Moreland City Council

Edgars Creek
Conservation and Development Plan
Edwardes Lake to Merri Creek

Prepared by

Thompson Berrill Landscape Design Pty Ltd
in association with Ecology and Heritage Partners P/L

JUNE 2013

Notes:

1. Analysis and evaluation of existing conditions/facilities/structures in the report are for the purpose of planning only and will require further detailed evaluation prior to implementation of recommended actions.
2. Due to the limited survey information available, site specific recommendations for works require further detailed investigation, survey, structural/hydraulic/traffic engineering where appropriate and detailed design prior to implementation.
3. All built works require structural and/or civil engineering design and certification to Australian Standards. All works with a hydraulic engineering component require design and documentation to ensure compliance with relevant Australian Standards.
4. Preliminary opinion of probable cost and implementation priorities are preliminary planning estimates only. The preliminary estimate has been prepared without detailed feature and level survey and is not a quantity survey. A further stage of design development will be required in order to finalise cost estimates.

REVISION	DATE	AMENDMENT
F	26/06/2013	Final Report incorporating minor edits following Councillor briefing 11/6/13.
E	31/05/2013	Final Report incorporating changes in response to community consultation. Refer Appendix C2.
D	25/02/2013	Minor changes to significant tree references
C	20/02/2013	Draft Report V3 amended in accordance with feedback from Alison Breach at Darebin City Council
B	27/08/2012	Draft Report V2 amended in accordance with Project Reference Group comments 13/8/12
A	29/06/2012	Draft Report V1 for Project Reference Group comment

Table of contents

Page No.

APPENDICES

Acknowledgements

The project team would like to thank the Project Control Group and Project Reference Group who have attended meetings and contributed to the development of the Draft Plan, including:

Project Reference Group:

Fiona McKinnon	Coordinator Open Space Design and Development Unit, Moreland City Council (MCC)
Clare Johnston	Open Space Planner and Design Officer, MCC (Project Manager)
Lori Arthur	Natural Resource Management Officer, MCC
Maria Rico	Project Manager Key Redevelopment Sites, MCC
Alison Breach	Coordinator Public Realm, Darebin City Council (DCC)
Luke Sandham	Bushland Coordinator, DCC
Jesse Barrett	River Health Officer, Melbourne Water Corporation (MWC)
Stephen Northey	Friends of Edgars Creek
David Pavone	Friends of Edgars Creek
Luisa McMillan	Merri Creek Management Committee
Katrina Roberg	Merri Creek Management Committee

We would also like to thank Cr Lenka Thompson, Councillor MCC, local residents and other members of the community who responded to the questionnaire and enthusiastically attended the community workshop giving valuable input and direction for the development of this Draft Conservation and Development Plan for Edgars Creek.

Index of terms and abbreviations

AAV	Aboriginal Affairs Victoria
BUG	Bicycle Users Group
CALD	Culturally and linguistically diverse (communities)
CaLP	Catchment and Land Protection Act (1994)
CHMP	Cultural Heritage Management Plan
DCC	City of Darebin
DOI	Department of Infrastructure
DPI	Department of Primary Industries
DSE	Department of Sustainability and Environment
EHP	Ecology and Heritage Partners
EPA	Environment Protection Authority
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
EVC	Ecological Vegetation Class
FFG Act	Flora and Fauna Guarantee Act 1988
FOEC	Friends of Edgars Creek
FOMC	Friends of Merri Creek
MCC	City of Moreland
MCMC	Merri Creek Management Committee
MFB	Metropolitan Fire and Emergency Services Board
MIVA	Moreland Indigenous Vegetation Assessment
MW	Melbourne Water
OHS	Occupational Health and Safety
PAO	Public Acquisition Overlay
PPRZ	Public Park and Recreation Zone
PUZ	Public Use Zone
PV	Parks Victoria
PVC	Polyvinyl Chloride
RAP	Registered Aboriginal Party
RZ	Residential Zone
SEWPaC	Commonwealth Department of Sustainability, Environment, Water, Population and Communities
SWMS	Safe Works Method Statement
TBLD	Thompson Berrill Landscape Design Pty Ltd
WONS	Weeds of National Significance
YVW	Yarra Valley Water

1. Introduction

1.1 Project scope

The Edgars Creek Conservation and Management Plan has been prepared to identify, protect and enhance the environmental, cultural heritage and community open space values along the Edgars Creek open space corridor between Edwardes Lake and Merri Creek. The plan seeks to balance the role of the creek as a primary waterway habitat and biodiversity corridor with the need to maintain drainage and key service easement functionality and meet the increasing needs of the local community for access and open space.

The plan has been developed by Moreland City Council in consultation with Darebin City Council, Melbourne Water, Friends of Edgars Creek, Merri Creek Management Committee and the local community. The plan aims to guide strategic planning and management actions, capital works and implementation priorities over the next 10 years.

1.2 Study Area

Edgars Creek flows along a 17km course from its headwaters in Wollert, through the highly urbanized suburbs of Epping, Thomastown and Reservoir joining the Merri Creek in North Coburg. The study area for this plan focuses on a 3.5km section of the creek from Edwardes Lake in Reservoir downstream to the confluence with Merri Creek in North Coburg.

Edgars Creek follows a semi natural course through the study area flowing in a deeply incised valley downstream of Edwardes Lake through Reservoir before connecting with the more generous floodplain and open space reserve network at the confluence with the Merri Creek in North Coburg. The creek in this section contains several sites of geological and geomorphological significance, including exposed sections of Melbourne Formation in the bed and alluvial deposits associated with a Pleistocene age lake. The creek is subject to erosion in some areas with a section of concrete lined channel, road culvert crossings and previous disturbance and stabilisation associated with the historical installation of underground services. As with many sections of the lower Merri Creek catchment there are also ongoing issues associated with stormwater inputs from upstream and adjoining industrial use which contribute to poor water quality.

The creek and narrow open space reserve in the northern section are highly constrained by industrial properties on the west bank and residential properties along the east bank. The restricted access, steep embankments and previous disturbance have favoured many invasive weed species. There are however some areas of remnant vegetation including Red Gums, Yellow Gums, Sweet Bursaria and Tree Violet that have been augmented over many years with revegetation through sustained funding and support from Darebin and Moreland Councils, Melbourne Water, Merri Creek Management Committee, Greening Australia and Friends of Edgars Creek.

The open space corridor has a range of sporting and recreational facilities in the south including Coburg Basketball Stadium, Harold Stevens Athletics Track, Jackson Reserve Oval, Golf Practice Range and large areas of grassed informal open space. In the north the narrow open space reserve, steep topography and proximity of adjoining development limit public access to informal tracks however the remote bushland feel is popular as an escape from the surrounding urban environment.

Former industrial land adjoining the creek has recently begun to be redeveloped as residential housing including the former Kodak site, now Coburg Hill. These changes will create additional pressures on the open space corridor but also provide opportunities to improve environmental values and interface of private property to the creek corridor.

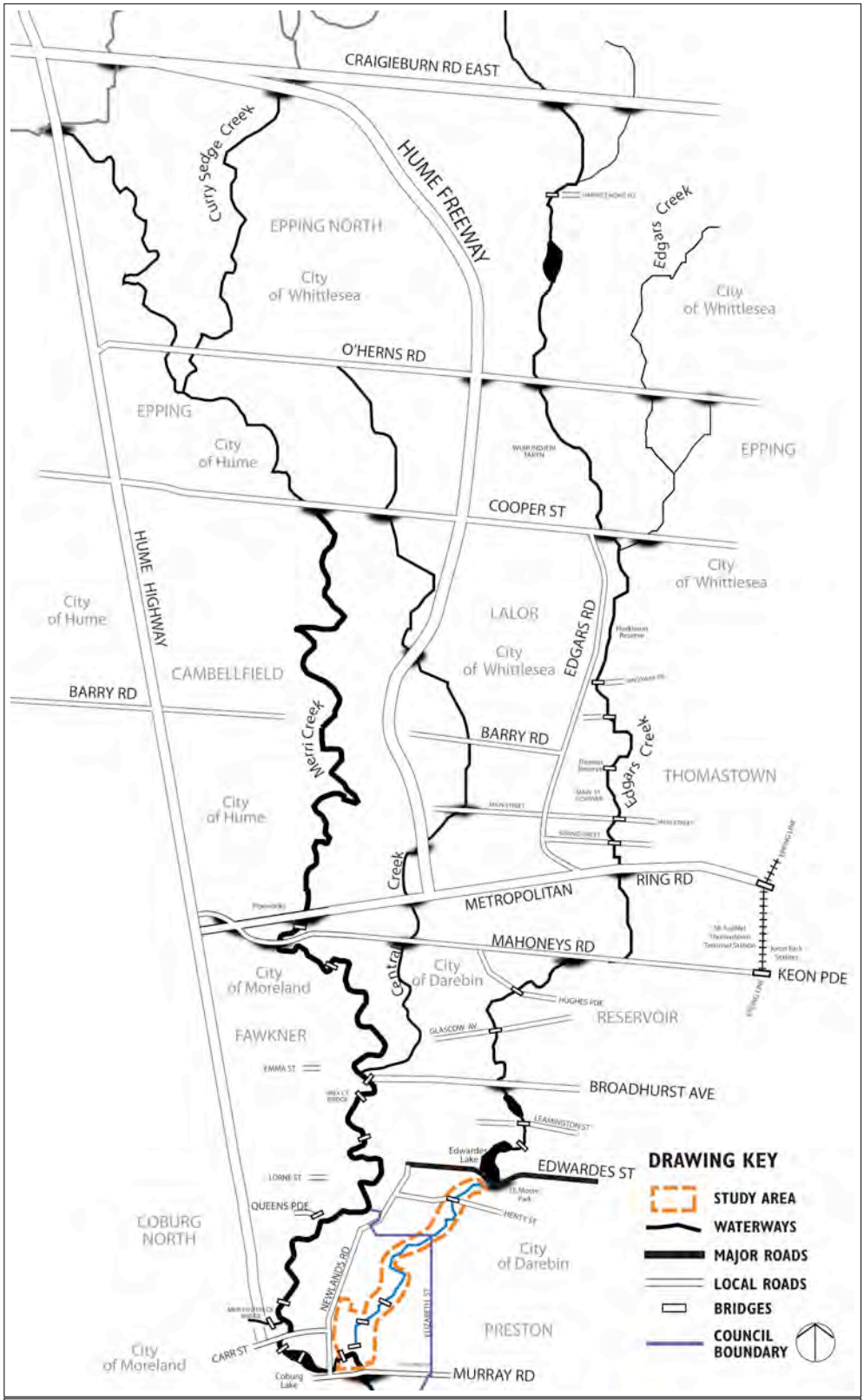


FIGURE 1. SITE CONTEXT

1.3 Vision

Achieve a sustainable balance between conservation and public access and use of open space along Edgars Creek. Protect and enhance the unique geology, cultural heritage and environmental values of the creek and open space corridor. Maintain the secluded bushland character while continuing to improve local community access to open space and pride in the area.

Objectives:

- Protect areas of existing remnant vegetation and link fragmented habitat areas.
- Increase biodiversity and establish resilient and sustainable ecological vegetation class (EVC) habitat areas.
- Carefully prioritise weed control efforts focusing on weeds of national significance and protection of areas of remnant indigenous vegetation.
- Protect and improve understanding of indigenous cultural heritage values.
- Retain natural processes associated with Edgars Creek and protect landscape values associated with significant geological landforms.
- Improve water quality in Edgars Creek targeting at source litter control and improvements to stormwater connections to the creek where possible.
- Improve walking and cycling access between Edwardes Lake and Merri Creek Trail including:
  - Off road shared walking cycling trail link from new development areas at Coburg Hill to the existing Merri Creek Trail.
  - Staged establishment of unsealed all weather walking access north from Coburg Hill to Edwardes Lake on one side of the creek only. Retention of informal bush walking access (no path) on the other side and in areas close to the creek.
  - Improved on road cycling links between Coburg Hill and Edwardes Lake where off road shared cycle paths are unable to be safely established in accordance with current standards or are inconsistent with environmental objectives.
- Retain sufficient flat usable open space areas away from the creek to meet the recreational needs of existing and future communities.
- Ensure provision of new public open space infrastructure is consistent with the bushland character of the open space corridor.
- Minimise the impact of urban development on the 'secluded bushland character' of the creek reserve through appropriate buffer planting to existing development frontages.
- Implement best practice planning and design guidelines for new development areas.
- Liaise with adjoining landholders to improve the open space interface to adjoining industrial and residential areas.
- Sustain and support local community involvement in management and 'knowledgeable' custodianship of the creek and open space reserve

1.4 Land ownership and management

Public open space along the east bank downstream of Edwardes Lake to Henty Street is owned and managed by Darebin City Council (DCC). DCC also own and manage open space both sides of the creek from Henty Street to Jenkin Street. The west bank of the creek from Edwardes Street to Henty Street and a portion of the land north of Kia Ora Road are owned and managed by Melbourne Water. As the waterway manager Melbourne Water are also responsible for management of the bed and bank of the creek along the entire length of the study area.

Downstream of Jenkins Street, public open space on both sides of the creek to the confluence with Merri Creek is owned and managed by Moreland City Council (MCC). Melbourne Water own the easement for the underground water pipeline (M9 pipeline) which traverses the site from Newlands Road to the Coburg Hill residential development and Elizabeth Street. The land to the north and south of the Melbourne Water easement on the west bank of the creek is former VicRoads land, currently managed by MCC. Refer Figure 2.

The upper section of the Edgars Creek corridor is zoned as Public Use Zone 1 (PUZ1) and the remainder of the corridor being generally Public Park and Recreation Zone (PPRZ). The adjoining land on the west side of the creek corridor is zoned Industrial Zone 1 and the east side is zoned Residential Zone 1 (R1Z). A section of existing open space along Golf Road is also currently zoned as Residential Zone 1. Refer Figure 10.

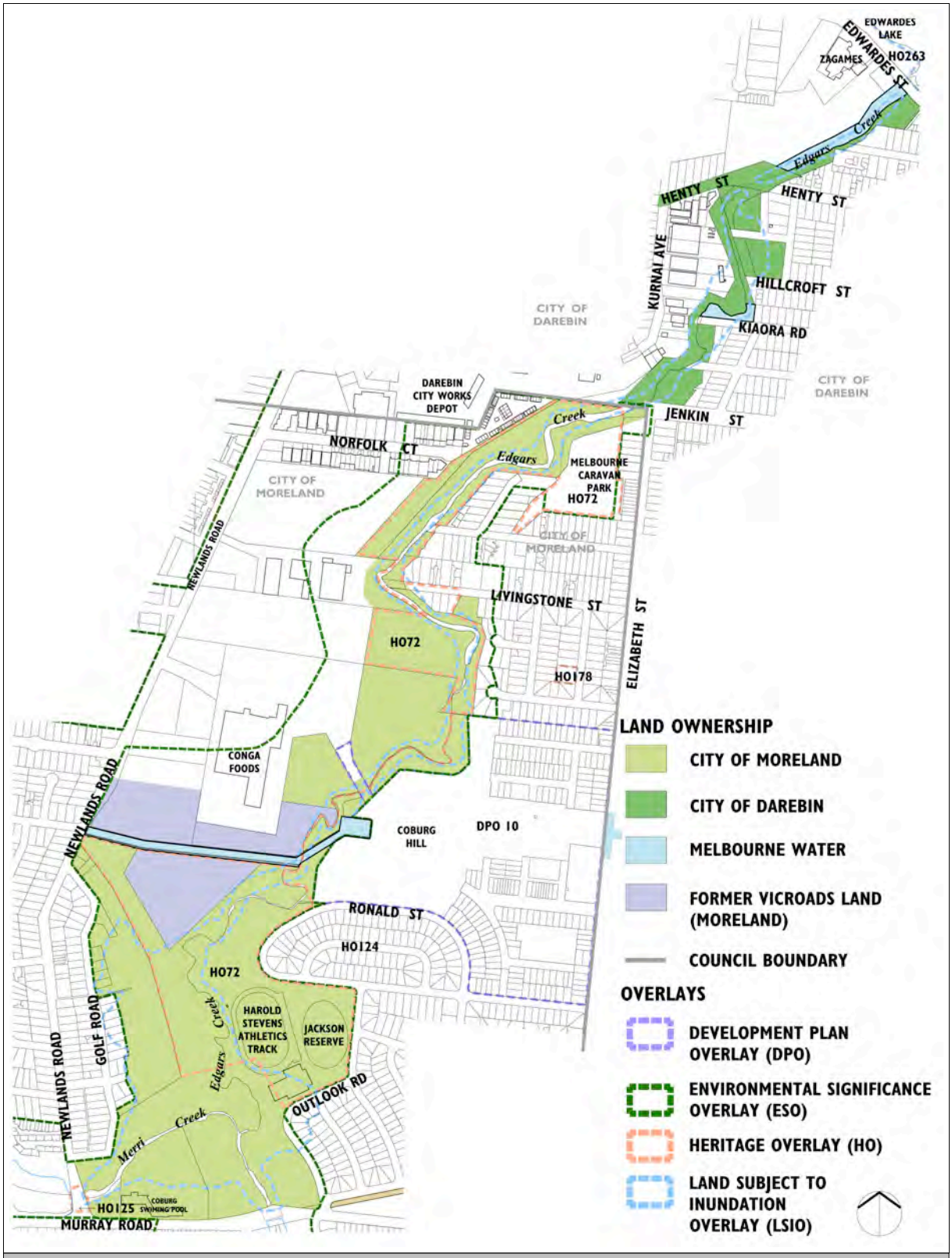
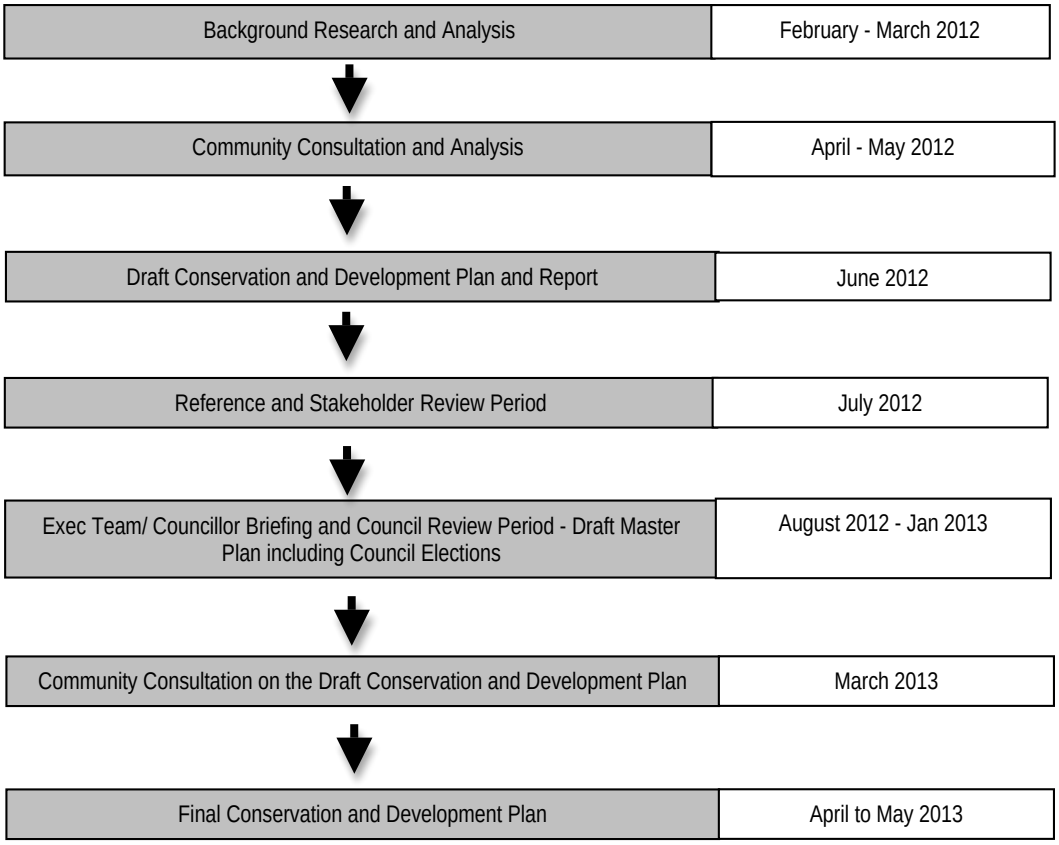


FIGURE 2. EXISTING LAND OWNERSHIP AND PLANNING OVERLAYS

1.5 Project methodology



1.6 Background document review

The following documents have been reviewed in detail and discussion of recommendations relevant to this study have been included in Appendix B.

- **Coburg Hill Landscape Master Plan,** Satterleys, 2012
- **Darebin Cycling Strategy,** PBAI Australia with David Lock Associates, 2005
- **Darebin Natural Heritage Plan,** Context Pty Ltd, 2011
- **Darebin Open Space Strategy 2007-12,** Darebin City Council, 2007
- **Healthy Waterways Strategy (Draft),** Melbourne Water, May 2012
- **Merri Creek and Environs Strategy,** 2009 - 2014
- **Merri Creek Concept Plan – Cultural Heritage Report,** Melbourne Water and MCMC, 1993
- **Merri Creek Constructed Urban Wetlands Feasibility Study Final Report,** Sept 2009
- **Moreland Bicycle Strategy,** Moreland City Council, Adopted Nov 2011
- **Moreland Indigenous Vegetation Assessment Final Report,** MCMC, 2012
- **Moreland Integrated Transport Strategy 2010-19,** Moreland City Council, 2010
- **Moreland Integrated Water Management Plan,** Moreland City Council, 2009
- **Moreland Open Space Strategy,** Moreland City Council, 2012
- **Moreland Pedestrian Strategy 2010-19,** Moreland City Council, 2010
- **Shared Pathway Guidelines**, Melbourne Water, 2009
- **SP Ausnet Guide to Planting Near Electricity Lines,** 2007
- **SP Ausnet Guide to Living with Easements,** 2007
- **The Merri Creek – Sites of Geological & Geomorphological Significance,** Neville Rosengren, 1993
- **Three Potential Wetland Sites Along Merri Creek – Geotechnical Surveys,** Coffey Geotechnics Pty Ltd, 2010
- **Three Year Habitat Restoration Strategic Plan 2012 -2014,** FoEC, 2012

2. Existing Conditions

2.1 Geology and geomorphology

The Merri Creek catchment, including Edgars Creek, features a variety of rocks of Palaeozoic, Tertiary and Quaternary age, although the surface geology and the landforms are dominated by basalt lava flows of Pleistocene age. Stream valleys cut into this lava surface comprise the main elements of relief and terrain variation and provide exposure of the basalt and in places older sedimentary rocks. The bedrock consists of a thick sequence of Silurian/Early Devonian argillaceous (muddy) and arenaceous (sandy) marine sediments comprising numerous beds of mudstone, shale, siltstone and sandstone. The rocks in the metropolitan area of the Merri Creek catchment are known as the Melbourne Formation (Rosengren 1993).

Three sites of geological significance are identified along the Edgars Creek corridor in the study area, including:

- The Edgars Creek Terrace and Meanders – located adjacent to the floodplain between Outlook Drive and Ronald Street in the vicinity of the confluence of the Merri Creek and Edgars Creek. This site is identified as having Local significance as it is a clear example of a confined floodplain and the meander forming at the site is a natural process which illustrates the method by which alluvium is transported and stored in stream channels (Rosengren 1993).
  Although the meanders are still visible and are an existing feature of Edgars Creek, it is to be noted that since Rosengren's 1993 report, this site has potentially been destroyed by channel stabilisation works conducted by Melbourne Water in 1996/7 (Merri Creek and Environs Strategy 2009).

- The Edgars Creek Waterfall and Geological Structure - located immediately south of the Ronald Street footbridge is identified as having Regional significance due to the exposed outcrop of Silurian sandstone (Melbourne Formation) which illustrates the waterfall formation.(Rosengren 1993). The site was used as a ford crossing for maintenance access and this practice has now been discontinued. The waterfall is valued by the community as a key meeting place and informal water access point.

- The cliff of Melbourne Formation (Silurian Cliff) is located on the east bank of Edgars Creek, immediately north of the Coburg Hill residential boundary (Former Kodak site). The 8m high cliff of gently dipping Melbourne Formation is identified as having Local significance as it is the best example of natural vertical section of Melbourne Formation in the catchment (Rosengren 1993).

Moreland City Council's Environment Significance Overlay (ESO) includes the objective "to protect natural landforms and geological features" in Moreland. There is no ESO along Darebin City Council section of the study area. As noted in the Environs Strategy, the significance of geological sites depends on their visibility and therefore protection of these sites needs to be considered in site design and revegetation works.

There are several active erosion sites along the Edgars Creek corridor, located mostly where the creek meanders and changes direction. Works have been conducted over the years by Melbourne Water to stabilise the creek banks at certain key locations. Moreland City Council has prepared an Erosion Management Overlay, which has been gazetted and included in Council's Planning Scheme in 2013. This overlay outlines the requirements and conditions for new buildings and vegetation works within the areas identified in the Erosion Management Overlay (Refer Figure 3).

Photo 1 Active erosion (upstream M9 pipeline crossing)

Photo 2 Waterfall site downstream Ronald Street Bridge

Photo 3 Active erosion (upstream Ronald Street bridge)

Photo 4 Silurian Cliff (Coburg Hill)

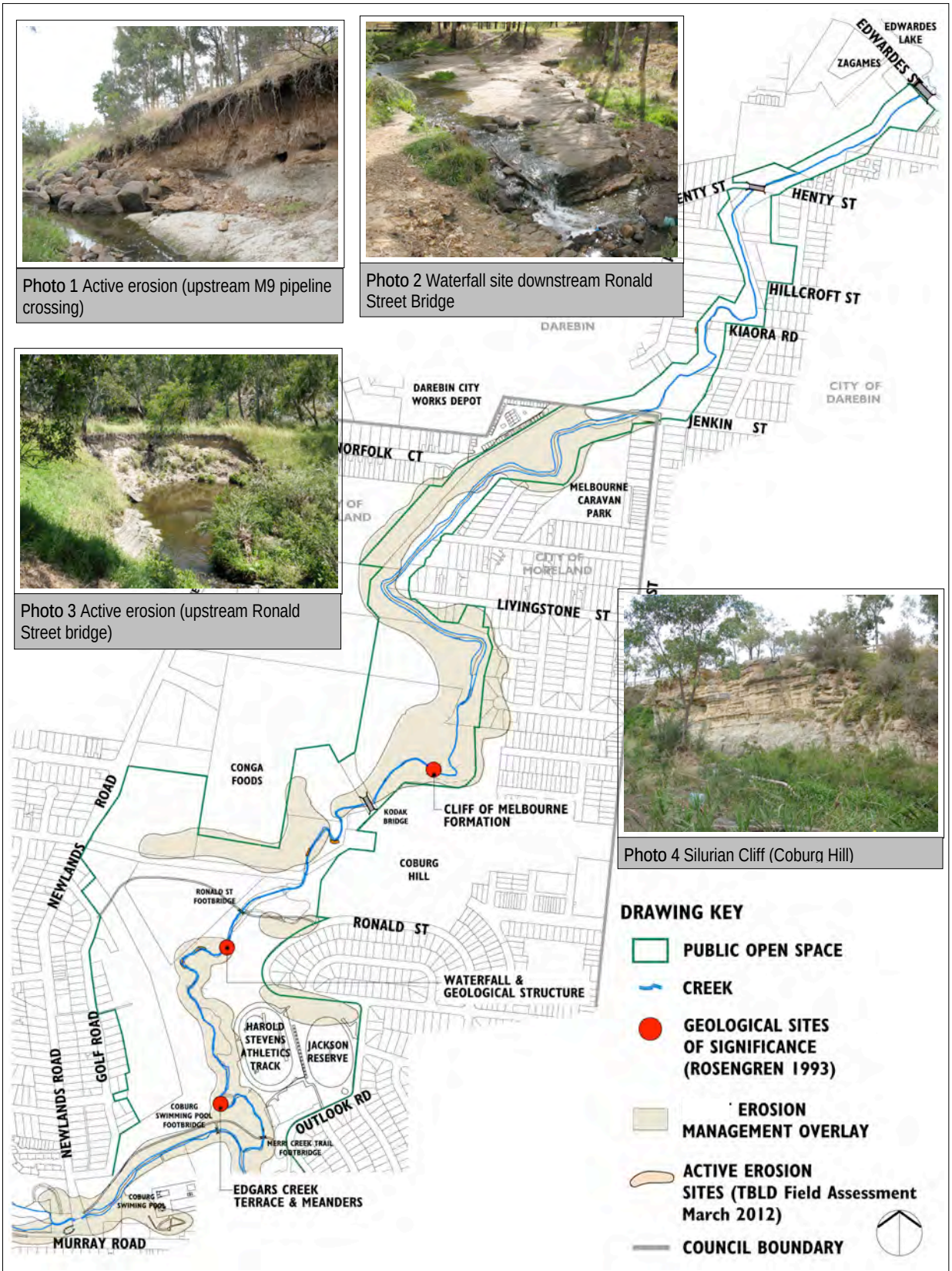


FIGURE 3. GEOLOGY

Overall geology and geomorphology recommendations

Note: Agencies/groups/partners listed in (*italics)* are for referral only and are not responsible for implementation of the actions.

Ref No	Issue	Recommendation	Priority	Agency
2.1.1	Edgars Creek within the study area is subject to high levels of natural erosion. Previous bank stabilisation works have had only varying levels of success.	• Ensure set back new infrastructure including paths allow natural erosion/deposition processes to continue within the natural Edgars Creek channel and floodplain where possible. • Utilise soft engineering principles where possible to stabilise areas of erosion and threats to existing underground infrastructure such as sewer pipes and drain outfalls. • Ensure new development sites adopt best practice stormwater management practices.	Ongoing	MW MCC
2.1.2	Three sites of geological significance have been identified in this section of Edgar's creek. Refer Figure 3.	Refer section 4 for site specific recommendations.	High	MCC *(MW)*
2.1.3	Draft Erosion Management Overlay is proposed for inclusion in the Moreland Planning Scheme. Refer Figure 3.	Adopt key requirements for assessment of new buildings and vegetation works within the areas identified in the Erosion Management Overlay.	High	MCC

2.2 Drainage and water quality

Edgars Creek flows through a predominantly urbanised residential catchment including the suburbs of Epping, Thomastown, Reservoir and North Coburg. The creek is highly modified between the Western Ring Road to Edwardes Lake, with some sections contained in a trapezoidal concrete channel and other sections in a limited cross-sectioned eastern trapezoidal channel. Downstream of Edwardes Lake, the creek is more deeply incised with steeper escarpments before flowing through the more generous natural floodplain at the confluence with the Merri Creek in North Coburg.

Stormwater and drain input from the catchment upstream of Edwardes Lake as well as from the adjoining industrial and residential properties downstream of the lake contribute to the poor water quality and the accumulation of litter in the creek.

Photo 5 Steep Kurnai Ave drain outfall

Water quality analysis conducted by Waterwatch and Melbourne Water in 2008 for waterways within Moreland indicated that a number of stream health indicators were outside the State Environment Protection Policy guidelines. This can be attributed to various pollution sources as sewerage discharge, detergents, animal waste and industrial wastes discharged via the stormwater system (Moreland Integrated Water Management Plan 2009).

A Land Subject to Inundation Overlay (LSIO) applies to the entirety of the creek corridor in the study area, including the floodplain adjacent to the confluence of the Merri and Edgars Creeks. The existing properties affected by the LSIO, including several residential properties on Golf Road and the basketball stadium at Outlook Road, are not covered by Moreland City Council's Special Building Overlay (SBO).

Photo 6 Local property drains

Photo 7 Overland flow erosion - Coburg Hill

Overall drainage and water quality recommendations

Note: Agencies/groups/partners listed in (*italics)* are for referral only and are not responsible for implementation of the actions.

Ref No	Issue	Recommendation	Priority	Agency
2.2.1	The steep sided valley form, developed urban catchment and narrow confined open space corridor in some sections of Edgars Creek through the study area can result in flooding after rainfall.	• Review flood warning signage at entries to confined low lying open space areas and existing informal ford crossings. • Ensure design of all new shared paths and bridges comply with Melbourne Water Guidelines (Refer Appendix C).	Urgent Ongoing	MCC *(MW)*
2.2.2	Many older stormwater drainage connections to the creek are in poor condition, subject to erosion and provide limited option for improvements to water quality treatment function.	Refer to section 4 for site specific recommendations.	Medium	MCC *(MW)*
2.2.3	Large areas of undeveloped land along the west bank and other potential development sites.	Ensure all new developments deliver best practice treatment of stormwater prior to discharge to Edgars Creek. Where possible investigate opportunities to incorporate pre-treatment for existing drain outfalls into new developments as part of drainage scheme contributions. Site new wetlands to maximise connectivity and habitat links to the creek.	Ongoing	MCC *(MW)*
2.2.4	Edgars Creek has been historically subject to illegal discharge and poor water quality.	Monitor water quality in Edgars Creek, install and maintain standard EPA advisory signage at all drain outfalls.	Ongoing	EPA *(MW)*
2.2.5	Impact of sewerage overflow on creek water quality from stormwater drains during flood events between Kia Ora Road and Ronald Street.	Review options to reduce impact of sewerage overflow as outlined in the Moreland Stormwater Management Plan.	High	MCC *(MW)* *(EPA)*

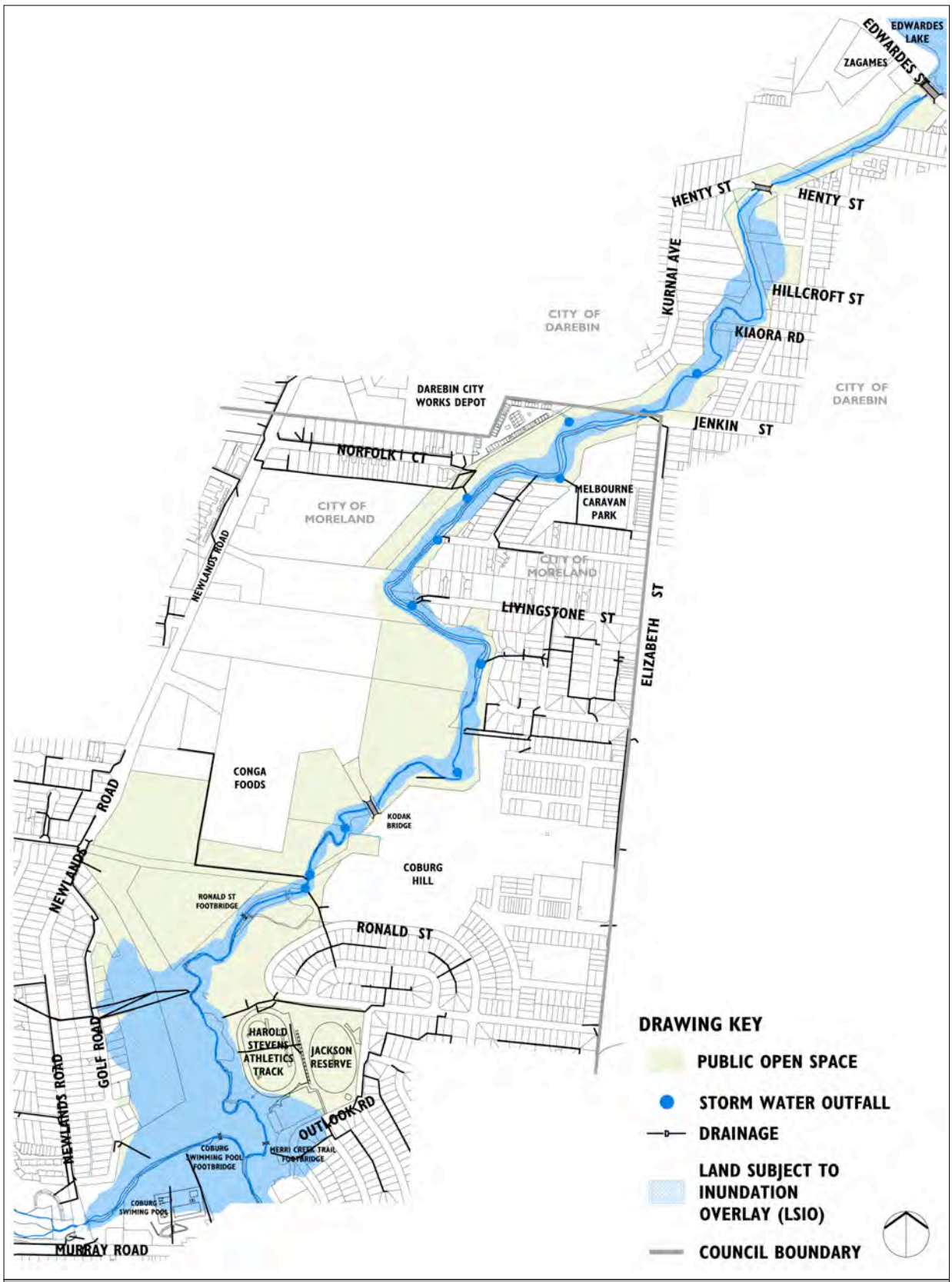


FIGURE 4. DRAINAGE AND WATER QUALITY

2.3 Service Infrastructure

Overhead powerlines

The existing SPI Ausnet 220 kV transmission line and towers traverses north-south over large sections of the creek open space corridor and adjoining residential and industrial properties. This major service infrastructure requires a minimum 40m wide easement corridor, and maintenance vehicle access to all existing and future tower sites at all times (SPI Ausnet Guide to living with Easement 2007). Any works or future developments within the transmission line easement, including new planting works, are subject to SPI Ausnet requirements and guidelines. Refer Appendix C.

Photo 8 Overhead powerlines

Photo 9 Powerlines over Kodak Bridge west bank

M9 water supply main

The 1300dia M9 water supply pipelines connect Melbourne Water water supply storage basins in Reservoir and Essendon. The Melbourne Water easement traverses east-west from Newlands Road, under Edgars Creek and through the Coburg Hill development towards Elizabeth Street (Refer Figure 4). Upgrade works to this section of the M9 pipeline were completed in 2009 as part of the Preston - North Essendon Water Main Upgrade. This upgrade to the more than 100 year old water mains secured the water supply to the northern and western suburbs of Melbourne. Any works within the pipeline easement, including excavation and planting works, are subject to Melbourne Water's review and approval.

Photo 10 Concrete channel upstream of Ronald St

Photo 11 M9 Water supply pipeline crossing

Underground sewerage pipelines

There are existing Melbourne Water and Yarra Valley Water sewer assets through the study area to service the properties on both side of Edgars Creek. Some of the sewer assets are located in proximity of the creek banks and run the potential risk of being exposed during erosion events common to Edgars Creek. Protection of underground sewer infrastructure has been the primary reason for Melbourne Water bank stabilisation works along Edgars Creek (Merri Creek Waterway Management Activity Plan 2002).

Photo 12 Existing sewer pit

Photo 13 Existing sewer relief pit

Overall service infrastructure recommendations

Note: Agencies/groups/partners listed in (*italics)* are for referral only and are not responsible for implementation of the actions.

