Simpson Barracks	103																	
2	To compensate for clearing the number of Matted Flax-lily plants and/or patches:	Yes		Please refer to the specific conditions below for details on compliance.																
	a) Prior to any clearance, the approval holder must undertake a pre-clearance survey to identify the total numbers of Matted Flax-lily plants and patches of Mated Flax-lily that, if not salvaged, would be impacted by the approved action.		Compliant	As outlined above, pre-clearance surveys have occurred in March 2020, July 2020 and April 2021 prior to salvaging events of the Matted Flax-lily. The pre-clearance surveys were undertaken in accordance with the Matted Flax-lily Salvage and Translocation Plan (October 2021). The Project is therefore compliant with this condition.																
	b) Prior to construction, the approval holder must salvage all Matted Flax-lily plants and patches of Matted Flax-lily that were previously recorded in a		Compliant	MFL salvage and translocation has been completed for the early works stage and to facilitate the Primary (Tunnelling) Package of works in accordance with the Matted Flax-lily Salvage and																

Condition no.	Approval Condition	Condition currently triggered	Compliance	Comments and supporting documentation
	<p>pre-clearance survey and that would otherwise be impacted due to the approved action. In the event that construction occurs in stages, prior to commencing each stage the approval holder must salvage all Matted Flax-lily plants and patches of Matted Flax-lily that were previously recorded in a pre-clearance survey and that would otherwise be impacted by that stage of work.</p>			<p>Translocation Plan (October 2021) and is therefore compliant with the condition.</p> <p>Salvage (removal) will occur in three broad stages; to facilitate the Early works program (completed) and a larger salvage to facilitate the Primary (completed) and Secondary (Freeway) Packages of Works (future). NELP is recording salvage and translocation information as it is completed in a Matted Flax-lily Asset Management Register spreadsheet.</p>
	<p>c) The approval holder must propagate the salvaged Matted Flax-lily plants and patches and translocate them, excepting some Matted Flax-lily plants and patches kept as an insurance population, to a recipient site. The number of Matted Flax-lily plants and patches kept as insurance population must not be the majority of the Matted Flax-lily plants or patches propagated. All propagated Matted Flax-lily plants or patches, excepting those kept as an insurance population, must be translocated within 2 years of salvage of each Matted Flax-lily plant and patch.</p>		Compliant	<p>As outlined in the Matted Flax-lily Salvage and Translocation Plan Rev 4 (Oct 2021), sufficient material was taken from each plant to generate the required six (6) clones per plant/ patch; the Project is therefore compliant with this condition.</p> <p>The individuals were salvaged and processed at the selected nursery in accordance with the Matted Flax-lily Salvage and Translocation Plan Rev 4 (October 2021). At least six (6) clones have been propagated from each original individual and are surviving at time of reporting.</p> <p>The first batch of Matted Flax-lily plants and patches salvaged in April and September of 2020 have been translocated to Cherry Street Reserve in August 2022; the Project is therefore compliant with this condition.</p>
	<p>d) The approval holder must manage the recipient site for a period of 10 years commencing on the date that the first Matted Flax-lily is translocated to the recipient site.</p>		Compliant	<p>Translocation of the Matted Flax-lily plants from the first batch occurred in August 2022 and management of the site is ongoing. These 27 plants were salvaged from Simpson Barracks in April and September of 2020. The project is therefore compliant with this condition.</p>

Condition no.	Approval Condition	Condition currently triggered	Compliance	Comments and supporting documentation
	e) The approval holder must monitor the recipient site for a period of at least 10 years, commencing on the date that the first Matted Flax-lily plant or patch of Matted Flax-lily is translocated to the recipient site and, concluding no sooner than 5 years after the last Matted Flax-lily plant or patch of Matted Flax-lily is translocated to the recipient site.		Compliant	Translocation of the Matted Flax-lily plants from the first batch occurred in August 2022 and monitoring of the site is ongoing. These 27 plants were salvaged from Simpson Barracks in April and September of 2020. This report forms part of the ongoing monitoring and the Project is therefore compliant with the condition.
	f) The approval holder must, until otherwise agreed in writing by the Minister, provide the Department with a report each year as part of the compliance report, which must detail the numbers of Matted Flax-lily plants and patches that have been translocated to the recipient site and the numbers of translocated and propagated plants and patches that have survived until the end of the period reported on. The report must also document threats to the translocated Matted Flax-lily plants and patches and any management actions, including corrective actions, taken or proposed.		Compliant	<p>Monitoring and management of the translocation site is ongoing. In August 2022 108 Matted Flax-lily plants were translocated into Cherry Street Reserve. In December 2022, 107 were observed to be alive and thriving. It is highly likely that the final Matted Flax-lily plant was also alive and not found due to high levels of biomass in the reserve.</p> <p>The threats to the Matted Flax-lily survival include high amounts of biomass, herbivory and waterlogging. Corrective actions have been taken including adding more soil to some Matted Flax-lily plants, hand-weeding around Matted Flax-lily plants, and selective weed spraying.</p> <p>This report contains further details of the survivorship and threats in Section 3 and the Project is therefore compliant with the condition.</p>
3	By implementing contingency measures, the approval holder must ensure that a minimum of 85 per cent of 4 times the number of salvaged Matted Flax-lily plants and patches have survived at the recipient site at least 5 years after the date the last Matted Flax-lily plant or patch, excepting plants or patches from the insurance population, is translocated to the recipient	Yes	Compliant	To comply with this requirement, at the end of 5 years at least 92 of the Matted Flax-lily plants at Cherry Street Reserve need to survive. As of December 2022, 107 are confirmed to be alive, well above the minimum required.

Condition no.	Approval Condition	Condition currently triggered	Compliance	Comments and supporting documentation
	site. The approval holder must ensure that the location of each translocated Matted Flax-lily plant and patch is recorded in the Atlas of Living Australia and Victorian Biodiversity Atlas within 6 months of being translocated			<p>Matted Flax-lily location data for the Matted Flax-lily plants that are reported on in this report have been added to the VBA under project ID 6931.</p> <p>Matted Flax-lily location data for the Matted Flax-lily plants that are reported on in this report have been submitted to the Atlas of Living Australia and assigned number 175071 to the data.</p> <p>The project is compliant with this condition.</p>
4	If the Minister is not satisfied that the requirements of condition 3 have been, or are likely to be, achieved, and has given the approval holder written notice to this effect, the approval holder must:	No	Not applicable	Not applicable
	a) Within 1 year of receiving written notification by the Minister to this effect, plant propagated Matted Flax-lily plants and/or patches to the recipient site in accordance with directions made by the Minister	No	Not applicable	Not applicable
	b) Provide the Department with a report each year for an additional 5 years as part of the compliance report, which must detail the numbers of Matted Flax-lily plants and patches that have been translocated to the recipient site and the numbers of translocated and propagated plants and patches that have survived until the period reported on. The report must also document threats to the translocated Matted Flax-lily plants and patches and any management actions, including corrective actions, taken or proposed	No	Not applicable	Not applicable

Condition no.	Approval Condition	Condition currently triggered	Compliance	Comments and supporting documentation
	c) Each 12 months, for the following 5 years, the approval holder must translocate an additional number of Matted Flax-lily plants and/or patches to the recipient site equal or greater than the number which have not survived during the preceding 12 months. The translocated Matted Flax-lily plants and patches must be sourced from the plants and patches propagated as required under condition 2c	No	Not applicable	Not applicable

5. References

BoM (2022) Climate Data Online. Australian Government Bureau of Meteorology

GHD (2021a) North East Link Project Salvage and Translocation Plan October 2021

GHD (2021b) North East Link Project Matted Flax-lily Recipient Site Management Plan August 2021

GHD (2022) Matted Flax-lily monitoring report Baseline and Initial Audit – Cherry Street Grassland August 2022.