Ref No	Issue	Recommendation	Priority	Agency
2.3.1	SPI Ausnet high voltage overhead transmission lines traverse north-south along the open space corridor.	Maintain the required 40m wide managed vegetation zone for areas under overhead transmission lines in accordance with SPI Ausnet Guidelines (Refer Appendix C)	Ongoing	MCC *(SPI Ausnet) (MW) (FOEC)*
2.3.2	M9 underground water supply pipelines traverse east-west across the creek and open space corridor from Elizabeth Street to Newlands Road.	The M9 pipeline is a critical water supply asset and no works, excavation or planting is to occur within the easement without Melbourne Water approval.	Ongoing	MCC *(FOEC) (MW)*
2.3.3	Underground sewerage pipes extend along both sides of the creek with several creek crossing points.	Confirm alignment of all underground sewerage pipelines prior to undertaking any works or planting. Maintain access to all pits and minimum 3.0m clearance to underground pipe alignments when planting large shrubs and trees.	Ongoing	MCC FOEC *(YVW) (MW)*

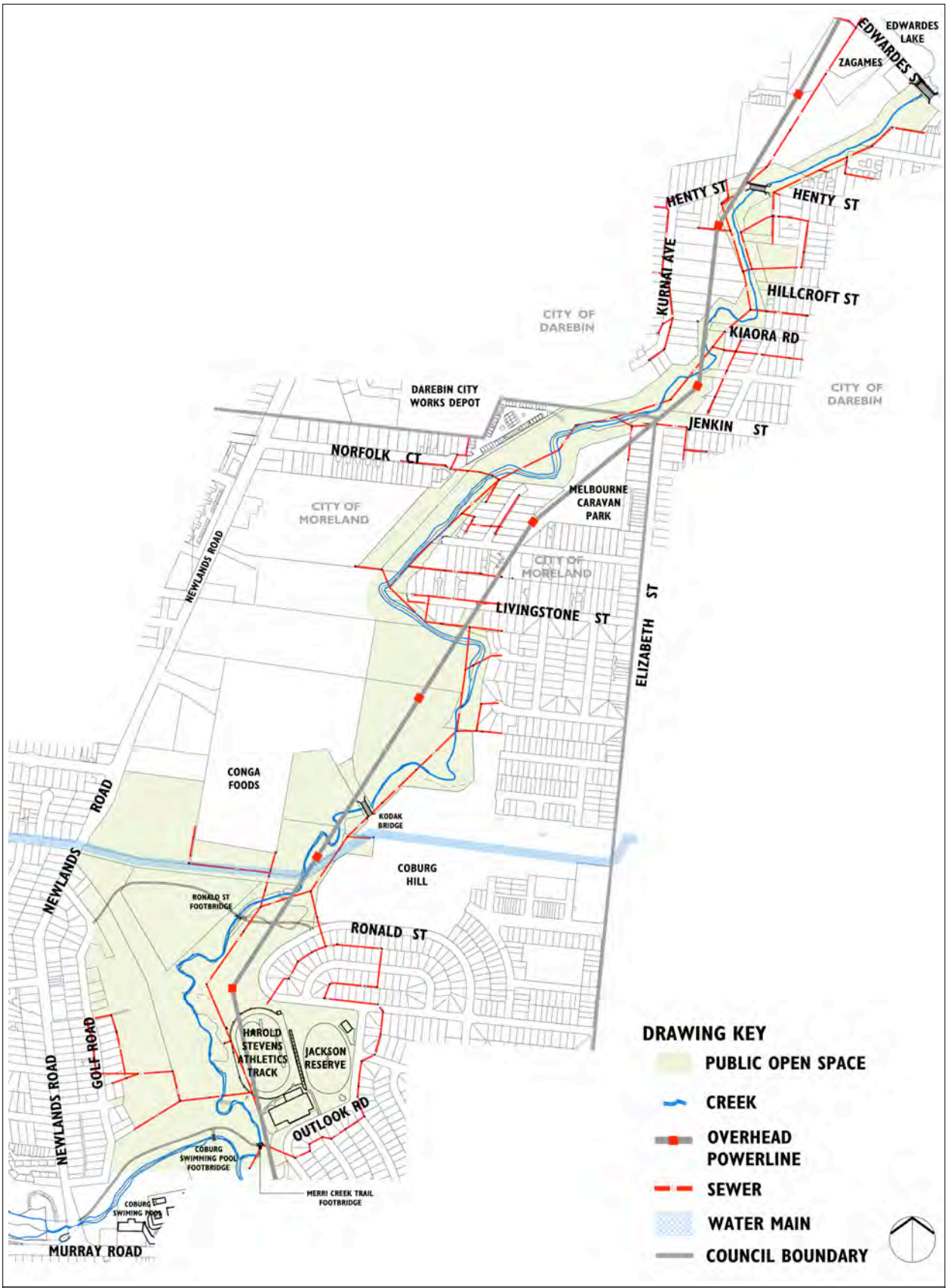


FIGURE 5: SERVICE INFRASTRUCTURE

2.4 Flora and Fauna

Flora

Edgars Creek is located in the Victorian Volcanic Plain Bioregion (DSE Biodiversity Interactive Map 2012) and forms part of the Port Phillip and Western Port Catchment Management Authority Area. DSE mapping of pre 1750 vegetation for the region indicates that the study area would have predominantly supported Creekline Grassy Woodland (EVC 68), Plains Grassy Woodland (EVC 55) and Swampy Woodland (EVC 937), which are all listed as Endangered within the Victorian Volcanic Plain Bioregion (DSE 2012). Extant DSE mapping shows small areas of remnant Creekline Grassy Woodland between Arthur Street and Kingsley Road and scattered patches of Swampy Riparian Woodland along the Merri Creek to the south, outside the study area.

Site assessment of existing flora and fauna was completed by Ecology & Heritage Partners Ltd (EHP) as part of this project. The Moreland Indigenous Vegetation Assessment (Moreland City Council and Merri Creek Management Committee 2011) and the Darebin Natural Heritage Study – Natural Heritage Plan (Context Pty Ltd 2011) were reviewed and mapping and recommendations will continue to inform priorities for works in the creek.

The existing vegetation condition in the study area was identified as ranging from highly modified vegetation dominated by exotic flora species to areas of moderate quality, with a predominantly indigenous overstorey and scattered remnant understorey. Much of the existing vegetation consists of planted trees and shrubs of indigenous and exotic origin, with an understorey dominated by introduced grass species and woody weeds. No threatened flora species were recorded in the study area from Edwardes Lake to Merri Creek in the assessments completed to date.

Photo 14 Gooseneck site revegetation by FoEC downstream of Kodak Bridge

Creekline Grassy Woodland is common along the Edgars Creek corridor, with the largest areas located along both banks of the creek to the west of Harold Stevens Athletics Track and along the west upper escarpment opposite Arthur Street. The overstorey consists predominantly of River Red-Gum *Eucalyptus camaldulensis* and scattered Blackwood *Acacia melanoxylon*.

Stream Bank Shrubland is mostly located to the immediate edge of the creek bank, typified by the areas north and south of the waterfall, and between Tilley Street and Jenkin Street. These areas consist predominantly of Common Reed *Phragmites australis*, Narrow-leaf Cumbungi *Typha domingensis* and Slender Knotweed *Persicaria decipiens*. Other planted indigenous trees and shrubs located in these areas include River Red-Gum, Blackwood, Sweet Bursaria, Silver Wattle *Acacia dealbata* and Manna Gum *Eucalyptus viminalis*.

The steep escarpments along the creek, including the areas of the embankment to the south-east and south-west of Conga Foods, and two mounds north of the former golf driving range are identified as areas of Escarpment Shrubland and typically dominated by exotic flora species. However remnant indigenous shrubs including Sweet Bursaria *Bursaria spinosa*, Blackwood and Tree Violet *Melicytis dentatus* are often present.

The areas outside of the riparian zone between Tilley Street and Merri Creek in Moreland and two small areas along the private properties north of Henty Street in Darebin are

identified as Plains Grassy Woodland. These areas are typically highly modified and consist of planted or remnant River Red-Gum with scattered exotic and indigenous grasses including Kangaroo Grass *Themeda triandra* and Wallaby grasses.

The Moreland Indigenous Vegetation Assessment also identifies large River Red-Gums *Eucalyptus camaldulensis* (70-105 DBH) at the Silurian Cliff (over 105 DBH) on the west bank opposite the Melbourne Caravan Park. These old indigenous trees are significant for their age, size, and habitat values and are to be retained and protected. Refer Appendix A. A small Yellow Gum *Eucalyptus leucoxylon ssp connata* is also growing at the Silurian Cliff. This tree is significant as the only naturally occurring remnant of this species in Moreland.

Photo 15 River Red Gum at Silurian Cliff

Photo 16 River Red Gum upstream Norfolk Ct

Fauna

The existing vegetation throughout the study area provides an important link in the Edgars Creek habitat corridor for a range of native birds including the Crested Pigeon, New Holland Honeyeater, Rainbow Lorikeet and Noisy Miner. Introduced bird species include the Common Starling, Spotted Dove and Common Blackbird. Incidental records provided by MCMC also note the presence of several Raptor species including the Peregrine Falcon, Australian Hobby, Black-Shouldered Kite, Brown Falcon, Brown Goshawk, Little Eagle and Nankeen Kestrel. Other species identified along Edgars Creek include the Swamp Wallaby and the Eastern Long-necked Turtle.

There was no record of National, State or Regional listed significant fauna species in the study area. However the Growling Grass Frog *Litoria raniformis* was recorded in 2006 at Edwardes Lake, north of the study area and may potentially use the Edgars Creek corridor for dispersal opportunities. Several other listed species were identified within 10km of the study area, including the Grey-headed Flying Fox, the Royal Spoonbill, the Musk Duck and the Freckled Duck.

Pest fauna species in the study area include rabbits and foxes, which are a threat to native species and environmental values. It was noted that the diversity of raptors in the study area may be associated with the high number of rabbits along Edgars Creek. Refer Appendix A for further details.

Weeds

Weed infestation is an ongoing management issue along the Edgars Creek corridor and a major risk to the health and survival of the habitat and indigenous vegetation in the study area. The riparian and surrounding zones are dominated by weed species including Kikuyu *Pennisetum clandestinum*, Perennial Rye-grass *Lolium perenne*, Ox-tongue *Helminthotheca echioides*, Toowamba Canary-grass *Phalaris aquatica*, Spear Thistle *Cirsium vulgare* and Couch *Cynodon dactylon*.

Several noxious weeds were identified within the study area, including Chilean Needle Grass *Nassella neesiana*, African Boxthorn *Lycium ferocissimum*, Blackberry *Rubus fruticosus*, Fennel *Foeniculum vulgare* and Soursob *Oxalis pes-caprae*.

High threat woody weeds were also identified in the study area, including Desert Ash *Fraximus angustifolia* subs. *angustifolia*, African Boxthorn located along the west bank opposite Tilley Street and Livingstone Street, Weeping Willow *Salix babylonica* located along the creek edge north of the Silurian Cliff, Montpellier Broom *Genista monspessulana*, Prunus *Prunus spp*. and White Poplar *Populus alba*.

Photo 17 Chilean Needle Grass

Photo 18 Revegetation sites

Weed Control

Ongoing weed control is critical to protection of areas of remnant vegetation and revegetation. Council also appoints specially qualified bushland management contractors who are skilled in selecting and implementing alternative techniques such as ecological burning, scorching and flame weeding and incorporate regimes of brushcutting/slashing and handweeding where appropriate to limit weed seed set. These methods are selected for both improved ecological results and a reduced dependency on herbicides. Unfortunately many weeds found along Edgars Creek can only be controlled using herbicides. Weed control using herbicides is only undertaken by skilled staff and contractors from Council, Melbourne Water and Friends of Edgars Creek. Herbicides used are specifically designed to minimise impacts on waterway environments and are only used in strict accordance with Council and Melbourne Water Guidelines and material data sheets.

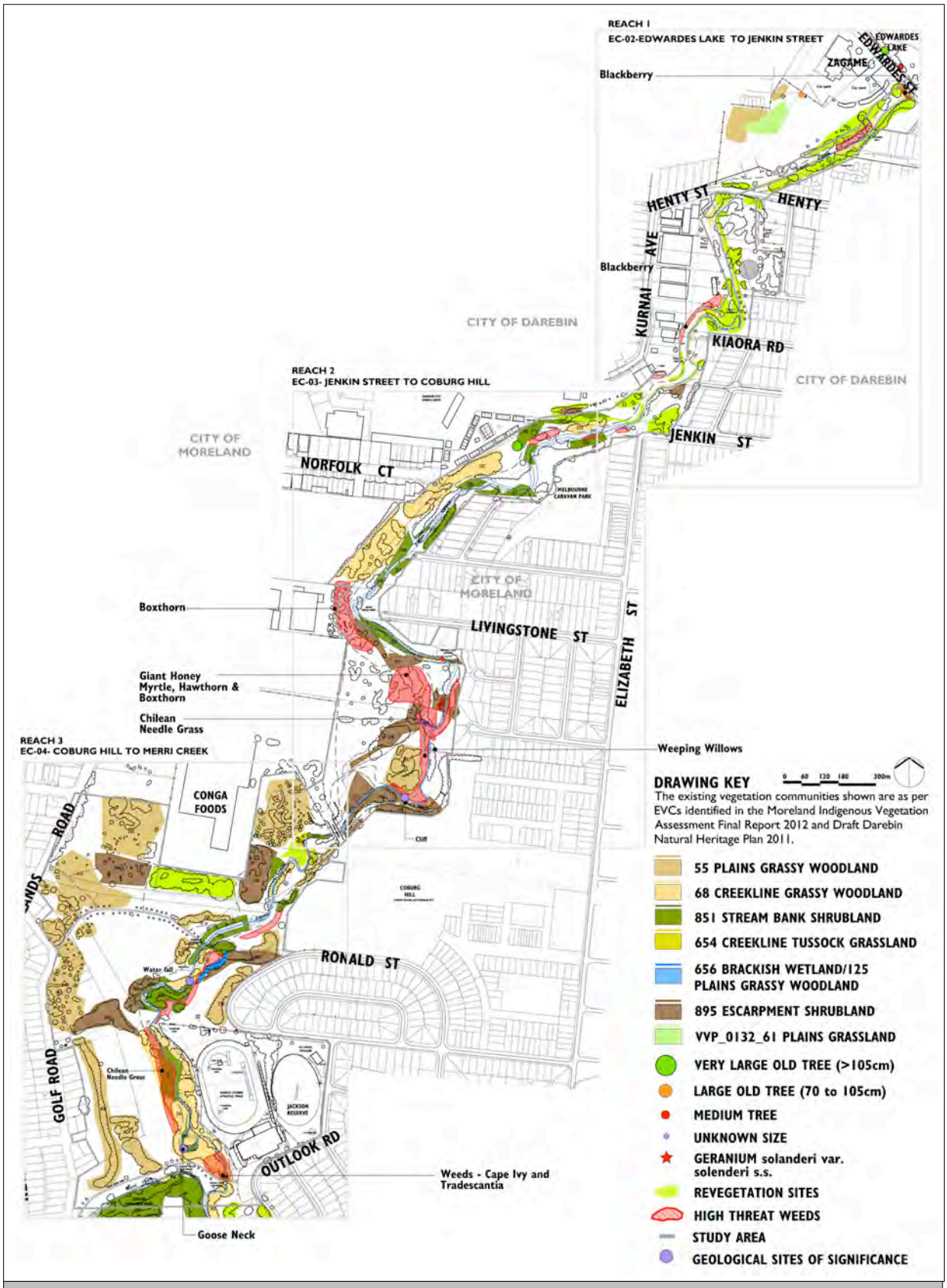


FIGURE 6: EXISTING VEGETATION COMMUNITIES

Overall flora and fauna recommendations

Note: Agencies/groups/partners listed in (*italics)* are for referral only and are not responsible for implementation of the actions.

Ref No	Issue	Recommendation	Priority	Agency
2.4.1	Areas of Edgars Creek contain significant remnant indigenous vegetation.	Protect existing areas of indigenous vegetation as indentified in the Moreland Indigenous Vegetation Assessment 2012 and Darebin Natural Heritage Plan 2011. Undertake weed control, extend buffer zones and improve habitat linkages through targeted revegetation. Refer Section 3 for mapping and site specific draft recommendations.	Ongoing	MCC *(MW) (MCMC) (FOEC)*
2.4.2	Weeds of National Significance (WONs) including Chilean Needle Grass and Serrated Tussock exist in established populations throughout the open space reserve.	Grassy weeds including Chilean Needle Grass are widespread along the creek and open space corridor. Eradication is difficult, expensive and often not possible or a high priority given limited resources. Draft recommendations for Edgars Creek include: • Use targeted mowing/slashing in spring/early summer to reduce the amount of seed germination. • Establishment of wash down bays and improved machinery hygiene protocols. Restrict spread of weeds to other areas within the open space corridor and further afield following mowing or ground disturbance related works. • Undertake small scale eradication projects in areas with high conservation value only. Use spot herbicide use and hand weeding with follow up revegetation and maintenance to prevent re-infestation occurring. • Promote a broader community education program about appropriate weed and pest control measures.	High	MCC *(MW)*
2.4.3	Woody weeds including Blackberry, African Boxthorn, Hawthorn, Weeping Willow, Desert Ash, White Poplar and Giant Honey Myrtle exist along the open space reserve.	Undertake staged control of high priority woody weeds including Blackberry, African Boxthorn, Hawthorn, Weeping Willow, Desert Ash, White Poplar and Giant Honey Myrtle. Use a combination of cut and paint and drill and fill to retain habitat values during woody weed control. Where possible replace with dense planting of indigenous shrubs and trees to reduce maintenance requirements, restore habitat and landscape amenity. In some areas this may require staging of works to maintain habitat values due to a lack of similar existing indigenous species. In other areas, where public paths or maintenance access is difficult, a more open woodland	Ongoing	MCC MW *(MCMC) (FOEC)*

Ref No	Issue	Recommendation	Priority	Agency
		species mix is preferred to maintain sightlines for security and fire access. Melbourne Water are also responsible for weeds on the bed and banks of the creek.		
2.4.4	Lack of maintenance access to the steep banks along private properties rear fences to conduct weed control.	The open space corridor north of Ronald Street footbridge is constrained by steep embankments and the proximity of adjoining residential and industrial properties and fencing. Where possible maintain 4x4m slashed grass maintenance and fire access to rear boundary fencelines. Where this is not possible liaise with adjoining landholders to co ordinate weed control and revegetation projects including: • Development of agreements for maintenance access through private property in difficult to access areas. • Use a modified Escarpment Shrubland EVC species mix to screen rear boundary fencelines and extend habitat links while minimising maintenance and fire risk.	High	MCC Land-holders *(MCMC)* *(FOEC)*
2.4.5	The cliff and escarpment areas present significant challenges to management and safety in completion of weed control and revegetation works.	Undertake staged weed control on cliff and steep escarpment areas using specialist contractors. Weed control is to minimise ground disturbance and works are to be completed in a staged manner and when cliffs are dry. All works on must meet current Occupational Health and Safety (OHS) standards and codes of practice (working at heights) requirements. Specific Safe Work Method Statements (SWMS) must be prepared and approved prior to the commencement of any works.	Low	MCC *(MCMC)* *(FOEC)*
2.4.6	Rabbits present a threat to native fauna and flora in the reserve.	Undertake annual monitoring of rabbit densities across the site. • Use rabbit proof fencing and biodegradable plant guards to assist establishment of new and existing revegetation areas. • Liaise with adjoining landholders and use a combination of fencing, ferreting, long netting, dogging and fumigation to control larger surges in numbers. • Remove harbor sites such as Blackberry and Boxthorn as part of control works. NOTE: Cultural heritage implications for burrow ripping must be considered before extensive ground disturbing works can be considered.	Ongoing	MCC *(MW)* *(DPI)* *(Land-holders)*

Ref No	Issue	Recommendation	Priority	Agency
2.4.7	Foxes present a threat to native fauna and flora in the reserve.	Foxes are declared as an established pest in Victoria under the *Catchment and Land Protection Act*. • Monitor and identify fox dens early in the breeding season (autumn/early winter). • Where found undertake humane fumigation and remove potential habitat including Blackberry and Boxthorn.	Ongoing	MCC *(MW) (DPI)* *(Land-holders)*
2.4.8	Use of appropriate EVC species for revegetation works.	Maintain genetic biodiversity and ecological sustainability for revegetation projects within Edgars Creek open space corridor including: • Use of plants propagated only from local provenance seed sources, in particular the Edgars Creek and Merri Creek catchment and surrounding areas. • Document remnant populations and seed provenance for historical and current revegetation works to inform local seed collections activities. • Ensure seed is harvested in accordance with current legislation and DSE protocols to maintain sustainability of the source population.	Ongoing	MCC *(MW) (MCMC) (FOEC)*
2.4.9	Ensuring active and ongoing community involvement and participation in revegetation works.	Community weed control and revegetation programs coordinated through Council, MW, MCMC and more recently the FOEC have established a strong relationship between the local community and the creek and open space corridor. • Continue to support the works of FOEC through their three year strategic program, consistent with the objectives of this plan. • Document the location of planted 'custodian' trees and historical revegetation projects undertaken by the community along Edgars Creek. • All new 'custodian' tree planting is to be documented and undertaken with due consideration of required clearances to underground services, overhead electricity infrastructure, future paths and ecological species niche to ensure long term sustainability of planting.	Ongoing	MCC *(MW) (MCMC) (FOEC)*
2.4.10	Pest plant and animal control at Edgars Creek is an expensive, difficult and complex activity. Achieving sustainable environmental improvements within the open space corridor requires a long term commitment	Undertake regular maintenance, monitoring and evaluation of historical weed control and revegetation projects along Edgars Creek and within the Merri Creek corridor. Ensure funding allocation for capital works includes funding for	Ongoing	MCC *(MW) (MCMC) (FOEC)*

Ref No	Issue	Recommendation	Priority	Agency
	to strategic goals to prevent wasting public funding and grant allocations on failed projects.	long term maintenance. Agreements, responsibilities and performance targets are to be developed and in place for all revegetation projects and any major weed control initiatives.		

2.5 Recreation and community use

The Edgars Creek open space corridor from Edwardes Street to Merri Creek provides for a range of recreation and community uses including informal activities such as walking, dog walking along the creek corridor and open space areas east of Golf Road and active recreation at the athletic track, football oval and basketball stadium near Outlook Road. The creek corridor and associated open spaces in Moreland are identified as District Open Space and Linear Reserves and function primarily as Conservation Bushland, with sport function on the flatter floodplain areas and at the athletics track. The former VicRoads land has no identified function (Moreland OSS 2012). The reach in Darebin City Council (Edwardes Street to Jenkin Street) is identified as Neighbourhood Level reserve (Darebin OSS 2007).

The new Coburg Hill development on the former Kodak site is expected to increase use and visitors to the creek corridor. Balancing the provision of improved public access and facilities along the creek corridor and the ongoing protection of the existing environmental values of the creek is a key objective in the preparation of this plan.

Pedestrian and Cycle Access

There is an east west shared trail link between Golf Club Road and Ronald Street via the footbridge. There is however no existing formal walking or cycling access between Edwardes Lake and the Merri Creek Trail. The investigation of this link is identified as a high priority in both Darebin and Moreland City Council cycle and open space strategies and the Merri Creek and Environs Strategy. Refer Appendix B.

Edgars Creek is a popular walking and dog walking environment. There are numerous informal tracks and grass areas used to complete popular walking loops between existing bridges and low level rock ford crossings. The existing 'bushwalking' tracks have been identified in consultation as key site values.

Bridges

There are five existing bridge crossings within the study area.

Edwardes Street Road Bridge has concrete pedestrian footpath access to both sides. There is no trail route downstream of the bridge. There narrow open space on the west bank can be accessed on foot informally in dry conditions, there is no access on the east bank.

Henty Street Road Bridge has concrete pedestrian footpath access on both sides, there is access north on both sides and south on the east side only via the unmade road reserve at Dromana Avenue.

Kodak Bridge the former private road bridge will be used for pedestrian/cycle and maintenance vehicle access only as part of current Coburg Hill Development Plans. There is no existing direct access from the bridge to the creek corridor however stairs on the south east bank are proposed as part of current redevelopment plans. Refer Figure 11.

Ronald Street Timber Footbridge was badly damaged in the December 2011 flooding. The footbridge was repaired but damaged again in recent June 2013 floods and is currently closed, and will be repaired/replaced in its existing location.

Edgars Creek/Merri Creek Footbridge at the confluence adjoining the basketball stadium car park has less than 1:10 ARI flood protection (Merri Creek Trail Review 2007). It forms part of the Merri Creek Trail.

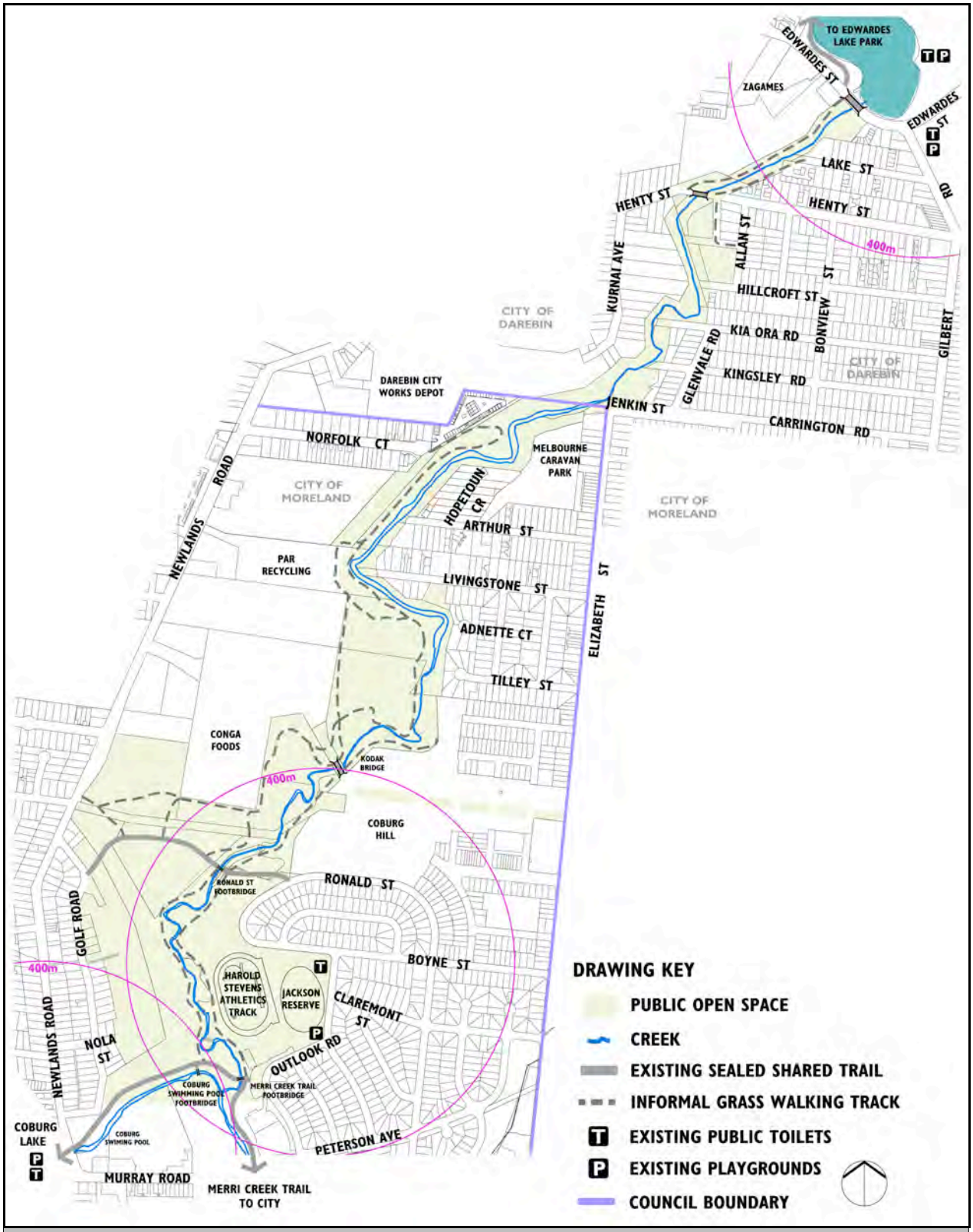


FIGURE 7: EXISTING PEDESTRIAN AND CYCLE ACCESS

Photo 19 Shared trail

Photo 20 Unsealed walking path

Photo 21 Elizabeth Street

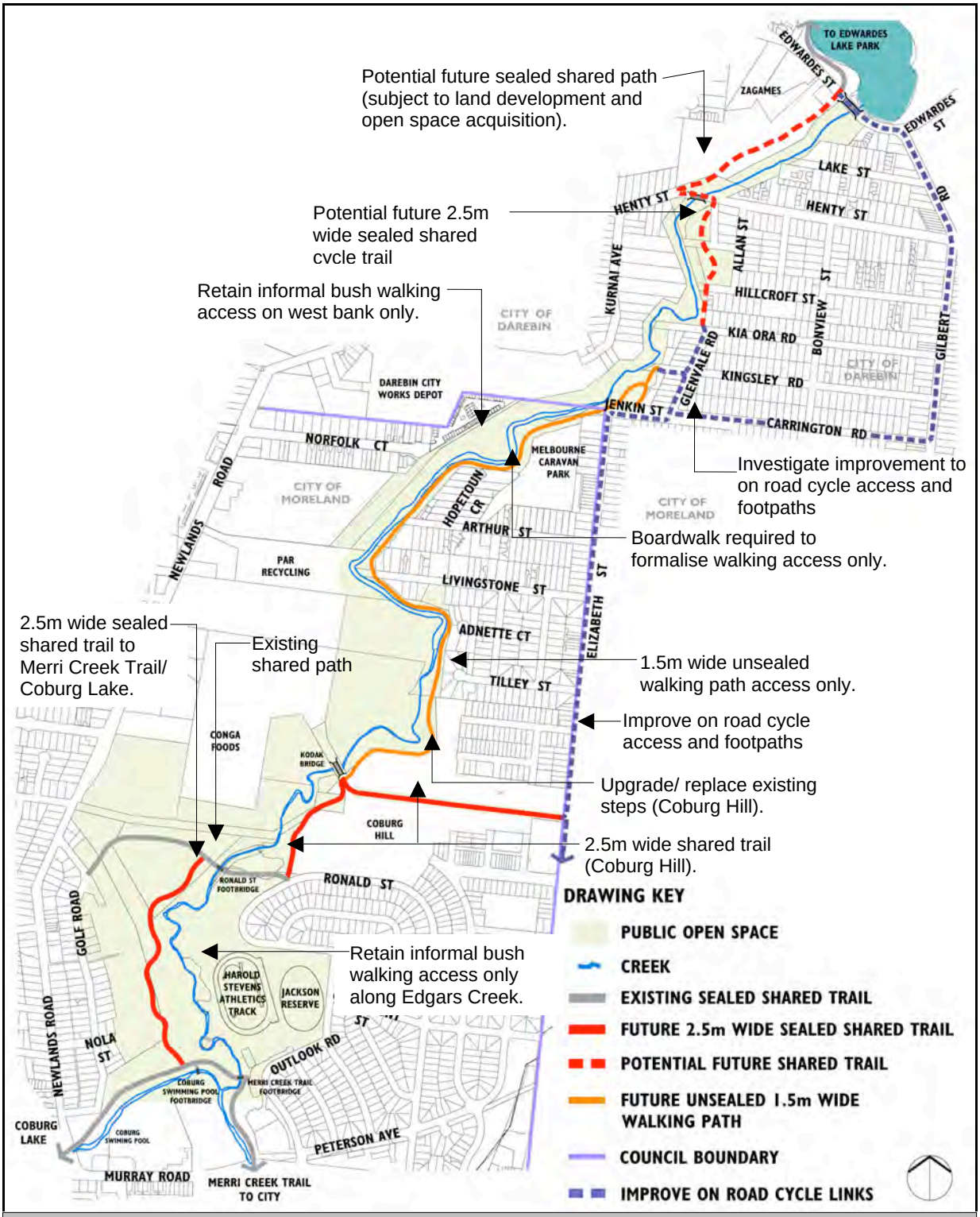


FIGURE 8: PROPOSED SHARED TRAIL AND CYCLE LINKS

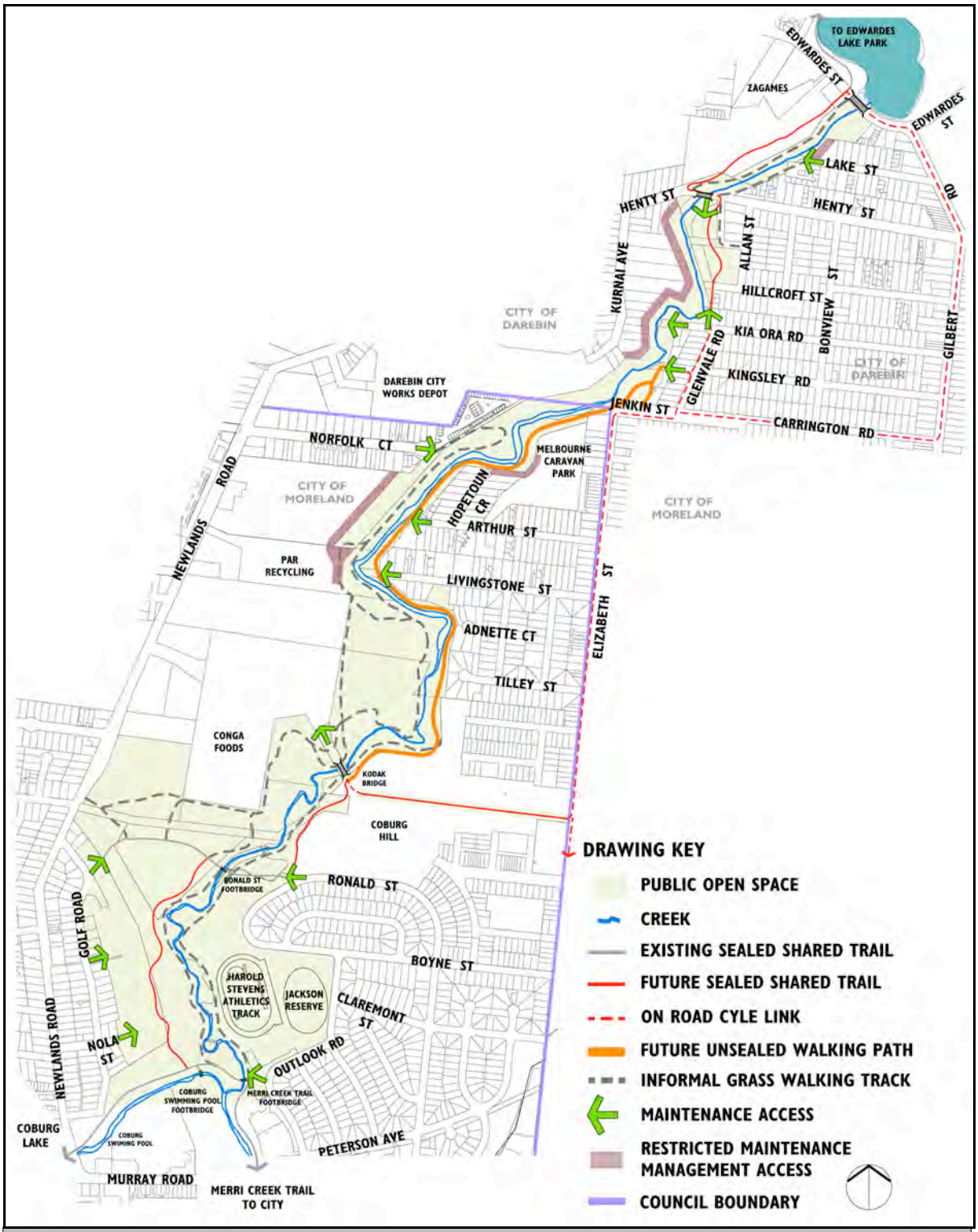


FIGURE 9: INFORMAL WALKING TRACKS AND MAINTENANCE ACCESS

Photo 22 Existing shared trail link from Ronald St

Photo 23 Informal access under Kodak Bridge

Photo 24 Existing stairs to Coburg Hill

Photo 25 Low level ford crossing at Kia Ora Ave

Car parking

There is public off street car parking at Coburg Basketball Stadium with additional overflow space off Outlook Drive. On some weekends, with multiple sporting events on at the basketball stadium and athletics track, car parking requirements can exceed capacity. However when this happens, car parking spills onto Outlook Parade and Whitton Parade. Residents in these streets have off street parking and there is also additional capacity at the Coburg Swimming Pool less than 300m away. There is on street angle parking along Boyne Street for Jackson Reserve.

Existing on street car parking at Golf Road and Ronald Street appears to be used at times by dog walkers. There does not appear to be a need for any additional off street car parking within the reserve.

Photo 26 Overflow car parking at Outlook Road

Sporting Use

Jackson Reserve
This reserve provides for an AFL and cricket oval with synthetic wicket and pavilion with public toilets.

Photo 27 Jackson Reserve

Coburg Basketball Stadium

Located off Outlook Road the stadium is the home of the Coburg Basketball Association. The current stadium was rebuilt after fire in the mid 1990s.

Photo 28 Basketball stadium drop off area

Photo 29 Athletics track throwing cage adjacent to Edgars Creek

Harold Stevens Athletics Track

The track built and opened in the early 1970s is the home of the Coburg Harriers and Little Athletics, providing club events and training facilities for men, women and juniors and disabled athletes. The Coburg Harriers Athletics Club also conducts cross country training and events along the Edgars Creek corridor.

Photo 30 Harold Stevens Athletics Track

Public Toilets

There are no public toilets within the Edgars Creek open space reserve. The nearest facilities are located at either end of the study area at: Jackson Reserve pavilion (300m from the Merri Creek Trail at Edgars Creek) and Coburg Lake Reserve (600m west along the Merri Creek Trail). In the north there are also toilets at Edwardes Lake Reserve. Refer Figure 7.

Picnic facilities and furniture

There are no formal picnic or seating areas within the Edgars Creek open space reserve. Some residents identified the informal areas of the creek and lack of formal facilities as a key value in consultation responses. Refer Appendix A.

Dog Off Lead Areas

In Moreland areas off Golf Road north of the driving range and at Cash Reserve at the end of Livingstone Street are designated as dog off lead areas. A dog may be exercised off lead in these areas subject to the following conditions:

- The owner must carry a chain, cord or leash sufficient to bring the dog under effective control if the dog behaves in a manner which threatens any person or animal.
- The owner must remain in effective voice or hand control of the dog so as to be able to promptly bring the dog under effective control by placing the dog on a chain, cord or leash if that becomes necessary.
- The owner must not allow the dog to attack, rush at or threaten any person or animal.

Dogs must be kept on leash at all times within 15 metres of:

- Any playground or children's play equipment.
- The principal location of an organised sporting or community event or festival.
- The principal location of an organised public meeting.
- A permanent barbecue or picnic area when in use.

Dogs must be under effective control within 1 metre of:

- A shared pathway (and at all times while on the shared pathway).

Dogs are prohibited within:

- The immediate perimeter of any playground at all times.
- Any creeks and waterways at all times.

Photo 31 Dog-off lead area west of Edgars Creek

There are no dog off lead areas along the Darebin City Council section of Edgars Creek. The nearest dog off lead area is at Edwardes Lake Reserve, north of the study area.
In accordance with the Darebin Animal Management Strategy, dogs in off lead areas must still be under effective control of its owner and return to its owner on command. In areas not signed as 'No Dog' or 'Dog off lead' are to be considered as dog on lead at all times.

Dogs are also not permitted (whether on lead or off lead) within 5 metres of:

- Playgrounds and Public BBQ's,
- Skate/ BMX facilities, and
- Sports grounds -during times of organised play.

Playground

There is a small junior playground at the southern end of Jackson Reserve. There are junior and senior district level play facilities at Coburg Lake Reserve and Edwardes Lake Reserve. Informal play associated with the creek and bushland areas was identified as a value in consultation responses. Refer Appendix A.

Public Golf Driving Range

The site of the existing golf practice range at the confluence of the Merri and Edgars Creek off Newlands Road was for a period dating from the 1920s a golf course (Australian Golf Society 2011). The current driving range is free to use for practice with players required to bring their own balls and clubs. There are no restrictions on use however distance markers located indicate a general direction of play north away from the Merri Creek Trail.

Photo 32 Outlook Drive car park signage

Photo 33 Golf range distance markers

Overall recreation and community use recommendations

Note: Agencies/groups/partners listed in (*italics)* are for referral only and are not responsible for implementation of the actions.

Ref No	Issue	Recommendation	Priority	Agency
2.5.1	There is no existing walking/cycling trail link along Edgars between Edwardes Lake and Merri Creek. Investigation of this link is a high priority in Darebin and Moreland Cycling and Open Space Strategies. Development of shared trail access must ensure compliance with Austroads Design Standards and Melbourne Water Guidelines in relation to flood safety and waterway impacts. (Refer Appendix C). The trail link must also consider the significant environmental and cultural heritage values found along the creek and open space corridor.	Provision of continuous off road cycling access between Edwardes Lake and Merri Creek is not achievable within existing public land ownership and funding constraints. The landscape and environmental impacts, including vegetation removal and habitat fragmentation, associated with establishment of the required infrastructure, bridges and boardwalks to overcome flood constraints in sections of narrow and confined open space are considered too great. Summary of overall recommendations for new trails within the open space corridor and for improvements to on road cycling access where this cannot be achieved include:		
		• New sealed shared trail between the existing Ronald Street footbridge shared trail and the Merri Creek Trail/Coburg Lake along the west bank, requiring closure of the golf practice range.	High	MCC
		• New shared trail link from Ronald Street to Kodak Bridge to be established away from the creek along the new Coburg Hill development frontage.	High	Coburg Hill Developer *(MCC)*
		• New shared trail link from Kodak Bridge to Elizabeth St to be established in new open space link through Coburg Hill.	High	Coburg Hill Developer *(MCC)*
		• Improve on road cycling access along Elizabeth Street.	High	MCC
		Potential improved pedestrian cycle links through Darebin managed land (subject to detailed design) may include: • Potential future shared trail link between Kia Ora Road and Henty Street on the east bank. (Subject to feasibility of trail to meet appropriate standards) • Potential future shared trail link between Henty Street and Edwardes Lake (subject to future development and acquisition of open space along the west bank). • As an interim measure until the links between Kia Ora Road and Edwardes Lake can be achieved consider improved on road cycling access via Carrington Road, Glenvale Road and Gilbert		

Ref No	Issue	Recommendation	Priority	Agency
		Road. Refer Figure 8 and Section 4 for detailed mapping and site specific recommendations.		
2.5.2	Walking and dog walking are the most popular activities at Edgars Creek. Community consultation indicates that existing users value the bushland character and escape from the urban environment. There is a general desire to improve access to open space however there are concerns about the establishment of additional recreational infrastructure, such as sealed cycle paths, which may compromise the existing use and landscape character. All ability access is not possible in many areas due to the steep topography and land ownership constraints.	• In areas where the sealed shared trail cannot be established along the east bank between Coburg Hill and Jenkin Street resurface the existing informal dirt walking track as a 1.5m wide unsealed walking path. A boardwalk will also be required in the highly constrained section north of Hopetoun Court. • Upgrade /replace the existing steps at Coburg Hill as part of planned development works. • Retain access to all other areas via the existing informal network of grass and dirt bushwalking tracks. Refer Figure 9 and Section 4 for detailed mapping and site specific recommendations.	High High Ongoing	MCC Coburg Hill Developer *(MCC)* MCC
2.5.3	The steep and confined topography in sections of Edgars Creek result in high velocity flood events. Informal rock ford crossings, existing low level footbridges and confined areas of open space can become extremely dangerous if accessed under flood conditions.	• Review flood warning signage to all informal rock ford crossings and low level footbridges. • Review flood warning signage to all new paths where located within the floodplain. • Ensure all new paths and bridges have appropriate flood protection and safety measures in accordance with Melbourne Water Guidelines. Refer Appendix C.	High	MCC *(MW)*
2.5.4	There are no existing seats or resting points to enable users to stop and enjoy views to the creek and out from the many elevated escarpments. Community consultation indicates existing informal character and there are concerns about the establishment standard off shelf Council seats.	Develop informal seating areas at key locations along the Edgars Creek open space corridor utilising natural materials and designs sympathetic to the natural surroundings. This may include use of carefully placed site rocks and or logs rather than standard off shelf park furniture. Refer Section 4 for detailed mapping and site specific recommendations.	High	MCC *(FOEC)*
2.5.5	There is no directional, regulatory or interpretive signage along the creek corridor.	• Minimise the number of required new signs within the creek corridor by integrating required direction and regulatory signage and siting at entries to open space rather that within the open space where possible. • Signage for new trail works is to be developed and install in accordance with current Merri Creek signage styles/standards.	Ongoing	MCC
2.5.6	Community consultation indicates that provision of additional recreational facilities including sporting fields, playgrounds,	• Improve walking and cycling links to existing facilities at Jackson Reserve and adjoining areas within Coburg Lake and	High	MCC

Ref No	Issue	Recommendation	Priority	Agency
	barbeques and public toilets are currently not a high priority. As population densities increase this however may change.	Edwardes Lake. • Retain existing open grass areas between Edgars Creek and Newlands Road for informal active recreation. • Longer term, if required to meet the needs of future population growth, open grass areas off Newlands Road where located away from the creek could be redeveloped as sporting fields and to provide additional active recreational facilities. These facilities may include a playground, barbecue/picnic area, car parking and public toilets subject to detailed design and community consultation.	Ongoing Low	MCC MCC
2.5.7	There are few existing rubbish bins in the Edgars Creek open space reserve. A lack of bins can contribute to additional dog waste however provision of additional rubbish bins within the reserve is generally not recommended as they are difficult to service and can on their own contribute to an increase in litter.	• Liaise with Council waste management services to investigate provision of additional bins near reserve entries at Golf Road, Ronald Street and Livingstone Street which are popular with dog walkers.	High	MCC
2.5.8	An organised Cycle-cross event was held on Sunday 17 July 2011 at Edgars Creek (north of the current Golf Practice range) and the mountain biking event resulted in damage to the grassed areas and sections of remnant vegetation.	• Cycle-cross and other formal 'mountain bike activities/events' are not appropriate or supported along the Edgars Creek corridor due to the proximity of the creek and natural vegetation values of the area. These formal high impact events can severely impact on the surface of informal walking tracks, especially in wet weather, and reduce safety and amenity for local walkers using the area on a daily basis.	Ongoing	MCC
2.5.9	Naming of parkland – some of the open space areas have a dedicated name and other areas are referred to by local features e.g. Golf Road. It is unclear where some areas start and finish (e.g. Cash Reserve).	• Investigate provision of additional open space names in accordance with Council policy Naming Places in Moreland. • The naming of individual open space areas will assist in land management, providing a clearer understanding of the specific area under management and acknowledging the diversity of values, uses and management requirements. • Naming of individual sections of open space can also provide an opportunity to reflect cultural heritage/local history and features in a manner more consistent with current patterns of community use.	Medium	MCC

2.6 Cultural Heritage

Under the Aboriginal Heritage Act 2006, the Registered Aboriginal Party for the northern suburbs of Melbourne including Edgars Creek is the Wurundjeri Tribe Land and Compensation Cultural Heritage Council P/L. The Wurundjeri are to be consulted on any proposed works which may involve any ground disturbance in accordance with the *Aboriginal Heritage Act 2006.*

The cultural heritage report prepared as part of the Merri Creek Concept Plan 1993 identified two specific sites of cultural significance along Edgars Creek (as designated in Hall's 1989 Aboriginal Historical and Heritage Survey), namely Edgars Creek 1 (7822/157) and Edgars Creek 2 (7822/158). These sites are associated with a complex wetland and an exposure of Silurian rocks which may have been a source of rocks for making tools, located at the confluence of the Merri and Edgars Creeks. The report notes that the poorly preserved sites are artifact scatters of medium cultural and scientific significance, but a high educational potential.

Overall cultural heritage recommendations

Note: Agencies/groups/partners listed in (*italics)* are for referral only and are not responsible for implementation of the actions.

Ref No	Issue	Recommendation	Priority	Agency
2.6.1	Proposed works including construction of new paths, seating areas, wetlands and revegetation works may require preparation of a cultural heritage management plan (CHMP) under the provisions of the *Aboriginal Cultural Heritage Act 2006*.	• Liaise with AAV and the Wurundjeri to confirm the need for preparation of a CHMP for future works which involve ground disturbance along Edgars Creek. • Ensure project timelines take into account the additional time required to complete required cultural heritage assessment. • Where possible retain flexibility in the siting of paths and other infrastructure to minimise impacts on cultural heritage values and archaeology. • Where possible include consideration of both proposed and future works within the CHMP to reduce costs and delays associated with assessment.	Mandatory	MCC *(MW)* *(FOEC)* *(AAV)* *(RAP)*
2.6.2	Lack of existing recent information on archaeological and cultural heritage values. The most recent assessment is almost 20 years old and was completed before the current *Aboriginal Cultural Heritage Act 2006* came into force.	In preparation of CHMPs for any new major works liaise with the Wurundjeri to further investigate the cultural history of Edgars Creek. If possible seek to include acknowledgment and interpretation of cultural heritage values in proposed interpretation of geology and other environmental values.	High	MCC *(FOEC)*

2.7 Adjoining Land Use

City of Darebin

Edwards Lake to Henty Street
The adjoining land on the west side of the creek corridor south of Edwardes Lake is zoned Industrial Zone 3. Businesses include Zagame's (former Edwardes Lake Hotel) and extensive vacant land adjoining the narrow creek reserve north of Henty Street.

The east side of the creek is zoned Residential 1. Residential properties have rear boundary fencelines facing onto the public open space and are built right to the top of the escarpment. In some areas retaining walls have been used to extend the amount of developable land and there is no access possible north of Lake Street.

Henty Street to Jenkin Street.
South of Henty Street on the west bank small factories and industrial businesses along the west bank (Kurnai Avenue) are on smaller titles which extend right to the top of the escarpment. Many of these have buildings built to the edge of the creek side boundary with no maintenance access from the creek or from Kurnai Road. The City of Darebin Depot is also located to the west of the creek, opposite Jenkin Street.

The east side of the creek is zoned Residential 1. Residential properties have rear boundary fencelines facing onto or adjoining the public open space between Henty Street and Kia Ora Road. The proximity of the adjoining residential property fences to the steep escarpment between Kia Ora Road and Kingsley Road restrict access along the east bank in this section of the open space.

City of Moreland

Jenkin Street to Outlook Road
The adjoining land on the west side of the creek corridor is zoned Industrial Zone 1 within City of Moreland. South of Norfolk Court large titles of businesses including Conga Foods extend right across from the creek corridor to Newlands Road. There are large tracts of vacant land within each property, however titles extend right to the top of the steep escarpment on the creek side and in some areas restrict maintenance and public access within the open space corridor. Adjoining land along Golf Road is Residential Zone 1 and a section of existing open space along Golf Road is also currently zoned residential. Refer Figure 10.

The adjoining land on the east side from Jenkin Street to Outlook Road is zoned Residential Zone 1, including the Coburg Hill residential development site located north of Ronald Street (Refer Figure 11). The Melbourne Caravan Park is located adjacent to the creek reserve between Jenkin Street and Hopetoun Court.

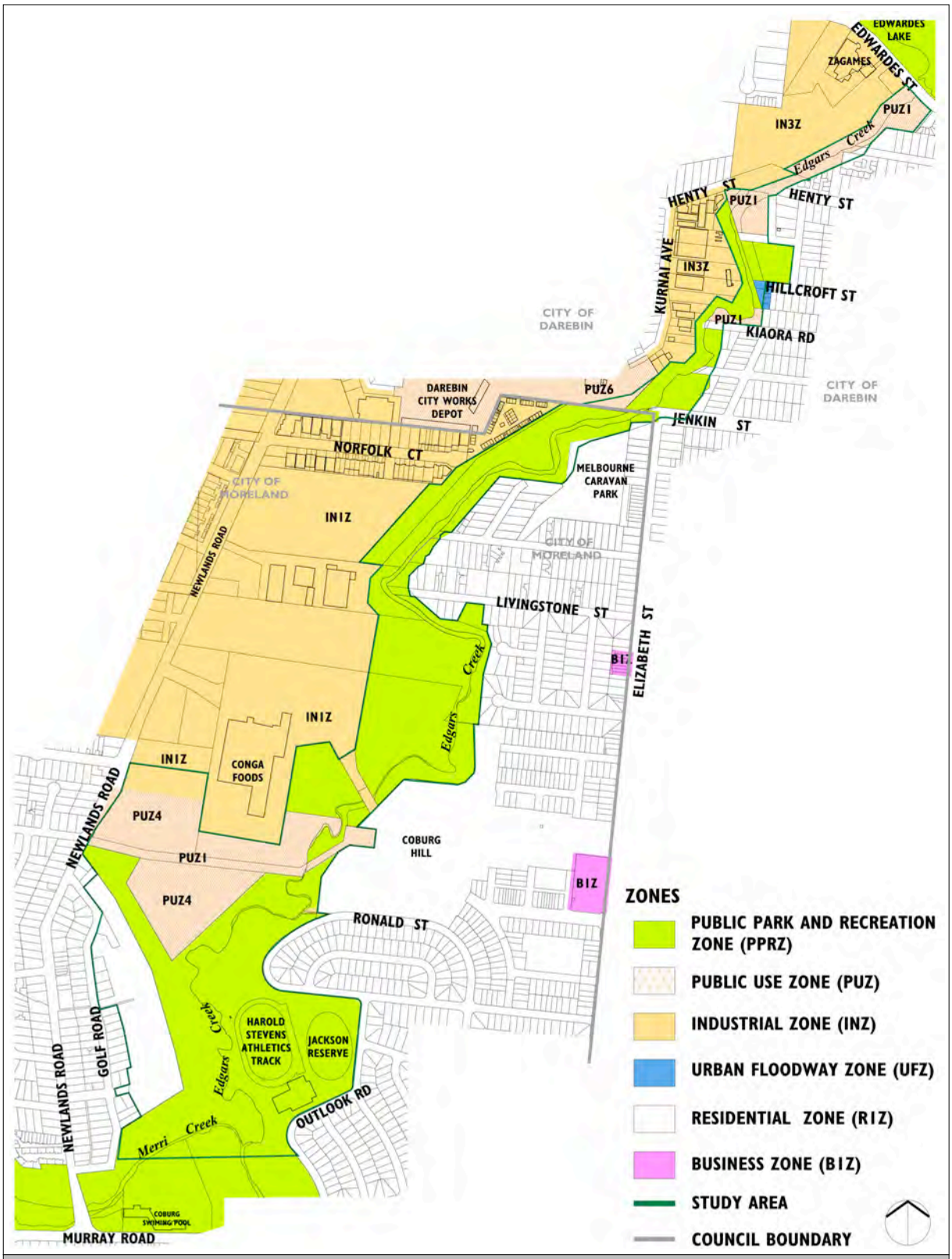


FIGURE 10. EXISTING LAND USE ZONING

Overall adjoining land use recommendations

Note: Agencies/groups/partners listed in (*italics)* are for referral only and are not responsible for implementation of the actions.

Ref No	Issue	Recommendation	Priority	Agency
2.7.1	There is limited open space along the west bank and in many areas the steep topography prevents maintenance access. The proximity of existing industrial buildings which have been built right to the top of the escarpment impacts on landscape amenity. In some areas there is no access to the rear of the building either from the private property side or from within the open space.	• Review existing planning and building permit conditions for properties built right to the edge of the escarpment. • Liaise with property owners individually to investigate opportunities for maintenance access through private property to achieve improvements to land management including weed control and establishment of indigenous screening vegetation where possible. • Monitor new building permits and planning applications to ensure provision of access is considered in any future redevelopment. Refer 2.7.2.	High High High	MCC MCC *(FOEC)* MCC
2.7.2	There is limited open space along the creek corridor. Large areas of existing vacant or industrial land or larger residential blocks may be subdivided or redeveloped at some point in the future. The Adopted Moreland Open Space Strategy 2012 identifies the opportunity to "acquire land to create a vegetated buffer of a minimum 30 metres wide measured from the edge of the embankment on each side of the creek corridor along Merri Creek, Moonee Ponds Creek, and Edgars Creek (where possible). A minimum of 50 metres wide from the creek edge on each side should be sought to create a public open space corridor."	Investigate provision of a design development overlay or other planning mechanism to ensure potential future development land adjoining the creek minimises environmental and landscape amenity impacts on Edgars Creek and improves public and maintenance access along the open space corridor. In accordance with MCMC Development Guidelines for the Merri Creek. Provisions may include: • Increases the width of open space along the creek providing set back of 22 metres from the top of escarpment to enable establishment of future trail access in stages over time. • Provides roads parallel to the creek corridor to provide continuous access while carrying less than 300 vehicles per day. • Lot layout to encourage development to face the creek, increasing passive surveillance and landscape amenity. • Provide land for onsite treatment of stormwater, locating wetlands close to the creek corridor where possible to maximise habitat values. • Protect and retain any areas of existing indigenous vegetation ensuring provision of suitable buffer zones. • Minimise fill and steep slopes as required under the provisions of the Erosion Management Overlay.	High	MCC

Ref No	Issue	Recommendation	Priority	Agency
		• Establish building height and setback controls to ensure retention of solar access and to allow screening using vegetation/topography from within the open space corridor. • Revegetation is to be completed using indigenous species of local provenance consistent with the prevailing EVC for the site.		
2.7.3	Spread of pest plants and animals from adjoining industrial and residential properties into the Edgars and Merri Creek open space corridors.	• Liaise with industrial property owners individually to coordinate weed, rabbit and fox control programs. • Liaise with adjoining residential property owners on the east bank using MCC and DCC Sustainable Gardening booklets to encourage use of local indigenous species in gardens and landscaping on private property to increase habitat corridor values, improve landscape amenity and screen buildings and reduce the spread of high threat weeds.	High Ongoing	MCC
2.7.4	Impacts of litter and illegal discharges from adjoining industrial areas water quality in Edgars Creek and downstream.	• Review legal point of stormwater discharge from properties directly adjoining the creek corridor. • Expand on existing Waterwatch programs along the Edgars Creek to monitor water quality and identify pollution sources. • Liaise with industrial property owners along the west bank to notify of any littering to reduce the impact of wind borne litter on the creek and the reserve. • Investigate opportunities to improve at source litter control and on site water sensitive urban design treatments as part of any new developments.	Ongoing	EPA *(MW)*
2.7.5	Private properties with retaining walls and other structures built on the boundary restrict access and present a risk to public open space users in the event of failure.	Review building permits and undertake regular building inspections to assess the stability of private property structures which may impact on the safety of users within public open space.	High	MCC
2.7.6	The Environmental Significance Overlay (ESO1) which applies to the Merri Creek and Edgars Creek within City of Moreland does not extend north of Jenkin Street into the City of Darebin.	In accordance with the recommendations of the Darebin Natural Heritage Plan 2011: • Extend the ESO to include the creek corridor north of Jenkin Street to Edwardes Lake and private property directly adjoining the creek corridor on both sides. • Review public use zoning of Melbourne Water land between Kia Ora Avenue and Edwardes	High	DCC

Ref No	Issue	Recommendation	Priority	Agency
		Lake and consider change to public park and recreation zone (PPRZ) during the same planning scheme amendment process.		
2.7.7	Former VicRoads Land between Edgars Creek and Newlands Road is zoned for public use (PUZ4) and residential (RZ1) but currently managed by Council as public open space.	Review public use zoning of former VicRoads land between Edgars Creek and Newlands Road and change to public park and recreation zone (PPRZ).	High	MCC VicRoads
2.7.8	Private property titles in some areas appear to extend into areas currently accessed by the public and managed by Council as open space.	Undertake feature and level survey to determine the location of private titles. Review public access requirements, and where necessary establish public acquisition overlays. Refer section 3 for specific areas of concern.	High	MCC
2.7.9	Lack of common names for open spaces along Edgars Creek and in adjoining large open space reserves. The only named reserves along the creek are Cash Reserve, Jackson Reserve and the Harold Stevens Athletics complex.	Consult with the community in accordance with Council's Naming Places Policies to investigate development of names for open space reserves along Edgars Creek. Naming criteria is to consider: • Traditional Aboriginal names if appropriate • Names which acknowledge the role of local communities and groups. • Names that acknowledge important social and historical events particular to that sites geographic location. • Names which acknowledge the role of local multicultural communities and women.	Low	MCC

Photo 34 Proximity of development at Kurnai Ave

Photo 35 Areas of vacant land on west bank

Photo 36 Coburg Hills Development Site from Ronald Street

Photo 37 Failing private property retaining wall at Jenkins St

Photo 38 Weed species in private gardens

Figure 11 Coburg Hill Landscape Works Plan (Satterley – MDG 20.04.12)

3. Overall Management Zones

The open space within the study area has been divided into a number of different zones that have been defined by common management aims. Management of open space along Edgars Creek will be guided by the objectives and strategic directions that are specific to each management zone. The zones aim to provide an overall strategic frameworks for actions and recommendations described in section 4 of the report.

3.1 Primary Conservation Zones

Edgars Creek through the study area forms a primary biodiversity and habitat corridor. It links the lower Yarra River corridor, Merri Creek and the broad natural floodplain at the confluence with Edgars Creek to Edwardes Lake and upstream along the upper reaches to outlying rural areas in the north of Melbourne. It contains significant geological features and is the last remaining habitat in the surrounding urban area for many species of indigenous flora and fauna. To maintain and enhance the function of Edgars Creek in this role the intent is to ensure a minimum of 50% of the total open space area has conservation of biodiversity and habitat values as its primary function. There are two types of conservation zone described within the study area.

3.1.1 Edgars Creek Conservation Zones

The bed and banks of the creek will continue to be managed by Melbourne Water primarily for waterway conservation. Weed control and revegetation projects will continue to be focused on these areas and management and change within these zones will need to demonstrate it is compatible with the protection of flora and fauna values and the natural processes of the waterway. Generally the intent is to minimise further formal public access to these areas to minimise fragmentation of habitat corridor links and impacts associated with increasing recreational use of the open space corridor.

Key draft management recommendations include:

- Undertake revegetation in accordance with Floodplain Riparian Woodland (EVC 56), Riparian Woodland (EVC 641), Creekline Tussock Grassland (EVC 654), and Stream-bank Shrubland (EVC 851) as appropriate to achieve a minimum 30m wide vegetated buffer on each side of the creek where possible.
- Target natural creek bends and low lying terraces as expanded revegetation areas and habitat nodes.
- Progressively upgrade existing stormwater outfalls to current Melbourne Water standards utilising natural rock to stabilise and screen the pipe and drain headwalls.
- Retain only informal walking access along the creek (no paths)
- Increase setback to informal walking tracks over time to minimise impacts on habitat values and to allow for natural erosion processes in the creek to continue without intervention.
- Improve provision for fauna passage at existing bridge and road culvert crossings where possible.
- Where new bridge crossings are established ensure setback of abutments and clearances to maximise provision for fauna passage.

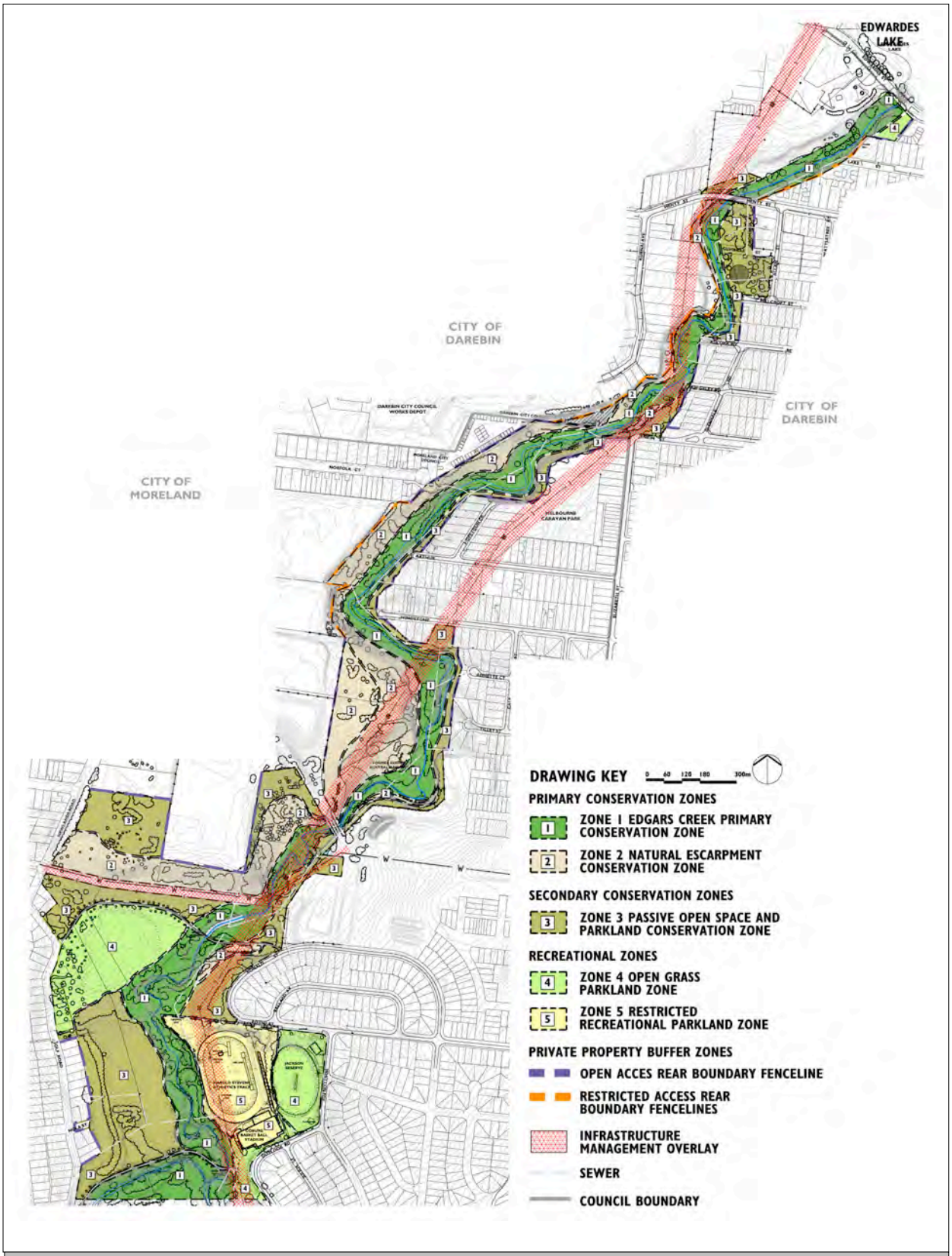


FIGURE 12: MANAGEMENT ZONES

3.1.2 Natural Escarpment Conservation Zones

The natural escarpment conservation zones are located primarily along the western bank south of Norfolk Court aside from the Silurian Cliff formation at Coburg Hill. Access to these areas is restricted by natural topography and the lower levels of public use which increase habitat values accordingly and make them extremely valuable in a built up urban area. While there are other escarpment areas on the east bank with remnant indigenous vegetation and exposed areas of natural rock the narrow open space reserve, proximity of existing residential development and future establishment of formal path access reduce the habitat values of these sites. The escarpment conservation areas on the west bank and at Silurian Cliff have been the focus of historical weed control and revegetation efforts by the respective local council, the Merri Creek Management Committee, Friends of Edgars Creek and Greening Australia however they are still subject to high levels of weed invasion and the impacts of rabbits and foxes.

Key draft management recommendations include:

- Continue to resource maintenance of existing revegetation areas using fencing to restrict rabbit impacts and to restrict public access – note ensure fencing of individual lots retains fauna access along the waterway corridor.
- Minimise ground disturbance and undertake targeted seasonal slashing and improve machinery hygiene practices to reduce the spread of Chilean Needle Grass and other invasive ground layer weeds.
- Undertake revegetation in accordance with Plains Grassy Woodland (EVC 55) and Escarpment Shrubland (EVC 895) as appropriate. Only undertake new works when sufficient funding is available to ensure ongoing maintenance. Prioritise areas which can be linked to existing revegetation areas along the creek corridor to maximise habitat connectivity.
- Maintain continuous 4x4m maintenance and fire vehicle access along private property boundaries.

3.2 Secondary Conservation Zones

3.2.1 Passive Open Space and Parkland Conservation Zones

Land with existing recreational use (primarily existing or planned trails) which has existing indigenous vegetation or has been revegetated with indigenous vegetation. These zones are to be managed to improve existing environmental values while retaining low impact recreational use such as informal and unsealed walking trails and seating areas. Revegetation in these areas will include primarily overstorey trees with slashed grass to maintain sightlines for public safety and to minimise maintenance costs.

Key draft management recommendations include:

- Minimise loss of vegetation in establishment of new paths, utilise existing access tracks where possible and consider impacts on tree protection zones.
- Continue revegetation in accordance with modified EVC's as appropriate. Minimise the use of dense mid storey shrubs in proximity to new paths and at entries to the open space corridor to retain sightlines for safety and passive surveillance.
- In areas with remnant vegetation establish buffer zones and where possible link to primary conservation areas with new planting to maximise habitat values.
- Undertake targeted seasonal slashing and improve machinery hygiene practices to reduce the spread of Chilean Needle Grass and other grassy and ground layer weeds.

3.3 Recreational Zones

3.3.1 Open Grass Parkland Zone

These are areas located away from the creek corridor at to be managed as open grass primarily for existing and future recreation use including formal sport and active informal recreation such as ball games, community events and car parking. In the future use of undeveloped open grass areas may increase to include sporting fields, playgrounds, picnic areas and other associated recreational infrastructure. Grass is to be maintained to parklands standard and new planting is to be carefully located to maintain required clearances to existing and future recreational infrastructure and to allow easy mowing and maintenance by parks staff.

3.3.2 Restricted Recreational Parkland Zone

The Harold Stevens Athletics Track and Coburg Basketball Stadium are located within the open space corridor however public access to these areas is restricted by fencing. Additional restricted open space areas and non open space dependent uses are not recommended to be placed within the Edgars Creek open space corridor.

Key management recommendations include:

- Review existing security fencelines and realign where possible to maiximise available public open space and access.
- Retain open public access to all associated car parking areas and encourage multi use.

3.4 Private Property Buffer Zones

3.4.1 Open Access Rear Boundary Fencelines

The open space corridor is directly adjoined by the rear boundary fencelines of industrial and residential private property in many areas. While establishment of indigenous screen planting in these areas is preferred all planting must consider the need for fire access, property security and the future maintenance and replacement of existing fencelines and retaining structures.

Key management recommendations include:

- Maintain continuous 4x4m maintenance and fire vehicle access along the boundary.
- Retain existing mature trees and continue to monitor the structural stability where overhanging boundary fences.
- Minimise the planting of dense shrubs and large trees within 4m of the fenceline and maintain as slashed grass or low indigenous groundlayer planting.
- Liaise with adjoining residents to minimise potential spread of exotic and native weeds into the open space corridor from adjoining private property including preventing dumping of green waste and encouraging back yard planting using indigenous species of local provenance.
- Monitor stability of existing privately owned retaining structures where located on or near the boundary and liaise with residents to replace property fencing when required.

3.4.2 Restricted Access Rear Boundary Fencelines

The steep topography and proximity of title boundaries and buildings to the creek and escarpment restricts maintenance access from within the public open space corridor in many areas. These areas may also be subject to slope instability due to filling, or failing structures, severe weed infestation and potentially elevated fire risk due to the lack of maintenance access.

Key management recommendations include:

- Liaise with adjoining property owners to investigate integrated land management partnerships and agreements for maintenance access via private property where access from the creek side is not possible.
- Liaise with the Metropolitan Fire Brigade to monitor land management and fire risk.

- Utilise specialist contractors to undertake weed control in difficult to access site prioritising areas with woody weeds which may present an increased fire risk and threat to waterway corridor values downstream.
- Monitor all development proposals to negotiate where possible increased set back from the creek and top of escarpment for provision of sustainable maintenance and fire access.

3.5 Infrastructure Management Overlays

In these areas management of critical service infrastructure takes precedence over environmental and recreational values. These areas may be subject to future works and no new planting is to occur without prior consideration of the potential impacts on existing or future infrastructure and the management guidelines of the relevant service authority.

Key service include:
- SPI Ausnet Overhead Electricity Transmission Lines
- Melbourne Water Underground Water Supply Pipelines
- Yarra Valley Water Underground Sewerage Pipelines
- Road culverts at Edwardes Street and Henty Street

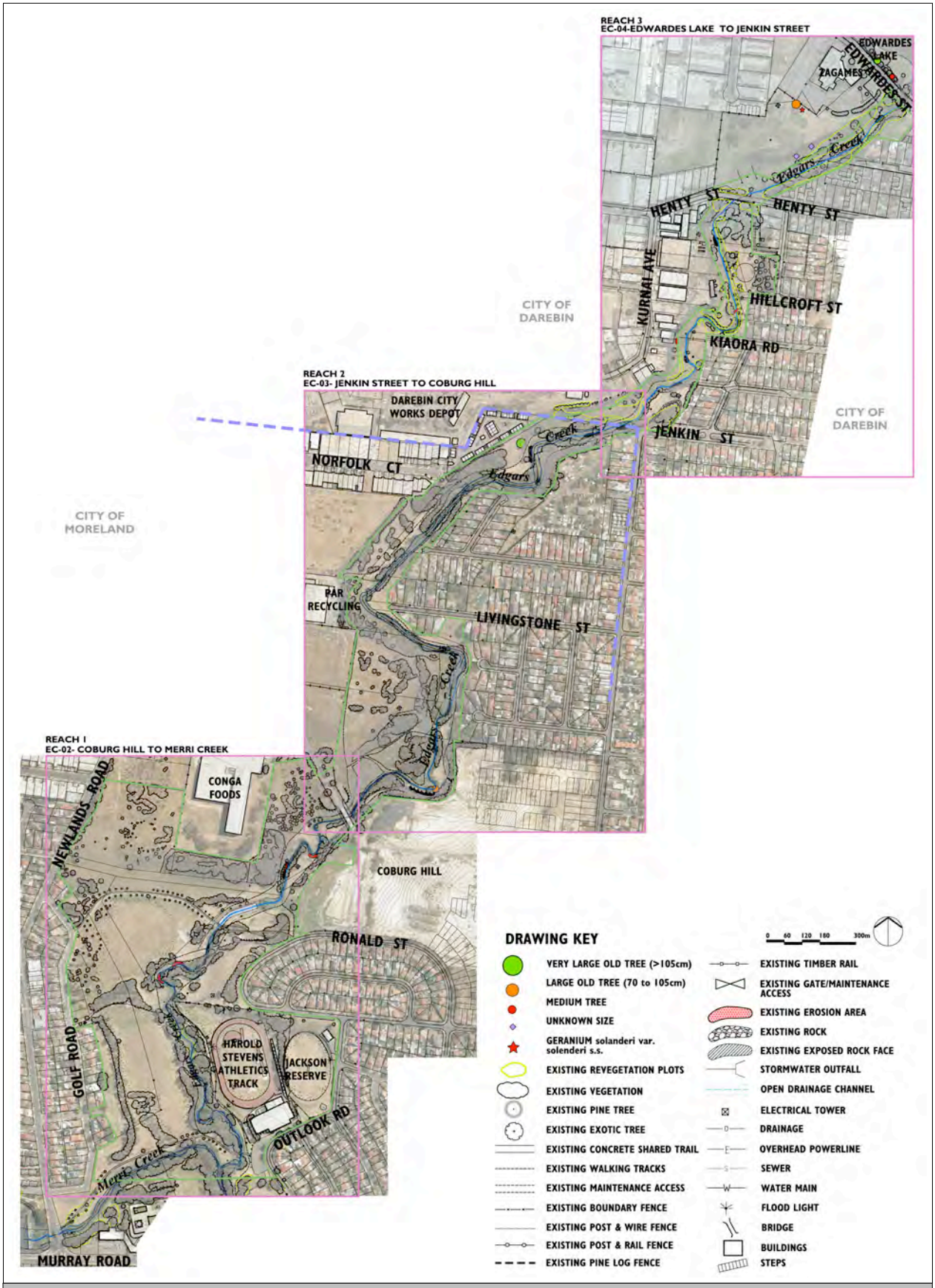


FIGURE 13: EXISTING CONDITIONS

4. Reach Recommendations

4.1 Reach 1
Kodak Bridge to Merri Creek

4.1.1 Existing Conditions

Downstream of the Kodak Bridge, Edgars Creek flows towards the confluence with Merri Creek and the creek corridor widens into the floodplains and areas of grassed open space, including the public golf driving range to the west of the creek. The east bank of the creek is narrow and confined between fenced athletics track to the east.

Land ownership and management

Most of public open space in this reach is owned and managed by the City of Moreland. The M9 water pipeline easement running from Newlands Road to the Coburg Hill development is owned by Melbourne Water and the land immediately north and south of this easement is former VicRoads owned land. (Refer Land Ownership Diagram - Figure 2).

Adjoining land use

Adjoining land use for this reach is generally residential on both sides of the creek at Golf Road to the west and Ronald Street and Outlook Road to the east. The industrial area including Conga Foods is located to the north of the open grassed area. The adjoining Coburg Hill residential development will bring additional residents to the area and potentially increase the use of the creek corridor.

Infrastructure

The SP Ausnet transmission line is prominent through the site in this reach and traverses the open space in a north-south alignment to the east of Edgars Creek. The Melbourne Water M9 pipeline is another major infrastructure item which traverses through this reach from Newlands Road through Coburg Hill to Elizabeth Street. Any works within the easements for these assets are subject to strict guidelines (Refer Section 2.3 Service Infrastructure). Existing sewer lines are located in proximity to the creek bank to the east.

Recreational use

The existing informal walking tracks along the creek in this reach are popular for walking and dog walking. The waterfall site is a popular community meeting place and informal water access point. The Merri Creek Trail provides shared trail link to Coburg Lake and to Melbourne. The open grassed area north of the confluence of Edgars Creek and Merri Creek is a former public golf driving range. These relatively flat areas provide for informal recreation. The oval at Jackson Reserve provides for formal sports. The Harold Stevens Athletics Track and basketball stadium also provide for active recreation however these facilities have restricted access to the public.

Environmental values

The existing vegetation values in this reach consist of Creekline Grassy Woodland and Stream Bank Shrubland along the creek corridor. Escarpment Shrubland areas are generally located on the steeper embankments around Conga Foods and areas west of Ronald Street. Plains Grassy Woodland areas are generally located on the flatter floodplain. The Waterfall and the Goose Neck meanders of the creek are identified as geological sites of significance. Since 2006, the Friends of Edgars Creek have conducted significant revegetation works to restore natural habitats in this reach including at the confluence, around the Waterfall site and along the Goose Neck areas.

Cultural heritage values

As identified in the Merri Creek Concept Plan 1993, there are two registered sites of Aboriginal heritage significance in this reach, both located at the confluence of the Merri and Edgars Creeks, where the exposure of Silurian rocks may have been a source of rocks for making tools.

4.1.2 Summary of High Priority Recommendations – Reach 1

URGENT

- Monitor bank stability and install fencing/handrail and signage to minimise risk to walkers using the west bank informal track above the eroding creek bank opposite Coburg Hill.

HIGH

- Review options to achieve sustainable bank profile at the eroding bank opposite Coburg Hill. If track needs to be removed as part of bank stabilisation, upgrade and establish an unsealed trail along the upper escarpment track along Conga Foods.
- Ensure proposed design of wetland development on Melbourne Water land at Coburg Hill retains required access for the shared trail link via a boardwalk.
- Protect existing waterfall geological site downstream of Ronald Street footbridge and install interpretive signage and seating area.
- Protect and allow space for natural floodplain erosion and deposition processes on Edgars Creek between Ronald Street and Merri Creek.
- Close the golf practice range removing existing signs and distance markers.
- Establish a new water quality treatment wetland at the confluence of Edgars Creek and Merri Creek on the site of the golf practice range to improve downstream water quality and form a key habitat values.
- Establish 2.5m wide sealed shared trail link from Ronald Street Bridge (Coburg Hill) to Merri Creek trail.
- Review option for bank stabilisation adjoining the Coburg Basketball Stadium car park to protect the existing sewer.
- Install risk warning signage to low footbridges near the confluence of Edgars and Merri Creek.
- Establishment of proposed Coburg Hill Development Plan works including shared trail link along the upper escarpment from Ronald Street to Kodak Bridge, new picnic area, stair connection and a viewing platform.
- Retain existing informal grass walking access only along the lower east bank adjacent to the creek. Relocate west bank informal track away from creek bank and revegetate to maximise habitat values white maintaining key views to future wetland. Install risk warning signage regarding flooding and surface conditions at key entry points.
- Replace/repair the Ronald Street shared trail bridge in its current location in accordance with current Melbourne Water standards.
- Proposed revegetation project at the confluence of Edgars and Merri Creek (FOEC Site 1-2012/13 Plan) and at the waterfall site downstream of Ronald Street footbridge (FOEC Site 2-2012/13 Plan).
- Continue infill revegetation to the site known as the 'gooseneck' meander and in the vicinity of Kodak Bridge. (FOEC Site 2-2012/13 Plan
- Contain and reduce spread of Chilean Needle Grass, Serrated Tussock and other invasive weeds downstream of Ronald Street footbridge with herbicide spot spraying, targeted slashing/mowing to reduce seed germination and establish a machinery wash down bay at Golf Road, the west side of Kodak Bridge and at the end of Norfolk Court.
- Review existing planning provisions for vacant and industrial land along the west bank and ensure any new development retains required setback to top of escarpment.
- Formalise Council management of former VicRoads land between Edgars Creek and Newlands Road and rezone as public open space (PPRZ).

MEDIUM

- Maintain informal west bank walking access from Kodak Bridge to Ronald Street via the upper escarpment along the Conga Foods. If lower track access is closed due to erosion/safety issues (refer D2/3) review and upgrade this track.

LOW

- Monitor stability of existing concrete lined channel upstream of Ronald Street footbridge.
- Monitor athletics track retaining wall stability. When repair/replacement of wall and fencing are required or if damaged during a major flood event investigate options to realign wall and rationalise fencing.

- Investigate staged retrofitting WSUD systems to existing Outlook Road/Coburg Basketball Stadium car park and overflow car park.
- When bridges require repair/replacement or if damaged during a large flood event upgrade in accordance with current Melbourne Water Guidelines.
- Establish seating areas at key viewing points to the city and Dandenongs at rest points up on the Conga Foods escarpment on the west bank.
- Retain flat open grass areas between Newlands Road and Edgars Creek on the west bank as informal active recreation areas. Longer term and subject to funding and increasing development on the west bank (not currently planned), upgrade to provide multipurpose sporting fields.
- Undertake staged weed control and revegetation along former creek channels and depressions on the broad floodplain at the confluence of Edgars and Merri Creek to restore an open floodplain riparian woodland.
- Undertake revegetation using scattered indigenous overstorey trees along the existing and future paths to improve landscape amenities on the west bank across to Newlands Road.
- Retain and protect areas of remnant grassland and escarpment shrubland on former VicRoads land currently managed by Council and confirm final alignment of potential new unsealed walking path to minimise impact on vegetation.
- If property along the west bank is redeveloped investigate reuse of the former Kodak Bridge access road to extend shared trail to Newlands Road.

ONGOING

- Ensure on ground delivery of Coburg Hill Development Works to meet the vision and objectives outlined in this plan for improving public access to the creek and open space corridor while enhancing environmental values and habitat corridor connectivity.
- Retain 4x4m slashed grass access to rear boundary fencelines of properties along Golf Road.