Appendices

Appendix A – Photo Monitoring Points

Location Cherry Street Grassland Reserve Event 8 – 13 December 2022

1 - North west corner



3 - South east corner



2 - South west corner



4 - North east corner



Appendix B – Representative Photos of Matted Flax-lilies

MFL number

MFL number

10 004



11 004



18 002



27 004



Appendix C – Monitoring Data (December 2022)

Table 9 Detailed information of a subset of Matted Flax-lilies

Monitoring Event	Plant Number	Status	Condition	Herbivory	Buds	Flower	Fruit	Plant Basal Diam (cm)	No. Shoots	Max Leaf Length (cm)	No. Leaves Shoots Range	Height (cm)	Comment
Quadrat 1													
8	01_002	Alive	Good	No	Yes	Early	Early	33	32	32	122	65	
8	02_003	Alive	Good	Yes	Yes			23	40	46	150	35	5 inflorescences. Budding
8	20_002	Alive	Moderate	Yes	Yes			15	15	22	50	21	Small tufts. Yellow and brown
8	21_002	Alive	Good	No	Yes	Early	Early	15	4	23	18	38	1 inflorescence almost bloomed
8	22_001	Alive	Good	No	Yes	Early	Early	20	21	21	50	19	10 inflorescences. 3 bloomed. Fruiting
8	23_002	Alive	Good	No	Yes			13	17	33	60	50	2 inflorescences. 1 bloom
Quadrat 2													
8	03_003	Alive	Good					4	3	11	10	0	
8	19_003	Alive	Good			Mid	Early	16	16	23	48	44	2 inflorescences
8	20_004	Alive	Good		Yes	Early		14	18	30	50	50	
8	22_004	Alive	Good	Yes	Yes	Early		14	15	18	43	29	Browsed buds
8	23_004	Alive	Good					8	9	24	30	0	Roots exposed
8	24_001	Alive	Good		Yes	Mid	Early	16	5	32	34	67	
8	25_003	Alive	Good		Yes	Late		14	10	29	40	38	Buds browsed
8	26_003	Alive	Good	Yes	Yes	Mid		4	1	20	4	51	Some leaves browsed, recovering.

Monitoring Event	Plant Number	Status	Condition	Herbivory	Buds	Flower	Fruit	Plant Basal Diam (cm)	No. Shoots	Max Leaf Length (cm)	No. Leaves Shoots Range	Height (cm)	Comment
8	27_003	Alive	Good		Yes	Mid	Early	18	4	26	14	45	

Table 10 Data from all Matted Flax-lilies recorded in Event 8 survey, 13 December 2022.

Monitoring Event	Plant Number	Status	Condition	Evidence of Herbivory	Buds	Flowering	Fruiting
8	01_001	Alive	Good		Yes	Mid	
8	01_002	Alive	Good		Yes	Early	Early
8	01_003	Alive	Good		Yes	Mid	
8	01_004	Alive	Good		Yes	Mid	
8	02_001	Alive	Good	Yes	Yes		
8	02_002	Alive	Moderate		Yes	Mid	
8	02_003	Alive	Good	Yes	Yes		
8	02_004	Alive	Good	Yes			
8	03_001	Alive	Good		Yes	Early	
8	03_002	Alive	Good				
8	03_003	Alive	Good				
8	03_004	Alive	Good		Yes	Early	
8	04_001	Alive	Good		Yes	Mid	
8	04_002	Alive	Good		Yes	Mid	Early
8	04_003	Alive	Good	Yes		Mid	
8	04_004	Alive	Good	Yes	Yes		
8	05_001	Alive	Moderate	Yes	Yes		
8	05_002	Alive	Good			Mid	
8	05_003	Alive	Moderate	Yes	Yes		
8	05_004	Alive	Good		Yes	Mid	



Monitoring Event	Plant Number	Status	Condition	Evidence of Herbivory	Buds	Flowering	Fruiting
	8 06_001	Alive	Moderate			Mid	Early
	8 06_002	Alive	Good		Yes		
	8 06_003	Alive	Good		Yes	Mid	
	8 06_004	-	-	-	-	-	-
	8 07_001	Alive	Moderate	Yes	Yes		
	8 07_002	Alive	Good		Yes	Early	
	8 07_003	Alive	Good		Yes	Mid	Early
	8 07_004	Alive	Moderate			Mid	Early
	8 08_001	Alive	Moderate	Yes	Yes		
	8 08_002	Alive	Good		Yes	Mid	
	8 08_003	Alive	Good	Yes	Yes	Early	
	8 08_004	Alive	Good		Yes	Mid	Early
	8 09_001	Alive	Good		Yes	Mid	Early
	8 09_002	Alive	Good		Yes	Mid	
	8 09_003	Alive	Good	Yes		Late	Mid
	8 09_004	Alive	Moderate	Yes	Yes		
	8 10_001	Alive	Moderate		Yes		
	8 10_002	Alive	Good	Yes			
	8 10_003	Alive	Good		Yes		
	8 10_004	Alive	Good		Yes		
	8 11_001	Alive	Good		Yes	Early	Early
	8 11_002	Alive	Moderate	Yes			
	8 11_003	Alive	Good		Yes	Mid	Early
	8 11_004	Alive	Good		Yes	Early	Early
	8 12_001	Alive	Good				
	8 12_002	Alive	Good		Yes	Mid	Early
	8 12_003	Alive	Good	Yes	Yes	Mid	Early
	8 12_004	Alive	Moderate				



Monitoring Event	Plant Number	Status	Condition	Evidence of Herbivory	Buds	Flowering	Fruiting
8	13_001	Alive	Good				
8	13_002	Alive	Moderate	Yes			
8	13_003	Alive	Good		Yes	Mid	Early
8	13_004	Alive	Good				
8	14_001	Alive	Good	Yes	Yes		
8	14_002	Alive	Good		Yes	Mid	Early
8	14_003	Alive	Good				
8	14_004	Alive	Good		Yes	Mid	Early
8	15_001	Alive	Good		Yes	Early	
8	15_002	Alive	Good	Yes	Yes		
8	15_003	Alive	Good			Mid	Early
8	15_004	Alive	Moderate	Yes	Yes		
8	16_001	Alive	Good	Yes	Yes		
8	16_002	Alive	Good	Yes	Yes		
8	16_003	Alive	Good		Yes	Mid	Early
8	16_004	Alive	Good	Yes	Yes	Mid	
8	17_001	Alive	Good		Yes	Mid	Early
8	17_002	Alive	Good		Yes		
8	17_003	Alive	Good	Yes	Yes	Mid	Early
8	17_004	Alive	Good		Yes	Mid	
8	18_001	Alive	Moderate	Yes	Yes	Mid	
8	18_002	Alive	Moderate	Yes	Yes		Early
8	18_003	Alive	Poor				
8	18_004	Alive	Good		Yes	Mid	Early
8	19_001	Alive	Good	Yes	Yes		
8	19_002	Alive	Good	Yes	Yes		
8	19_003	Alive	Good			Mid	Early
8	19_004	Alive	Good		Yes		



Monitoring Event	Plant Number	Status	Condition	Evidence of Herbivory	Buds	Flowering	Fruiting
8	20_001	Alive	Good		Yes		
8	20_002	Alive	Moderate	Yes	Yes		
8	20_003	Alive	Good				
8	20_004	Alive	Good		Yes	Early	
8	21_001	Alive	Moderate				
8	21_002	Alive	Good		Yes	Early	Early
8	21_003	Alive	Good		Yes	Mid	Early
8	21_004	Alive	Moderate				
8	22_001	Alive	Good		Yes	Early	Early
8	22_002	Alive	Good		Yes		
8	22_003	Alive	Good		Yes		
8	22_004	Alive	Good	Yes	Yes	Early	
8	23_001	Alive	Good		Yes		
8	23_002	Alive	Good		Yes		
8	23_003	Alive	Moderate				
8	23_004	Alive	Good				
8	24_001	Alive	Good		Yes	Mid	Early
8	24_002	Alive	Moderate	Yes			
8	24_003	Alive	Good		Yes		
8	24_004	Alive	Good		Yes		
8	25_001	Alive	Good		Yes	Mid	Early
8	25_002	Alive	Good	Yes	Yes	Early	
8	25_003	Alive	Good		Yes	Late	
8	25_004	Alive	Good		Yes	Early	
8	26_001	Alive	Good		Yes	Mid	Early
8	26_002	Alive	Good				
8	26_003	Alive	Good	Yes	Yes	Mid	
8	26_004	Alive	Good		Yes		