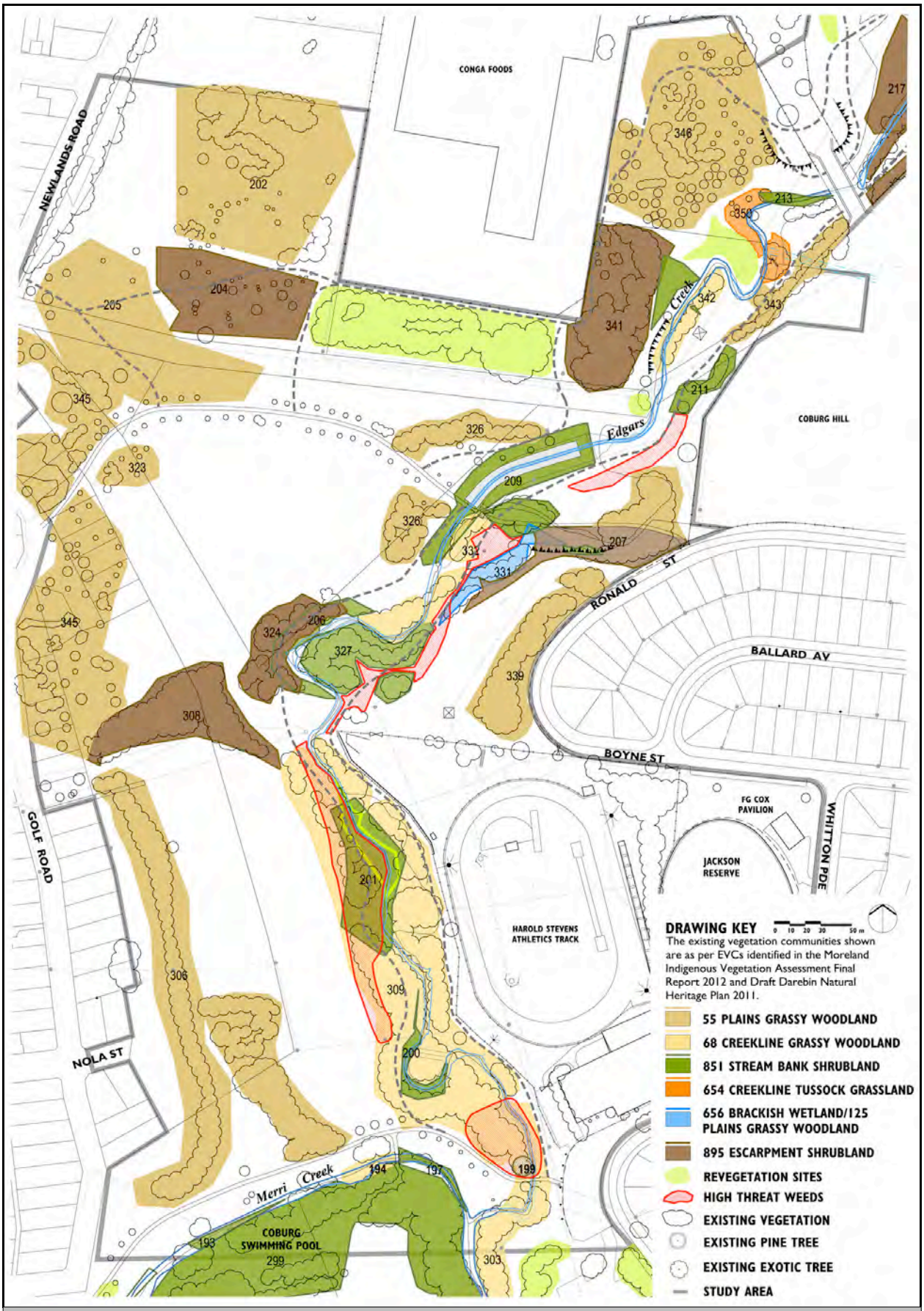


FIGURE 14: EXISTING CONDITIONS - KODAK BRIDGE TO MERRI CREEK

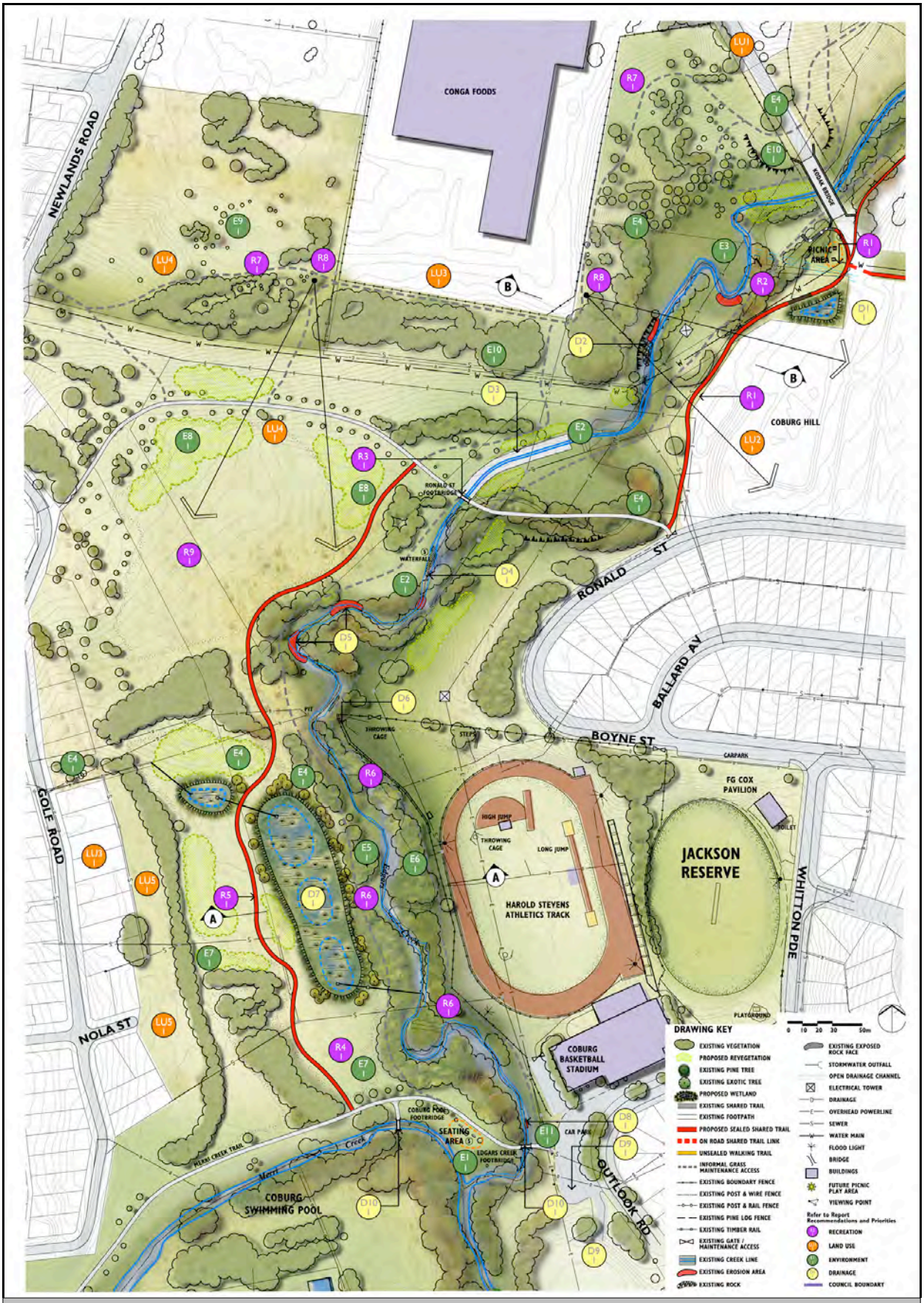


FIGURE 15: REACH 1 PLAN - KODAK BRIDGE TO MERRI CREEK

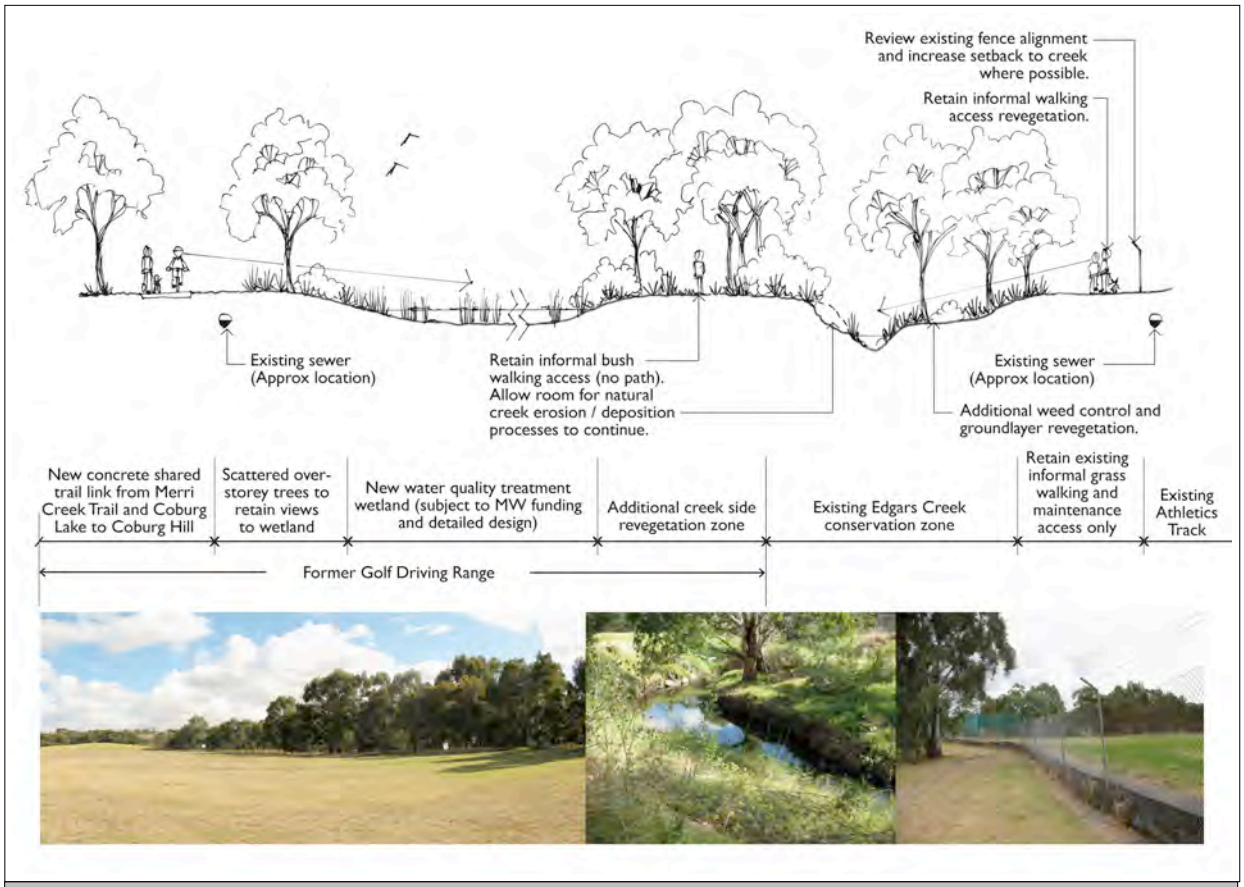


FIGURE 16 SECTION A-A GOLF DRIVING RANGE – PROPOSED WETLAND

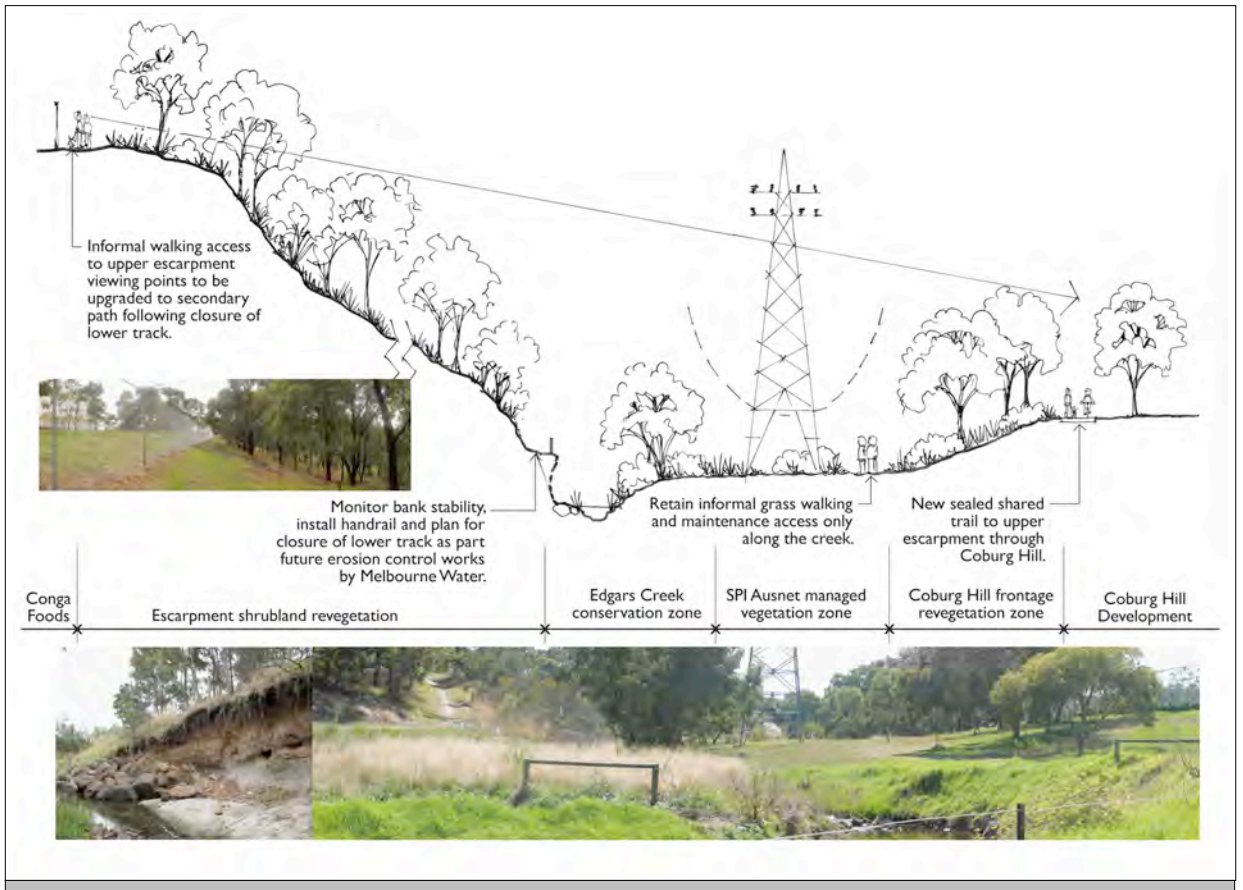


FIGURE 17 SECTION B-B DOWNSTREAM KODAK BRIDGE

4.1.3 Reach 1 - Kodak Bridge to Merri Creek

Plan No.	Issues	Recommendations	Priority	Asset Manager	Partners
Drainage and Water Quality					
D1/1	Coburg Hill developer and Melbourne Water are negotiating over potential establishment of a water quality treatment wetland on Melbourne Water land south of Kodak Bridge.	Ensure proposed design of wetland development on Melbourne Water land at Coburg Hill retains required access for the shared trail link via a boardwalk. Refer to R1/1. As part of works upgrade and replace outfall stormwater system to the creek including removal of sluice gate to improve landscape amenity and public safety.	High	Coburg Hill Developer	MW
D2/1	Bank stabilisation measures on the west bank upstream of the M9 pipeline crossing have failed and have undermined the informal access and maintenance track.	Monitor bank stability and install fencing/handrail and signage to minimise risk to walkers using the west bank informal track above the eroding creek bank opposite Coburg Hill.	Urgent	MCC	MW
		Review options to achieve sustainable bank profile. If track needs to be removed as part of bank stabilisation upgrade and establish an unsealed trail along the upper escarpment track. Refer R7/1 as these works will become a higher priority to retain public access.	High	MW	MCC
D3/1	Existing concrete lined section of creek upstream Ronald Street footbridge.	Monitor stability of existing concrete lined channel upstream of Ronald Street footbridge. Cost and potential erosion impacts during/after works out weigh any potential environmental gains from removal at this stage but this may change if there is any future damage/degradation of the channel during flood events.	Low	MW	
D4/1	Expose Silurian rock waterfall is a site of Regional geological significance (Rosengren 1993).	Protect existing waterfall geological site downstream of Ronald Street footbridge. Develop and install interpretive signage as part of site revegetation and seating area works. Refer E7/1.	High	MCC	FOEC MW
D5/1	Edgars Creek natural terrace and meandering channel form between Ronald Street and Outlook Road are of Local geological significance as an example of natural erosion and deposition processes in alluvial floodplain.	Protect and allow space for natural floodplain erosion and deposition processes on Edgars Creek between Ronald Street and Merri Creek. Maximise clearance to new infrastructure such as paths and only undertake stabilisation works as a last resort to protect critical service infrastructure such as sewer pipelines.	High	MW	
D6/1	Existing athletics track throwing cage area fencing and retaining wall constricts the floodplain and contributes to erosion on the east bank.	Existing field event throwing cage adjacent to the creek at Harold Stevens Athletics Track is a required club facility. Monitor retaining wall stability, when repair/replacement of wall and fencing are required or if damaged during a major flood event investigate options to realign wall and rationalise fencing while maintaining required throwing zone clearances.	Low	MCC	MW Coburg Harriers
D7/1	Former golf practice range has been identified as a potential water quality treatment wetland site for the 21ha Newlands Road drain catchment.	Establish a new water quality treatment ephemeral wetland at the confluence of Edgars Creek and Merri Creek on the site of the golf practice range. Wetland will improve downstream water quality and form a key habitat node on both Merri and Edgars Creek as part of natural floodplain restoration.	High	MW MCC	MCMC FOEC

Plan No.	Issues	Recommendations	Priority	Asset Manager	Partners
D8/1	Bank adjoining the Coburg Basketball Stadium car park is eroding and may lead to exposure of the sewer.	Review option for bank stabilisation adjoining the Coburg Basketball Stadium car park to protect the existing sewer. Car parking may need to be reset to retain space for informal grass walking access along the east bank to Ronald Street. Install temporary security fencing in the short term to restrict public access to the erosion site.	High	MW	MCC
D9/1	Large sealed car park on Outlook Road discharges untreated stormwater directly to Merri Creek.	Investigate staged retrofitting WSUD systems to existing Outlook Road/Coburg Basketball Stadium car park and overflow car park.	Low	MCC	MW
D10/1	Low footbridges at confluence of Edgars Creek are subject to flooding.	Replace vandalised risk warning signage to low footbridges near the confluence of Edgars and Merri Creek as per Merri Creek Trail Review recommendations.	High	MCC	
		When bridges require repair/replacement or if damaged during a large flood event upgrade in accordance with current Melbourne Water Guidelines.	Low	MCC	MW

Recreation

R1/1	Coburg Hill development plan outlines work to be completed by the developer.	Remove existing cyclone fence to both sides of the Kodak Bridge at completion of development works to maintain continuous public access through the reserve. Proposed Coburg Hill Development Plan works include: Shared trail link is to be established along the upper escarpment from the existing trail at Ronald Street to Kodak Bridge and through the new open space link to Elizabeth Street. A new picnic area will be provided adjacent to Kodak Bridge with stair connection down to informal walking tracks along Edgars Creek. A viewing platform will be established looking north from Kodak Cliff. Refer to R2/1	High	Coburg Hill Developer	MCC
R2/1	East bank between Kodak Bridge and Ronald Street footbridge is subject to flooding and high velocities. The reserve is too narrow to safely and substantially formalise path access without impacting on habitat values.	Retain existing informal grass walking access only along the lower east bank adjacent to the creek from upstream and under the Kodak Bridge to Ronald Street footbridge. Install risk warning signage regarding flooding and surface conditions at key entry points. Refer R1/1.	High	MCC	MW
R3/1	Ronald Street timber footbridge was badly damaged during flood events in December 2011 and remains closed in June 2012.	Replace/repair the Ronald Street shared trail bridge in its current location in accordance with current Melbourne Water standards.	High	MCC	MW
R4/1	The existing golf practice range is unregulated and presents a significant risk to other users of open space.	Close the golf practice range removing existing signs and distance markers. Install signage indicating use of the area for golf is now prohibited and directing current users to the nearest dedicated public golf facilities at Northcote and Essendon/Riverside, and Bundoora Park.	High	MCC	
		If high levels of informal use of the area for golf persist investigate establishment of a dedicated practice net near Outlook Road car park. Refer R5/1.	Low	MCC	

Plan No.	Issues	Recommendations	Priority	Asset Manager	Partners
R5/1	There is no shared trail link between Coburg Hill and the Merri Creek trail.	Following closure of the golf practice facility establish 2.5m wide the sealed shared trail link from Ronald Street Bridge (Coburg Hill) to Merri Creek trail and Coburg Lake via the west bank. Retain sufficient space for establishment of the water quality treatment wetland and ongoing revegetation works along Edgars Creek. Refer D7/1 and E5/1.	High	MCC	
R6/1	The informal 1.2km bush walking loop along the creek between Ronald Street footbridge and Merri Creek is popular with local walkers and dog walkers. Upgrade of the track will increase use by cyclists and impact on the habitat corridor and geological values of this significant section of Edgars Creek. Use of unsealed path material in an area subject to regular flooding will also require high levels of ongoing maintenance.	Retain only informal bush walking tracks along Edgars Creek between Ronald Street footbridge and Merri Creek. Review proximity of the current west bank track to the creek and relocate further away as part of future wetland and creek revegetation projects to maximise habitat values. Refer E5/1. Install risk warning signage at either end athletics track fencing regarding flooding and dry weather only access conditions on the east bank.	High	MCC	MW
R7/1	Access along the west bank of Edgars Creek between Ronald Street bridge and Kodak Bridge is constrained by active bank erosion. Refer D2/3.	Maintain informal west bank walking access from Kodak Bridge to Ronald Street via the upper escarpment along the Conga Foods. If lower track access is closed due to erosion/safety issues (refer D2/3) review and upgrade this track using unsealed material for walking access only as a higher priority. Refer E9/3.	Medium	MCC	
R813	There are magnificent views south to the city and east to the Dandenongs from high up on the Conga Foods escarpment frontage.	As part of future west bank bush walking track upgrades (Refer R7/1) establish seating areas at key viewing to the city and Dandenongs at rest points up on the Conga Foods escarpment on the west bank.	Low	MCC	FOEC
R9/1	Additional recreation facilities including playing fields, may be required at some point in the future, existing filled flat open grass areas are of low environmental value and are located far enough from the Edgars Creek primary conservation zone to enable use for this purpose while maintaining revegetation buffer zones.	Retain flat open grass areas between Newlands Road and Edgars Creek on the west bank as informal active recreation areas. Additional picnic and play facilities could also be established without compromising the environmental and passive open space values of the Edgars Creek corridor. Any new playground design is to reflect the natural open space character of the Edgars Creek corridor and complement the existing play facilities at Coburg Lake, and the upgraded play facilities at Coburg Hill. This could include the use of natural materials and a design theme which encourages creative play and interaction with the natural environment rather than standard off shelf play equipment.	Low	MCC	FOEC MCMC

Environment

E1/1	The confluence of Edgars and Merri Creek and the waterfall area south of the Ronald Street footbridge are high profile sites of cultural, environmental and local community significance.	Proposed revegetation project at the confluence of Edgars and Merri Creek (FOEC Site 1-2012/14 Plan) will target revegetation using a combination of Creekline Tussock Grassland (EVC 654) and Streambank Shrubland (EVC 851) species. Co-ordinated works at both sites will include the development of seating areas and potential interpretation of cultural heritage values. Refer H1/1.	High	MCC	MW FOEC

Plan No.	Issues	Recommendations	Priority	Asset Manager	Partners
E2/1	The exposed Silurian rock formation located at the waterfall is a site of Regional geological significance. Refer D4/1. The high profile site is also a popular water access point.	Proposed revegetation project at the waterfall site downstream of Ronald Street footbridge and along the existing concrete channel (FOEC Site 2-2012/14 Plan). Revegetation will be completed using a combination of Creekline Tussock Grassland (EVC 654), Streambank Shrubland (EVC 851) and Escarpment Shrubland (EVC 895) species. Local rock recovered from the M9 pipeline works will be used to assist in landscaping and establishment of informal seating areas overlooking the creek.	High	MCC	MW FOEC
E3/1	Since 2007 FOEC have undertaken works to restore and maintain a Streambank shrubland and Creekline tussock grassland on a natural creek terrace/meander in the vicinity of Kodak Bridge. Works were funded by MW, MCC and a commonwealth grant through MCMC.	Continue infill revegetation to the site known as the 'gooseneck' meander and in the vicinity of Kodak Bridge. (FOEC Site 3-2012/14 Plan). Revegetation will be completed using a combination of Creekline Tussock Grassland (EVC 654), Streambank Shrubland (EVC 851) and Escarpment Shrubland (EVC 895) species. Monitor the ongoing sustainability and maintenance requirements for established planting to inform revegetation at similar sites upstream and downstream on Edgars Creek. Refer E2/2 and E1/1.	High	MCC	MW FOEC
E4/1	The natural floodplain at the confluence of Edgars and Merri Creek is a primary conservation zone. Council grass slashing and machinery may spread Chilean Needle Grass, Serrated Tussock and other Weeds of National Significance (WONs) that require management under the provisions of the *Catchment and Land Protection Act* (CaLP) found in the open space reserve downstream of Ronald Street bridge.	Contain and reduce spread of Chilean Needle Grass, Serrated Tussock and other invasive weeds downstream of Ronald Street footbridge with herbicide spot spraying, targeted slashing/mowing to reduce seed germination and improved machinery hygiene protocols.	High	MCC	MW
		Establish a machinery wash down bay at Golf Road the west side of Kodak Bridge and at the end of Norfolk Court to prevent spread of seed to other sites.	High	MCC	
		Areas downstream of the Ronald Street footbridge to the confluence with Merri Creek are considered to be high value conservation areas undertake trials targeting the eradication of Chilean Needle Grass and other invasive weeds and revegetation with indigenous species. These works will aim to complement the future wetland and floodplain rehabilitation works and will take sustained effort, funding and time to achieve.	High	MCC	MW FOEC MCMC
E5/1	While the west bank downstream of the athletics track throwing cage is a primary conservation zone and a popular informal walking route, the track is however very close to the creek (to avoid the golf range).	Undertake infill revegetation along the west bank downstream of the athletics track throwing cage while retaining informal walking access (i.e. no formal path). Gradually relocate and revegetate to move the informal bushland walking route further away from the creek to maximise habitat corridor values while retaining key views to the creek and future wetland. Refer D7/1.	High	MCC	MW FOEC
E6/1	The east bank downstream of Ronald Street footbridge is constrained by the athletics track throwing cage and fence. The area is subject to weed invasion including Kikuyu and Tradescantia. The bank is part of the popular informal lower Edgars Creek bushland walking loop.	Establish and maintain a clear herbicide control line along the athletics track fence downstream of Ronald Street footbridge. Commence staged weed control and revegetation along the east bank fenceline while maintaining an open woodland character and sightlines for safety. When the fence	Medium	MCC	MW FOEC

Plan No.	Issues	Recommendations	Priority	Asset Manager	Partners
	Refer R6/1	needs replacement investigate realignment to increase available public open space along the creek. Refer R6/1.			
E7/1	There are areas of revegetation and remnant vegetation along former creek channels and depressions on the broad floodplain at the confluence of Edgars and Merri Creek. This area is currently the golf practice range. Refer R4/1.	Undertake staged weed control and revegetation along former creek channels and depressions on the broad floodplain at the confluence of Edgars and Merri Creek. Refer R4/1. Strengthen links from areas with existing vegetation back to the creek and proposed future wetland. Gradually infill the floodplain to restore and open floodplain riparian woodland. Refer D7/1.	Low	MCC	MW FOEC
E8/1	There is limited indigenous vegetation on the west bank across to Newlands Road (former VicRoads Land). This areas has also been filled and is currently managed as open mown grass for informal recreation. Refer R9/1.	Undertake revegetation using scattered indigenous overstorey trees along the existing and future paths to improve landscape amenities on the west bank across to Newlands Road. Retain open mown grass areas for informal recreation.	Low	MCC	FOEC
E9/1	There are areas of remnant grassland and escarpment shrubland on former VicRoads Land currently managed by Council.	Retain and protect areas of remnant grassland and escarpment shrubland on former VicRoads land currently managed by Council. When informal bushland walking routes along the west bank are upgraded to unsealed paths confirm final alignment to minimise impact on vegetation whilst assisting maintenance where possible.	Low	MCC	FOEC
E10/1	The existing weeds on the steep Kodak Bridge embankment may impact on existing surrounding revegetation areas.	Undertake staged weed control and revegetation on the batters if the Kodak Bridge.	High	MCC	FOEC
E11/1	The interface between the creek and the adjoining basketball stadium car park is of poor environmental value.	Establish new indigenous vegetation at the reserve adjoining the stadium car park to improve the landscape amenity and interface with the creek, following bank stabilisation works. Refer D8/1.	Low	MCC	FOEC MW
Adjoining Land Use					
LU1/1	Kodak Bridge and former private road high level access across the creek and links to the new shared trail access to Elizabeth Street.	If property along the west bank is redeveloped investigate reuse of the former Kodak Bridge access road to extend shared trail access west across the creek via the bridge and over to Newlands Road.	Low	MCC	
LU2/1	Residential Development at Coburg Hill is subject to a separate planning and development process.	Ensure on ground delivery of Coburg Hill Development Works to meet the vision and objectives outlined in this plan for improving public access to the creek and open space corridor while enhancing environmental values and habitat corridor connectivity.	Ongoing	Coburg Hill Developer	MCC
LU3/1	There are large areas of undeveloped land downstream Kodak Bridge. Property titles extend right to the top of escarpment which restricts maintenance access and opportunities for buffer screen planting along the open space boundary.	Review existing planning provisions for vacant and industrial land along the west bank. Ensure any new development retains required setback and sufficient space for maintenance and future path access and screening vegetation.	High	MCC	
LU4/1	Former VicRoads Freeway Revegetation is zone Public use (PUZ1) but managed by Council as public open space.	Formalise Council management of former VicRoads land between Edgars Creek and Newlands Road and rezone as public open space (PPRZ). Refer R9/1 and E9/1.	High	VicRoads	MCC

Plan No.	Issues	Recommendations	Priority	Asset Manager	Partners
LU5/1	Rear boundary fencelines of properties along Golf Road front directly onto the open space reserve.	Retain 4x4m slashed grass access to rear boundary fencelines of properties along Golf Road. Continue to strengthen existing floodplain revegetation areas to screen the fences from within the open space reserve. Refer E7/1.	Ongoing	MCC	

4.2 Reach 2
Jenkin Street (Elizabeth St North) to Coburg Hill

4.2.1 Existing Conditions

The creek embankment south of Jenkin Street is generally steep, with the steepest area located adjacent to the Melbourne Caravan Park. Rear fences of industrial properties to the west and residential properties to the east extend to the creek corridor in areas, however the existing vegetation and incised profile of the creek in sections of the corridor gives this reach a distinct natural bushland character within the urban setting.

Land ownership and management

The creek corridor in this reach is owned and managed by the City of Moreland. A section of the existing informal grassed walking track on the west bank is located on private land along the rear fences of the properties at 172-182 Newlands Road. Existing maintenance access is possible via the court heads on the east side of the creek and at Norfolk Court only on the west side. Maintenance access is also currently possible via the Kodak Bridge through the Coburg Hill Development by agreement with the developers. This access will be retained and formalised following completion of the development works.

Adjoining land use

The areas to the west of the creek are typically industrial and areas to the east are generally residential. The Melbourne Caravan Park is located adjacent to the creek in the north of the reach. The new Coburg Hill residential area located to the south of the reach is being developed and will bring new users along the creek and into the associated open space.

Infrastructure

The SPI Ausnet transmission lines traverse the creek corridor from Livingstone Street, heading south towards Merri Creek. The existing underground sewer infrastructure servicing the adjoining areas follows closely the alignment of the creek and existing drain outfalls are generally located at the end of courtheads including Norfolk Court, Arthur Street, Livingstone Street, Adnette Court and Tilley Street. The drainage outfalls from existing industrial properties along the west bank are poorly installed and in some instances do not outfall in the creek.

Recreational use

Informal grassed walking tracks are located on both sides of the creek, with tracks on the upper west bank north of Kodak Bridge providing views down to the creek and the tracks closer to the creek providing some water access points and informal ford crossings. The top of the Silurian Cliff provides an excellent vantage point to the riparian zones along the creek.

Environmental values

The vegetation values along this reach consist of Stream Bank Shrubland along the creek between Jenkin Street and Livingstone Street with large patches of Creekline Grassy Woodland on the escarpment of the west bank. The vegetation values south of Livingstone are mostly Escarpment Shrubland with a patch of Plains Grassy Woodland south of Tilley Road. The Silurian Cliff is located immediately north of the Coburg Hill development and identified as a site of geological significance for its exposed face of Melbourne Formation. Two large mature River Red Gum trees have been identified in this reach; adjacent to the cliff and on the west bank opposite the caravan park north of Norfolk Court. There is also a small Yellow Gum on the Silurian Cliff which is the only naturally occurring remnant of this species in Moreland.

Cultural heritage values

There are no registered sites of Aboriginal heritage significance in this reach.

4.2.2 Summary of High Priority Recommendations – Reach 2

URGENT

- Undertake specialist geotechnical assessment as part of stabilisation and remediation of the embankment and upgrade Coburg Hill stairs.
- Replace existing handrail and install risk warning signage at Silurian Cliff.
- Undertake building inspection to review structural stability of the private property retaining wall at the end of Jenkin Street.

HIGH

- Establish a pipe/culvert maintenance crossing of open drain outfall near Darebin City Council works depot.
- Review legal point of discharge stormwater outfalls from 172-182 Newlands Road to maintain all weather informal walking maintenance access along the west bank.
- Install warning signage regarding risks of informal use of rock ford crossing downstream of Livingstone Street.
- Undertake weed control and infill revegetation using specialist contractors where required. Coordinate works with Friends of Edgars Creek.
- Undertake weed control targeting Chilean Needle Grass, Galenia, Boxhorn and Blackberry on the west bank between Norfolk Court and Kodak Bridge with targeted slashing/mowing to reduce seed germination and improved machinery hygiene protocols.
- Review existing planning provisions for vacant and industrial land along the west bank to ensure any new development retains required setback from the top of escarpment.
- Review and confirm location of title boundary at 172-182 Newlands Road.
- Review and confirm extent of public open space upstream of Hopetoun Court on the east bank.

MEDIUM

- Investigate opportunities for integrated WSUD treatment at Darebin City Council Depot drain outfall and on east bank floodplain adjacent to Coburg Hill stairs.
- Remove concrete headwall at Tilley Street drain outfall and replace with more natural rock work in accordance with current MW standards.
- Establish a 1.5m wide unsealed walking track between Jenkin Street and Coburg Hill on the east bank.
- Upstream of Hopetown Crescent improve walking access around the steep escarpment, subject to specialist geotechnical investigation.
- Develop interpretive signage regarding the geological values of the Silurian Cliff at Coburg Hill.
- Undertake weed control and infill revegetation to improve links between the large remnant Yellow Gum on the west bank upstream of Norfolk Court and the creek.
- As part of future trail and boardwalk establishment works between Jenkin Street and Coburg Hill undertake weed control and infill revegetation with appropriate EVCs. Coordinate works with Friend of Edgars Creek. While retaining sightlines for security.
- Undertake revegetation of the low lying floodplain on the east bank as viewed from the proposed Coburg Hill lookout platform.

LOW

- Undertake weed control and groundlayer revegetation of low lying floodplain terrace on the west bank opposite Hopetoun Crescent.
- Undertake staged revegetation of the grassed overhead electricity easement south of Livingstone Street on the east bank to improve landscape amenity.

ONGOING

- Review proposed lookout design to ensure setback to remnant Yellow Gum and retain natural aspect when viewing cliff formation from within the creek corridor.
- Resurface the existing maintenance access ramp upstream of Kodak Bridge and improve drainage to reduce erosion.
- Retain informal grass walking maintenance access tracks along upper escarpment the western boundary fencelines between Kodak Bridge and Norfolk Court.

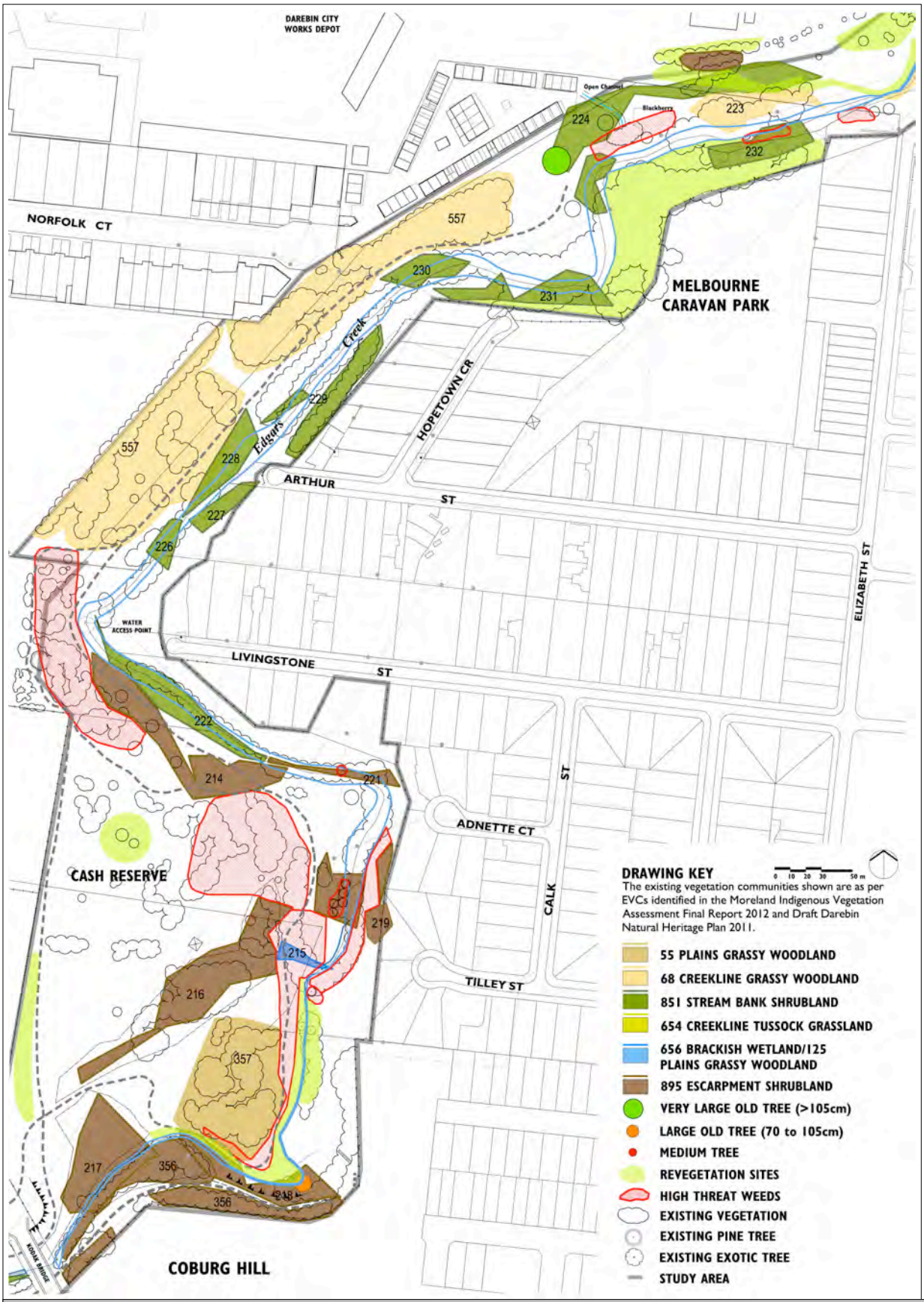


FIGURE 18: REACH 2 PLAN – JENKIN STREET TO COBURG HILL

Note:
1. The existing vegetation communities shown are as per EVCs identified in the Moreland Indigenous Vegetation Assessment Final Report 2012 and Draft Darebin Natural Heritage Plan 2011.
2. The numbers in the plan represent the vegetation patches as identified in the Moreland Indigenous Vegetation Assessment Report.