Monitoring Event	Plant Number	Status	Condition	Evidence of Herbivory	Buds	Flowering	Fruiting
8	27_001	Alive	Good		Yes		
8	27_002	Alive	Good			Mid	
8	27_003	Alive	Good		Yes	Mid	Early
8	27_004	Alive	Good		Yes		

Appendix D – Previous maintenance or corrective actions

Type		Cherry Street Reserve
Waterlogging	Action	Adding soil/sand to protect plant roots
	Date to be completed	October
	Outcome	Completed
Herbicide application	Action	Spray for grassy weeds
	Date to be completed	Planned for October and December
	Outcome	Completed
Watering	Action	Watering Matted Flax-lilies after one week of no significant rainfall.
	Date to be completed	As needed between August 2022 and December 2022
	Outcome	Completed
Hand-weeding	Action	Hand-weeding immediately around the base of the Matted Flax-lily's
	Date to be completed	As needed between August 2022 and December 2022
	Outcome	Completed
Slashing/ biomass reduction	Action	Slashing to reduce biomass within the reserve
	Date to be completed	February 2023
	Outcome	



NORTH EAST LINK PROJECT

STUDLEY PARK GUM MONITORING REPORT - Annual compliance report 2023

NEL-PW-GHD-9990-EEE-REP-0027

Revision 0

11 July 2023

Document prepared by:



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Refer to the relevant GHD **Work Verification Record** for detail on Designer/Author/Originator, Checker/Verifier and Approver

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Abbreviations

Abbreviations	
CaLP Act	Catchment and Land Protection Act 1994
cm	Centimetre
DCCEEW	Department of Climate Change, Environment, Energy and Water
DEECA	Department of Energy, Environment and Climate Action
DELWP	Department of Environment, Land, Water and Planning (now DEECA)
EES	Environmental Effects Statement
EPBC Act	Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPR	Environmental Performance Requirement
EVC	Ecological vegetation class
FFG Act	<i>Flora and Fauna Guarantee Act 1988</i>
ha	Hectare
m	Metre
MTIA	Major Transport Infrastructure Authority
NEL	North East Link (the 'project')
NELP	North East Link Program (the 'client')
PER	Public Environment Report
SPG	Studley Park Gum
VBA	Victorian Biodiversity Atlas
WoNS	Weeds of National Significance

1. Introduction

1.1 Project background

The North East Link Program (NELP) is a division of the Major Transport Infrastructure Authority (MTIA) and is currently delivering the North East Link (NEL) project (referred to herein as ‘the project’) on behalf of the Victorian State government. The NEL is a new freeway-standard road connection to the north-east of the Melbourne Central Business District that will complete Melbourne’s ring road. Specifically, the NEL will connect the Metropolitan Ring Road (M80) to the Eastern Freeway and includes works along the Eastern Freeway from near Hoddle Street though to Springvale Road.

The impacts to biodiversity values due to the project were determined through ecological impact assessments which informed the development of an Environment Effects Statement (EES) in accordance with the Victorian *Environment Effects Act 1978* and a Public Environment Report (PER) in accordance with the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Ecological impact assessments identified the project has the potential to impact *Eucalyptus x studleyensis* (Studley Park Gum), which is listed as ‘Critically endangered’ on the Victorian *Flora and Fauna Guarantee Act 1988* (FFG Act) threatened flora list.

1.2 Approval conditions

The ministerial assessment of the EES made several recommendations regarding the Environmental Performance Requirements (EPR) for NELP. For example, EPR FF10 - Studley Park Gum Mitigation states ‘To mitigate impacts on the Studley Park Gum, a Studley Park Gum Management Framework must be developed and corresponding management plan must be developed and implemented in consultation with DELWP’.

Condition 6 of the EPBC 2018/8142 approval requires NELP to implement the Studley Park Gum Management Framework and to report to the Department of Agriculture, Water and the Environment (DAWE) on the outcomes every year for three years as part of the compliance reporting.

In response to the approval conditions above, NELP in consultation with DELWP developed and received approval for the Studley Park Gum Management Framework (Emerge Associates and GHD 2021), and the Studley Park Gum Management Plan (Emerge Associates and GHD 2021) to support the Management Framework. The Studley Park Gum Management Framework (Emerge Associates and GHD 2021) and Studley Park Gum Management Plan (Emerge Associates and GHD 2021), detail the requirements for planting and ongoing management and monitoring of the Studley Park Gums.

1.3 Purpose of this report

This report is the Year 2 annual compliance report following two years of active Studley Park Gum planting. The purpose of this annual report is to summarise the quarterly monitoring findings on the health and condition of the Studley Park Gums (SPGs) at the recipient sites; Westerfolds Park and Montpelier Reserve in the Yarra Valley Parklands. As the last round of planting was in November 2021 (1.5 years prior to this report in June 2023) the survival rate of the SPGs in this report is assessed against the year 1 targets. This report meets the reporting requirements of the EPBC Act approval (EPBC 2018/8142) conditions and the requirements of



the Studley Park Gum Management Framework (Emerge Associates and GHD 2021) and the SPG Management Plan (Emerge Associates and GHD 2021).

2. Planting goal

2.1 Planting goal

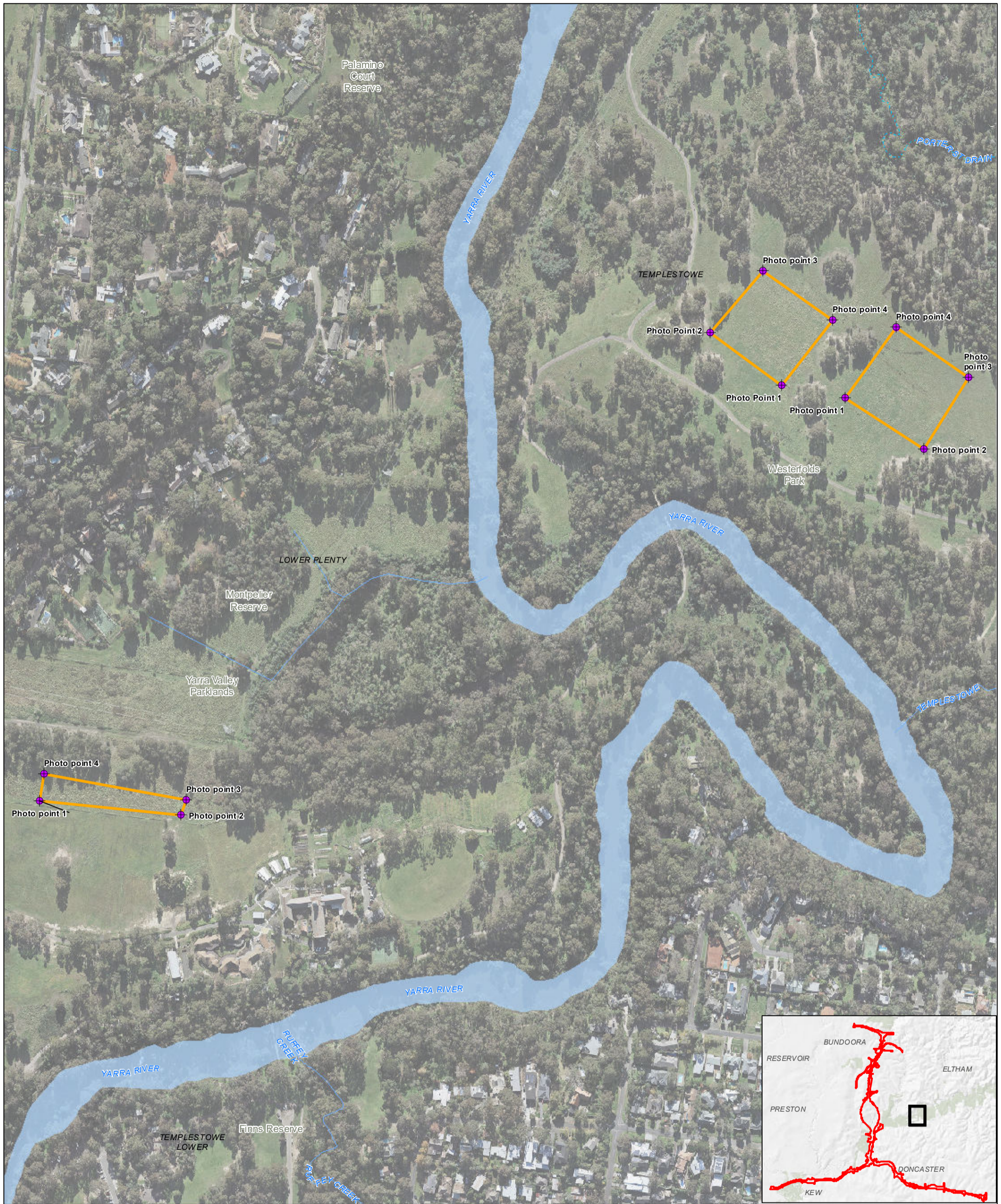
In line with the management framework and plan, the goal of planting Studley Park Gum is to establish a new population of Studley Park Gum to assist with the ongoing conservation of the taxon. To achieve this goal, it was proposed to establish a minimum of **104 Studley Park Gum trees** across two recipient sites. For the Studley Park Gum trees to be considered established, 104 individuals need to have survived three years following planting. The goal of 104 trees is based on a replacement ratio of two planted and established Studley Park Gums for each individual tree likely to be impacted by the North East Link Project.

To achieve the establishment goal of at least 104 plants for the North East Link Program, it is proposed that a total of 303 Studley Park Gum saplings are initially planted at the recipient sites. This accounts for unavoidable plant loss assuming a 70% survival rate for each year over a three-year period. With this in mind, 310 trees were planted noting the targets have not changed and are still based on the recommended number of planted trees. The following provides the yearly survival targets to achieve the 70% survival rate:

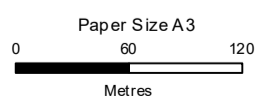
- Year 0: 303 saplings proposed (310 actually planted initially)
- Year 1: 212 saplings (based on 70% survival of 303 saplings planted)
- Year 2: 149 saplings (based on 70% survival of 212 saplings in year 1)
- Year 3: 104 plants established (based on 70% survival of 149 saplings in year 2)

2.2 Recipient site locations

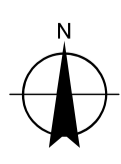
The Yarra Valley Parklands were deemed by the relevant land manager (and based on feedback from DELWP) to be appropriate recipient sites for the plantings (Emerge Associates and GHD 2021a). Within these two locations, three recipient sites were prepared. Two sites are located within Westerfolds Park and one within Montpelier Reserve (Figure 1).



- Legend**
- ◆ Photo point locations
 - Recipient Site
 - Watercourse



Map Projection: Transverse Mercator
 Horizontal Datum: GDA 1994
 Grid: GDA 1994 MGA Zone 55



North East Link Project

Date: 25 Nov 2021
 Revision: A

Studley Park Gum Recipient Site

Figure 1

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180 Lonsdale Street, Melbourne VIC 3000 Australia T 61 3 8687 8000 E melmail@ghd.com W www.ghd.com
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 Data Sources: CIP Imagery - DELWP - 2020 | Cadastre, Roads, Planning Zones - Vicmap - 2021 | SPG data - 2021 | Created by: zzu

Security Classification: OFFICIAL - Sensitive

3. Method

In line with the Studley Park Gum Management Framework (Emerge Associates and GHD 2021) and the Studley Park Gum Management Plan (Emerge Associates and GHD 2021) the process followed to monitor the saplings is detailed below.

3.1 Monitoring timing

Monitoring was undertaken quarterly during Year 1 and Year 2 and will continue to be undertaken quarterly for the remainder of the establishment period (first three years after planting until a minimum of 104 SPG are established). Quarterly monitoring is carried out to determine whether plants are establishing and whether contingency actions are needed to support plant survival. After the establishment period, monitoring will occur less frequently (minimum annually) until the goal of at least 104 trees considered established is met. Monitoring events will align with EPBC Act Approval 2018/8142 annual compliance reporting and will take place at the following intervals:

- Establishment period (Years 1, 2 and 3): quarterly, at approximately the beginning of each season (e.g. September, December, March and June). This includes an initial monitoring visit in the week post-planting to record initial conditions (baseline) and audit the site establishment activities so that compliance is achieved with the Recipient Site Management Prescriptions.
- Post-establishment (Year 4 onwards): annually until the goal of >104 SPG trees are established which have survived after being planted 3 years prior has been met (to a maximum of ten years).

See Appendix A for a table of the monitoring events completed to date and also future planned monitoring events.

3.2 Method

Monitoring involved a physical inspection of the saplings planted at the recipient sites by an appropriately skilled Ecologist/Botanist.

3.2.1 Data

Weather conditions

A desktop analysis of the conditions recorded by the Bureau of Meteorology at the Viewbank¹ weather station was undertaken to provide a summary of the weather conditions experienced at the recipient sites following initial planting. These conditions were compared with site and time-matched long-term weather data. Data reviewed included:

- Number of days with rain >1 mm
- Temperature (maximum and minimum temperature)
- Total rainfall for the period and against the mean expected rainfall
- Any unexpected weather events (e.g., heat wave, storm, flooding).

¹ <http://www.bom.gov.au/products/IDV60901/IDV60901.95874.shtml>

Total number of living plants

The total number of SPG was recorded by observing each SPG and determining if it was alive or dead. Dead plants are to be removed so as not to recount these individuals in future monitoring events.

The monitoring method has been amended to require that:

- Trees recorded as dead for the first time were not removed, so to allow time to resprout if alive belowground.
- Trees recorded as dead for a second consecutive survey are removed, along with their unique identification tags.

Condition of plants

The condition of the plants at the time of the monitoring event was noted, including:

- Stress – if the tree has experienced stress, the type of stress was recorded (e.g., drought/herbivory/disease/other)
- Condition – the condition of the tree was recorded to determine its likelihood of surviving. Condition classes are as follows:
 - Dead: no living material evident
 - Poor: <30% leaves are healthy
 - Moderate: 30<70% of leaves healthy
 - Good: >70% leaves healthy
- Plant height (cm)
- Diameter of the trunk (cm) at the base of the tree until it reaches a height to record at both the base and at breast height (1.4 m) from the base
- Flowering / fruiting (Y/N).

Condition of the recipient site

To capture the condition of the recipient site and any threats that weeds and/or herbivores pose to SPG establishment and survival, the following items will be monitored:

- Presence of noxious weeds, recorded as the percentage cover within a 1.5 m radius of each SPG
- Presence of herbivory within the recipient site, defined by the presence of partially eaten specimens, droppings/scats or diggings.

Incidental observations within the recipient site

Any incidental observations within the recipient sites have been recorded, including:

- Stagnant/excess water
- Emerging weeds
- Whether slashing is required to maintain biomass levels suitable for sapling establishment
- Any other incidental observations.

Maintenance requirements

The maintenance program as prescribed in the Studley Park Gum Management Plan (Emerge Associates and GHD 2021) has been enacted throughout the reporting period. Maintenance activities includes:

- Fencing maintenance
- Rectifying unauthorised access
- Slashing of grass within and surrounding recipient sites, and within 1.5m of each plant
- Additional planting events.