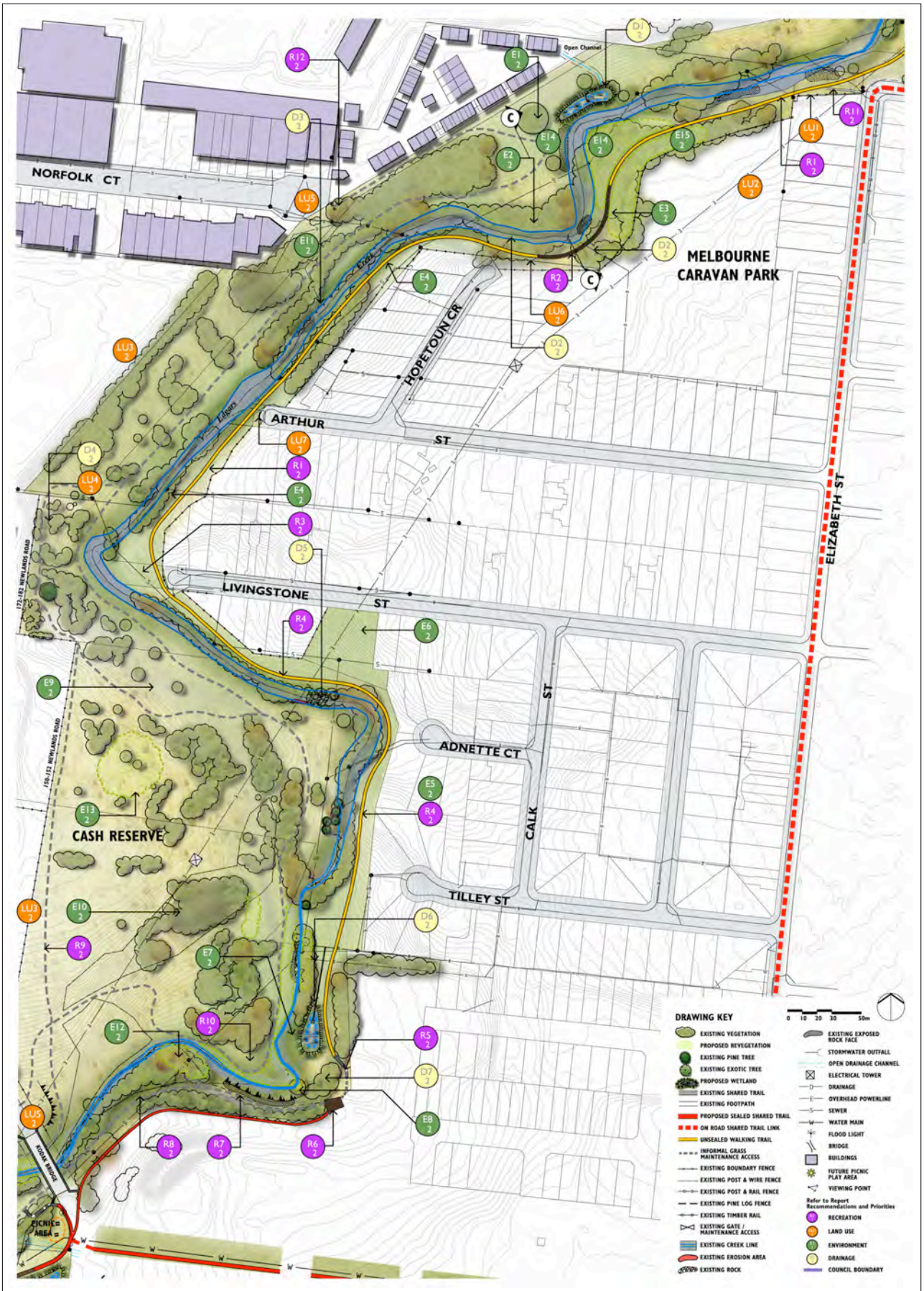


FIGURE 19: REACH 2 PLAN – JENKIN STREET TO COBURG HILL

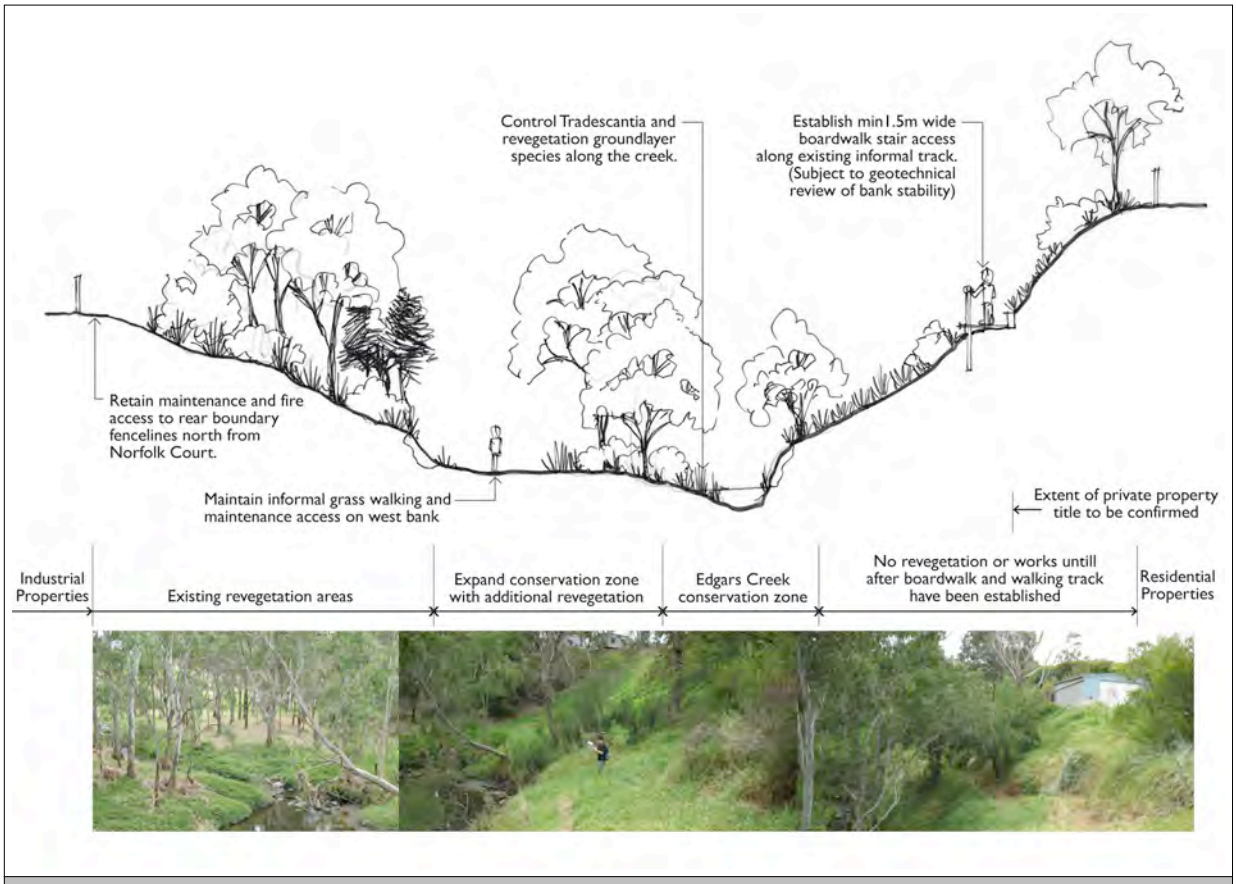


FIGURE 20 SECTION C-C UPSTREAM HOPETOUN COURT

4.2.3 Reach 2 - Jenkin Street to Kodak Bridge

Plan No.	Issues	Recommendations	Priority	Asset Manager	Partners
Drainage and Water Quality					
D1/2	Open channel drain outfall from Darebin Council Works Depot discharges untreated stormwater to creek, and restricts maintenance and informal walking access along the creek north of Jenkin Street on the west bank and after rainfall.	Establish a pipe/culvert maintenance crossing of open drain outfall near Darebin City Council works depot.	High	MCC	DCC
		Investigate opportunities for integrate WSUD treatment at outfall.	Medium	MCC	DCC MW
D2/2	Drain outfalls at Hopetoun Crescent are highly constrained by topography.	Monitor stability of drain outfalls near Hopetoun Crescent and investigate at source litter control and WSUD options.	Low	MCC	MW
D3/2	Industrial areas in the vicinity of Norfolk Court are a source of litter and untreated stormwater discharge to Edgars Creek.	Investigate at source litter control and WSUD options for Norfolk Court drain outfall. Works to be coordinated with wash down bay development. Refer E10/2.	High	MCC	MW
D4/2	PVC property drains from 172-182 Newlands Road do not connect to a legal point of discharge and may restrict maintenance and informal walking access after rainfall.	Review legal point of discharge stormwater outfalls from 172-182 Newlands Road to maintain all weather informal walking maintenance access along the west bank. Refer to LU4/2.	High	MCC Landowner	
D5/2	Rock work protecting sewer and electrical easement ford crossing downstream of Livingstone Street is also used as an informal crossing point.	Install warning signage regarding risks of informal use of rock ford crossing downstream of Livingstone Street.	High	MCC	MW
D6/2	Concrete headwall of stormwater outfall downstream of Tilley Street is highly visible from cliff lookout points at Coburg Hill.	Remove concrete headwall at Tilley Street drain outfall and replace with more natural rock work in accordance with current MW standards.	Medium	MW	MCC
		Investigate opportunities for low flow WSUD wetland in the creek corridor as part of revegetation and habitat corridor improvements on the high profile east bank. Refer E9/2	Low	MCC	MW
D7/2	Coburg Hill temporary storage dam failure during heavy rainfall in late 2011 has caused extensive bank erosion at the existing steps.	Undertake specialist geotechnical assessment as part of stabilisation and remediation of the embankment and steps. Refer to R5/2.	Urgent	Coburg Hill Developer	MCC
Recreation					
R1/2	There is informal off road walking access between Jenkin Street (Elizabeth Street north) and Livingstone Street .	Establish a min 1.5m wide (2.0m where possible) unsealed walking track between Jenkin Street and Livingstone Street on the east bank. Refer to R2/2.	Medium	MCC	
R2/2	The section north of Hopetoun Crescent adjacent to the caravan park is steep and highly constrained and 1.5m wide access may not	Upstream of Hopetoun Crescent improve walking access around the steep escarpment using a retaining wall and handrail to achieve 1.1m clearance. Subject to specialist geotechnical investigation	Medium	MCC	

Plan No.	Issues	Recommendations	Priority	Asset Manager	Partners
	be possible.	(provisional estimate only). Refer to LU6/2.			
R3/2	The gentle bank and open views to the creek at the end of the Livingstone Street make his a popular open space area.	Establish a bench seat overlooking the creek at Cash Reserve at the end of Livingstone Street.	Low	MCC	FOEC
R4/2	There is informal off road walking access between Livingstone Street and Coburg Hill steps.	Establish a 1.5m wide unsealed all weather walking track between Livingstone Street and Coburg Hill steps on the east bank.	Medium	MCC	
		In some tight sections, e.g. below Adnette Court, path width can be widened to 2.5m to reduce wear from maintenance vehicle access.	Medium	MCC	
R5/2	Existing steps at Coburg Hill are in poor condition and may have been impacted on by holding dam failure. Refer to D7/2.	Upgrade existing Coburg Hill stairs providing handrail to both sides and treads and landings in accordance with current Australian Standards.	Urgent	Coburg Hill Developer	MCC
R6/2	Proposed lookout at Coburg Hill to be constructed by developer.	Review proposed lookout design to ensure setback to remnant Yellow Box and retain natural aspect when viewing cliff formation and escarpment from within the creek corridor.	Ongoing	Coburg Hill Developer	MCC
R7/2	Existing timber handrail to Coburg Hill cliff formation is in poor condition.	Replace existing handrail and install risk warning signage. Ensure sitting and design retains natural aspect when viewing the cliff formation from within the creek corridor.	Urgent	Coburg Hill Developer	MCC
R8/2	Existing unsealed maintenance access to the creek upstream of Kodak Bridge is highly constrained, subject to flooding and high velocity.	Resurface the existing (untreated) maintenance access ramp upstream of Kodak Bridge and improve drainage to reduce erosion. Retain creek side access via grass only in this area.	Ongoing	Coburg Hill Developer	MCC
R9/2	Maintenance access along the western bank is restricted by steep topography.	Retain informal grass walking maintenance access tracks along upper escarpment the western boundary fencelines between Kodak Bridge and Norfolk Court. Refer to E11/2.	Ongoing	MCC	FOEC
R10/2	The Coburg Hill Silurian Cliff formation is best viewed from within the creek corridor on the western bank.	Develop interpretive signage regarding the geological values of the Silurian Cliff at Coburg Hill develop a seating area of sympathetic and natural design. Refer to E9/2.	Medium	MCC	MW MCMC FOEC
R11/2	The existing narrow concrete path at the end of Jenkin Street adjoining the residential property fence is in poor condition.	Resurface the narrow concrete path which is extensively used by the caravan park users to access the creek corridor.	High	MCC	
Environment					
E1/2	Large remnant Yellow Gum on the west bank upstream of Norfolk Court.	Undertake weed control and infill revegetation to improve links between the large remnant Yellow Gum on the west bank upstream of Norfolk Court and the creek. Refer D1/2.	Medium	MCC	FOEC
E2/2	Low lying floodplain terrace on the west bank opposite Hopetoun Crescent and the Melbourne Caravan Park	Undertake weed control and groundlayer revegetation of low lying floodplain terrace on the west bank opposite Hopetoun Crescent. Utilise a similar staged approach to downstream 'gooseneck' revegetation	Low	MCC	FOEC MW

Plan No.	Issues	Recommendations	Priority	Asset Manager	Partners
		completed by FOEC.			
E3/2	Steep east bank between Jenkin Street and Hopetoun Court contains an extensive cover of groundlayer weeds.	As part of future trail and boardwalk establishment works between Jenkin Street and Hopetoun Crescent undertake weed control and infill revegetation with modified escarpment shrubland vegetation while retaining sightlines for security. Refer R2/2.	Medium	MCC	FOEC
E4/2	There is limited scope for revegetation works along the narrow east bank public open space reserve between Hopetoun Crescent and Livingstone Street.	As part of future trail works between Hopetoun Crescent and Livingston Street undertake infill planting using scattered overstorey trees and occasional patches of indigenous groundlayer planting while retaining clear sightlines for security and maintenance vehicle access. Avoid planting of dense shrubs within 2.0m of the trail. Refer R1/2.	Medium	MCC	FOEC
E5/2	There is limited scope for revegetation works along the narrow east bank public open space reserve between Livingstone Street and Coburg Hill steps.	As part of future trail works between Livingstone Street and Coburg Hill steps undertake infill planting using scattered overstorey trees and occasional patches of indigenous groundlayer planting while retaining clear sightlines for security and maintenance vehicle access. Avoid planting of dense shrubs within 2.0m of the trail. Refer R4/2.	Medium	MCC	FOEC
E6/2	The grassed overhead electricity easement south of Livingstone Street has no existing vegetation.	Undertake staged revegetation of the grassed overhead electricity easement south of Livingstone Street on the east bank to screen adjoining rear boundary fencelines and improve landscape amenity while retaining grassed maintenance access under the lines. Use a modified planting list featuring trees and shrubs to less than 3m as required for planting with the electricity easement managed vegetation zone.	Low	MCC	FOEC SPI Ausnet
E7/2	Low lying floodplain on the east bank will be viewed from the proposed Coburg Hill lookout platform. Refer R6/2.	Undertake revegetation of the low lying floodplain on the east bank as viewed from the proposed Coburg Hill lookout platform. Refer R6/2. Co-ordinate works with wetland investigation for Tilley Street drain outfall. Refer D6/2.	Medium	MCC	MW FOEC
E8/2	Large remnant River Red Gum west of the Silurian cliff at Coburg Hill.	Protect and undertake weed control and infill revegetation using specialist contractors to improve links between the large remnant River Red Gum and the escarpments vegetation. Refer R6/2 and R7/2.	High	Coburg Hill Developer	MCC MCMC FOEC
E9/2	Extensive Chilean Needle Grass infestation on the west bank between Kodak Bridge and Norfolk Court.	Contain extensive Chilean Needle Grass infestation on the west bank between Norfolk Court and Kodak Bridge with targeted slashing/mowing to reduce seed germination and improved machinery hygiene protocols.	High	MCC	
		Establish machinery wash down bays on existing hardstand areas on the west side of Kodak Bridge and at the end of Norfolk Court to prevent spread of weeds to other sites.	High	MCC	
E10/2	Since 1992 there has been extensive weed control and escarpment shrubland revegetation completed in the Cash Reserve on the	Maintain existing escarpment shrubland revegetation areas in Cash Reserve on the west bank upstream of Kodak Bridge focusing on rabbit protection and control of weeds such as Galenia and the emergence	High	MCC	FOEC MCMC

Plan No.	Issues	Recommendations	Priority	Asset Manager	Partners
E10/2	west bank upstream of Kodak Bridge.	of woody weeds such as Boxthorn and Blackberry. Refer E9/2.	High	MCC	FOEC MCMC
		Continue staged infill revegetation using scattered trees and shrubs to provide a link to existing escarpment shrubland revegetation areas and the creek. Ensure there are sufficient resources to maintain existing broadscale revegetation areas.	Ongoing	MCC	FOEC MCMC
E11/2	The west bank in the vicinity of Norfolk Court has patches of existing native vegetation but is difficult to access and is threatened by weed infestation from adjoining vacant blocks and industrial sites.	Monitor spread of weeds in existing native vegetation areas on the west bank in the vicinity of Norfolk Court. Undertake woody weed control and infill vegetation with indigenous trees and shrubs while retaining existing maintenance access routes along rear boundary fencelines.	Low	MCC	FOEC
E12/2	Since 2009, FOEC have completed works to establish and maintain Creekline Tussock Grassland immediately below the Silurian Cliff and Riparian Floodplain Woodland along the western bank of the creek upstream of the cliff.	Continue revegetation works in the vicinity of the Silurian Cliff (FOEC Site 4 - 2012/14 Plan). Revegetation will be completed using a combination of Creekline Tussock Grassland (EVC 654), Streambank Shrubland (EVC 851) and Floodplain Riparian Woodland (EVC 56).	High	MCC	FOEC MW
E13/2	The elevated Plains Grassy Woodlands hilltop area on the west bank of the creek is an exposed site located adjacent to existing industrial areas.	Proposed revegetation works to establish Plains Grassy Woodlands (EVC 55) around an existing ephemeral waterhole (FOEC Site 5 - 2012/14 Plan).	High	MCC	FOEC
E14/2	There is an area of significant remnant vegetation including River Red Gum, Yellow Box and Sweet Bursaria immediately above the exposed Silurian escarpment adjacent to the caravan park, in an area dominated by weed species.	Coordinate targeted weed control with proposed FOEC restoration and revegetation works (FOEC Site 6 - 2012/14 Plan) to retain and enhance the existing pocket of remnant vegetation. Revegetation will be completed using a combination of Floodplain Riparian Woodland (EVC 56), Riparian Woodland (EVC 641) and Escarpment Shrubland (EVC 895).	High	MCC	FOEC
E15/2	MCMC has been undertaking weed control and revegetation works at the Melbourne Caravan Park site since 1992.	Continue ongoing maintenance of MCMC revegetation works at the Melbourne Caravan Park.	Ongoing	MCC	MCMC FOEC
Adjoining Land Use					
LU1/2	Existing private retaining wall directly adjacent to the informal path at the end of Jenkin Street is leaning and appears unstable.	Undertake building inspection to review structural stability of the private property retaining wall at the end of Jenkin Street and confirm if path closure is required until remediation has been completed by the land owner.	Urgent	MCC	Landowner
LU2/2	Melbourne Caravan Park is popular with interstate and overseas visitors who often visit open space along	Liaise with Melbourne Caravan Park operator to provide information on the environmental and cultural heritage values of the creek and links to popular points of	High	MCC	FOEC MCMC

Plan No.	Issues	Recommendations	Priority	Asset Manager	Partners
	Edgars Creek as part of their stay.	interest.			
LU3/2	There are large areas of undeveloped land along the western boundary south of Norfolk Court. Property titles extend right to the top of escarpment which restricts maintenance access and opportunities for buffer screen planting along the open space boundary.	Review existing planning provisions for vacant and industrial land along the west bank. Ensure any new development retains required setback and sufficient space for maintenance and future path access and screening vegetation.	High	MCC	
LU4/2	Maintenance and informal access at the rear of 172-182 Newlands Road may be on private property.	Review maintenance and informal walking access along the upper escarpment at 172-182 Newlands Road to confirm location of title boundary. If title confirmation indicates that public access is not possible, investigate application of a Public Acquisition Overlay (PAO) to secure continuous public access along the west bank.	High	MCC	
LU5/2	Maintenance and emergency access to the west bank is severely restricted.	Retain maintenance access to west bank upstream of Livingstone Street through to Kia Ora Road via Norfolk Court.	Ongoing	MW MCC	
		Retain maintenance access to the west bank at Conga Foods/Kodak site via the Kodak Bridge.	Ongoing	MW MCC	
LU6/2	Land title at the end of Hopetoun Crescent is unclear and may constrain future development of path access along the east bank between Livingston Street and Jenkin Street. Refer to R2/2.	Review and confirm extent of public open space upstream of Hopetoun Crescent on the east bank. Existing fenceline is set to top of Escarpment and retains sufficient space for future boardwalk/stairs access. Refer to R2/2.	High	MCC	
LU7/2	The open space reserve at the end of Arthur Street is subject to illegal rubbish dumping due to its accessibility to the creek.	Upgrade vehicle control and regulatory signage at the end of Arthur Street to reduce illegal vehicle access and rubbish dumping. Establish infill planting along the creek embankment. Refer E4/2.	High	MCC	FOEC
LU8/2	Existing street lighting may not adequately provide safety lighting at Hopetoun Crescent.	Liaise with Council's engineering unit to investigate potential improvements to street lighting at Hopetoun Crescent.	Med	MCC	

4.3 Reach 3
Edwardes Lake to Jenkin Street (Elizabeth St North)

4.3.1 Existing Conditions

The banks of the Edgars Creek downstream of Edwardes Lake are generally deeply incised and difficult to access, other than the east bank between Henty Street and Kia Ora Road, where the flood plain provides an area of open space adjacent to Allan Street. There is no maintenance access from the industrial areas on the west side of the creek and Edwardes Street and Henty Street are the only major road crossings in this reach.

Land ownership and management

Most of the creek corridor in this reach is zoned as open space, owned and managed by the City of Darebin. Melbourne Water own and manage the west bank of the creek between Edwardes Street and Henty and a small area of land on the east bank, north of Kia Ora Road. (Refer Land Ownership Diagram - Figure 2).

Adjoining land use

Adjoining land use for this reach includes industrial on the west side of the creek and residential on the east side. Zagame's (formerly Edwardes Lake Hotel) and its associated car park is located adjacent to the creek corridor off Edwardes Street. The Darebin City Council Depot is located at on the west side of the creek, opposite Jenkin Street.

Infrastructure

SPI Ausnet's overhead power lines directly impact on the creek corridor in this reach between Kia Ora Road and Jenkin Street. Existing infrastructure located north of Hillcroft Street includes a circular concrete area and gas meters. Existing sewer infrastructure generally runs parallel to the creek and existing drains from adjoining residential and industrial properties have outfalls into the creek.

Recreational use

There are no formal walking trails in this reach. An informal walking access track is located at the base of the relatively steep bank of the Melbourne Water owned land immediately downstream of Edwardes Street. Another informal walking access track is located on the west bank and crosses the creek via an informal ford crossing to link to Kia Ora Road.

Environmental values

The vegetation values along this reach include areas of Creekline Grassy Woodland along the immediate banks of the creek and a small patch of Escarpment Shrubland at Kingsley Road. Existing weeds include Blackberry along the rear fences of the industrial properties opposite Kia Ora Road and at the Edwardes Street bridge.

Cultural heritage values

There are no registered sites of Aboriginal heritage significance in this reach.

4.3.2 Recommendations – Reach 3

The following is a summary of strategic recommendations for consideration by Darebin City Council and Melbourne Water in future planning and management of the creek and open space between - Edwards Lake to Jenkin Street.

- Maintain emergency and maintenance access along the creek west bank between Henty Street and the Edwardes Lake Spillway.
- Maintain vegetation clearance zones to rear boundary fences between Lake Street and Henty Street on the east bank.
- Monitor bank stability along adjoining private properties.
- Protect existing native and indigenous vegetation along the creek between Edwardes Lake and Henty Street. Undertake weed control and targeted infill revegetation.
- Investigate establishment of improved on road cycle access between Kia Ora Road and Jenkin Street to Elizabeth Street and onto Coburg Hill.
- Review road side crash barriers at the cliff edge at Jenkin Street.
- Liaise with industrial property owners along Henty Street and Kurnai Avenue to investigate options for maintenance access and improvements to integrated land management practices.
- Investigate engineering options to stabilise and improve the function and amenity of the drain outfalls along Kurnai Avenue.
- Investigate improved on road cycle access via Carrington Road to Gilbert Road and Edwardes Lake as an interim measure until off road shared trail link can be established.
- Investigate an off road sealed shared trail link from Henty Street to Kia Ora Road and establishment of a formal crossing point on Henty Street for pedestrians and cyclists .
- Investigate upgrade of Glenvale Road footpath (west) and Kingsley Road footpath (south) including signage and kerb ramps where access along the creek between Kia Ora Road and Kingsley Avenue is not possible.
- Investigation upgrade of the existing informal walking track between Kingsley Road and Jenkin Street.
- Investigate WSUD systems for local drainage connections in road reserves or adjoining open space at Lake Street, Henty Street, Kia Ora Road and Hillcroft Street.
- Investigate potential re use of the concrete slab in Allan Street Reserve as a basketball court and establishment of associated park facilities including drinking fountain and seats.
- Long term investigate establishment of a footbridge near the existing ford crossing south of Kia Ora Road.
- As outlined in the Draft Darebin Natural Heritage Plan review existing planning controls between Jenkin Street and Edwardes Lake.
- Investigate opportunities for future use and function of vacant block on the south side of Edwardes Street east of Edgars Creek.
- Liaise with Melbourne Water to confirm safe management procedures and signage at the existing ford crossings.
- Monitor bank stability between Kia Ora Road and Kingsley Road.
- As part of potential future development along the west bank between Edwardes Lake and Henty Street investigate options for establishment of an extended open space frontage to enable future shared trail access at required flood protection levels while maintaining space for establishment of suitable revegetation and landscape buffer zones along the creek.

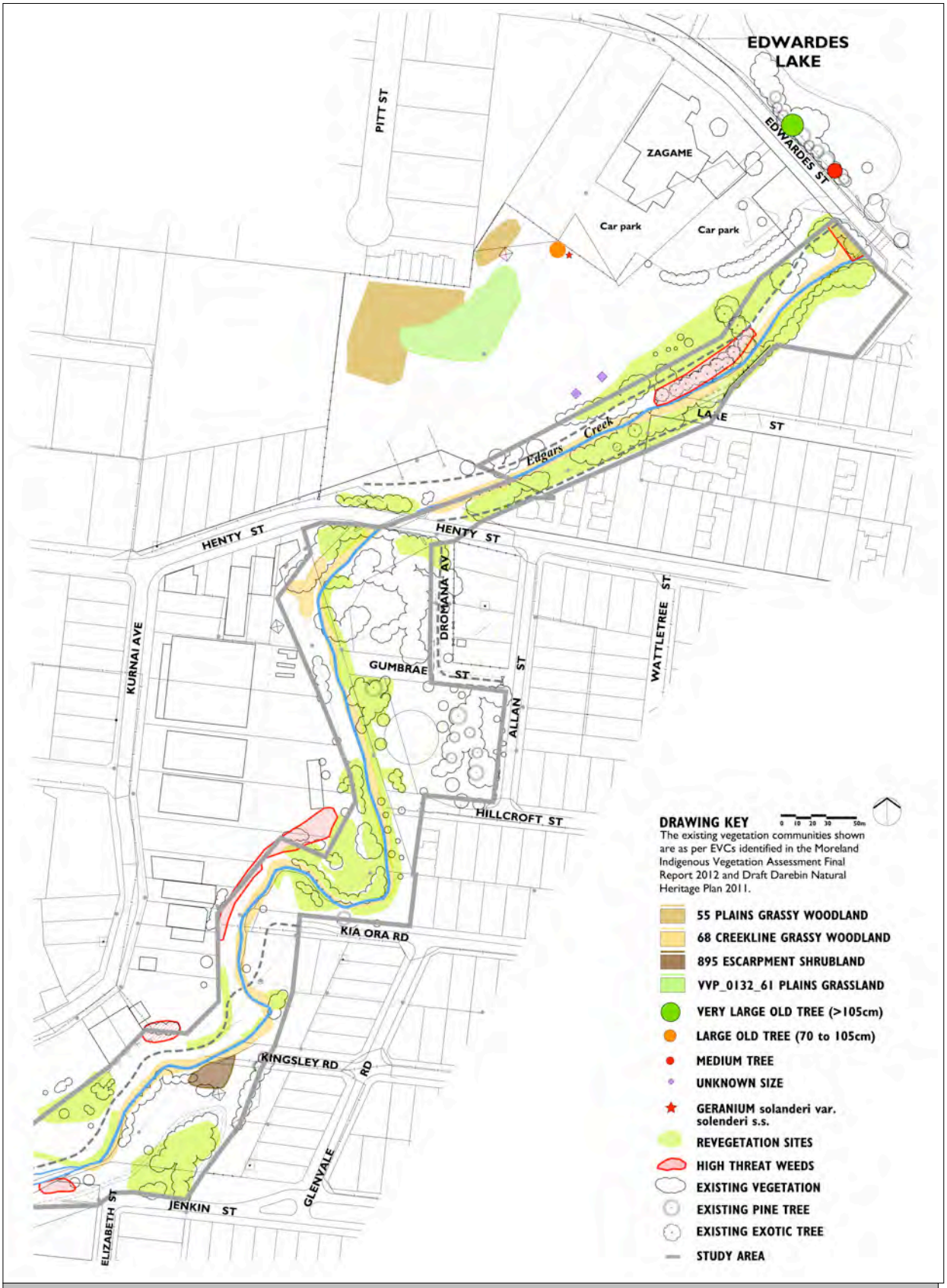


FIGURE 21: EXISTING CONDITIONS – EDWARDES LAKE TO JENKIN STREET

Note:
1. The existing vegetation communities shown are as per EVCs identified in the Moreland Indigenous Vegetation Assessment Final Report 2012 and Draft Darebin Natural Heritage Plan 2011.

5. Implementation

The following section provides an overview of the indicative capital costs to implement each of the key improvements actions identified, and presents these actions within an overall recommended implementation framework (i.e. priorities). Please note all works estimates are for planning purposes only and are subject to detailed design and funding.

The priorities are as follows:

- Urgent (i.e. required by legislation or regulation)
- High (1-5 years)
- Medium (6-10 years)
- Low (11-15 years)
- Ongoing - part of current programs

5.1 Summary of Indicative Costs and Priorities

Summary of Reach 1 and 2 recommendations for completion by Moreland City Council and Partners.

	URGENT	HIGH	MEDIUM	LOW
1.0 - Drainage and Water Quality	$15,000	$614,500	$10,000	$90,000
2.0 - Recreation	Nil	$159,000	$282,000	$12,000
3.0 - Environment	Nil	$59,000	$164,000	$332,000
4.0 - Adjoining Land Use	Nil	$3,000	Nil	Nil
PROJECT WORKS PRIORITIES	$15,000	$835,500	$456,000	$434,000
TOTAL WORKS				$1,740,500

6. Consultation

6.1 Community Consultation at the Research and Analysis Phase

An information letter and questionnaire was prepared to seek feedback from the local community to inform preparation of the Edgars Creek Conservation and Development Plan. The letter was designed to identify existing use of the creek corridor, key values, issues and opportunities to be considered in preparation of the plan. The letter also invited residents to attend community meetings held Sunday 23/4/2012 and Wednesday night 2/5/2012.

1500 questionnaires were letter box dropped to residents in the local Moreland area in April and copies were at the Community meetings. Notices were also placed in the Moreland Leader. A total of 153 questionnaires were completed by residents of Moreland City Council and returned by closing date of 25/5/2012. 730 questionnaires were letter box dropped to residents in the local Darebin area in May. A total of 53 questionnaires were completed by residents of Darebin City Council and returned by closing date of 25/5/2012. The responses were summarised by Clare Johnson at Moreland City Council.

A community information session was held on Sunday 29/4/2012 from 10am -12pm hear the Ronald Street footbridge attended by approximately 45 people. A community meeting was held Wednesday 2/5/2012 from 5pm to 6.30pm at the Newlands Senior Citizens Centre, Murray Road Coburg. The meeting was attended by 10 people. Refer Appendix C1 for Summary Report of Community Consultation Outcomes, undertaken at this phase of the project.

6.2 Community Consultation at the Draft Plan Phase

A second information leaflet and questionnaire was prepared to seek feedback from the local community regarding the key recommendations of the Draft Edgars Creek Conservation and Development Plan. The information leaflet summarised the key values, issues and opportunities raised by respondents from the first phase of consultation which were considered in preparation of the draft plan. The information leaflet also invited residents to attend a community information sessions held on site Sunday 17/3/2013.

1473 information leaflet #2 questionnaires were letter box dropped to residents in the local Moreland area during February/March 2013 and copies were also available on site at the community information session. A further 94 copies were e-mailed to Moreland residents who provided their address in the first phase of consultation as well as 25 Darebin residents. A total of 85 questionnaires were completed and returned by closing date of 29/3/2013.

A community information session was held on Sunday 17/3/2013 from 10am-12pm near the Ronald Street footbridge, attended by approximately 20-25 people. Refer Appendix C2 for Summary Report of Community Consultation Outcomes undertaken at the Draft Plan phase.

7. Bibliography

Coburg Hill Landscape Master Plan, Satterleys, 2012

Darebin Cycling Strategy, PBAI Australia with David Lock Associates, 2005

Darebin Natural Heritage Plan, Context Pty Ltd, 2011

Darebin Open Space Strategy 2007-12, Darebin City Council, 2007

Healthy Waterways Strategy (Draft), Melbourne Water, May 2012

Merri Creek and Environs Strategy, 2009 - 2014

Merri Creek Concept Plan – Cultural Heritage Report, Melbourne Water and MCMC, 1993

Merri Creek Constructed Urban Wetlands Feasibility Study Final Report, Sept 2009

Moreland Bicycle Strategy, Moreland City Council, Adopted Nov 2011

Moreland Indigenous Vegetation Assessment Final Report, MCMC, 2012

Moreland Integrated Transport Strategy 2010-19, Moreland City Council, 2010

Moreland Integrated Water Management Plan, Moreland City Council, 2009

Moreland Open Space Strategy, Moreland City Council, 2012

Moreland Pedestrian Strategy 2010-19, Moreland City Council, 2010

Naming Moreland Places Policy, Moreland City Council, April 2003

Shared Pathway Guidelines, Melbourne Water, 2009

SP Ausnet Guide to Planting Near Electricity Lines, 2007

SP Ausnet Guide to Living with Easements, 2007

The Merri Creek – Sites of Geological and Geomorphological Significance, Neville Rosengren, 1993

Three Potential Wetland Sites Along Merri Creek – Geotechnical Surveys, Coffey Geotechnics Pty Ltd, 2010

Understanding Planning Issues along the Merri Creek and Policy: Development Guidelines for the Merri Creek, MCMC, Adopted May 2004

APPENDICES

A **Final Edgars Creek Flora and Fauna Assessment – Ecology and Heritage Partners P/L May 2013**

B **Background Document Review**

C1 **Summary Community Consultation – Analysis Phase**

C2 **Summary Community Consultation – Draft Plan Phase**

APPENDIX A

ecology & heritage partners

FINAL REPORT:

Flora and fauna advice for the Edgars Creek Management Plan, Melbourne, Victoria

PREPARED FOR:

Thompson Berrill Landscape Design Pty Ltd
May 2013

Ecology and Heritage Partners Pty Ltd

MELBOURNE: 292 Mt Alexander Rd, Ascot Vale VIC 3032, **ADELAIDE:** 8 Greenhill Rd, Wayville SA 5034, **BRISBANE:** 7/140 Ann St, Qld 4000
GEELONG: PO Box 8048, Newtown VIC 3220

ecology & heritage partners

Thompson Berrill Landscape Design Pty Ltd

Studio 7, 251 Chapel Street

PO Box 2157

Prahran VIC 3181

21 May 2013

Our ref: 3726

RE: Flora and fauna advice for the Edgars Creek Management Plan, Melbourne, Victoria.

Introduction

Ecology and Heritage Partners Pty Ltd was commissioned by Thompson Berrill Landscape Design Pty Ltd (TBLD) to provide flora and fauna advice for the Edgars Creek Management Plan (ECMP), Melbourne, Victoria.

The ECMP is part of a broader project involving the participation and previous working knowledge of local friend groups (i.e. Friends of Edgars Creek and Merri Creek Management Committee) and relevant stakeholders (i.e. local Councils and Melbourne Water) who are associated with the management of Edgars Creek.

The purpose of this assessment was to investigate and document ecological values within the study area and to identify key ecological opportunities and constraints associated with the future management of Edgars Creek.

Study Area

Edgars Creek is located approximately 10 kilometres north of the Melbourne CBD. The study area comprises a section of Edgars Creek between the Merri Creek junction at Murray Road (southern end) and Edwardes Street (northern end), which covers approximately three kilometres of the creekline (Appendix 3). The southern portion of the study area is within the jurisdiction of Moreland City Council (MCC), while the northern section of study area (north of Jenkin Street, Reservoir) is within the City of Darebin (CoD) municipality.

According to the Department of Sustainability and Environment's (DSE) Biodiversity Interactive Map (DSE 2012), the study area occurs within the Victorian Volcanic Plain bioregion.

The study area falls within the Port Phillip and Western Port Catchment Management Authority Area.

The study area is classified as crown land with a Public Park and Recreation Zone (PPRZ), and is subject to a Heritage Overlay (HO72) and an Environmental Significance Overlay – Schedule 1 (ESO2) relating to the high flora, fauna and archaeological values associated with this catchment (DPCD 2012).

Methods

Desktop Assessment

The following resources and databases were reviewed during the desktop assessment:

- Relevant flora and fauna databases (i.e. Victorian Biodiversity Atlas, Atlas of Victorian Wildlife, Bird Atlases including Eremaea, and the Flora Information System) and available literature including reports/information provided by TBLD;
- Moreland City Council and Merri Creek Management Committee's Moreland Indigenous Vegetation Assessment (MCMC 2011);
- City of Darebin's Darebin Natural Heritage Study – Natural Heritage Plan (Context Pty Ltd 2011);
- DSE's Biodiversity Interactive Maps showing historic and current EVCs (DSE 2012);
- Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) Protected Matters Search Tool which identifies matters of national environmental significance (e.g. listed flora and fauna species and ecological communities, RAMSAR wetlands) protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (SEWPaC 2012);
- Planning Schemes Online providing the current zone and overlays (DPCD 2012);
- Identify opportunities and recommendations for future land management to assist with development of the management plan; and,
- Relevant federal and state legislation and policies.

Field Assessment

A rapid assessment of the study area was undertaken on 6 February 2012 by a qualified Botanist and Zoologist, to identify dominant flora and fauna species, vegetation communities including Ecological Vegetation Classes (EVCs), fauna habitats, major weed infestations, and any significant flora and fauna species.

An additional site visit was attended on the 22 February 2012 with local 'friends of' group members, council representatives, Melbourne Water and TBLD, to outline potential issues and opportunities associated with the ECMP. Detailed maps were prepared by TBLD in conjunction with previous mapping undertaken for the MCC and CoD, to highlight the relevant features outlined above (Context Pty Ltd 2011; MCMC 2011) (Appendix 3).

Limitations

The field assessment was undertaken during a period (summer) considered suitable for a flora and fauna survey. As with any assessment, a greater amount of time on the site would also increase the likelihood of recording additional flora and fauna species.

The short duration of the survey meant that migratory, transitory or uncommon fauna species may have been absent from typically occupied habitats at the time of the field assessment.

Vegetation mapping (and descriptions) was not undertaken during this assessment, and for this report is based upon the mapping prepared by Context Pty Ltd (2011) and MCMC (2011).

Notwithstanding the above, terrestrial flora and fauna data collected during the field assessment and information obtained from relevant sources (i.e. biological databases) provides an accurate assessment of the ecological values within the study area.

Results

Flora

Significant Flora

No threatened flora species were recorded within the study area during the field assessment or during the previous assessment undertaken by MCC and CoD (Context Pty Ltd 2012, MCMC 2011).

There is a low likelihood of occurrence of any significant flora species due to the modified condition of vegetation within the study area (Appendix 1.1).

Ecological Vegetation Classes (EVC)

DSE modelled (pre-1750) EVC mapping for the region shows that the study area and immediate surrounds would have predominantly contained Creekline Grassy Woodland (EVC 68), Plains Grassy Woodland (EVC 55) and Swampy Woodland (EVC 937) (DSE 2012).

Extant DSE mapping shows two very small patches of Creekline Grassy Woodland persisting within the northern section of the study area between Arthur Street and Kingsley Road. In the surrounding area, there are scattered patches of Swampy Riparian Woodland persisting along the Merri Creek to the south of the study area. The remainder of the study area and surrounding areas are shown to be devoid of remnant vegetation Creekline Grassy Woodland, Plains Grassy Woodland and Swampy Woodland are all listed as Endangered within the Victorian Volcanic Plain bioregion (DSE 2012). Several additional EVC's, not indicated on the DSE mapping were located within the study area based upon earlier mapping by Context Pty Ltd (2011) and MCMC (2011), including Stream Bank Shrubland and Escarpment Shrubland, and both are listed as Endangered within the Victorian Volcanic Plain bioregion (DSE 2012).

Vegetation condition

The study area contains a diverse array of vegetation types ranging from highly modified vegetation dominated by exotic flora species to areas of moderate quality, with a predominantly indigenous overstorey and scattered remnant understorey. Much of the vegetation within the study area consists of planted trees and shrubs of indigenous and exotic origin, with an understorey dominated by introduced grass species and woody weeds. The diversity of indigenous plant species was low, however there were many areas that provided good quality habitat for native fauna species.

The study area has been highly modified through previous and current land uses including agriculture, industry, residential developments and traffic, and the current vegetation condition and composition is a product of these changes.

The remnant vegetation communities/habitats within the entire study area, as per maps provided by Context Pty Ltd (2011) and MCMC (2011), are outlined below (See Appendix 3).

Creekline Grassy Woodland

Creekline Grassy Woodland is described as an open eucalypt woodland to 15 metres tall with an occasional scattered shrub layer over a grassy/sedgy to herbaceous ground layer occurring on low-gradient ephemeral to intermittent drainage lines.

Creekline Grassy Woodland is common along Edgars Creek in poor to moderate condition with only the overstorey and/or scattered ground cover present.

The overstorey consists predominantly of River Red-gum *Eucalyptus camaldulensis* with scattered Blackwood *Acacia melanoxylon* also present. A small area mapped as Brackish Wetland is considered part of this highly modified EVC.

Stream Bank Shrubland

Stream Bank Shrubland is described as a tall shrubland to 8 metres tall above a ground layer of sedges and herbs occurring along rivers and major streams where the watercourse consists of rocky banks, a flat rocky stream bed or broad gravel banks which are often dry.

Based upon mapping provided by Context Pty Ltd (2011) and MCMC (2011), Stream Bank Shrubland is mostly located along the immediate edge of Edgars Creek and is typically dominated by a range of indigenous and exotic aquatic species including Common Reed *Phragmites australis*, Narrow-leaf Cumbungi *Typha domingensis* and Slender Knotweed *Persicaria decipiens*. Other indigenous trees and shrubs found within these areas were typically planted and consisted of River Red-gum, Blackwood, Sweet Bursaria, Silver Wattle *Acacia dealbata* and Manna Gum *Eucalyptus viminalis.*

Escarpment Shrubland

Escarpment Shrubland occurs on rocky escarpments in steep valleys or gorges associated with basalt or limestone, consisting of an eucalypt woodland to 15 metres tall or a non-eucalypt shrubland to 8 metres tall.