3.2.2 Photo points

Photo-point monitoring has been undertaken during each monitoring event. Mapped locations for photo-point monitoring are provided in Figure 1, and spatial locations provided below in Table 1.

Table 1 Photo point locations (Eastings and Northings (GDA94 MGA55))

Photo Point	Westerfolds Site 1	Westerfolds Site 2	Montpelier
1	334805, 5820680	334732, 5820690	333889, 5820220
2	334894, 5820620	334651, 5820750	334049,5820200
3	334945, 5820700	334711, 5820820	334055, 5820220
4	334862, 5820760	334791, 5820760	333894, 5820250

3.2.3 Sample size

All SPG saplings planted at the sites will be monitored throughout the monitoring period.

3.3 Adaptive management

The results of the quarterly monitoring (as reported in Section 4) during the first three years post-planting have been used to inform site management, maintenance requirements and track the survival of plants. Any adaptive management actions required to rectify issues were identified at each monitoring event and timelines nominated for the task to be undertaken. The fourth quarterly event each year coincides with the annual monitoring event.

Further, an annual evaluation (this report) is undertaken to determine progress of the site towards achieving the survival goal. This involved tracking the number of surviving Studley Park Gum plants in the recipient sites. Any actions resulting from the assessment against the evaluation process provided in Table 2 is discussed and noted in Section 5.

Table 2 Evaluation process for the recipient site

Timing	Measure	Action
Each quarter for 3 years after planting	Environmental changes that impact SPG survival	Alert management authority Alter Recipient Site Management Prescriptions, if needed
Each year for 3 years after planting	>70% SPG survival	None required
	<70% SPG survival	Undertake supplementary planting

Timing	Measure	Action
End of 4th year after planting End of 5th year after planting	104 or more SPG plants established (which have been planted in recipient site for at least 3 years)	Hand over site to management authority Minimal ongoing management activity
	<104 SPG plants	Undertake supplementary planting
Years 5-10 (only required if goal is not met prior)	<104 SPG plants	Review management actions to improve success. Undertake supplementary planting

4. Results: May 2022 – March 2023

4.1 Monitoring summary

Site preparation at the three recipient sites commenced on 9 April 2021. Weed control and pest control were completed at each site by 30 April 2021. Fencing was erected from 21 May to 2 June 2021.

Planting commenced at the two Westerfolds recipient sites on 24 May 2021 and on 4 June 2021 at the Montpelier recipient site. Mulching around each plant was completed by 5 June 2021.

The initial baseline monitoring event and planting audit was undertaken on 15 June 2021. The condition of the Studley Park Gums planted and the manner they were planted was observed by GHD Senior Botanist, Jessica Lamb.

Quarterly monitoring was undertaken in November 2021, January 2022, May 2022, August 2022, October 2022, February 2023 and March 2023 by GHD Botanists Rebecca Korossy-Horwood and Rose Baulch. Timing and or scope of monitoring events was adjusted to accommodate COVID-19 restrictions, maintenance, plantings, or herbicide withholding periods where required (Appendix A).

4.1.1 Weather

The following weather conditions were observed at the recipient sites between the Year 1 4th quarterly event and the Year 2 4th quarterly event (13 May 2022 to 29 March 2023). Data was collected from the BOM Viewbank Weather Station (station 086068) (BoM 2022a, 2022b).

Table 3 Annual weather summary: 12 March 2022 - 29 March 2023

	Actual days from Viewbank Station (362 days)	Long-term annual average
Average min temp C	9.8	10.1
Average max temp C	20.1	21
Total rainfall (mm)	799.2	599.8
Number of days with rain >1 mm	107	85

Throughout 2022 Melbourne experienced a La Niña climate phenomenon, which led to increased rainfall and cooler daytime temperatures. Minor flooding occurred throughout Melbourne and was observed in some locations within the three recipient sites. Rain events were more frequent than usual and total rainfall was higher than the long-term average. Viewbank Station experienced 22 more days with more than 1 mm of rainfall than the average (107 days between May 2022 - March 2023, versus 85 days on average) (Table 3). In addition, total rainfall was 33% higher than average.

4.1.2 Site preparation

A total of 310 sapling Studley Park Gums were planted within the three recipient sites between 24 May 2021 and November 2021. This was above the 303 saplings required to be planted, however; due to success in the nursery and available space in the sites more saplings were available and therefore used. Planted saplings were approximately seven months old, with an

average height of 51.7 cm. Planted saplings were observed to be well spaced out and planted in clusters as per the SPG Management Plan prescriptions. Saplings had been planted away from the fence to allow for future slashing.

Each planting location had been previously sprayed with herbicide, and the grasses and forbs were observed to be dead. Plant holes were greater in width than the plant and had been appropriately back filled with soil. Mulching was at the correct thickness, with some mulching washed into the planting holes due to the heavy rainfall events. Photos showing preparation of the sites are provided in Appendix B.

4.1.3 SPG survival goal

The results of the Year 2 monitoring are assessed against the Year 1 target survivorship. This is because the youngest SPGs were planted in November 2021 and are not two years old yet. The SPG survival goal at the end of Year 1 is a minimum of 212 saplings, accounting for an estimated 70% survival from initial saplings required to achieve the Year 3 goal of 104 established SPGs. This has been achieved, as of March 2023, 244 SPGs had survived across the three sites with 188 in good condition. The monitoring results at the start of Year 2 are shown in Appendix E, and results from end of Year 2 are shown in Table 4.

SPG condition annual overview

In March 2023 surveys found that 244 SPGs (74.3%) were alive (Figure 2). Of the 244 living SPGs, 188 (77%) were in good condition. The proportion of good condition plants has steadily increased over the course of the year from 53% of plants in August 2022 to 77% in March 2023. Reasoning for the increased number of plants in good condition is probably due to seasonality. The spring/summer season provided optimal conditions for the SPGs to put on new growth and grow taller (average height increased from 68.6 cm in August 2022 to 155.9 cm in March 2023). One plant had some form of reproduction in the Montpelier reserve. This is encouraging; and it is expected, a greater proportion of plants will likely show some form of reproduction in the future as they age.

Across the three sites, 48 individuals (20%) were in moderate condition and 8 (3%) in poor condition. Eighteen (18) of 262 SPGs were dead or missing (7%). These rates are within the expected range for in situ plantings. No herbivory, notable environmental stress or disease was observed during the March 2023 monitoring.

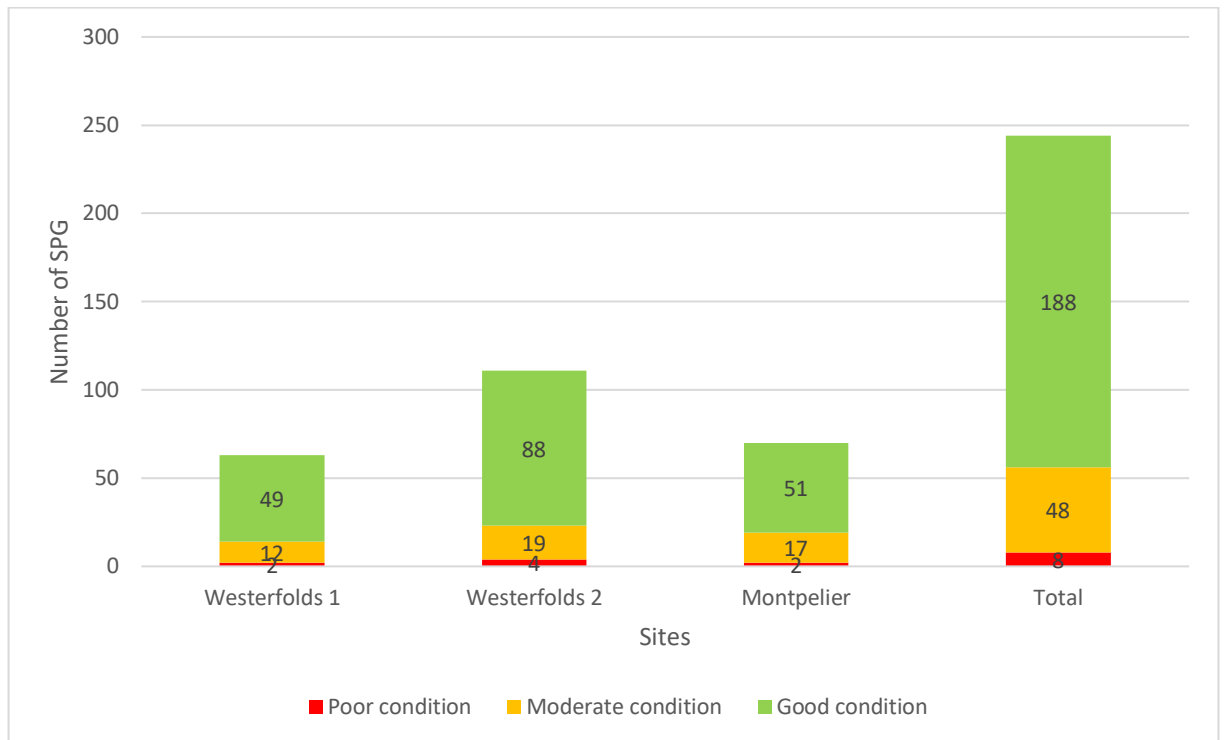


Figure 2 Condition of SPG across the three recipient sites: Fourth quarterly survey March 2023

4.1.4 Threats

Predominant threats to SPG establishment and survival as of March 2023 included the following:

Waterlogging

As far as practicable, SPGs have been moved from locations prone to waterlogging, whilst maintaining spacing recommendations (Emerge Associates and GHD, 2021). During some of the heavy rain seasons parts of the recipient sites were clearly waterlogged and had deep puddles. When replanting events occurred these areas were avoided.

Fence condition and erosion

Erosion is causing a risk to fence condition and herbivory prevention at Montpelier, with hill and gully erosion forming in and around abandoned wombat burrows and rabbit warrens. It is expected, erosion will soon cause opening of the anti-burrowing skirt fencing at the site.

Weed cover

Weed cover was above the recommended levels of <1% within SPG mulch circles at all sites during the March 2023 survey. Average weed cover in mulch circles surrounding SPG saplings ranged between 53% (Montpelier) and 86% (Westerfolds Site 2) (Table 4). Weed cover was almost exclusively *Anthoxanthum odoratum* (Sweet Vernal Grass) across all sites, consistent with prior surveys.

Sweet Vernal Grass is classified as highly invasive and typically with a high impact according to the Ecological Vegetation Class (EVC) benchmarks. It is not classified as a noxious weed according to the CaLP Act and it is not a Weed of National Significance (WoNS).

Sweet Vernal Grass therefore, is not acting as a noxious weed in this context, especially with trees that are growing taller than the grass. Future surveys could consider not considering Sweet Vernal Grass as a noxious weed due to the recipient sites not aiming to replicate an EVC and Sweet Vernal Grass not impacting the SPGs.

Cover of other grassy weeds was also high in all sites, and predominantly comprised of the perennial grassy weed, *Phalaris aquatica* (Toowoomba Canary Grass).

It is noted that tree condition does not appear significantly compromised by weed cover at this stage. With the ongoing formation of gully erosion at Montpelier, and history of waterlogging at all sites, grassy cover is currently acting as a soil stabiliser and water ‘pump’ until the SPGs are established enough to fulfil this ecological role. The current approach of managing grassy weed biomass by brushcutting rather than spraying is recommended to continue, so long as SPG health is maintained and SPGs are free of weeds to at least 50 cm from their base. Control of woody weeds and forbs should continue as per the Studley Park Gum Management Plan (Emerge Associates and GHD, 2021). *Nassella neesiana* (Chilean Needle Grass), a noxious weed under the CaLP Act and also a Weed of National Significance (WoNS), should likewise be controlled as per the Studley Park Gum Management Plan, owing to its high risk of biodiversity impact to the surrounding park, and its persistence in the soil seed bank.

Woodchip

Woodchip is below recommended levels of 70-100 mm at all sites (Emerge Associates and GHD, 2021). Planting contractors have noted that woodchip is providing habitat for rats and mice at SPG bases. This does not seem to be a problem for the trees at this point in time but monitoring will continue to assess whether this changes.

4.2 Recipient site results

Monitoring results recorded for the three recipient sites during March 2023 are provided in Table 4 with the summary of the four quarterly monitoring reports presented in Table 10 (Appendix E), and each quarterly monitoring results data presented in full in Appendix E.

Table 4 Monitoring results fourth quarterly event March 2023

Recipient Site	Westerfolds 1	Westerfolds 2	Montpelier	Total
Living plants (no.)	63	111	70	244
Dead plants (no.) (including missing)	2	1	15	18
% of living plants with >70% of healthy leaves (good condition)	78% (49 plants)	78% (88 plants)	73% (51 plants)	77% (188 plants)
% of living plants with 30<70% of healthy leaves (moderate condition)	19% (12 plants)	17% (19 plants)	24% (17 plants)	20% (48 plants)
% of living plants with <30% of healthy leaves (poor condition)	3% (2 plants)	4.0% (4 plants)	3% (2 plants)	3% (8 plants)
Average tree height (cm)	178.4 cm	132.1 cm	157.3 cm	155.9 cm
Average Basal diameter (cm)	<1 cm	<1 cm	<1 cm	<1 cm

Recipient Site	Westerfolds 1	Westerfolds 2	Montpelier	Total
Proportion of plants with flowering / fruiting present?	0%	0%	1%	0%
Average cover of weeds within 1.5 m radius (%)	86%	58%	53%	66%
Herbivory Present (%)	0%	0%	0%	0%
Programmed maintenance undertaken satisfactorily	Yes	Yes	Yes	
Previous additional maintenance/ adaptive measures undertaken?	Yes	Yes	Yes	
Additional maintenance required?	Yes	Yes	Yes	For all sites handweeding is recommended around smaller trees (<60cm) to reduce grassy weed biomass.

Photos taken at each site’s monitoring points at August 2022 and March 2023 are provided in Appendix C, with representative photos of establishing Studley Park Gums (March 2023) provided in Appendix D. Monitoring data for each site during each quarterly survey (1-4) are provided in Appendix E.

5. Adaptive management measures and recommendations

5.1 Maintenance actions

Throughout the year the following actions were undertaken across the recipient sites:

- Slug bait application
- Fence maintenance at Montpelier site
- Brushcutting and mowing across all sites to reduce biomass throughout the reporting period

Further detail about maintenance actions is in Appendix F.

5.2 Proposed maintenance and/or corrective actions

The following actions are a summary of what is required beyond March 2023:

- During maintenance activities and monitoring the effects of excess water from rain events should be monitored. If supplementary planting is required after these events, then SPG saplings should not be planted back into holes that had become waterlogged or within standing water in the last high rainfall event. New planting locations should be moved to a freer draining position. This recommendation has been in effect since June 2021 and is to be actioned for each new planting event.
- Slashing or brushcutting fence boundaries to allow easy inspection of fence condition and to reduce risk of herbivore egress during the SPG establishment period.
- To manage the grassy weeds around smaller trees (<60cm tall), in line with the Studley Park Gum Management Plan (Emerge Associates and GHD, 2021) handweeding within the mulch circle should be undertaken to reduce biomass and allow light to reach the younger saplings.
- The noxious WoNS weed, *Nassella neesiana* (Chilean Needle Grass), where present, should be controlled as per the Studley Park Gum Management Plan (Emerge Associates and GHD, 2021) due to its highly invasive nature and persistence in the soil seed bank. Control of woody weeds and noxious forbs should likewise proceed as per the Studley Park Gum Management Plan (Emerge Associates and GHD, 2021).