Escarpment Shrubland is found mainly in the lower two reaches of Edgars Creek between Ronald Street and Livingstone Street with several additional small patches further north. This vegetation is typically found on the steep escarpments along the creel and typically dominated by exotic flora species, however, remnant indigenous shrubs including Sweet Bursaria *Bursaria spinosa* Blackwood and Tree violet *Melicytis dentatus* are often present.

Plains Grassy Woodland

Plains Grassy Woodland is described as an open eucalypt woodland to 15 metres tall with an understorey consisting of a few sparse shrubs over a species-rich grassy and herbaceous ground layer. Plains Grassy Woodland is generally found outside the riparian zone adjacent to Edgars Creek predominantly in the lower reaches between Merri Creek and Tilley Street.

The vegetation is typically highly modified consisting of planted or remnant overstorey of River red-gum with scattered exotic and indigenous grasses, including Kangaroo Grass *Themeda triandra* and Wallaby grasses, present in the ground cover.

Exotic Grass/Weeds

The understorey of the riparian and surrounding zones along Edgars Creek are generally dominated by exotic grasses and weed species including Kikuyu *Pennisetum clandestinum,* Perennial Rye-grass *Lolium perenne,* Ox-tongue *Helminthotheca echioides,* Toowoomba Canary-grass *Phalaris aquatica,* Spear Thistle *Cirsium vulgare* and Couch *Cynodon dactylon*.

Several noxious weed species were also present within the study area, including Chilean Needle Grass *Nassella neesiana*, Serrated Tussock *Nassella trichotoma*, African Boxthorn *Lycium ferocissimum*, Blackberry *Rubus fruticosus* spp. agg., Fennel *Foeniculum vulgare,* and Soursob *Oxalis pes-caprae.*

Woody Weeds

High threat woody weeds are present throughout the study area. Species include Desert Ash *Fraxinus angustifolia* subsp. *angustifolia,* African Boxthorn, Weeping Willow *Salix babylonica*, Montpellier Broom *Genista monspessulana*, Hawthorn *Crataegus monogyna,* Prunus *Prunus spp.* and White Poplar *Populus alba*.

Planted Trees/ Revegetation

A range of indigenous and non-indigenous trees and shrubs have been planted along the riparian and surrounding zones along Edgars Creek. These areas are providing important habitat for a range of bird and mammal species. Whilst many of the planted species are not indigenous to the area, they are performing a similar function to indigenous species which would have naturally occurred within the area. At this stage, unless the planted species have been identified as a woody weed (see above), they should be retained as habitat within the study area.

Fauna

As mentioned above, terrestrial and aquatic habitats within the study area currently supports a range of vegetation types. While the extent and quality of native vegetation has been highly modified since European settlement (Context Pty Ltd 2011), habitat throughout the study area provides important habitat corridors and refuge for a range of native fauna species within an otherwise urbanised landscape.

Common Fauna

Crested Pigeon *Ocyphaps lophotes*, New Holland Honeyeater *Phylidonyris novaehollandiae*, Rainbow Lorikeet *Trichoglossus haematodus*, Red-rumped Parrot *Psephotus haematonotus*, Superb Fairy-wren *Malurus cyaneus*, Noisy Miner *Manorina melanocephala*, Red Wattlebird *Anthochaera carunculata*, Australian Magpie *Gymnorhina tibicen*, White-faced Heron *Egretta novaehollandiae*, Magpie-lark *Grallina cyanoleuca*, Little Raven *Corvus mellori*, Welcome Swallow *Hirundo neoxena* and White-plumed Honeyeater *Lichenostomus penicillatus* were all observed during the field assessment, using a range of habitats within the study area.

Introduced bird species including Common Starling *Sturnus vulgaris*, Spotted Dove *Streptopelia chinensis*, Common Blackbird *Turdus merula* and Common Myna *Acridotheres tristis* and incidental records of European Rabbit *Oryctolagus cuniculus* were also noted during the assessment.

A variety of locally common reptile species are likely to reside within the Edgars Creek corridor on a permanent basis including Tiger Snakes *Notechis scutatus* and Blue-tongued Lizards *Tiliqua scincoides scincoides*. Water Rat *Hydromys chrysogaster* is also likely to use terrestrial and aquatic habitat within the Edgars Creek corridor for foraging, dispersal and potential breeding habitat.

Incidental Records

A list of incidental MCMC records was also provided (B. Bainbridge, pers. comm. 23 May 2012), which contain notable fauna species detected along Edgars Creek. Raptor species of interest include Peregrine Falcon *Falco peregrinus*, Australian Hobby *Falco longipennis*, Black-shouldered Kite *Elanus axillaris*, Brown Falcon *Falco berigora*, Brown Goshawk *Accipiter fasciatus*, Little Eagle *Hieraaetus morphnoides* and Nankeen Kestrel *Falco cenchroides*.

This diversity of raptors is thought to be significant for the area and may be associated with the high number of rabbits along Edgars Creek within preferred foraging sites (i.e. Cash Reserve) (B. Bainbridge, pers. comm. 23 May 2012).

Other notable bird species include Common Bronzewing *Phaps chalcoptera*, Yellow-tailed Black Cockatoos *Calyptorhynchus funereus*, Crested Shrike-tits *Falcunculus frontatus*, Dusky Woodswallow *Artamus cyanopterus*, Flame Robin *Petroica phoenicea*, Sacred Kingfisher *Todiramphus sanctus* and Azure Kingfisher *Alcedo azurea*. These species are considered to be significant sightings by the MCMC (B. Bainbridge, pers. comm. 23 May 2012), especially the regionally listed Azure Kingfisher, which was last detected in 1999.

Other incidental MCMC records (B. Bainbridge, pers. comm. 23 May 2012) include; Eastern Long-necked Turtle *Chelodina longicollis*, Tussock Skink *Pseudemoia pagenstecheri* and Southern Water Skink *Pseudemoia pagenstecheri*. Swamp Wallaby *Pseudemoia pagenstecheri* has also been observed by MCMC along Edgars Creek (last detected in 2009) north of Norfolk Court and within the Kodak Australia Pty Ltd site (B. Bainbridge, pers. comm. 23 May 2012).

Significant Fauna

No national, state or regional listed significant fauna species were recorded within the study area during the field assessment. Twenty five nationally listed fauna species have previously been recorded within the local area (within 10 km of the study area) (DSE 2011); or habitat for these species is predicted to occur within or adjacent to the study area (SEWPaC 2012).

Growling Grass Frog *Litoria raniformis* has been recorded within Edwardes Lake directly north of the study area in 2002 (DSE 2011). A known meta-population exists north of the study area within the Merri Creek Corridor (MCC) (Heard *et al.* 2009). Growling Grass Frog has been detected more recently (2006) at two sites in Campbellfield, namely the Boral Quarry on Transport Drive and former Austral Bricks quarry at Bolinda Road (Heard *et al.* 2009). Given the species is likely to disperse south of these sites in the future, terrestrial and aquatic habitat throughout the Merri Creek and Edgars Creek catchments may provide potential dispersal opportunities for this species.

There are 39 previous records of Swift Parrot *Lathamus discolor* within a 10 kilometre radius of the study area, most recently in 2006 (DSE 2011); however, due to the nomadic nature of this species it is unlikely to reside within the study area for extended periods of time (Appendix 2.1).

Grey-headed Flying-fox *Pteropus poliocephalus* have been recorded recently (2012) in proximity to the study area (A. Taylor, pers. obs.) and may use eucalypt species within the study as a potential foraging resource on the occasional basis (Appendix 2.1). However, it is unlikely that Grey-headed Flying-fox would reside within the study area for extended periods or on an annual basis. The remaining listed significant fauna species are unlikely to occur within the study area (Appendix 2.1).

Thirty seven state listed fauna species have been recorded within 10 kilometres of the study area (Appendix 2.1). Royal Spoonbill *Platalea regia* has recently been recorded within Edwardes Lake by the MCMC on 19 February 2012; however the species is unlikely to use terrestrial or aquatic habitat along Edgars Creek for breeding or foraging purposes (Appendix 2.1).

Musk Duck *Biziura lobata*, Freckled Duck *Stictonetta naevosa*, Australasian Shoveler *Anas rhynchotis*, Hardhead *Aythya australis*, Blue-billed Duck *Oxyura australis*, Eastern Great Egret *Ardea modesta*, Intermediate Egret *Ardea intermedia*, Little Bittern *Ixobrychus minutus dubius* and Baillon's Crake *Porzana pusilla palustris* may use Edwardes Lake for foraging purposes while some of these species may also disperse along Edgars Creek between preferred habitats on an occasional basis. Black Falcon *Falco subniger* and Grey Goshawk *Accipiter novaehollandiae novaehollandiae* may also forage over open areas throughout the Edgars Creek Corridor on rare occasions for foraging purposes. The likelihood of occurrence of state significant fauna species within the study area is outlined in Appendix 2.1.

Seventeen regional listed fauna species have been recorded within 10 kilometres of the study area (Appendix 2.1). Nankeen Night Heron *Nycticorax caledonicus hillii* was also detected within Edwardes Lake by the MCMC on 19 February 2012. Pied Cormorant *Phalacrocorax varius* has also been detected within the local area and these species are likely to disperse along Edgars Creek between preferred habitats on an occasional basis; however, there is no suitable breeding habitat within the study area (Appendix 2.1). Azure Kingfisher *Alcedo azurea* is likely to use Edgars Creek as a potential dispersal corridor on an occasional basis. All other native fauna (primarily birds) are considered to be of regional or local significance (Appendix 2.1).

Fauna Habitats

The study area supports three broad fauna habitat types, which are consistent with the vegetation communities outlined above, and include:

- **Modified Woodland / Modified Shrubland / Planted Vegetation:** Plains Grassy Woodland, Creekline Grassy Woodland, Stream Bank Shrubland and Escarpment Shrubland
- **Modified Grassland:** Creekline Tussock Grassland (revegetation) and Plains Grassland (just south of Conga Foods)
- **Aquatic Vegetation / Edgars Creek:** Highly modified Creekline Grassy Woodland

Fauna habitats located within the study area have been assigned a general designation by grouping similar EVCs together. Some habitat types do not relate to any EVC (i.e. Edgars Creek), and are based on general habitat characteristics and not vegetation type.

Modified Woodland / Modified Shrubland / Planted Vegetation

Overall habitat value – Modified woodlands, shrublands and planted vegetation are of **moderate to high** habitat value for fauna (Appendix 3). While the majority of the woodland and shrubland areas within the study area are structurally deficient, lacking key mid-storey and understorey components, they are likely to act as 'stepping stone' habitats for mobile species (principally birds). Patches of habitat are also likely to facilitate fauna movement between habitats throughout the otherwise urbanised landscape. With a focus on weed and pest management, revegetation sites that establish over time will link existing areas of vegetation within the Edgars Creek corridor allowing additional habitat areas for native fauna and potential dispersal opportunities for new species.

Description – Woodland and shrubland EVC's are relatively continuous within the MCC portion of Edgars Creek, while somewhat sporadic within the CoD management area (Appendix 3). Woodland areas are characterised by an overstorey supporting planted eucalypts up to 18 metres high. Given the extensive historical level of land clearing throughout the local area, few of these mature eucalypts are hollow-bearing. The midstorey is generally almost entirely absent, which is atypical of this habitat type, and the understorey is largely comprised of planted trees, shrubs and tussock grasses (i.e. Wallaby-grasses *Austrodanthonia* spp.), and introduced pasture grasses and weeds.

Shrubland areas have a more prominent midstorey layer of trees and shrubs, while there is a low level of ground debris consisting of logs, fallen timber, leaf litter and natural regeneration. This habitat was generally located on steep cliffs or escarpments along the Edgars Creek corridor.

Terrestrial fauna – Swamp Wallaby, Brush-tailed Possum *Trichosurus vulpecula* and Ring-tailed Possum *Pseudocheirus peregrinus* are likely to use habitat within the Edgars Creek corridor for foraging and dispersal habitat while some areas may provide suitable breeding habitat. When in flower, both remnant and planted trees provide an important nectar resource for many bird species including; cockatoos, parrots, honeyeaters and lorikeets. Additionally, lower growing shrubland areas are used by smaller passerine species such as wrens, thornbills, and fantails for nesting and foraging purposes.

Modified woodland areas may also provide temporary habitat for diurnal raptors (i.e. Australian Hobby, Peregrine Falcon, Nankeen Kestrel, Collared Sparrowhawk *Accipiter cirrhocephalus* and Brown Goshawk), which use trees for perching, roosting and foraging activities.

White-striped Freetail-bat *Tadarida australis* and common bat species are likely to use small hollows, and loose bark as potential breeding habitat or roosting sites during the day.

Larger patches of vegetation are also expected to support a multifaceted ground fauna component, such as reptiles (i.e. lizards, snakes) and native frogs, particularly in areas where there is adequate vegetation cover.

Creekline Tussock Grassland (revegetation) / Plains Grassland (just south of Conga Foods)

Overall habitat value – Modified grassland areas situated along Edgars Creek are considered to be of **moderate to high** habitat value for fauna (Appendix 3). An additional area located south of Conga Foods is considered to be of **low to moderate** habitat for fauna (Appendix 3). While the area of Creekline Tussock Grassland and Plains Grassland located along Edgars Creek is relatively small, this successful revegetation site is likely to provide excellent cover for native fauna (Appendix 3).

Description – Grassland areas along Edgars Creek are characterised by native grasses (i.e. *Poa* spp. and *Austrodanthonia* spp.) growing up to one metre. There is no midstorey or overstorey present within this habitat; however, areas of Stream Bank Shrubland and Creekline Grassy Woodland align the banks.

Terrestrial fauna – These habitat patches are likely to support potential foraging habitat and refuge for reptiles (i.e. lizards and snakes) and native frogs, particularly in areas where there is adequate vegetation cover. Larger open areas situated away from Edgars Creek are likely to provide foraging habitat for the locally common bird species such as Crested Pigeon, Australian Magpie, Magpie-lark, Little Raven and Welcome Swallow, Red-rumped Parrot and Willie Wagtail *Rhipidura leucophrys*.

Aquatic Vegetation / Edgars Creek

Overall habitat value – Aquatic vegetation (i.e. in stream components of highly modified Creekline Grassy Woodland) and Edgars Creek are of **moderate to high** habitat value for local fauna (Appendix 3). A small patch of vegetation mapped as Brackish Wetland, but considered highly modified Creekline Grassy Woodland, is located near Newlands Road which drains into Edgars Creek. When inundated this area may provide a range of micro-habitats to suite a range of fauna species, particularly wetland associated bird species.

Description – This vegetation is characterised by native herbs, shrubs and grasses (Context Pty Ltd 2011). There is no midstorey or overstorey present within this habitat and exotic pasture grasses and weeds are also prevalent.

Edgars Creek encompasses a variety of vegetation types as outlined above, and has undergone some degree of historical channelling to assist with flooding (Context Pty Ltd 2011). Sections of the creek have undergone reinstatement and strengthening to assist with erosion (i.e. 'The Goose Neck').

Edgars Creek is typical of an urbanised system and ranges between 2–10 metres in width, averaging 4 metres in most sections. As with any urbanised systems, the presence of litter and introduced weed species was widespread throughout the corridor. With on-going management and persistence from local friends groups and relevant authorities, this section of Edgars Creek will provide an excellent resource for flora and fauna species, and the local community. Overall, Edgars Creek is multifaceted and provides a range of suitable habitats for locally common fauna species. Some sections of the creek are also considered to be 'High Value' habitat for flora and fauna conservation, given the consistent quality of water and level of terrestrial and aquatic vegetation.

Terrestrial fauna – While this area of vegetation is small (10 x 20 metres), when inundated, this habitat is likely to provide potential foraging habitat for wetland associated bird species such as Purple Swamphen *Porphyrio porphyria* and Dusky Moorhens *Gallinula tenebrosa*.

Edgars Creek may also provide potential foraging and dispersal habitat for Water Rat and Platypus *Ornithorhynchus anatinus*. Interestingly, a male Platypus was recently recorded within Merri Creek north of Moreland Road and previously within Edgars Creek in 2006 (B. Bainbridge, pers. comm. 23 May 2012). Other local fish species such as Common Galaxias *Galaxias maculatus* and Short-finned Eel *Anguilla australis* are likely to use Edgars Creek for breeding, dispersal and foraging habitat along introduced species European Carp *Cyprinus carpio*, Goldfish *Carassius auratus* and Eastern Gambusia *Gambusia holbrooki*. As mentioned, Eastern Long-necked Turtles are likely to use Edgars Creek for foraging, dispersal and potential breeding habitat.

Dense vegetation is also likely to support a variety of frog species within the creek corridor such as Common Froglet *Crinia signifera* and Eastern Banjo Frog *Limnodynastes dumerilii* which have been detected previously during the Melbourne Water Frog Census.

Overall, there is likely to be a scarcity of native frog and fish species given the historical and current pressures of residential and industrial developments adjoining the creek, which may ultimately affect in-stream vegetation, fauna habitats and water quality.

Legislative and Policy Implications

Environment Protection and Biodiversity Conservation Act 1999

No EPBC Act listed flora or fauna species are considered likely to occur within the study area, at present. Therefore, an EPBC Act referral to the Commonwealth Environment Minister for any future works is not recommended.

Flora and Fauna Guarantee Act 1988

The study area is located on public land and therefore a *Flora and Fauna Guarantee Act 1988* (FFG Act) permit will be required to remove any FFG Act listed and protected flora species within the study area, if required.

Planning and Environment Act 1987

A planning permit from the MCC and CoD is required to remove or disturb any native vegetation (i.e. scattered indigenous grasses) under Clause 52.17 within the study area. The removal of planted native vegetation is exempt from a Planning Permit. However, this exemption does not apply if public funding was provided to assist in planting or managing the native vegetation and the terms of the funding did not anticipate removal or harvesting of the vegetation (DPCD 2012).

Catchment and Land Protection Act 1994

The *Catchment and Land Protection Act 1994* (CaLP Act) contains provisions relating to catchment planning, land management, noxious weeds and pest animals. The CaLP Act also provides a legislative framework for the management of private and public land and sets out the responsibilities of land managers, stating that they must take all reasonable steps to:

- Avoid causing or contributing to land degradation which causes or may cause damage to land of another land owner;
- Protect water resources;
- Conserve soil;
- Eradicate regionally prohibited weeds;
- Prevent the growth and spread of regionally controlled weeds; and
- Prevent the spread of, and as far as possible eradicate, established pest animals.

Essentially the CaLP Act establishes a framework for the integrated management and protection of catchments, and provides a framework for the integrated and coordinated management, which aims to ensure that the quality of the State's land and water resources and their associated plant and animal life are maintained and enhanced.

The term 'noxious weed' is a plant declared as 'noxious' in schedules under the CaLP Act. There are four categories of noxious weeds defined under the CaLP Act and species identified within the study area are outlined in Appendix 4:

- **State prohibited weeds**: Do not occur in Victoria, or occur in Victoria but it is reasonable to expect that they can be eradicated from the State.

  It is the responsibility of the Victorian Government to take all reasonable steps to eradicate State prohibited weeds on all land in Victoria.

- **Regionally prohibited weeds:** Are not widely distributed throughout the region, are capable of spreading further and it is reasonable to expect that they can be eradicated from the region. It is the landowners responsibility to take all reasonable steps to eradicate regionally prohibited weeds from their property.

- **Regionally controlled weeds**: Occur in the region, are capable of spreading further and should be stopped from doing so. Continuing control measures are required to prevent their spread. It is the landowners responsibility to take all reasonable steps to eradicate regionally controlled weeds from their property.

- **Restricted weeds:** Are a serious threat to primary production, Crown land, the environment or community health in another State or Territory and if sold or traded in Victoria there would be an unacceptable risk of it spreading within Victoria and to other States and Territories.

Weeds of National Significance

There are thirty two Weeds of National Significance (WoNS) that have been identified by Australian governments based on their invasiveness, potential for spread and environmental, social and economic impacts. A list of 20 WoNS was endorsed in 1999 and a further 12 were added in 2012. Individual landowners and managers are ultimately responsible for managing WoNS. State and territory governments are responsible for overall legislation and administration.

Opportunities and Constraints

Opportunities

There are numerous opportunities to improve environmental assets within the Edgars Creek corridor for flora and fauna as part of the ECMP. It is important to note that both terrestrial and aquatic habitats within the Edgars Creek corridor should be considered equally for their conservation assets.

Management Issues

A number of potential threatening ecological processes and management issues exist across the study area, and details on the nature and extent of these are outlined below. For management purposes, the study area has been broken down into three reaches of the Creek, including: 1) Merri Creek to Kodak Bridge; 2) Former Kodak Site to Elizabeth Street; and, 3) Elizabeth Street to Edwardes Lake.

Pest Plant Control

The control of pest plants is the largest requirement for ecological management of the study area. The current weed infestations within the study area are a major risk to the health and survival of the habitat and indigenous vegetation present within the study area. Edgars Creek is also under the continual pressure of weed invasion from adjacent urban and industrial developments, recreation areas and roadsides. Given the distribution and suite of weed species present within the study area, it is important to prioritise weed control activities to specific areas and to also ensure that high threat weeds are contained. Specific areas considered to contain high threat weed infestations have been highlighted in Appendix 3, and were typically associated with (WoNs). These areas should be targeted as a priority for weed control works planned for the Edgars Creek area.

Weeds of National Significance included Chilean Needle Grass, Blackberry, African Boxthorn, Montpellier Broom and Serrated Tussock, with high priority infestations highlighted in Appendix 3. These areas should be targeted as a priority for weed control works.

Woody weed species including Hawthorn, Weeping Willow *Salix babylonica*, Desert Ash, White Poplar and Giant Honey-myrtle have also been highlighted in Appendix 3 and should be systematically removed from the Edgars Creek area.

Additional weeds identified within the Edgars Creek area, including Cape Ivy *Delairea odorata*, Bridal Creeper *Asparagus asparagoides*, Moth Vine *Araujia hortorum* and Tradescantia *Tradescantia fluminensis*, have also been highlighted in Appendix 4, as high threat weeds to be controlled as a priority due to their visibility and invasive nature.

Maintenance works currently undertaken by MCC and CoD within the study area, including grassy and herbaceous weed control along existing walkways and public facilities and infrastructure, should continue as part of the on-going management of within the area, and where possible, be integrated into the strategic management plan for Edgars Creek. Similarly, weed control actions outlined for remnant patches highlighted in the Moreland Indigenous Vegetation Assessment (MCMC 2012) and Darebin Draft Natural Heritage Plan (Context Pty Ltd 2011) should be included in the strategic management plan for Edgars Creek.

To prevent further spread of environmental weeds, the use of adequate vehicle and machinery hygiene practices and procedures are recommended. The weed management procedures will aim to ensure effective clean-down is consistently undertaken to prevent workers and their vehicles transferring weeds between sites. For example, brush down areas should be accommodated at each main entrance in which equipment and vehicles can be cleaned appropriately. Cleaning work vehicles prior to exiting the waterway corridor will assist with the removal of any weed material collected during maintenance works.

Ideally, vehicles should be cleaned of all material prior to entering the site. Additional hand removal of weed material from equipment is recommended and, if required, additional biomass should be vacuumed or brushed from the undercarriage or areas of the vehicle which are predisposed to seed or material collection (i.e. radiators, axels, air intakes etc.). All collected weed material must be removed and permanently disposed of accordingly. Maintenance vehicles (mowers/slashes) should also time works during winter/spring to coincide with management actions as outlined below.

In order to control weed species, several direct management techniques can be used including herbicide application and manual removal. Several management techniques are recommended to control weeds present within the study area, including physical removal, brush cutting and herbicide application.

In the majority of cases, herbicide will only be applied to weeds using the spot-spraying technique, to prevent impacts to the creek and surrounding vegetation.

Methods

Chilean Needle grass is difficult to control due to the amount of seed produced and the current widespread distribution along Edgars Creek. It is recommended that small areas be targeted, particularly around the creek bank adjacent to the Golf Practice Driving Range, to trial management techniques for control.

Two methods, spot-spraying and hand-pulling, are recommended during winter and spring to reduce the cover of Chilean Needle Grass along Edgars Creek. Revegetation of these areas is also important to ensure that re-infestation does not occur.

For woody weed species, it is recommended that two methods of weed removal are used in order to retain habitat structure along the creek corridor. Cutting and painting can be applied to remove individual (typically smaller) plants (i.e. 10–15cm in diameter) from the riparian zone during spring and summer when plants are actively growing. Individual plants should be cut at the stump and a glyphosate-based herbicide, preferably a biactive product to reduce potential impact to the waterway, should be applied to the entire stump area.

Drilling and filling is generally best for bigger trees (>15cm in diameter) as it targets the cambium layer (under bark) so deep holes are not necessary. Holes can be drilled into the base of the tree (1.5–3cm in depth) at approximately two inch intervals and filled using the same glyphosate-based herbicide with a syringe. This method is only suitable for use in areas where eventual tree fall will not pose a risk to people or property.

Blackberry should be controlled using spot or boom spraying of the infestation with a registered herbicide and follow-up slashing and removal of dead canes. Similarly, with all weed control along the creek, a suitable biactive product should be selected to minimise potential impacts to fauna species and aquatic habitats.

Weed control works should seek to eliminate (or control as a minimum requirement) all WoNs and species listed under the CaLP Act (Appendix 4)

It is important to ensure that weed control works using herbicides are both targeted (i.e. spot spraying) and undertaken at the right time of the year, as this can reduce the requirement for future weed control works.

The following general guidelines should be taken as basic management principles in regards to weed control:

- Any weed control should be done in a manner that minimises soil disturbance;
- Where herbicides are used, selective application is preferable to broad area application but clearly the loss of non-target species needs to be balanced with the threat of incomplete control of the existing weed population;
- Selective herbicides and those that kill plants quickly and are rapidly inactivated, leaving no residues (“knockdown” herbicides), are preferable to residual herbicides;

- Pest plants that reproduce sexually (by seed) are best controlled before seed ripens; and,
- Weed control works should be monitored regularly to assess effectiveness, in order to perform follow up works and to evaluate the feasibility of management objectives.

Priorities

- **Merri Creek to Kodak Bridge:**
    - Control Cape Ivy and Tradescantia immediately upstream of the junction with the Merri Creek; and,
    - Control Chilean Needle Grass on west bank adjacent to the Golf Practice Driving Range and on the east bank from the Throwing Cage up to the Coburg Hill development.
- **Former Kodak Site to Elizabeth Street**
    - Control Chilean Needle Grass on the west and east banks and surrounding areas from the northern edge of the Coburg Hill development to Adnette Court; and,
    - Remove woody weeds including Weeping Willows, African Boxthorn, Hawthorn and Giant Honey-myrtle on the west side of the creek from Tilley Court to Arthur Street.
- **Elizabeth Street to Edwardes Lake**
    - Remove woody weeds including White Poplars on the west side of the creek between Jenkins Street and Kia Ora Street; and,
    - Control Blackberry on the west side of the creek between Kia Ora Street and Edwardes Street.

Actions

- Undertake weed control works prior to the weeds setting seed or spreading;
- Eliminate (or control as a minimum requirement) WoNs and other woody weeds that appear on the site;
- Where appropriate, promote persistence and expansion of indigenous species populations; and,
- Monitor for the occurrence of new weeds or the further spread of current weeds.

Performance Measures

- WoNs and other woody weeds are reduced to <1% cover abundance;
- The spread of weeds to adjoining areas is avoided;
- No new significant weed invasions occur within the study area;
- Weed control is undertaken regularly and effectively by experienced personnel; and,
- There are no detrimental effects on the native vegetation in the study area as a consequence of weed management activities (i.e. inappropriate herbicide use).

Revegetation

Remnant vegetation has been highly modified within the Edgars Creek riparian zone with only small isolated patches of quality vegetation remaining. Revegetation has been a key component of the previous rehabilitation works that have been undertaken along Edgars Creek by the local councils, MCMC and the Friends of Edgars Creek. The best example of existing revegetation undertaken to date would be around the 'gooseneck' just south of Kodak Bridge. This area contains a diverse suite of overstorey, mid-storey and ground covers providing a diverse range of habitat for local fauna, stability for the surrounding creek banks and an excellent buffer for the waterway. However, there are still large areas devoid of native vegetation, and in many areas, a lack of adequate habitat structure present i.e. mid-storey shrubs not present for small passerine birds and nectivorous species which feed on flowering fruit.

Revegetation is recommended as part of the enhancement of ecological values within the study area.

It will also assist with providing the creekline with a buffer from the roads, housing and other amenities to improve water quality. Previously undertaken revegetation works along the creek have been very successful and has formed an excellent base in which to build on with further targeted revegetation works (Appendix 3).

Given the large area requiring revegetation along Edgars Creek, it is advised that areas area planned for works over a period of at least 5 years. Areas proposed for revegetation have been highlighted in Appendix 3. Priority should be given to areas currently devoid of remnant vegetation with few, if any, high threat weeds, and areas with overstorey present where supplementary planting of mid-storey and ground-covers would improve habitat quality. Areas highlighted as containing high threat weeds should be avoided until appropriate weed control has been undertaken.

It is advised that revegetation works are undertaken in late winter to early spring. It is important that revegetation occurs within this period in order to increase the chances of seedling survival; due to the optimal growth conditions (i.e. optimal rainfall) associated with the spring season. This will enhance the survival of planted populations and encourage the growth and survival of already surviving populations.

Species to be used in revegetation works should be based on the EVC that have been mapped as part of the previous assessments (Context Pty Ltd 2011; MCMC 2012) (see Appendices 3 and 5) including Plains Grassy Woodland, Creekline Grassy Woodland, Escarpment Shrubland and Plains Grassland. Revegetation should include a mix of ground cover and understorey shrub species.

Where remnant eucalypts, particularly River Red-gums, are actively spreading within the study area, these may not need to be included in the revegetation works at this stage.

Priorities

- **Merri Creek to Kodak Bridge:**
    - West side of Edgars Creek adjacent to the Throwing Cage; and,
    - East and west side of the creek between the Ronald Street footbridge and the Kodak Bridge along creek banks and open grassed areas.
- **Former Kodak Site to Elizabeth Street**
    - West side of Edgars Creek from Tilley Street just north of Livingstone Street along creek banks and open grassed areas.
- **Elizabeth Street to Edwardes Lake**
    - East and west side of Edgars Creek between Elizabeth Street and Kia Ora Road; and,
    - West side of the creek between Henty Street and Lake Street.

Actions

- Plant a range of species in areas specified in order to increase species diversity; and,
- Monitor revegetation and undertake supplementary planting to ensure success rate is over 80%

Performance Measures

- Avoid detrimental effects on the current populations of native vegetation within the study area as a consequence of revegetation management activities;
- Native plant populations are planted in accordance with the appropriate EVC benchmark; and,
- Revegetation works are carried out by suitably experienced individuals/contractors.

Pest Animal Control

The following section outlines a combination of potential techniques to assist with the control of pest animals (i.e. rabbits and foxes) within an urbanised landscape as they are known to; destroy plant communities, cause soil erosion and compete with native fauna for food and habitat.

Annual monitoring of pest animal populations and associated habitat should be undertaken to guide decisions upon the success of pest animal management within the Edgars.

Rabbits

Rabbits can degrade native vegetation through soil disturbance, the further spread of weeds, burrowing, and grazing and loss of palatable species and/or more vulnerable graminoid which increases the overall costs of plantings. For example, rabbit populations of less than three per hectare can maintain the dominance of introduced plants, although when rabbits are excluded, native grasses may gradually replace introduced species.

Rabbits place pressure on native wildlife by competing for resources, particularly under drought conditions, and prevent regeneration of native plant species by selecting the most nutritious parts of the plants.

It is unlikely to control rabbits, and indeed all of the pest animals mentioned, with the intention of totally eradicating them from the site. Therefore, given the likelihood that the animals may re-invade, a broad scale strategic and systematic approach to pest animal control is recommended, while there should be a focus on eradicating entire populations not just controlling large ‘surges’ in numbers.

As a first step it is important to determine overall rabbit densities on the site and undertake on-going monitoring of populations to determine the effectiveness of control activities. The best time to monitor is early in the morning or at dusk. Also consider the habitat rabbits are utilising, as this will determine what action is appropriate, which will be help in planning.

The use of rabbit proof fencing to enclose areas containing a high density of rabbits may be useful while fences stop rabbits from damaging valuable plants within revegetation sites.

Methods for Rabbit Control

Rabbit-proof fencing in likely to be the most environmentally friendly method for controlling pest animals and is generally a one-off process and relatively cost effective (DPI 2012a). As some native animals may be limited by rabbit-proof fencing, this method should be used to secure vegetation sites and movement along Edgars Creek should be provided at all times for native fauna.

Ripping and harbour destruction should also be used in conjunction with appropriate fencing to destroy a rabbits habitat and shelter; however, a rabbit control program is likely to fail unless burrows or other harbour is completely destroyed (DPI 2012a). If possible within the study area, this method should be undertaken after a fumigation or poisoning program has been implemented within priority areas.

Poisoning is an effective and rapid method for reducing rabbit numbers; however, this method can be a concern in urbanised areas due to the off target affects to native or domestic animals. Baiting can be undertaken in conjunction with fumigation and harbour destruction and is only recommended if populations are in plague proportions. Pindone is recommended for urbanised areas as it is an anti-coagulant, similar to rat poison, that is applied in carrot or oat bait (DPI 2012a).

A number of feeds over several days are needed for a lethal dose, and it is relatively safe for cats and dogs if they come in contact and consume only small amounts; however, possums are susceptible to this poison and any bait stations must be implemented with care and any contact should be completely avoided through the correct installation and management of a baiting program by using a suitably qualified contractor (DPI 2012a).

Actions

- The population of rabbits needs to be assessed annually before the most effective control program is initialised; and,
- If the population of rabbits is considered to be high, it may be appropriate to initiate a poisoning program.

Performance Measures

- Ecological management of the study area is not hindered by any pest animal populations;
- A reduced number of rabbits within the study area;
- All rabbit warrens identified;
- A herb-rich open ground cover is maintained and enhanced; and,
- There is persistence and expansion of native EVC's and flora species within the Edgars Creek corridor.

Foxes

Foxes are declared as an established pest animal in Victoria under the CaLP Act. Predation of small animals by foxes is listed as a threatening process under the FFG Act because of the threat it poses to native wildlife populations (DPI 2012b). In the urban-fringe areas, fox densities are considered to be high with an average of 6–8 foxes per square kilometre and up to 14 per square kilometre in some urban environments (DPI 2012b).

Foxes are opportunistic feeders and prey on native animals, including small mammals, birds and reptiles and regularly eat possums, mice and rats in urban areas (DPI 2012b). Foxes are territorial and it is difficult to control this species as the removal of one individual and associated resources are likely to be utilised by another individual immediately.

Foxes feed on blackberry fruit and disperse the seed in their droppings and find food by foraging around rubbish bins, picnic sites and composts heaps whilst also consuming fruit and left-over pet food (DPI 2012b).

Methods for Fox Control

As foxes which are displaced from their territory are likely to be replaced by another, management of this species should concentrate on removing resources which attract them (i.e. food and habitat) rather than trying to eliminate them completely (DPI 2012b).

The following measures may assist in reducing the number of foxes within the study area (DPI 2012b):

- Fox dens which are identified early in the breeding season should be provided to MCC or CoD as many council staff are trained in the use of humane methods of den fumigation developed for urban areas;
- Lock up poultry and small pets (i.e. guinea pigs and pet rabbits) within a secured enclosure at night;
- Clean up any food scraps or pet food left outside and excess fruit dropped by fruit trees. Also covering your compost heap using a compost bin may also deter foxes;
- Remove blackberry and weed thickets within the study area that provide cover for foxes; and,
- Do not feed wildlife.

Actions

- Notify locals of the threats posed by foxes on native fauna and possible methods to deter foxes from using habitat along the creek and within urbanised areas by use of information pamphlets and signage;
- Remove potential fox habitat (i.e. blackberry and weed thickets) over time; and,
- Undertake regular monitoring of habitat along Edgars Creek to identify dens and approximate number of foxes, in which fumigation can take place.

Performance Measures

- A reduced number of foxes within the study area;
- All fox dens/habitat areas identified over the long term; and,

- Increase awareness and promote direct action from local residents and industrial properties adjoining Edgars Creek through community engagement and learning.

Fauna Habitat Improvements

Actions

- Provide additional habitat along Edgars Creek such as large logs and rocks to provide additional habitat for a multifaceted ground fauna component of native reptiles, frogs and mammals;
- Reduce the spread of environmental weeds, which if not actively managed, could result in the reduction of suitable fauna habitat and/or food resources within the system;
- Continue revegetation sites to restore native flora and fauna habitat by replanting existing vegetation types (i.e. grasses and shrubs) whilst connecting areas of remnant and/or planted vegetation throughout Edgars Creek and the local area; and,
- Fencing may be used to limit public access and/or pest animals, and thus reduce disturbance to vegetation and native fauna species using habitat throughout the creek corridor.

Performance Measures

- Avoid detrimental effects on the current populations of native fauna within the study area; and,
- Revegetation works and weed control to be carried out by suitably experienced individuals/contractors.

Litter

Actions

- Ensure rubbish or litter along Edgars Creek is appropriately managed within the study area by MCC or CoD.

Performance Measures

- Rubbish and litter is appropriately managed suitably by experienced individuals/contractors and removed as required.

Access Issues

Actions

- Provide additional fencing along with signage to protect sensitive areas within the site from accidental and potentially intentional disturbances.

Performance Measures

- Fencing to be designed and implemented to a satisfactory standard by suitable qualified personnel.

Conclusion

The primary management objective should be to maintain and improve the Edgars Creek system, specifically to prevent a decline in vegetation condition throughout the study area. Management measures to achieve this objective include revegetation and pest plant control, as well as other pest access and recreational use controls.

The objective of this brief report is to provide an overview of the current flora and fauna values within the Edgars Creek system and potential management recommendations to ensure the vegetation condition and terrestrial and aquatic habitats are maintained and improved.

A number of recommendations have been provided and there will be opportunities to modify and develop these through on-going discussions with all relevant stakeholders.

Similarly, continual communication between the Friends of Edgars Creek, MCMC, MCC, CoD, referral authorities and specialist consultants experienced in undertaking monitoring and management of urban waterways, is required for the long-term viability of the site.

ecology & heritage partners

References

Christidis, L. & Boles, W.E 2008. *Systematics and Taxonomy of Australian Birds*. CSIRO Publishing, Collingwood, Victoria.

Cogger, H. G (Ed). 1996. *Reptiles and Amphibians of Australia*. 5th Edition. Reed Books Australia, Victoria.

Cogger, H. G., Cameron, E. E. And Cogger, H. M. (1983). Volume 1 of Zoological Catalogue of Australia: Amphibia and Reptilia. Australian Government Publishing Service, Canberra.

Cogger, H.G., Cameron, E.E., Sadlier, R.A. and Eggler, P 1993. *The Action Plan for Australian Reptiles*. Australian Nature conservation Agency, Canberra, ACT.

Context Pty Ltd 2012. Darebin Heritage Study – Natural Heritage Plan. Prepared for City of Darebin.

DPCD 2012. Planning Schemes Online: http://www.dse.vic.gov.au/. Department of Planning and Community Development.

DPI 2012a. Rabbits: Control in Urban Areas. Accessed at http//www.dpi.vic.gov.au on 18 May 2012. The Department of Primary Industries.

DPI 2012b. Foxes: Control in Urban and Urban Fringe Areas. Accessed at http//www.dpi.vic.gov.au on 22 May 2012. The Department of Primary Industries.

DSE 2005. *Advisory list of Threatened Flora in Victoria – 2005*. Department of Sustainability and Environment, Victoria.

DSE 2007. *Advisory list of Threatened Vertebrate Fauna in Victoria – 2007*. Department of Sustainability and Environment, Victoria.

DSE 2009. *Advisory list of Threatened Invertebrate Fauna in Victoria – 2009*. Department of Sustainability and Environment, Victoria.

DSE 2011. Victorian Biodiversity Atlas. Sourced from: 'VBA_FAUNA25' and 'VBA_FAUNA100'. Department of Sustainability and Environment, Victoria.

DSE 2012. Biodiversity Interactive Maps Department of Sustainability and Environment http://www.dse.vic.gov.au/

FIS 2011. Flora Information System. Viridians Biological Databases Pty Ltd, Melbourne.

Garnett, S.T. and Crowley, G. M. 2000. *The Action Plan for Australian Birds 2000*. Environment Australia.

Lee, A. K. 1995. *Action Plan for Australian Rodents*. Australian Nature Conservation Agency, Canberra.

Lee, M., & Gibson, M. 2010. Flora and Fauna Impact Assessment of Proposed Woolscour Lane Flood Mitigation Works. Prepared for VicRoads by Centre of Environmental Management, University of Ballarat, Victoria.

Maxwell, S., Burbidge, A A. And Morris, K (Eds) 1996. *The 1996 Action Plan for Australian Marsupials and Monotreme*s. Wildlife Australia for Australasian Marsupial and Monotreme Specialist Group and the IUCN Species Survival commission, Switzerland.

MCMC 2011. Moreland Indigenous Vegetation Assessment – Final Report. Prepared for Moreland City Council by the Merri Creek Management Committee (MCMC).

Menkhorst, P. and Knight, F. 2004. *A Field Guide to the Mammals of Australia*. 2nd Edition. Oxford University Press, Victoria.

Nelson, J. S. 1994. *Fishes of the World, 3rd Edition*. John Wiley & Sons, New York ACT.

Sands, D.P.A. and New, T.R. 2002. *The Action Plan for Australian Butterflies*, Environment Australia, Canberra.

SEWPaC 2012. Protected Matters Search Tool (PMST). Department of Sustainability, Environment, Water, Population and Community.

Strahan, R. (Ed) 1995. *The Mammals of Australia*. Reed Books, Sydney.

Tyler, M.J. 1997. *The Action Plan for Australian Frogs*. Wildlife Australia: Canberra.

Appendix 1.1 – Flora database results

Table A1.1. *Significant flora recorded within 10 kilometres of the study area.*

EPBC	*Environment Protection and biodiversity Conservation Act 1999* (EPBC Act)
FFG	*Flora and Fauna Guarantee Act 1988* (FFG Act)
DSE	Advisory List of Threatened Flora in Victoria (DSE 2005); VROTS

X	Extinct
CR	Critically endangered
EN	Endangered
VU	Vulnerable
e	Endangered
v	Vulnerable
r	Rare
k	Poorly Known
L	Listed as threatened under FFG Act
D	De-listed from the FFG Act
#	Records identified from EPBC Act Protected Matters Search Tool.
*	Additional information from the Flora Information System
@	Native non-indigenous species

1	Known occurrence
2	Habitat present
3	Habitat present, but low likelihood
4	Unlikely
5	No suitable habitat

Scientific name	Common name	Total # of documented records	Last documented record	EPBC	FFG	DSE	Likely occurrence in study area
		NATIONAL SIGNIFICANCE					
#Amphibromus fluitans	River Swamp Wallaby-grass	5	2006	VU	-	-	5
#Caladenia amoena	Charming Spider-orchid	-	-	EN	L	e	5
#Carex tasmanica	Curly Sedge	6	2001	VU	L	v	4
#Dianella amoena	Matted Flax-lily	53	2007	EN	L	e	3
#Glycine latrobeana	Clover Glycine	3	1988	VU	L	v	5
Lepidium hyssopifolium	Basalt Peppercress	3	1978	EN	L	e	5
#Pimelea spinescens subsp. spinescens	Spiny Rice-flower	1	1884	CR	L	e	5
#Prasophyllum frenchii	Maroon Leek-orchid	-	-	EN	L	e	5
Pterostylis cucullata	Leafy Greenhood	1	1770	VU	L	v	5
Rutidosis leptorhynchoides	Button Wrinklewort	1	1770	EN	L	e	4
#Senecio macrocarpus	Large-headed Fireweed	-	-	VU	L	e	4
		STATE SIGNIFICANCE					
Acacia cupularis	Cup Wattle	2	2002	-	-	r	4
Amphibromus pithogastrus	Plump Swamp Wallaby-grass	2	1989	-	L	e	5
Botrychium australe	Austral Moonwort	2	1858	-	L	v	5
Callitriche umbonata	Winged Water-starwort	6	2000	-	-	r	4
Calotis lappulacea	Yellow Burr-daisy	1	1985	-	-	r	5
Comesperma polygaloides	Small Milkwort	1	1770	-	L	v	5
Cullen tenax	Tough Scurf-pea	3	1996	-	L	e	3
Dianella callicarpa	Swamp Flax-lily	1	2002	-	-	r	4
Eucalyptus leucoxylon subsp. connata	Melbourne Yellow-gum	11	2007	-	-	v	1
Eucalyptus leucoxylon subsp. megalocarpa	Large-fruit Yellow-gum	1	2006	-	L	e	5
Eucalyptus X studleyensis	Studley Park Gum	15	2006	-	-	e	5
Eucalyptus yarraensis	Yarra Gum	1	1984	-	-	r	5

Scientific name	Common name	Total # of documented records	Last documented record	EPBC	FFG	DSE	Likely occurrence in study area
Fimbristylis velata	Veiled Fringe-sedge	1	1998	-	-	r	5
Geranium solanderi var. solanderi s.s.	Austral Crane's-bill	1	2004	-	-	v	4
Geranium sp. 1	Large-flower Crane's-bill	4	2008	-	-	e	3
Geranium sp. 3	Pale-flower Crane's-bill	2	2003	-	-	r	4
Goodia medicaginea	Western Golden-tip	2	2002	-	-	r	5
Grevillea rosmarinifolia subsp. rosmarinifolia	Rosemary Grevillea	1	2006	-	-	r	5
Helichrysum aff. rutidolepis (Lowland Swamps)	Pale Swamp Everlasting	14	2003	-	-	v	3
Heterozostera tasmanica	Tasman Grass-wrack	1	2007	-	-	r	4
Lachnagrostis punicea subsp. punicea	Purple Blown-grass	7	2001	-	-	r	4
Leptochloa fusca subsp. fusca	Brown Beetle-grass	2	1987	-	-	r	4
Leptorhynchos elongatus	Lanky Buttons	1	1852	-	-	e	4
Nicotiana maritima	Coast Tobacco	1	1883	-	-	e	5
Nicotiana suaveolens	Austral Tobacco	10	1997	-	-	r	3
Plagiochasma rupestre	Cliff Waxwort	1	1896	-	-	r	5
Rhagodia parabolica	Fragrant Saltbush	1	2008	-	-	r	4
Salsola tragus subsp. pontica	Coast Saltwort	1	1947	-	-	r	5
Tragus australianus	Small Burr-grass	1	1992	-	-	r	5
Tripogon loliiformis	Rye Beetle-grass	2	2005	-	-	r	3
Utricularia gibba	Floating Bladderwort	2	2005	-	-	v	5

Data source: Victorian Biodiversity Atlas (DSE 2010a); Flora Information System (Viridans 2011a); Protected Matters Search Tool (SEWPaC 2011).

Disclaimer: Due to modification of the study area and/or the surrounding landscape over the past 150 years, species records prior to 1950 (and that have not been recorded since) are excluded from this table.

Taxonomic order: Alphabetical.

Appendix 2.1 – Significant fauna species

Table A2.1. *Significant fauna within 10 kilometres of the study area.*

Habitat characteristics of significant fauna species previously recorded within 10 kilometres of the study area, or that may potentially occur within the study area were assessed to determine their likelihood of occurrence. The likelihood of occurrence rankings for each of the threatened species are:

1	High Likelihood	• Known resident in the study area based on site observations, database records, or expert advice; and/or, • Recent records (i.e. within five years) of the species in the local area (VBA 2011); and/or, • The study area contains the species' preferred habitat.
2	Moderate Likelihood	• The species is likely to visit the study area regularly (i.e. at least seasonally); and/or, • Previous records of the species in the local area (DSE 2011b); and/or, • The study area contains some characteristics of the species' preferred habitat.
3	Low Likelihood	• The species is likely to visit the study area occasionally or opportunistically whilst en route to more suitable sites; and/or, • There are only limited or historical records of the species in the local area (i.e. more than 20 years old); and/or, • The study area contains few or no characteristics of the species' preferred habitat.
4	Unlikely	• No previous records of the species in the local area; and/or, • The species may fly over the study area when moving between areas of more suitable habitat; and/or, • Out of the species' range; and/or, • No suitable habitat present.

EPBC	*Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)
FFG	*Flora and Fauna Guarantee Act 1988* (FFG Act)
DSE	Advisory List of Threatened Vertebrate Fauna in Victoria (DSE 2007); Advisory List of Threatened Invertebrate Fauna in Victoria (DSE 2009)
NAP	National Action Plan (Cogger et al 1993; Duncan et al. 1999; Garnet and Crowley 2000; Lee 1995; Maxwell et al. 1996; Sands and New 2002; Tyler 1997)

EX	Extinct
RX	Regionally extinct
CR	Critically endangered
EN	Endangered
VU	Vulnerable
RA	Rare
NT	Near threatened
CD	Conservation dependent
LC	least concern
DD	Data deficient (insufficiently or poorly known
L	Listed as threatened under FFG Act
I	Invalid or ineligible for listing under the FFG Act
#	Listed on the Protected Matters Search Tool
*	Additional information from the Victorian Fauna Database

Common name	Scientific name	Last documented record	Total # of documented records	EPBC	DSE	FFG	NAP	Likely use of study area
			NATIONAL SIGNIFICANCE					
#Spot-tailed Quoll	*Dasyurus maculatus maculatus* (SE mainland population)	1948	13	EN	EN	L	VU	4
Southern Brown Bandicoot	*Isoodon obesulus obesulus*	1948	1	EN	NT	L	NT	4
Eastern Barred Bandicoot	*Perameles gunnii*	1886	2	EN	CR	L	CR	4
#Grey-headed Flying-fox	*Pteropus poliocephalus*	2008	498	VU	VU	L	VU	2
#Australasian Bittern	*Botaurus poiciloptilus*	1986	3	EN	EN	L	VU	4
Plains-wanderer	*Pedionomus torquatus*	1972	10	VU	CR	L	EN	4
#Australian Painted Snipe	*Rostratula benghalensis australis*	1970	1	VU	CR	L	VU	4
#Fairy Tern	*Sternula nereis nereis*	1977	1	VU	EN	L	-	4
Superb Parrot	*Polytelis swainsonii*	1977	1	VU	EN	L	VU	4
#Swift Parrot	*Lathamus discolor*	2006	39	EN	EN	L	EN	3
#Regent Honeyeater	*Anthochaera phrygia*	2001	14	EN	CR	L	EN	4
#Striped Legless Lizard	*Delma impar*	1989	4	VU	EN	L	VU	4
#Grassland Earless Dragon	*Tympanocryptis pinguicolla*	1908	3	EN	CR	L	VU	4
#Growling Grass Frog	*Litoria raniformis*	2008	83	VU	EN	L	VU	3
#Dwarf Galaxias	*Galaxiella pusilla*	1994	4	VU	VU	L	VU	4
#Australian Grayling	*Prototroctes maraena*	1993	51	VU	VU	L	VU	4
Bluenose Cod (Trout Cod)	*Maccullochella macquariensis*	1908	2	EN	CR	L	EN	4
Murray Cod	*Maccullochella peelii peelii*	2000	5	VU	EN	L	-	4
#Macquarie Perch	*Macquaria australasica*	2007	38	EN	EN	L	DD	4
#Yarra Pygmy Perch	*Nannoperca obscura*	1870	1	VU	NT	L	VU	4
Eltham Copper	*Paralucia pyrodiscus lucida*	1922	1	-	EN	L	VU	4
#Golden Sun Moth	*Synemon plana*	2008	442	CR	CR	L	-	4
# Brush-tailed Rock-wallaby	*Petrogale penicillata*	-	-	VU	CR	L	VU	4
# Malleefowl	*Leipoa ocellata*	-	-	VU	EN	L	VU	4
# New Holland Mouse	*Pseudomys novaehollandiae*	-	-	VU	VU	L	-	4
			STATE SIGNIFICANCE					
Grey Goshawk	*Accipiter novaehollandiae*	2006	20	-	VU	L	-	3

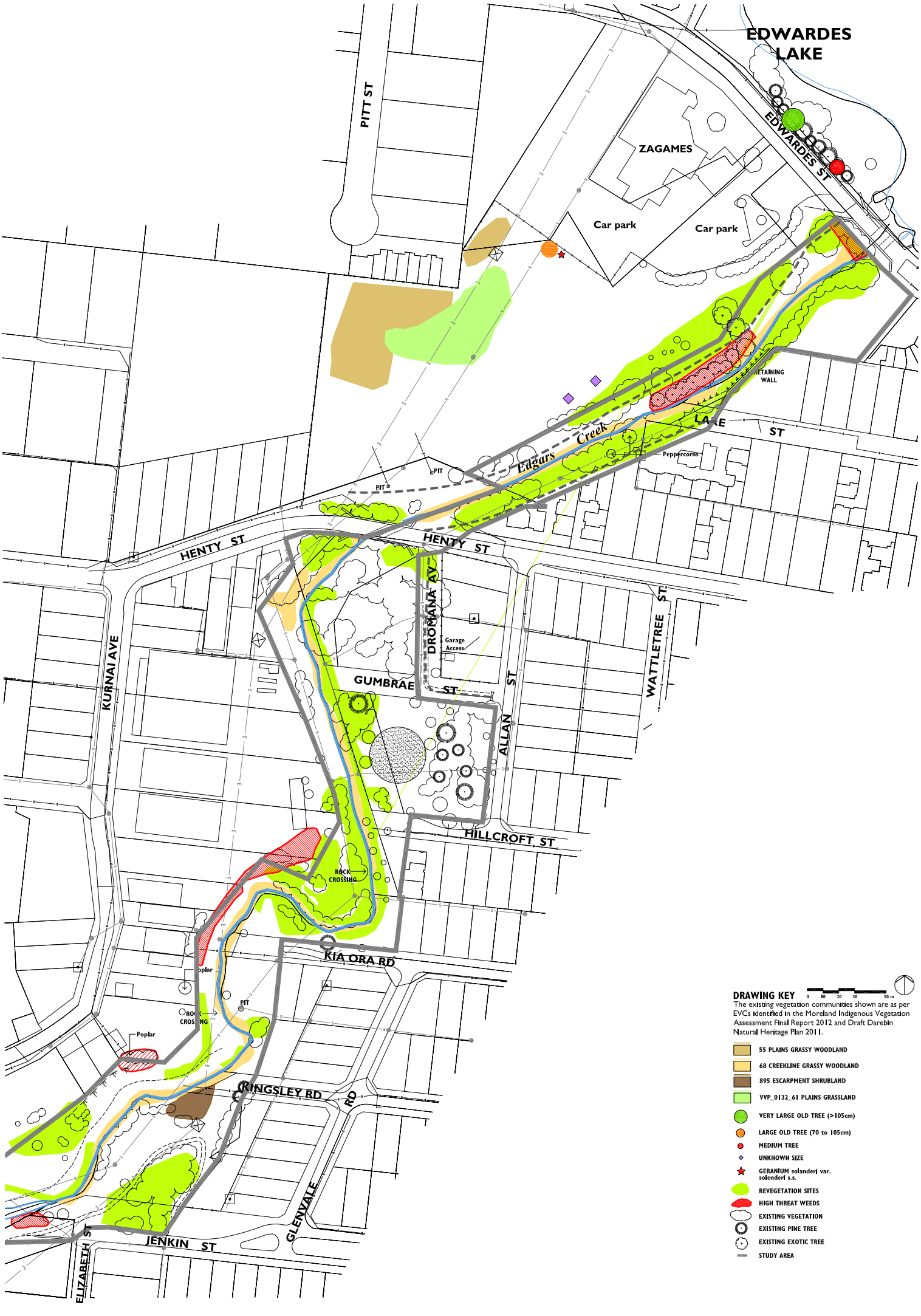
Common name	Scientific name	Last documented record	Total # of documented records	EPBC	DSE	FFG	NAP	Likely use of study area
	novaehollandiae							
Yellow-bellied Sheathtail Bat	*Saccolaimus flaviventris*	1990	1	-	-	L	LC	3
Common Bent-wing Bat	*Miniopterus schreibersii*	1966	1	-	-	L	CD	4
Southern Myotis	*Myotis macropus*	1993	1	-	NT	-	NT	3
King Quail	*Coturnix chinensis victoriae*	1970	1	-	EN	L	-	4
Magpie Goose	*Anseranas semipalmata*	2007	4	-	NT	L	-	4
Musk Duck	*Biziura lobata*	1991	5	-	VU	-	-	4
Freckled Duck	*Stictonetta naevosa*	1991	1	-	EN	L	-	4
Australasian Shoveler	*Anas rhynchotis*	2002	6	-	VU	-	-	4
Hardhead	*Aythya australis*	2008	93	-	VU	-	-	4
Blue-billed Duck	*Oxyura australis*	2003	8	-	EN	L	-	4
Diamond Dove	*Geopelia cuneata*	2001	1	-	NT	L	-	4
White-faced Storm-Petrel	*Pelagodroma marina*	1970	1	-	VU	-	-	4
Little Bittern	*Ixobrychus minutus dubius*	2003	9	-	EN	L	-	4
Eastern Great Egret	*Ardea modesta*	2008	138	-	VU	L	-	3
Intermediate Egret	*Ardea intermedia*	2004	10	-	CR	L	-	3
Little Egret	*Egretta garzetta nigripes*	2000	8	-	EN	L	-	3
Royal Spoonbill	*Platalea regia*	2002	27	-	VU	-	-	4
Black Falcon	*Falco subniger*	2008	9	-	VU	-	-	3
Brolga	*Grus rubicunda*	1991	1	-	VU	L	-	3
Lewin's Rail	*Lewinia pectoralis pectoralis*	1991	3	-	VU	L	NT	4
Baillon's Crake	*Porzana pusilla palustris*	2008	22	-	VU	L	-	3
Major Mitchell's Cockatoo	*Lophocroa leadbeateri*	2008	5	-	VU	L	-	3
Bush Stone-curlew	*Burhinus grallarius*	2001	3	-	EN	L	NT	3
Lesser Sand Plover	*Charadrius mongolus*	1978	1	-	VU	-	-	4
Common Sandpiper	*Actitis hypoleucos*	2007	6	-	VU	-	-	4
Caspian Tern	*Hydroprogne caspia*	1988	3	-	NT	L	-	4
Turquoise Parrot	*Neophema pulchella*	2000	1	-	NT	L	NT	4
Powerful Owl	*Ninox strenua*	2008	29	-	VU	L	-	4

Common name	Scientific name	Last documented record	Total # of documented records	EPBC	DSE	FFG	NAP	Likely use of study area
Barking Owl	*Ninox connivens connivens*	2001	21	-	EN	L	NT	4
Masked Owl	*Tyto novaehollandiae novaehollandiae*	2001	2	-	EN	L	NT	4
Diamond Firetail	*Stagonopleura guttata*	2001	2	-	VU	L	NT	4
Brown Toadlet	*Pseudophryne bibronii*	2005	10	-	EN	L	DD	4
Southern Toadlet	*Pseudophryne semimarmorata*	1965	10	-	VU	-	-	4
Australian Mudfish	*Neochanna cleaveri*	1991	2	-	CR	L	-	4
Golden Perch	*Macquaria ambigua*	2004	5	-	VU	-	-	4
Water Beetle	*Hygrobia australasiae*	1925	1	-	VU	L	-	4
			REGIONAL SIGNIFICANCE					
Fat-tailed Dunnart	*Sminthopsis crassicaudata*	1991	6	-	NT	-	-	4
Brown Quail	*Coturnix ypsilophora australis*	2002	7	-	NT	-	-	4
Pied Cormorant	*Phalacrocorax varius*	2001	29	-	NT	-	-	3
Nankeen Night Heron	*Nycticorax caledonicus hillii*	2008	153	-	NT	-	-	3
Glossy Ibis	*Plegadis falcinellus*	2006	3	-	NT	-	-	3
Spotted Harrier	*Circus assimilis*	2002	6	-	NT	-	-	3
Latham's Snipe	*Gallinago hardwickii*	2008	31	-	NT	-	-	4
Eastern Curlew	*Numenius madagascariensis*	1977	1	-	NT	-	-	4
Sanderling	*Calidris alba*	1977	1	-	NT	-	-	4
Little Button-quail	*Turnix velox*	2001	2	-	NT	-	-	4
Whiskered Tern	*Chlidonias hybridus javanicus*	1991	6	-	NT	-	-	4
Pacific Gull	*Larus pacificus pacificus*	2002	12	-	NT	-	-	4
Black-eared Cuckoo	*Chrysococcyx osculans*	2002	5	-	NT	-	-	3
Azure Kingfisher	*Alcedo azurea*	2008	38	-	NT	-	-	3
Red-backed Kingfisher	*Todiramphus pyrropygia pyrropygia*	1991	2	-	NT	-	-	4
Glossy Grass Skink	*Pseudemoia rawlinsoni*	1991	1	-	NT	-	-	3
River Blackfish	*Gadopsis marmoratus*	1971	3	-	DD	-	-	3

Data source: Victorian Biodiversity Atlas (DSE 2011); Victorian Fauna Database (Viridans 2011b); Protected Matters Search Tool (SEWPaC 2012).

Taxonomic order: Mammals (Strahan 1995 *in* Menkhorst & Knight 2004); Birds (Christidis & Boles, 2008); Reptiles and Amphibians (Cogger *et al.* 1983 *in* Cogger 1996); Fish (Nelson 1994); Mussels & Crustaceans (Alphabetical); Invertebrates (Alphabetical).

Appendix 3 – Existing Natural Values – Edgars Creek


EDWARDES LAKE
PITT ST
ZAGAMES
EDWARDES ST
Car park
Car park
RETAINING WALL
LAKE ST
Edgars Creek
Peppercorns
PIT
PIT
HENTY ST
HENTY ST
KURNAI AVE
DROMANA AV
Garage Access
GUMBRAE ST
WATTLETREE ST
ALLAN ST
HILLCROFT ST
ROCK CROSSING
KIA ORA RD
Poplar
PIT
ROCK CROSSING
Poplar
RINGSLEY RD
RD
GLENVALE
JENKIN ST
ELIZABETH ST
DRAWING KEY
0 10 20 30 50 m
The existing vegetation communities shown are as per EVCs identified in the Moreland Indigenous Vegetation Assessment Final Report 2012 and Draft Darebin Natural Heritage Plan 2011.
55 PLAINS GRASSY WOODLAND
68 CREEKLINE GRASSY WOODLAND
895 ESCARPMENT SHRUBLAND
VVP_0132_61 PLAINS GRASSLAND
VERY LARGE OLD TREE (>105cm)
LARGE OLD TREE (70 to 105cm)
MEDIUM TREE
UNKNOWN SIZE
GERANIUM solanderi var. solenderi s.s.
REVEGETATION SITES
HIGH THREAT WEEDS
EXISTING VEGETATION
EXISTING PINE TREE
EXISTING EXOTIC TREE
STUDY AREA


DAREBIN CITY WORKS DEPOT
NORFOLK CT
Open Channel
Blackberry
MELBOURNE CARAVAN PARK
HOPETOWN CR
Edgars Creek
ARTHUR ST
ELIZABETH ST
WATER ACCESS POINT
LIVINGSTONE ST
ADNETTE CT
CALK ST
TILLEY ST
CASH RESERVE
COBURG HILL
KODAK BRIDGE
557
224
223
232
230
231
229
228
227
226
222
214
221
219
215
216
357
217
356
218
DRAWING KEY
The existing vegetation communities shown are as per EVCs identified in the Moreland Indigenous Vegetation Assessment Final Report 2012 and Draft Darebin Natural Heritage Plan 2011.
55 PLAINS GRASSY WOODLAND
68 CREEKLINE GRASSY WOODLAND
851 STREAM BANK SHRUBLAND
656 BRACKISH WETLAND/125 PLAINS GRASSY WOODLAND
895 ESCARPMENT SHRUBLAND
VERY LARGE OLD TREE (>105cm)
LARGE OLD TREE (70 to 105cm)
MEDIUM TREE
REVEGETATION SITES
HIGH THREAT WEEDS
EXISTING VEGETATION
EXISTING PINE TREE
EXISTING EXOTIC TREE
STUDY AREA


CONGA FOODS
NEWLANDS ROAD
202
204
205
346
217
213
350
KODAK BRIDGE
OUTFALL
STEPS
Merri Creek
342
343
341
345
211
OUTFALL
COBURG HILL
Edgars
326
323
209
RONALD ST FOOTBRIDGE
326
332
331
207
RONALD ST
BALLARD AV
345
206
324
327
339
308
PIT
THROWING CAGE
STEPS
BOYNE ST
CARPARK
FG COCKS PAVILION
WHITTON PDE
TOILET
GOLF ROAD
HIGH JUMP
THROWING CAGE
LONG JUMP
201
OUTFALL
HAROLD STEVENS ATHLETICS TRACK
THROWING CAGE
JACKSON RESERVE
306
309
200
PLAYGROUND
NOLA ST
OUTLOOK RD
COBURG POOL FOOTBRIDGE
MERRI CREEK TRAIL
Merri Creek
194
197
199
EDGARS CREEK FOOTBRIDGE
COBURG SWIMMING POOL
193
299
303
DRAWING KEY
The existing vegetation communities shown are as per EVCs identified in the Moreland Indigenous Vegetation Assessment Final Report 2012 and Draft Darebin Natural Heritage Plan 2011.
0 10 20 30 50 m
55 PLAINS GRASSY WOODLAND
68 CREEKLINE GRASSY WOODLAND
851 STREAM BANK SHRUBLAND
654 CREEKLINE TUSSOCK GRASSLAND
656 BRACKISH WETLAND/125 PLAINS GRASSY WOODLAND
895 ESCARPMENT SHRUBLAND
REVEGETATION SITES
HIGH THREAT WEEDS
EXISTING VEGETATION
EXISTING PINE TREE
EXISTING EXOTIC TREE
STUDY AREA

Appendix 4

Table A4.1. *High threat weed species and their status under the WoNS and CaLP Act.*

Common Name	Scientific Name	WoNS	CaLP
Moth Vine	*Araujia hortorum*	N	NA
Bridal Creeper	*Asparagus asparagoides*	Y	R
Spear Thistle	*Cirsium vulgare*	N	C
Hawthorn	*Crataegus monogyna*	N	C
Cape Ivy	*Delairea odorata*	N	NA
Fennel	*Foeniculum vulgare*	N	R
Desert Ash	*Fraxinus angustifolia*	N	NA
Montpellier Broom	*Genista monspessulana*	Y	C
African Boxthorn	*Lycium ferocissimum*	Y	C
Giant Honey-myrtle	*Melaleuca armillaris*	N	NA
Chilean Needle Grass	*Nassella neesiana*	Y	R
Serrated Tussock	*Nassella trichotoma*	Y	C
Blackberry	*Rubus fruticosus*	Y	C
Weeping Willow	*Salix babylonica*	N	R
Tradescantia	*Tradescantia fluminensis*	N	NA

Note – WoNS = Weeds of National Significance, Y= Yes, it is listed, N = No, it is not listed; CaLP = Catchment and Land Protection, R = Restricted, C = Regional Controlled, NA = Not Applicable

Appendix 5 – Revegetation species list

Table A5.1. Suitable species for revegetation of Plains Grassy Woodland (EVC 55).

Scientific Name	Common Name	Life Form	Notes
Calocephalus citreus	Lemon Beauty-heads	Large Herb	
Chrysocephalum semipapposum	Clustered Everlasting	Large Herb	
Pycnosorus globosus	Drumsticks	Large Herb	Wetter areas
Senecio quadridentatus	Cotton Fireweed	Large Herb	
Wahlenbergia multicaulis	Branching Bluebell	Large Herb	
Austrostipa bigeniculata	Kneed Spear-grass	Large Tufted Graminoid	
Austrostipa mollis	Supple Spear-grass	Large Tufted Graminoid	
Lomandra longifolia subsp. longifolia	Spiny-headed Mat-rush	Large Tufted Graminoid	
Acaena novae-zelandiae	Bidgee-widgee	Medium Herb	
Alternanthera denticulata s.l.	Lesser Joyweed	Medium Herb	
Einadia nutans subsp. nutans	Nodding Saltbush	Medium Herb	
Euchiton collinus s.s.	Creeping Cudweed	Medium Herb	
Rumex brownii	Slender Dock	Medium Herb	
Acacia acinacea s.l.	Gold-dust Wattle	Medium Shrub	
Acacia paradoxa	Hedge Wattle	Medium Shrub	
Bursaria spinosa	Sweet Bursaria	Medium Shrub	
Cassinia arcuata	Drooping Cassinia	Medium Shrub	
Melicytus dentatus s.l.	Tree Violet	Medium Shrub	
Solanum laciniatum	Large Kangaroo Apple	Medium Shrub	
Austrodanthonia caespitosa	Common Wallaby-grass	Medium to Small Tufted Graminoid	
Austrodanthonia setacea	Bristly Wallaby-grass	Medium to Small Tufted Graminoid	
Austrostipa scabra	Rough Spear-grass	Medium to Small Tufted Graminoid	
Elymus scaber var. scaber	Common Wheat-grass	Medium to Small Tufted Graminoid	
Poa labillardierei	Common Tussock-grass	Medium to Small Tufted Graminoid	
Poa sieberiana	Grey Tussock-grass	Medium to Small Tufted Graminoid	
Atriplex semibaccata	Berry Saltbush	Small or Prostrate Herb	
Eucalyptus camaldulensis	River Red-gum	Tree	
Eucalyptus leucoxylon	Yellow Gum	Tree	
Eucalyptus melliodora	Yellow Box	Tree	
Eucalyptus microcarpa	Grey Box	Tree	
Eucalyptus ovata	Swamp Gum	Tree	
Acacia pycnantha	Golden Wattle	Tree, Medium Shrub	
Acacia melanoxylon	Blackwood	Tree, Small Tree	
Allocasuarina verticillata	Drooping Sheoak	Tree, Small Tree	
Eucalyptus viminalis	Manna Gum	Tree, Small Tree	

Table A5.2. Suitable species for revegetation of Creekline Grassy Woodland (EVC 68).

Scientific Name	Common Name	Life Form
Acacia dealbata	Silver Wattle	Tree, Small Tree or Large Shrub
Acacia melanoxylon	Blackwood	Tree, Small Tree or Large Shrub
Acacia paradoxa	Hedge Wattle	Medium Shrub
Acaena novae-zelandiae	Bidgee-widgee	Medium Herb
Austrodanthonia caespitosa	Common Wallaby-grass	Medium to Small Tufted Graminoid
Austrodanthonia racemosa var. racemosa	Slender Wallaby-grass	Medium to Small Tufted Graminoid
Austrostipa bigeniculata	Kneed Spear-grass	Large Tufted Graminoid
Bolboschoenus medianus	Marsh Club-sedge	Large Non-Tufted Graminoid
Bursaria spinosa subsp. spinosa	Sweet Bursaria	Medium Shrub
Callistemon sieberi	River Bottlebrush	Medium Shrub
Calotis scapigera	Tufted Burr-daisy	Medium Herb
Carex appressa	Tall Sedge	Large Tufted Graminoid
Carex fascicularis	Tassel Sedge	Medium to Small Tufted Graminoid
Carex gaudichaudiana	Fen Sedge	Medium to Small Tufted Graminoid
Carex inversa	Knob Sedge	Medium to Small Tufted Graminoid
Echinopogon ovatus	Common Hedgehog-grass	Medium to Tiny Non-Tufted Graminoid
Eleocharis acuta	Common Spike-sedge	Medium to Tiny Non-Tufted Graminoid
Elymus scaber var. scaber	Common Wheat-grass	Medium to Small Tufted Graminoid
Eragrostis brownii	Common Love-grass	Medium to Small Tufted Graminoid
Eucalyptus camaldulensis	River Red-gum	Tree, Small Tree or Large Shrub
Eucalyptus ovata	Swamp Gum	Tree, Small Tree or Large Shrub
Ficinia nodosa	Knobby Club-sedge	Medium to Tiny Non-Tufted Graminoid
Juncus amabilis	Hollow Rush	Medium to Small Tufted Graminoid

Table A5.3. Suitable species for revegetation of Creekline Tussock Grassland (654).

Scientific Name	Common Name	Life Form
Austrodanthonia caespitosa	Common Wallaby-grass	Medium to Small Tufted Graminoid
Austrodanthonia duttoniana	Brown-back Wallaby-grass	Medium to Small Tufted Graminoid
Carex tereticaulis	Poong'ort	Large Tufted Graminoid
Eleocharis acuta	Common Spike-sedge	Medium to Tiny Non-Tufted Graminoid
Juncus kraussii subsp. australiensis	Sea Rush	Large Non-Tufted Graminoid
Lachnagrostis filiformis	Common Blown-grass	Medium to Small Tufted Graminoid
Microlaena stipoides var. stipoides	Weeping Grass	Medium to Tiny Non-Tufted Graminoid
Poa labillardierei	Common Tussock-grass	Medium to Small Tufted Graminoid
Senecio quadridentatus	Cotton Fireweed	Large Herb

Table A5.4. Suitable species for revegetation of Stream Bank Shrubland (EVC 851).

Scientific Name	Common Name	Life Form
Acacia mearnsii	Black Wattle	Tree, Small Tree or Large Shrub
Acacia melanoxylon	Blackwood	Tree, Small Tree or Large Shrub
Acacia stricta	Hop Wattle	Medium Shrub
Acaena novae-zelandiae	Bidgee-widgee	Medium Herb
Alternanthera denticulata s.l.	Lesser Joyweed	Medium Herb
Bursaria spinosa subsp. spinosa	Sweet Bursaria	Medium Shrub
Callistemon sieberi	River Bottlebrush	Medium Shrub
Calotis scapigera	Tufted Burr-daisy	Medium Herb
Eucalyptus camaldulensis	River Red-gum	Tree, Small Tree or Large Shrub
Ficinia nodosa	Knobby Club-sedge	Medium to Tiny Non-Tufted Graminoid
Geranium sp. 5	Naked Crane's-bill	Medium Herb
Goodenia ovata	Hop Goodenia	Medium Shrub
Leptospermum lanigerum	Woolly Tea-tree	Tree, Medium Shrub
Leptospermum obovatum	River Tea-tree	Medium Shrub
Lomandra longifolia	Spiny-headed Mat-rush	Large Tufted Graminoid
Melaleuca parvistaminea	Rough-barked Honey-myrtle	Medium Shrub
Melicytus dentatus s.s.	Tree Violet	Medium Shrub
Microlaena stipoides var. stipoides	Weeping Grass	Medium to Tiny Non-Tufted Graminoid
Phragmites australis	Common Reed	Large Non-Tufted Graminoid
Poa labillardierei	Common Tussock-grass	Medium to Small Tufted Graminoid
Pomaderris racemosa	Cluster Pomaderris	Medium Shrub
Rubus parvifolius	Small-leaf Bramble	Scrambler or Climber
Rumex brownii	Slender Dock	Medium Herb
Senecio quadridentatus	Cotton Fireweed	Large Herb
Solanum laciniatum	Large Kangaroo Apple	Medium Shrub

Table A5.5. Suitable species for revegetation of Escapment Shrubland (EVC 895).

Scientific Name	Common Name	Life Form	Notes
Acacia implexa	Lightwood	Tree, Small Tree or Large Shrub	
Acacia mearnsii	Black Wattle	Tree, Small Tree or Large Shrub	
Acacia paradoxa	Hedge Wattle	Medium Shrub	
Allocasuarina verticillata	Drooping Sheoak	Tree, Small Tree or Large Shrub	
Atriplex semibaccata	Berry Saltbush	Small or Prostrate Herb	
Austrodanthonia racemosa var. racemosa	Slender Wallaby-grass	Medium to Small Tufted Graminoid	
Austrodanthonia setacea	Bristly Wallaby-grass	Medium to Small Tufted Graminoid	
Austrostipa oligostachya	Fine-head Spear-grass	Medium to Small Tufted Graminoid	
Austrostipa scabra	Rough Spear-grass	Medium to Small Tufted Graminoid	
Bursaria spinosa	Sweet Bursaria	Medium Shrub	
Cassinia complanata	Sticky Cassinia	Medium Shrub	
Cassinia longifolia	Shiny Cassinia	Medium Shrub	
Dodonaea viscosa	Sticky Hop-bush	Medium Shrub	
Einadia hastata	Saloop	Medium Herb	
Elymus scaber var. scaber	Common Wheat-grass	Medium to Small Tufted Graminoid	
Enchylaena tomentosa var. tomentosa	Ruby Saltbush	Small Shrub	
Goodenia ovata	Hop Goodenia	Medium Shrub	
Indigofera australis	Austral Indigo	Medium Shrub	
Kunzea ericoides spp. agg.	Burgan	Medium Shrub	
Lomandra longifolia	Spiny-headed Mat-rush	Large Tufted Graminoid	
Melicytus dentatus s.l.	Tree Violet	Medium Shrub	On Stony Knoll
Microlaena stipoides var. stipoides	Weeping Grass	Medium to Tiny Non-Tufted Graminoid	Sheltered slopes
Pelargonium australe	Austral Stork's-bill	Large Herb	
Poa sieberiana	Grey Tussock-grass	Medium to Small Tufted Graminoid	
Rumex brownii	Slender Dock	Medium Herb	
Senecio quadridentatus	Cotton Fireweed	Large Herb	

Table A5.6. Suitable wetland species for revegetation.

Scientific Name	Common Name	Life Form
Alisma plantago-aquatica	Water Plantain	Medium Herb
Bolboschoenus medianus	Marsh Club-sedge	Large Non-Tufted Graminoid
Carex appressa	Tall Sedge	Large Tufted Graminoid
Carex fascicularis	Tassel Sedge	Medium to Small Tufted Graminoid
Carex gaudichaudiana	Fen Sedge	Medium to Small Tufted Graminoid
Carex inversa	Knob Sedge	Medium to Small Tufted Graminoid
Eleocharis acuta	Common Spike-sedge	Medium to Tiny Non-Tufted Graminoid
Ficinia nodosa	Knobby Club-sedge	Medium to Tiny Non-Tufted Graminoid
Juncus amabilis	Hollow Rush	Medium to Small Tufted Graminoid
Juncus flavidus	Gold Rush	Large Tufted Graminoid
Juncus kraussii subsp. australiensis	Sea Rush	Large Non-Tufted Graminoid
Juncus pallidus	Pale Rush	Large Tufted Graminoid
Juncus sarophorus	Broom Rush	Large Tufted Graminoid
Juncus subsecundus	Finger Rush	Medium to Small Tufted Graminoid
Lachnagrostis filiformis	Common Blown-grass	Medium to Small Tufted Graminoid
Persicaria decipiens	Slender Knotweed	Large Herb
Phragmites australis	Common Reed	Large Non-Tufted Graminoid
Poa labillardierei	Common Tussock-grass	Medium to Small Tufted Graminoid
Potamogeton crispus	Curly Pondweed	Medium Herb
Triglochin procera s.s.	Common Water-ribbons	Large Tufted Graminoid
Typha orientalis	Broad-leaf Cumbungi	Large Herb

APPENDIX B

APPENDIX B
BACKGROUND DOCUMENT REVIEW
Edgars Creek Conservation and Development Plan
Edwardes Lake to Merri Creek

1. STRATEGIC DOCUMENTS

1.1 **Moreland Open Space Strategy,** Moreland City Council, Adopted 2012

The purpose of the Open Space Strategy is to "provide Moreland City Council with the priorities for public open space so that it can plan and develop its open space to preserve and enhance its environmental values and provide for community needs."

The central purposes of the Strategy are to:

- Understand supply and demand for open spaces
- To identify deficiencies
- To secure appropriate additional open space where possible
- To protect existing open space and its values
- To improve its quality through better planning and management

The Strategy also identifies that "Moreland's waterways are the distinctive natural feature of the municipality, requiring consideration as to how these can be protected as an important natural resource, whilst providing important opportunities for community recreation."

The Strategy identifies seven key goals when providing recommendations for issues arising in the Strategy, including:

- Providing parks close to home
- Having a mix of open space types and experiences
- Balancing use with protection of natural values along waterways.
- A greener more liveable Moreland
- Making the most of open space through effective management
- Enhancing participation and use of open space
- Developing a network of shared trails

The Strategy identifies most of the Edgars Creek open space corridor as District Open Space and Linear Reserves and the reach between Kodak Bridge and Livingstone Street as Local Open Space. Edgars Creek provides the major bushland open space in the suburb of Coburg and functions primarily as a Conservation (Flora and Fauna) area, with Sport function on the floodplain adjoining Golf Road and at the athletics track. The former VicRoads land has no identified function. The whole of the creek open space corridor is identified as a priority area requiring master planning.

Actions in the Strategy that apply to the Edgars Creek Open Space corridor include:

- Develop a strategic works program for waterway revegetation for Edgars, Merlynston and Westbreen Creeks, in conjunction with the Creek Management Bodies, Friends Groups and Melbourne Water

- Prepare a conservation and development plan for Edgars Creek identifying appropriate recreational opportunities along its reaches and including the reclamation and revitalisation of natural areas along Edgars Creek. Investigate and provide opportunities to improve access for use and maintenance of the area, particularly on the eastern bank behind the industrial estate

- As opportunities arise, acquire land to create a vegetated buffer of a minimum 30 metres wide measured from the edge of the embankment on each side of the creek corridor along Merri Creek, Moonee Ponds Creek, and Edgars Creek (where possible). A minimum of 50 metres wide from the creek edge on each side should be sought to create a public open space corridor

- Negotiate with owners of other authority land that Council maintains as public open space, to ensure appropriate zoning and designation of land as public open space and/or transfer management to Council, for example: land along Edgars Creek, Coburg North and Outlook Drive, Glenroy.

The Strategy assumes that the following principles will be upheld in the planning and development of all open spaces in Moreland:

Conservation and environmental sustainability

- Protection and active management of all remnant indigenous vegetation sites as irreplaceable natural heritage assets.
- Conservation and interpretation of places of cultural and archaeological heritage
- Sustainable planting and landscape design reflecting site context, water sensitive urban design, landscape character, functional requirements, and/or specific design features.
- The utilization of up-to-date, sustainable environmental design in open space management.

Access and inclusion

- Consultation with park users and adjacent residents as part of the planning and design process for all substantial open space development and projects.
- Inclusion of people with a wide range of ages, cultural backgrounds and abilities through open space design and development.
- Movement between and through open spaces for walking, cycling, fauna, and surrounding municipality's networks.
- Design and maintenance of open space that will provide a high degree of security for users.
- Allocation of resources for equitable distribution, development and maintenance of open space, and for a range of uses.
- Promotes sharing of open space rather than exclusive use by a user group or commercial activity.
- Maintain and improve open space to manage the increasing demand for open space from population growth, increasing housing densities, building heights and the loss of private open space.