6. Compliance assessment

Table 5 provides an assessment of the results of the SPG monitoring program against the EPBC Approval (EPBC 2018/8142) conditions.

Table 5 EPBC 2018/8142 Approval Conditions relevant to Studley Park Gums

Condition no.	Approval Condition	Condition currently triggered	Compliance	Comments and supporting documentation
6	The approval holder must implement the Studley Park Gum Management Framework for the period of effect of the approval. The approval holder must provide the department with a report, as part of the compliance report, each year for three years, commencing from the date the first Studley Park Gum tree is planted in accordance with the Studley Park Gum Management Framework. This report must detail the number, condition and threats faced by the Studley Park Gum trees that have been planted, as well as any maintenance or corrective actions that are taken or are proposed.	Yes	Compliant	<p>The report is assessing the state of the program against the EPBC approval condition and the Studley Park Gum Management Framework.</p> <p>This is the second annual compliance report and due to the extra <i>ad hoc</i> plantings finishing in November 2021 the program is being assessed against the year 1 targets to account for these young plants not being planted for two years yet. There were 244 plants found alive in March of 2023, which is more than the target for year 1 survivorship. 77% of these living plants were in good condition with only 3% in poor condition.</p> <p>Weed cover is higher than the target of <1% cover within 5 m of the SPGs, at an average of 66% across all sites. This is due to Sweet Vernal Grass in all but one in almost all trees with weeds surrounding them.</p> <p>Brushcutting and fence maintenance was performed over the course of the year (Appendix F).</p> <p>The Project is compliant with the approval condition.</p>

Table 6 details the compliance of the planting program against the requirements of the Studley Park Gum Management Framework.

Table 6 Compliance requirements in the Studley Park Gum Management Framework

Studley Park Gum Management Framework	Comments and supporting documentation
<p>The plan goal of 70% survival rate for each year based on the below numbers:</p> <p>Year 0: 303 saplings planted</p> <p>Year 1: 212 saplings (@70% survival)</p> <p>Year 2 149 Saplings (@70% survival)</p> <p>Year 3 104 plants established.</p>	<p>This report is assessing the success of the program against the year 1 targets because the youngest Studley Park Gums planted across the sites were planted in November 2021. With 244 living plants across the three sites this gives a survival rate of 79%, which is above the target for year 1.</p>
<p>Noxious weed cover levels within 5m radius of planted tube stock is to be controlled to ensure cover is less than 1%.</p>	<p>Noxious weed cover across all sites averaged 66%. This is significantly higher than the target of less than 1%. However, the vast majority of the plants (all but one plant which was close to a small patch of blackberry) are surrounded by Sweet Vernal-grass. This species was present across the site before the planting and is not acting as a noxious weed. Given most of the trees are taller than the grass height, the Sweet Vernal-grass cover is not threatening the trees.</p>
<p>Monitoring is required to assess impacts of herbivory of pest animals.</p>	<p>Herbivory rates across the sites is 0%. The current control methods (fence) are appropriate to protect plants from kangaroo, rabbits and hares.</p>

7. References

Bureau of Meteorology (BoM) 2022a, Watsonia, Victoria: Daily weather Observations.

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Appendices

Appendix A – Table of Monitoring Events

Year	Monitoring event	Expected date of event	Date event completed	Comments
1	Baseline Monitoring Event and 1 st quarterly event.	Planting expected in May 2021, monitoring one week following planting.	Planting: 24/05/21 Monitoring: 15/06/2021	Monitoring delayed by one week due to Victorian Government mandated COVID-19 lockdown, and a public holiday between planting and monitoring event.
1	2 nd Quarterly event	September 2021	9/11/2021	Site visit paused until replacement plantings could be installed, as per prior audit recommendations. Monitoring occurred within one week of plant installation. During this monitoring event ecologists were unable to enter Westerfolds 2 site due to safety hazards.
1	3 rd Quarterly event	December 2021	18/01/2022	Delay from prior survey carried forward to this monitoring event, to allow time for meaningful plant growth to occur. Westerfolds 2 sapling numbers could not be assessed due to maintenance activities being underway.
1	4 th Quarterly event	March 2022	12/05/2022 – 13/05/2022	Delayed due to herbicide withholding period, and to allow completion of maintenance activities.
2	1 st Quarterly event	June 2022	4 th and 5 th August 2022	Delayed allowing time for brushcutting so that staff could access site.

Year	Monitoring event	Expected date of event	Date event completed	Comments
2	2 nd Quarterly event	September 2022	18 th and 19 th October 2022	Delayed allowing time for brushcutting so that staff could access site.
2	3 rd Quarterly event	December 2022	9 th and 14 th February 2023	Monitoring conditions were delayed until site conditions were safe enough for a visit. Monitoring occurred post biomass control by land managers.
2	4 th Quarterly event	March 2023	27 th and 29 th March 2023	Monitoring undertaken at required time.
3	1 st Quarterly event	June 2023		
3	2 nd Quarterly event	September 2023		
3	3 rd Quarterly event	December 2023		
3	4 th Quarterly event	March 2024		
4	Annually in June	June 2024		
5	Annually in June	May 2025		
6	Annually in June	May 2026		
7	Annually in June	May 2027		
8	Annually in June	May 2028		
9	Annually in June	May 2029		
10	Annually in June	May 2030		
10	End of project	May 2031		

Appendix B – Site preparation photos

Fence



Correctly planted SPG, which has been submerged due to the heavy rainfall event



Appropriately spaced planting locations



Wombat burrow which has been closed off from the outside.



Appendix C – Annual photo monitoring

Table 7 Westerfolds 1 Photo monitoring points: August to March 2023

Location	Westerfolds site 1 August 2022	Westerfolds site 1 March 2023
1 (gate)		
2		

Location	Westerfolds site 1 August 2022	Westerfolds site 1 March 2023
3		
4		

Table 8 Westerfolds 2 Photo monitoring points: August 2022 to March 2023

Location	Westerfolds Site 2 August 2022	Westerfolds Site 2 March 2023
1 (gate)		
2		


Location	Westerfolds Site 2 August 2022	Westerfolds Site 2 March 2023
3		
4		

Table 9 Montpelier Reserve Photo monitoring points: August 2022 to March 2023

Location	Montpelier Reserve August 2022	Montpelier Reserve March 2023
1 (gate)		
2		 <p data-bbox="1346 1209 1594 1278"> <small> GSP NELP SPR Montpelier Site 28.03.2022-10.28 3775028_1451102 Montpelier Reserve, Montpelier Dr, Lower Plenty VIC </small> </p>

Location	Montpelier Reserve August 2022	Montpelier Reserve March 2023
3		
4		

Appendix D – Representative photos of Studley Park Gums: March 2023

SPG Number (site)	Image of individual	SPG Number (site)	Image of individual
22 (W1)	 <p>GHD NELP SPG Monitoring W1022 03.04.2023 10:15 37.74633, 145.12624 Westerfolds Park Circuit, Templestowe VIC</p>	51 (W1)	 <p>GHD NELP SPG Monitoring W1021 03.04.2023 11:23 37.74515, 145.12404 Main Yarra Trail, Templestowe VIC</p>
53 (W2)	 <p>GHD NELP SPG Monitoring W2.053 03.04.2023 13:32 37.74533, 145.12379 Main Yarra Trail, Templestowe VIC</p>	120 (W2)	 <p>GHD NELP SPG Monitoring W2.120 03.04.2023 13:23 37.74515, 145.12404 Main Yarra Trail, Templestowe VIC</p>

SPG Number (site)	Image of individual	SPG Number (site)	Image of individual
61 (MP)	 <p data-bbox="354 1014 448 1043">Plenty VIC</p>	55 (MP)	 <p data-bbox="930 999 1098 1059">GHD NELP SPG Montpelier Site Black leaves 55 20.06.2023 13:31</p>

Appendix E – Monitoring Data: recipient site results 2022- 2023

Table 10 Summary totals of each quarterly event: 2022- 2023

Recipient Site	August 2022	October 2022	February 2023	March 2023
Living plants (no.)	293	282	238	244
Dead plants (no.)	26	28	57	18
% of living plants with >70% of healthy leaves (good condition)	53% (155 plants)	48% (136 plants)	71% (168 plants)	77% (188 plants)
% of living plants with 30<70% of healthy leaves (moderate condition)	27% (79 plants)	41% (117 plants)	27% (65 plants)	20% (48 plants)
% of living plants with <30% of healthy leaves (poor condition)	20% (59 plants)	10% (29 plants)	2% (5 plants)	3% (8 plants)
Average tree height (cm)	68.6 cm	73.4 cm	130.8 cm	155.9 cm
Average Basal diameter (cm)	<1 cm	<1 cm	Not recorded	<1 cm
Proportion of plants with flowering / fruiting present?(%)	0	0	0	<1% one SPG
Noxious weeds present (within 1.5 m radius)	17%	35%	62%	66%
Herbivory Present (%)	0%	0%	26% (61 plants)	0%
Programmed maintenance undertaken satisfactorily	Held since last survey	Mostly, follow up on actions required	Mostly, follow up on actions required	Mostly, follow up on actions required
Previous additional maintenance/ adaptive measures undertaken?	None	None	Biomass control	Yes
Additional maintenance required?	Yes	Yes	Yes	Yes

Table 11 Summary of quarterly monitoring event: August 2022

Recipient Site	Westerfolds Site 1	Westerfolds Site 2	Montpelier	Total
Living plants (no.)	92	120	81	293
Dead plants (no.) (including missing)	5	7	14	26
% of living plants with >70% of healthy leaves (good condition)	59.8% (55 plants)	54.2% (65 plants)	43.2% (35 plants)	52.9% (155 plants)
% of living plants with >30<70% of healthy leaves (moderate condition)	15.2% (14 plants)	30.8% (37 plants)	34.6% (28 plants)	27% (79 plants)
% of living plants with <30% of healthy leaves (poor condition)	25% (23 plants)	15% (18 plants)	22.2% (18 plants)	20.1% (59 plants)
Average tree height (cm)	60.6 cm	59.0 cm	86.3 cm	68.6 cm
Average Basal diameter (cm)	<1 cm	<1 cm	<1 cm	<1 cm
Proportion of plants with flowering / fruiting present?	0	0	0	0
Average cover of noxious weeds within 1.5m radius (%)	15.72%	21.43%	12.54%	16.56%
Herbivory Present (%)	0%	0%	0%	0%
Programmed maintenance undertaken satisfactorily	Held since last survey	Held since last survey	Held since last survey	
Previous additional maintenance/ adaptive measures undertaken?	Some	Some	Some	
Additional maintenance required?	Yes	Yes	Yes	

Table 12 Summary of quarterly monitoring event: October 2022

Recipient Site	Westerfolds Site 1	Westerfolds Site 2	Montpelier	Total
Living plants (no.)	93	134	93	320
Dead plants (no.) (including missing)	5	1	2	8
% of living plants with >70% of healthy leaves (good condition)	65.6% (61 plants)	75.4% (101 plants)	59.1% (55 plants)	67.8% (217 plants)
% of living plants with 30<70% of healthy leaves (moderate condition)	29.0% (27 plants)	21.6% (29 plants)	29.0% (28 plants)	26.3% (84 plants)
% of living plants with <30% of healthy leaves (poor condition)	5.4% (5 plants)	3.0% (4 plants)	10.8% (10 plants)	5.9% (19 plants)
Average tree height (cm)	55.5 cm	55.2 cm	83.8 cm	64.8 cm
Average Basal diameter (cm)	<1 cm	<1 cm	<1 cm	<1 cm
Proportion of plants with flowering / fruiting present?	0	0	0	0
Average cover of noxious weeds within 1.5m radius (%)	23.9%	41.9%	19.1%	28.3%
Herbivory Present (%)	0%	0%	0%	0%
Programmed maintenance undertaken satisfactorily	Mostly, follow up on actions required	Mostly, follow up on actions required	Mostly, follow up on actions required	
Previous additional maintenance/ adaptive measures undertaken?	Yes	Yes	Some	
Additional maintenance required?	Yes	Yes	Yes	

Table 13 Summary of quarterly monitoring event: February 2023

Recipient Site	Westerfolds Site 1	Westerfolds Site 2	Montpelier	Total
Living plants (no.)	62	107	69	238
Dead or missing plants (no) (no. missing)	30 (21)	11 (7)	16 (9)	57 (23)
Total records (count) living, dead, missing	92	118	85	295
% of living plants with >70% healthy leaves (good condition)	79.0% (49 plants)	70.1% (75 plants)	63.8% (44 plants)	70.59% (168 plants)
% of living plants with 30<70% healthy leaves (moderate condition)	19.4% (12 plants)	28.0% (30 plants)	33.3% (23 plants)	27.3% (65 plants)
% of living plants with <30% healthy leaves (poor condition)	1.6% (1 plant)	1.9% (2 plants)	2.9% (2 plants)	2.1% (5 plants)
Average tree height (cm)	136.0	116.1	148.4	130.8
Average Basal diameter (cm)	Not recorded	Not recorded	Not recorded	Not recorded
Proportion of plants with flowering / fruiting present?	0	0	0	0
Average cover of noxious weeds within 1.5 m radius (%)	78.2%	58.2%	50%	61.9%
Herbivory present (% of living plants)	9.7% (6 plants)	14% (15 plants)	58% (40 plants)	25.6% (61 plants)
Programmed maintenance undertaken satisfactorily	Mostly, follow up on actions required	Mostly, follow up on actions required	Mostly, follow up on actions required	
Previous additional maintenance/ adaptive measures undertaken?	Mowing	Mowing	Brushcut around tree bases	
Additional maintenance required?	Yes	Yes	Yes	

Table 14 Summary of quarterly monitoring event: March 2023

Recipient Site	Westerfolds 1	Westerfolds 2	Montpelier	Total
Living plants (no.)	63	111	70	244
Dead plants (no.) (including missing)	2	1	15	18
% of living plants with >70% of healthy leaves (good condition)	78% (49 plants)	78% (88 plants)	73% (51 plants)	77% (188 plants)
% of living plants with 30<70% of healthy leaves (moderate condition)	19% (12 plants)	17% (19 plants)	24% (17 plants)	20% (48 plants)
% of living plants with <30% of healthy leaves (poor condition)	3% (2 plants)	4.0% (4 plants)	3% (2 plants)	3% (8 plants)
Average tree height (cm)	178.4 cm	132.1 cm	157.3 cm	155.9 cm
Average Basal diameter (cm)	<1 cm	<1 cm	<1 cm	<1 cm
Proportion of plants with flowering / fruiting present?	0%	0%	1%	0%
Average cover of noxious weeds within 1.5 m radius (%)	86%	58%	53%	66%
Herbivory Present (%)	0%	0%	0%	0%
Programmed maintenance undertaken satisfactorily	Mostly, follow up on actions required	Mostly, follow up on actions required	Mostly, follow up on actions required	
Previous additional maintenance/ adaptive measures undertaken?	Yes	Yes	Some	
Additional maintenance required?	Yes	Yes	Yes	

Appendix F – Previous maintenance or corrective actions undertaken (May 2022 - March 2023)

Site	Action	Date
All sites	Applying slug bait to SPGs	September 2022
All sites	Brushcutting and handweeding around SPGs	December 2022
Westerfolds sites	Mowing Westerfolds to keep biomass down	January 2023
Montpelier site	Fence maintenance around Montpelier site	January 2023