Acquisition and disposal and alienation of open space

- Open space should be protected from overshadowing, encroachment by non-recreational and support infrastructure, including car parks and signs, and development that restricts public access or surveillance.
- Acquisition of land for public open space may be required: in areas of identified need; for local parks; in activity centre areas; to create access to existing parks, or to consolidate or extend open space corridors.

- Prior to disposal of open space there will be a comprehensive assessment of existing and potential use and value of the space.
- Proceeds from any sale of public open space will be used for open space development or acquisition.

1.2 **Darebin Open Space Strategy 2007-12,** Darebin City Council, 2007

The Darebin Open Space Strategy 2007-12 is a review of the previous strategy prepared in 2000. The review of the Strategy was conducted to consider key emerging issues including:

- Implications of the State Government planning framework: Melbourne 2030 and provision of open space in areas of increasing residential density. In particular the identified Activity Centres of Preston, Northcote and Reservoir anticipate an increase in residents in established areas where backyard sizes are decreasing as a result of subdivision and demands for open space within these communities is increasing.
- Climate change and the potential impacts of reduced rainfall in conjunction with higher temperatures.
- Development of criteria to assess open space provision and consider future acquisition and disposal of open space.

The Strategy notes that the vision for the next ten years for open space in the City of Darebin is:
"A well connected network of accessible open spaces that meets the diverse needs of the community and provides a range of social and environmental benefits."

This vision is to be achieved through the following key principles:

- The enhancement of the open space network will achieve a range of social, environmental and community aspirations.
- Distribution of parks will ensure that residents have access within their local neighbourhood.
- Across the open space system, accessibility for a range of abilities and disabilities will be achieved.
- A diverse range of open spaces throughout the City of Darebin will offer outdoor recreation opportunities for all sectors of the community.
- The community values open space that is appropriately maintained in accordance with its category and its associated uses.
- It is important that open space meets the changing needs of communities as population grows and trends change.
- Linkages and linear parks enhance the open space network and provide valuable connections.
- Management and maintenance practices for open space will respond to the issues arising from climate change and the need for alternate water sources.
- High level of public awareness and involvement will maximise use and engagement by the community in the open space network.
- Restoration and rehabilitation of the creek corridors will ensure that environmental values are preserved for future generations.
- Council is committed to high standards of master planning, landscape outcomes, conservation of natural and cultural heritage and presentation of open space.
- Affordable and achievable maintenance will ensure that the provision of open space is sustainable into the future.

The Edgars Creek Corridor between Edwardes Street and Jenkins Street in Reservoir West (11.78ha) is identified in the Strategy as a Neighbourhood Park level and classified as Conservation Parkland.

The actions identified in the Works Program relating to Edgars Creek include:

- Investigate the opportunities for the establishment of a continuous publicly owned corridor for ecological and recreational values along the Merri, Darebin and Edgars Creeks.
- Prepare and implement an Interpretations Strategy to explain natural and cultural features to open space users via a range of means, of communication, with a focus on Bundoora Park and the creeks.
- Continue to develop annual works programs in conjunction with the management bodies for each waterway, and Melbourne Water.
- Review land ownership in the creek corridors to ensure there is a continuous ecological and recreation corridor.
- Implement the Weed Control Program along waterway corridors and in general parkland.
- Undertake a review of all linear reserves to determine viability for recreational use. Prepare a linear reserves master plan to ensure that recreation opportunities and landscape amenity are provided for.
- Connect Edwardes Lake with Merri Creek by trail, in co-operation with Moreland City Council. Continue development of a shared footway and green corridor along Edgars Creek between Edwardes lake Park and Mahoneys Road.

1.3 **Merri Creek and Environs Strategy,** 2009 - 2014

The intent of this Strategy is to provide direction to the managers of the waterway corridors of the Merri catchment, which includes the Merri Creek and its tributaries flowing from the Great Dividing Range through to the northern suburbs of Melbourne. Edgars Creek is one of the nine major tributary systems that flow into the Merri Creek.

The key goals for the Merri Catchment in the Environs Strategy include:

- Water goal - Sustainable water use and healthy waterways, wetlands, estuaries, coasts and bays.
- Land goal - Healthy land used appropriately and productively.
- Biodiversity goal - Healthy and enduring ecosystems with a diversity of habitats and native species.
- People goal - The community valuing, understanding and celebrating the region's catchment assets and working to achieve sustainability.

The Strategy notes that the vision for the Merri catchment waterway corridors is:
"To achieve healthy living streams flowing through the attractive environments which provide habitat for native animals and are valued by the community as peaceful, passive open space havens. To protect the natural and cultural features of the Merri catchment waterway corridors through sensitive management which will provide a lasting benefit for the community."

Actions in the Strategy that apply to the Edgars Creek Open Space corridor include:

- Prepare Development or Management Plans as required for development or consolidation of open space at the following primary nodal points where land use is not an issue, or following the resolution of such issues and those of land ownership (if applicable): Edgars Creek, north of the Merri confluence to the ex-Kodak bridge.
- Develop agreements to provide access through the following sites, or secure their whole or partial tenure for an open space, conservation or urban floodway function by clarification of ownership and planning anomalies at the time of review of Planning Schemes, development of appropriate zoning, negotiation with owners at the time of rezoning or through land purchases: West bank Edgars Creek – Murray Road upstream to the ex-Kodak land, Coburg.

- Develop detailed plans for public access along Edgars Creek, including trail link from Merri Creek to Edwardes Lake.
- Following detailed plan development, construct trail link from Merri Creek along Edgars Creek to Edwardes Lake.

1.4 **Moreland Indigenous Vegetation Assessment Final Report,** Merri Creek Management Committee, 2012

This report was commissioned by Moreland City Council in February 2010 as an update to the 1998 Moreland Remnant Vegetation Assessment. A total of 351 patches of remnant vegetation were surveyed, including the 330 patches of already identified in the 1998 report. Of the 171 ha or remnant vegetation in Moreland in 1998, the latest survey indicated that only 141 ha remain and these are moderately to severely degraded. The report assesses the quality and significance of each remnant patch, and includes the list of species identified as well as areas of revegetation. The greatest threat to remnant vegetation in Moreland is weed invasion and the report identified 8 weed species as having the highest priority for control and another 39 species as being of high priority.

The recommendations made in report are categorized under 6 main goals including:

- Goal 1: Improve the connectivity and long-term security of indigenous habitats and species
- Goal 2: Maintain the diversity of indigenous habitats and species in terrestrial, aquatic and marine environments
- Goal 3: Achieve sustainable populations of indigenous flora and fauna species
- Goal 4: Achieve a net gain in the quantity and quality of indigenous vegetation
- Goal 5: Increase the capacity and participation of people and organizations in catchment management
- Goal 6: Seek continuous improvement in the planning and management of indigenous vegetation by Council and other agencies in Moreland

The recommendations specific to Edgars Creek include:

- Continue the management of the Edgars Creek corridor from Merri Creek to Kodak Bridge (site 412 in the report) and expand on the revegetation plots to enhance connectivity between patched of endangered EVCs within this reach.
- From the Kodak Bridge to the northern council boundary at Carrington Road (site 413 in the report), the site is identified in the report as an important part of the regional-scale Edgars Creek Corridor.

1.5 **Darebin Draft Natural Heritage Plan,** 2011

The National Heritage Plan was prepared as part of the overall Darebin Heritage Study prepared by Context Pty Ltd for Darebin City Council.

The aims of the Darebin Heritage Study include:

- Assess, document and protect sites of cultural heritage as well as natural heritage and pre-European contact Koori heritage over the entire municipality.
- Develop a framework (Heritage Plan) for the protection of important natural and cultural heritage places and the proactive management and sustainable use of heritage assets.
- Provide detailed statutory implementation recommendations.
- Ensure that the Heritage Study takes a holistic approach to the assessment of significance.

The aims of the Natural Heritage Plan include:

- Assess and document the areas identified as being significant through preparation of Statements of Significance.
- Where possible relate the Statements of Significance to the Thematic Environmental History.
- Undertake community consultation with relevant individuals, bodies and organizations regarding places of natural heritage.
- Prepare a heritage plan incorporating recommendations for the conservations of the municipality's natural heritage.
- Prepare recommendations for statutory protection and draft appropriate statutory controls for inclusion in the Darebin Planning Scheme.

The Study identifies the following recommendations for the Edgars Creek corridor from Kia Ora Road to Carrington Road/Jenkin Street:

- Rezone the inappropriately zoned parts of the site to PPRZ and establish an ESO over the entire site (consistent with the ESO downstream) and adjacent properties.
- Protect the geological site from disturbance (e.g. channel modification works) and ensure that rubbish and graffiti are removed. Ensure vegetation on the outcrops is managed appropriately – retention of indigenous species, but weed control, especially Kikuyu would be appropriate. Avoid landscaping that would obscure the outcrops.
- Close the unused ends of the Kia Ora and Kingsley Road reserves and rezone to PPRZ.

The Study identifies the following recommendations for the Edgars Creek corridor from Henty Street to Kia Ora Road:

- Investigate rezoning the whole site to PPRZ.
- Investigate closure of the unused parts of Dromana Avenue and Gumbrae Street.
- Establish an Environmental Significance Overlay over the whole site and adjacent properties.

The Study identifies the following recommendations for the Edgars Creek corridor from Edwardes Street to Henty Street:

- Establish an Environmental Significance Overlay over the whole site, the pub and the first row of houses on the east side of the creek.
- Investigate land acquisition of the unoccupied parts of the site or at least an additional width along the west side of the creek.
- Investigate rezoning the PUZ1 land to PPRZ.

1.6 **Three Year Habitat Restoration Strategic Plan 2012 -2014,** Friends of Edgars Creek, 2012

The Friends of Edgars Creek (FoEC) was established in 2006 and has completed significant restoration works along the creek between Edwardes Lake and its confluence at Merri Creek. This section of the creek remains largely intact, except for bank stabilization work in completed by Melbourne Water in some areas, and is a reminder of how the creek once was before urbanisation.

The vision of the Friends of Edgars Creek for this plan is:
"Our vision is the ongoing management and enhancement of Edgars Creek, between Edwardes Lake and its confluence with the Merri Creek in a manner consistent with the informal and secluded bushland nature of this reserve area, in a manner sympathetic to its unique geology, indigenous biodiversity and the local community."

The objectives in the plan the Strategic Plan include:

- Establish resilient ecological vegetation class (EVC) habitat areas by consolidating restoration effort in a limited number of areas.
- Increase biodiversity by establishing a range of ecological vegetation class (EVC) projects indigenous to the area.
- Protect remnant vegetation by focusing restoration project areas around significant remnant specimens or communities.
- Link fragmented habitat areas by 'growing out' project areas over time.
- Improve the landscape values associated with significant geological landforms, particularly those identified in Victoria's Resources Atlas.
- Reduce the impact of urban development on the 'secluded bushland character' of the creek reserve through appropriate 'buffer' planting.
- Maximise the effectiveness of maintenance through intensive, localized effort to reduce the impact of invasive weeds and pests.
- Sustain local community involvement through self management, education to build capacity for 'knowledge' custodianship and targeted complementary land management agency support.

Six project sites have been identified for restoration and establishment of viable, self supporting habitats. The sites and their respective habitat restoration objectives include:

Confluence of Edgars and Merri Creek

- The Friends of Edgars Creek have established a cluster of 'tree custodian' planting at the site.
- EVC 654 Creekline Tussock Grassland immediately adjacent to the confluence.
- EVC 851 Stream-bank Shrubland on the rocky banks and beds of the creek which has cut deeply into the plain.

Waterfall area

- Location of the regionally significant Edgars Creek waterfall and exposed Silurian escarpments.
- The FoEC has established significant areas of ecological vegetation class habitat on both sides of the creek since 2006 and have recovered indigenous rock from the M9 water main replacement for use in future landscaping works.
- EVC 654 Creekline Tussock Grassland at the base of the rocky escarpment immediately below the waterfall on the east bank.
- EVC 851 Stream-bank Shrubland on the west banks.
- EVC 895 Escarpment Shrubland generally associated with steep embankments beside watercourses in low rainfall areas, e.g. along the south side of the Ronald Street footpath and adjacent to the waterfall, east side.

Gooseneck Meander Area

- Works have been undertaken by the FoEC since 2007 to restore and maintain stream-bank shrubland and Creekline tussock grassland along the regionally significant gooseneck meander of the creek.
- EVC 654 Creekline Tussock Grassland on the inner bend of the meander (west side).
- EVC 851 Stream-bank Shrubland along the rocky banks and beds of the creek.
- EVC 895 Escarpment Shrubland along the west side of the creek that rises steeply from the floodplain.

Silurian Cliff Area

- Regionally significant exposed Silurian cliff adjacent to the former Kodak site.
- Seven remnant species identified in the area, including *Eucalyptus leucoxylon ssp connate* which is the only remnant specimen found in Moreland. A mature River Red Gum is also located at the base of the cliff.
- Works have been undertaken by the FoEC since 2009 to establish EVC 654 Creekline Tussock Grassland immediately below the Silurian cliff, EVC 851 Stream-bank Shrubland along the rocky banks and beds of the creek, EVC 56 Floodplain Riparian

Woodland upstream along the western bank of the creek and EVC 895 along the west side of the creek that rises steeply from the floodplain.

Plains Grassy Woodland Hilltop Area

- Elevated hilltop with views across the creek and to the city of Melbourne.
- EVC 55 Plains Grassy (She-Oak) Woodland on the hilltop, around an existing ephemeral wetland.

Caravan Park Area

- An area with a number of identified significant remnant specimens including River Red Gum, Yellow Box and Sweet Bursaria.
- The area is infested with weeds and works to restore EVC 56 Floodplain Riparian Woodland, EVC 641 Riparian Woodland and EVC 895 Escarpment Shrubland will be critical in ensuring the integrity of the pocket of remnant vegetation.

1.7 The Merri Creek – Sites of Geological & Geomorphological Significance, Neville Rosengren, 1993

This study identifies sites of geological and geomorphological significance in a corridor of variable width along the Merri Creek valley which traverses Whittlesea, Broadmeadows, Preston, Coburg, Northcote, Brunswick and Collingwood. The study includes tributaries to Merri Creek, including Edgars Creek from its source in Whittlesea to its confluence point with Merri Creek in Coburg. Although much of the area studied has been greatly modified by the impact of European settlement, a variety of authentic geological features are displayed. As many of these are safely accessible to the public, the study identifies that there are opportunities for geological education and interpretation. A total of 38 sites are identified as significant, of which four sites are significant at the State level, 16 at the Regional level and 18 at the Local level.

Four sites of significance are located along Edgars Creek including:

- The Edgars Creek Terrace and Meanders (Goose-Neck), located adjacent to the floodplain between Outlook Drive and Ronald Street. The study identifies the meandering channel as having Local significance as it is a clear example of a confined floodplain and the meander forming at the site is a natural process which illustrates the method by which alluvium is transported and stored in stream channels.

  The study recommends that some meander bends be allowed to erode as a natural process to illustrate the natural cross sections of older and more recent alluvium. Any new facilities are to accommodate channel changes. (Refer site 14 in the Rosengren Report 1993).
- The Edgars Creek Waterfall and geological structure located immediately south of Ronald Street footbridge is identified as having Regional significance due to the exposed outcrop of Silurian sandstone (Melbourne Formation) which illustrates the waterfall formation. There are few comparable sites in the Melbourne Metropolitan area. The site was used as a ford crossing for maintenance access and this practice has now been discontinued. The study recommends that this site be retained as an exposed and active stream channel, with the potential for interpretation of this geological feature. (Refer site 15 in the Rosengren Report 1993).
- The cliff of Melbourne Formation (Kodak Cliff) is located on the east bank of Edgars Creek, immediately north of the Coburg Hill residential boundary (Former Kodak site). The 8m high cliff of gently dipping Melbourne Formation is identified as having Local significance as it is the best example of natural vertical section of Melbourne Formation in the catchment. The study notes that the site could be damaged by material or rubbish dumping over the top of bank. (Refer to site 16 of the Rosengren Report 1993).
- The Dolomite Nodules in Reservoir are located on the west bank of Edgars Creek, south of Broadhurst Avenue. The exposed Melbourne Formation sediments and the nodular rocks of varying size are of Regional significance as this is the only example

of sub-basaltic material in the catchment. (Refer site 17 of the Rosengren Report 1993). This site is outside the study area for the Edgars Creek Conservation and Development Plan.

1.8 **Moreland Integrated Water Management Plan,** Moreland City Council, 2009

This Strategy was developed in response to the current and emerging issues that are impacting on the management of water resources in Moreland City Council, including:

- climate change – reduced availability of potable water supplies and added pressures on the stormwater system.
- population growth – higher demand for limited water supplies and pollution pressures caused by urban consolidation.
- regulatory and policy – water restrictions and regulated water management requirements.
- economic – increasing water and sewerage charges.
- knowledge and technology – developments in water recycling, stormwater reuse and stormwater treatment.

Water quality analysis conducted for waterways within Moreland indicated that a number of stream health indicators were outside the State Environment Protection Policy guidelines (Waterwatch 2008). The Strategy notes that in the Merri Creek reactive phosphate, ammonium levels and conductivity (a measure of salinity) were above SEPP guidelines. This can be attributed to various pollution sources such as sewerage discharge, detergents, animal waste and industrial wastes discharged via the stormwater system.

The waterway management actions identified in the Strategy include:

- Incorporate water quality targets into the review of the Moreland Open Space Strategy.
- Identify wetland and other stormwater treatment development opportunities along Merri and Moonee Ponds Creeks and their tributaries for stormwater treatment and ecological purposes.
- Implement the recommendations of the Merri Creek Constructed Urban Wetlands Feasibility Study.
- Identify opportunities to link WSUD objectives with open space management objectives including stormwater reuse and stormwater treatment, biodiversity and habitat enhancement.
- Work with MCMC, MPCCC and Melbourne Water to identify project opportunities which will incorporate stormwater pollution reduction outcomes.

1.9 **Merri Creek Constructed Urban Wetlands Feasibility Study Final Report,** Sept 2009

This study was prepared to assess the feasibility of wetlands at various locations along the Merri Creek corridor located in Moreland City Council, including Lowson Street and Jukes Road/Emma Street in Fawkner and the Merri Creek-Edgars Creek confluence in Coburg.

The study identifies the public open space near the confluence of Merri Creek and Edgars Creek (to the west of Edgars Creek and to the north of Merri Creek) as a potential site for a wetland, to treat runoff from the 21 ha of residential area between Newlands Road and Merri Creek which drains towards Edgars Creek.

Two potential locations for the wetland are investigated within the public open space – the existing golf driving range (council owned land), and the other approximately 100 metres north (VicRoads owned land). The study notes that:

- The southern site is preferable from a civil engineering/ cost perspective, as less excavation is required.
- The northern site may be preferable from a community perspective as this land is more readily accessible to the public and could serve as a link to the Silurian rock formations and waterfall of Edgars Creek immediately adjacent to the site.

1.10 **Three Potential Wetland Sites Along Merri Creek – Geotechnical Surveys,** Coffey Geotechnics Pty Ltd, 2010

The aims of the geotechnical investigation were as follows:

- To assess the subsurface conditions at the site relevant to the proposed development.
- To provide preliminary comments regarding the dispersiveness and permeability of the material.
- To provide comments on excavation conditions and batter slopes.
- To provide comments and recommendations regarding subgrade preparation and placement of engineered fill.

- The report notes that the subsurface conditions encountered at Lowson Street and Jukes Road was consistent with Quaternary age Newer Volcanics comprising residual clays overlying variably weathered basalt rock.
- The report notes that based on the subsurface condition at Lowson Street and Jukes Road, it is anticipated that basalt rock underlying residual or clay fills would be encountered during excavation.
- The subsurface conditions at the Merri Creek-Edgars Creek confluence included possible fill material overlying materials consistent with alluvial deposit comprising sand, silt, sandy silt and gravel, which is likely to overlie Silurian aged siltstone and sandstone from the Dargile Formation.
- At the Merri Creek-Edgars Creek confluence, the test pits completed at the golf driving range area revealed clay fills and alluvial clays and silts to depths greater than 3.0m below existing natural surface, with only borehole #19 showing that Siltstone/Sandstone may be encountered during excavation at this location.
- Excavation for the wetlands will extend below average natural surface level to a depth of 2.2m at the Lowson Street site, 1.1m at the Jukes Street site and between 1.65m and 2.65m at the Merri Creek-Edgars Creek confluence site.

1.11 **Moreland Bicycle Strategy**, Moreland City Council, Adopted Nov 2011

This Strategy was developed to replace the 2000 Moreland Bike Plan and to address the rapid growth of cycling in Moreland which has led to challenges identified in the Strategy including:

- Cycling is now so popular in some areas that some routes are congested during the morning commuter peak.

- In other areas, potential cyclists are choosing not to ride because they lack access to user friendly off-street cycling facilities.

- Some of Moreland's older cycling facilities need major upgrades to meet community expectations of public safety.

- Safety concerns, in particular concern about cycling alongside motorised traffic, remains the most common reason people choose not to ride and not to encourage their children to join ride-to-school programs.

To address these challenges, this Strategy commits Moreland City Council to:

- Upgrade bicycle infrastructure, constructing new on-road and off-street paths that extend the bicycle network further north and into the City of Hume.
- Design for a broader range of bicycles and build places to ride that feel safe, comfortable, attractive and easy to navigate.
- Work with others to create an integrated, sustainable transport network, which includes bicycle routes, end-of-trip facilities, and 'transfer stations' – places where people can easily swap between a bike ride and public transport trip.
- Engage in community development activities to make riding a bike more appealing to people who don't think of themselves as cyclists.
- Amend the Moreland Planning Scheme to encourage developers to improve bicycle access, provide additional bike parking and contribute to bicycle infrastructure upgrades that improve the value of their development.

The Strategy identifies new cycling routes along the Edgars Creek corridor and through to the Elizabeth Street route via the Coburg Hill redevelopment site. This proposed route improves access to open space for future residents of the former Kodak site, and links to open space areas surrounding Edwardes Lake. The Strategy notes that this route:

- Is a proposed 4km bicycle route between Coburg Lake and Edwardes Lake Reservoir, running adjacent to Edgars Creek or along nearby streets.
- Provides links a link to the Coburg Activity Centre for residents of the Former Kodak Site (Melway 18 B9)
- Creates a network of open space shared paths following the Merri and Edgars Creeks.
- If extended by the City of Darebin, provides links to industrial employment areas in Reservoir, and the Reservoir Activity Centre.
- Needs to be designed to protect areas of Aboriginal cultural heritage and environmental significance. Design will also need to minimise flooding risks and avoid sections with steep gradients. These design constraints may result in route that includes a mix of off-street shared paths and on-road bicycle lanes.
- The route includes areas highly valued by Council, local residents and Friends of Edgars Creek group. It is anticipated that improvements to access will encourage greater use of a this open space asset, which in turn will provide passive surveillance to the creek and help deter illegal rubbish dumping.

Actions identified in the report to construct the Edgars Creek and Elizabeth Street Route include:

- Advocate for the City of Darebin to form a partnership with Moreland City Council to design and construct a shared path between Ronald Street, Coburg North and Edwardes Lake, Reservoir that roughly follows Edgars Creek
- Ensure the development of the former Kodak Site includes a bicycle route between Edgars Creek and Elizabeth Street (preferably making of pedestrian crossing lights on Elizabeth Street to create a link to Newlands Primary School)
- Work with the Merri Creek Management Committee, Friends of Edgars Creek and the Aboriginal community to balance the needs of pedestrians and cyclists with the requirements of habitat and cultural heritage protection along the Merri Creek and Edgars Creek Corridors.

High Priority Actions

- Design and construct a 500m long x 3.0m wide concrete shared use path between the Merri Creek trail and the Ronald St – Golf Rd. path and bridge. Path to meet Merri Creek Trail need the confluence of Merri and Edgars Creeks and provide a link between the former Kodak site and the Merri Creek Trail
- Install cyclist and pedestrian way finding signs along the Coburg Lake to Edwards Lake route.

Medium Priority Actions

- Working in partnership with the City of Darebin design a 3km concrete shared path running from the Ronald St. – Golf Rd. Path to Edwardes Lake using either Edgars Creek or Surrounding streets. Project cost covers the contribution of the Moreland City Council only.

Long Term Actions

- Construct a 1.5km long x 3.0m wide concrete shared path between the Ronald St. – Golf Rd. Path to the municipal boundary (corner of Elizabeth St and Jenkin Street).
- Construct up to four new pedestrian bridges, as indicated in the preferred Coburg Lake to Edwardes Lake Trail path alignment.
- Construct boardwalks totalling 100m in length, as indicated by preferred Coburg Lake to Edwardes Lake Trail path alignment.

1.12 **Moreland Integrated Transport Strategy 2010-19,** Moreland City Council, 2010

The Strategy's key objectives include:

- To achieve a shift toward more environmentally sustainable travel modes
- To support social equity and ensure viable transport options for all sectors of the community
- To improve safety in all modes of transport to support an active and healthy community
- To support economic activity by providing for multi-modal transport links supporting all forms of commerce in the City

The Transport Vision Frameworks for the Strategy includes:

- Walking and cycling are the preferred modes of transport.
- Good public transport services in all areas.
- Streets are community spaces.
- Local access to services, education and employment.

The Edgars Creek corridor is identified in the Strategy as being within 400 metres walking distance from bus routes along Newlands Road, Murray Road and Elizabeth Street. (Fig. 10 Gaps in public transport services in Moreland as at June 2009).

Walking and cycling actions identified in the Strategy include:

- Develop and endorse a pedestrian strategy by June 2010. (Completed)
- Develop and endorse a new bicycle plan by June 2010. (Completed)
- Continue to increase annual funding for walking and cycling infrastructure.
- Improve priority for pedestrians and cyclists.
- Provide high-quality, DDA-compliant walking environments and networks, as identified in Council's pedestrian strategy.
- Continue to support programs that encourage people to walk and ride, particularly children.

- Improve the safety and amenity of cycling and walking networks to encourage more short trips to be made by bike or foot.
- Create new high-quality cycling linkages in Moreland.
- Continue to install bicycle parking facilities for cyclists, especially in activity centres and around transport interchange nodes.
- Continue to promote walking and cycling as feasible transport modes, including events such as Cyclovia, Walk the School Day and Ride to Work Day.
- Encourage local living by supporting local shopping precincts through business development strategies, and advocating against closing essential local facilities such as schools and post offices.
- Ensure that in developing walking and cycling networks, the use of laneways is included.
- Consider options to 'retire' some of the existing pavement by reducing pavement widths, creating malls and road closures, and a safer and more pedestrian-friendly environment.
- Advocate for more pedestrian signals on busy roads and for changes to VicRoad's warrants that currently disadvantage areas without high rates of walking.

1.13 **Moreland Pedestrian Strategy 2010-19**, Moreland City Council, 2010

This Strategy was developed to identify the current and future needs of pedestrians and establish the strategic direction to support and encourage walking within Moreland. The vision for the Pedestrian Strategy is:
"To make the City of Moreland more accessible to pedestrians, and to encourage more people to walk more often."

The Strategy identifies four key themes under which actions have been developed. The actions that may be relevant to the Edgars Creek Conservation and Development Plan include:

Promoting walking

- Develop walking maps that feature walking trails, historical landmarks and the like within the City of Moreland.
- Provide information to the community about the health, economic, social and environmental benefits of walking.
- Develop and improve signage along pedestrian routes to provide clear information to pedestrians about the transport network, such as locations and distances to roads, train stations, bus and tram stops.

Improving the walking network

- Identify locations and opportunities to secure new rights of way to create links and shortcuts in the pedestrian network.
- Formalise pedestrian desire lines where appropriate.
- Investigate amending the Moreland Planning Scheme to require developers to install 1.5 metre (minimum) wide footpaths on both slides of the street of all new subdivisions.
- Investigate introducing various overlays in the Moreland Planning Scheme to improve pedestrian connectivity and priority. This strategy also proposes to investigate the introduction of developer contributions to fund these acquisitions.
- Investigate the tools and mechanisms that can be used to increase pedestrian permeability in new developments.

Improving the walking environment

- Provide and improve lighting in pedestrian spaces in accordance with Council's Public Lighting Policy & Australian Standards.
- Improve pedestrian spaces and routes so they are accessible to people of limited mobility and comply with the DDA requirements.

- Provide and improve pedestrian facilities along footpaths, shared paths and in parks including seating, lighting, drinking fountains, shade trees and public toilets.
- Encourage developers to use urban design elements to support high-quality walking environments such as passive surveillance of pedestrian spaces and the provision of verandahs and landscaping.
- Adopt the VicRoads shared path code of conduct and install signage along these routes, outlining the responsibilities of each path user.

Implementation

- Review other Council policies that affect the pedestrian environment and network, and ensure that they are aligned with the objectives and actions contained within this strategy.
- Seek support from neighbouring Councils to implement infrastructure along municipal borders.

1.14 **Darebin Cycling Strategy,** PBAI Australia with David Lock Associates, 2005

The Darebin Cycling Strategy was developed as an updated to the 1998 City of Darebin Bicycle Plan.

The vision for the strategy is:
"To realise more transport, recreation and tourism cycle trips within Darebin, achieved through a greater take up of cycling amongst residents and visitors and a higher frequency of cycle use where people already cycle. This vision will enhance the well being of residents, contribute to the local environment and amenity and support wider health, fitness and environmental improvements."

The Strategy objectives include:

- To develop management structures and processes within Council that support and realise the implementation of the Cycling Strategy.
- To advocate for improved cycle facilities, an increased recognition of cyclists in planning transport and land use and changes to legislation (in particular relating to Fringe Benefits Tax) to encourage cycling at both a Federal and State level.
- To develop partnerships and work with those partners to provide improved cycle facilities, develop cycle skills and increase cycle ownership.
- To extend both on road and off road facilities within Darebin to provide a comprehensive and connected network that meets the needs of cyclists of all abilities and ages and links with the wider metropolitan network.\
- To make cycling within Darebin as safe as possible through the implementation of this Strategy by Council and by working in partnership with others.
- To integrate cycling into transport and land use planning at all levels of Government, through Council's own actions and lobbying for change to the State planning system.
- To actively promote cycling as a healthy, safe and legitimate for of transport to the whole community and in doing so improve the relationship between motorists and cyclists and pedestrians and cyclists.
- To ensure information, from a range of sources, is widely available to the local community to support cycling for transport, leisure and tourism at all levels.

The Strategy identifies a series of issues including:

- Safety issues at certain intersections due to intersection design or conflict with traffic.
- Sections of the proposed Primary Bicycle Network either unsuitable for cycling or lack available space to implement necessary levels of facilities.
- Requirements for on road cycle paths.
- Requirements for off road cycle paths.

- Requirement to upgrade some existing cycle paths and facilities.
- Lack of cycle connections to key land uses.
- Missing or inadequate signage.
- Missing or inadequate lighting.
- Inappropriate planting and/or low branches near paths.
- Requirement for cycle parking and trip end facilities.
- Requirement for cycle links across barriers such as creeks.
- Missing links and lack of continuity identified in the current network.

Recommendations to improve the North-South connections of the bicycle network include:

- Construct path through Edgars Creek Reserve from the boundary with City of Moreland to Edwardes Lake Park. Continue the path northwards along the creek corridor to the boundary with City of Whittlesea and the Metropolitan Ring Road path.
- Gilbert Road was identified as the main north-south cycling corridor between Murray Road and Edwardes Street. Treat intersections to facilitate cycle use, investigate potential to install cycle lanes. Gilvert Road lanes have already been proposed and designed between Regent Street and Edwardes Street. In addition, possible clearway lanes in Gilbert Road between Miller Street and Regent Street could be explored.
- Elizabeth Street forms the boundary between Darebin and Moreland, and therefore any schemes will be a partnership between the two municipalities.
- Remark traffic lanes on Edwardes Street west of Banbury Road to include exclusive bicyle lanes. Since parking restrictions are already in place this option is only feasible if Lakeside Secondary College access to connect to Merri Creek is approved.

As advised on Darebin City Council's website, Council is conducting a review of the Darebin Cycling Strategy in 2012, to reflect the changing context of cycling as transport, the popularity of cycling for leisure and transport and the large gains made since the inception of the 2005 strategy.

1.15 **Merri Creek Concept Plan – Cultural Heritage Report,** Melbourne Water and Merri Creek Management Committee, 1993

This report was commissioned by Melbourne Water and the Merri Creek Management Committee in 1993 as part of the development of a Concept Plan for Merri Creek and parts of tow of its tributaries – Edgars Creek and Central Creek. The extent of the study area for Edgars Creek was defined as the creek corridor from Cooper Street in Campbellfield to its confluence with Merri Creek in North Coburg.

The aims of the Cultural Heritage Report included:

- Prepare an updated Database of heritage place located along or close to the Merri Creek based on previous studies and other sources.
- Identify the further work require to provide a more complete understanding of the heritage of the Merri Creek, and make recommendations on the conduct of that work.
- Evaluate the current protection and management strategies for identified heritage places on the Merri Creek, and recommend improvements.
- Identify areas that may contain evidence of either Aboriginal and historic land uses and activities, and recommend planning procedures to reduce the risk of damage to unrecorded sites.
- Identify opportunities for the use and interpretation of places.

The report identifies two specific sites of cultural significance along Edgars Creek (as designated in Hall's 1989 Aboriginal Historical and Heritage Survey), namely Edgars Creek 1 (7822/157) and Edgars Creek 2 (7822/158). These sites are associated with a

complex wetland and an exposure of Silurian rocks which may have been a source of rocks for making tools, located at the confluence of the Merri and Edgars Creeks. The report notes that the poorly preserved sites are artifact scatters of medium cultural and scientific significance, but a high educational potential.

The recommendations in the report for those sites included:

- The land manager (Preston Council at the time and Melbourne Water) should ensure the natural re-establishment of vegetation over the site, and prevent further ground disturbance at the site by erosion, weed removal, placement of tracks (including the linear trail) and replanting.
- Preston Council (or Melbourne Water) should consider using the information about this site, interpretation of the Aboriginal use of the associated wetlands and exposures of Silurian rocks for educational purposes. Any program to re-vegetate should include the plants used by traditional Aboriginal people.
- Advice from a qualified and experience archaeologist should be sought before ground disturbance is carried out. The Wurundjeri, Aboriginal Affairs Victoria and the botanical study for the Concept Plan could be consulted for information about a botanical list of plants utilized for food and utensils. An information board could be erected on the linear trail.

1.16 Coburg Hill Landscape Master Plan, 2012

As part of the Coburg Hill residential development on the former Kodak site by Satterley (the developer of the site), a Landscape Master plan was prepared for the Edgars Creek corridor and associated open space from Ronald Street to the Silurian cliff formation and submitted to Moreland City Council for review and endorsement.

The master plan proposes new landscape works including:

- New walking trails including shared paths, 1.5m wide concrete paths and informal paths.
- New handrail along the top of the cliff and a new lookout structure at the top of the Silurian cliff formation site.
- New stair access to the floodplain north of the Silurian cliff.
- Weed eradication and replanting zones.
- Potential location for new wetland on the Melbourne Water owned land and construction of a boardwalk crossing.
- Provision of an east-west walking and cycling link to Elizabeth Street.
- Potential locations for picnic areas and fitness stations.
- Kodak Bridge embellishment.

1.17 SP Ausnet Guide to Planting Near Electricity Lines, 2007

Relevance to the Edgars Creek Conservation and Development Plan

Key points to remember when planting vegetation on transmission easements include:

- Choose species which have a maximum mature height of **no more than 3 metres**.
- Trees or shrubs should be scattered or clumped across the easement (an overall vegetative cover for mature trees and shrubs of up to 10 per cent is acceptable).
- Vehicle access along the easement should not be inhibited.
- Because maintenance vehicle access is required, only grasses or low growing vegetation should be planted within a distance of 20 metres from each tower centre.
- In special circumstances, such as in gullies or watercourses, these requirements may be varied. Contact SP Ausnet for guidance.
- When planting adjacent to, but not on an easement, make sure the vegetation will not impede vehicle access or pose a fire risk if it were to fall onto the easement.

Requirements to consider when planting vegetation under or near distribution powerlines include:

- Low-growing species, with a mature height of **no more than 3 metres**, can be planted within 7 metres of the line.
- For trees outside the 7 metre zone, plant them at such distances so that if they blow over, they will not fall on the lines. For example, a 10 metre tall tree should be planted at least 13 metres from the lines.
- As you approach mid-span (the mid-point of the line between two poles), gradually increase the distances between the powerline and any tree or shrub by an extra 3 metres.
- Do not plant vegetation within 3 metres of power poles.

1.18 SP Ausnet Guide to Living with Easements, 2007

General requirements include:

- The easement corridor for the 220kV Double circuit transmission line and towers that cross through the Edgars Creek study area is minimum 40m wide.

- Plans of proposed developments on an easement are to be submitted to SP Ausnet's Property Group before works commence on site.

- SP Ausnet and its contractors need vehicle access to existing and future tower sites at all times for line maintenance and construction purposes. In many cases, gates 4.6 metres in width are required to boundary fences to permit access along the easement.

Permitted uses of transmission line easements include:

- Trees and shrubs with a mature growth height not exceeding 3 metres.
- Vegetation density is generally restricted to scattered trees or limited area clumps and shelter belts to control the total quantity of burnable materials on the easement.
- A tree clear area of 20 metres radius is generally required at tower sites for line maintenance purposes. Closer trees may be permitted in some locations where the interference caused to access and essential line maintenance is acceptable. However, a greater clearance area is required at future tower sites to provide for construction of new transmission lines.
- Playground equipment, subject to a 1 metre maximum height limit.

Prohibited uses of transmission line easements include:

- Storage of materials, including waste bins and stockpiling of excavated materials.
- Use of vehicles and equipment exceeding 3 metres in operating height. A higher operating height limit is subject to sufficient clearances to the conductors.
- Loading, unloading and load adjustment of large trucks.
- Metal pipes (including reinforced concrete), power cables and other electrically conductive materials within 30 metres of any tower steelwork. For 220 kV easements only, this minimum distance reduces to 20 metres.

1.19 Shared Pathway Guidelines, Melbourne Water, 2009

These guidelines have been developed to ensure that construction of paths along waterways are compatible with the objectives for stream health that Melbourne Water has established as waterway caretaker for the Port Phillip and Westernport region. The document notes that the location of any new shared path should not compromise:

- the safety of path users – especially their exposure to risks associated with inundation.
- standards for flood protection.
- the waterway and riparian corridor and its intrinsic and natural values.

- the relationship between the waterway, its floodplain and any associated floodplain features.
- the opportunity to undertake future improvement works.
- Melbourne Water constructed assets, above or below ground.
- the maintenance of those assets.
- the hydraulic function of the waterway or drainage structure.
- Maintenance access.

Of particular relevance to Edgars Creek, any new shared paths proposed along the Edgars Creek corridor is to be located away from the creek to protect natural habitat values along the creek corridor. New shared paths should not be located in formed floodway channels to reduce public risk from flood events and should be located above 1 in 10 year ARI flood level if possible. If 1 in 10 ARI flood protection cannot be achieved, access to the sections of path below the 1 in 10 year ARI level is to be restricted via devices including fenced drown out approaches, flood activated boom gates and appropriate warning signage. Please refer to the full guidelines for additional details.

1.20 **Healthy Waterways Strategy (Draft),** Melbourne Water, May 2012

This draft strategy was developed by Melbourne Water to outline its role in managing the existing waterways in the Port Phillip and Westernport region, including over 8,400km of rivers, creeks and estuaries and a range of natural and constructed wetlands, with the overall objective of improving waterway health from 2013/14 to 2017/18.

The draft report states that *"the draft Healthy Waterways Strategy vision represents what we as a collective community value about our waterways and what we are working towards by implementing this strategy":*

The region has healthy rivers, creeks, estuaries and wetlands that:

- *support populations of native plants and animals*
- *allow for sustainable water use*
- *provide amenity that is valued by the community and enhances liveability.*

The draft strategy identifies seven key waterway values that include fish, platypus, frogs, macroinvertebrates, birds, vegetation and amenity, and provides waterway management targets and objectives for these values for each catchment.

The priorities for the next 20 years identified in the draft strategy for the Lower Yarra System include:

- Improving habitat through revegetation and weed control, especially willows, in waterways for fish and frogs.
- Improving water flows by implementing environmental flows in Yarra River and tributaries for fish and platypus.
- Reducing competition and predation from introduced fish, particularly mosquito fish, through habitat manipulation.
- Investigating and providing fish passage through the systems.
- Improving connectivity by linking floodplains to waterways for frogs.
- Improving habitat in lower and middle Plenty River to try to reconnect isolated platypus populations in Plenty Gorge and Yarra River.
- Revegetating and stabilizing rural reaches of rivers and creeks for macroinvertebrates.
- Improving water quality and flows for macroinvertebrates and fish by renewing existing urban drainage systems over the long term and implementing stormwater treatment in new developments.

- Continuing focus on improving vegetation, which will also benefit amenity and birds.
- Working with partners to develop litter prevention programs.

1.21 **Naming Moreland Places Policy,** Moreland City Council, April 2003

This policy was developed by Moreland City Council to provide a framework for the assigning of names to streets, roads, open space and public facilities within Moreland. The criteria for assessing proposed place names has been devised to allow better recognition of the cultural and ethnic diversity in Moreland, and the contribution of women, ethnic groups and Aboriginals to the City.

Of particular relevance to open space, the policy seeks to sensitively guide the naming process for existing and new open space to allow identification and enhancement of these spaces, in accordance with the Moreland Open Space Strategy.

The role of Council in the open space naming process is to investigate thoroughly all naming proposals submitted and conduct broad consultation with all relevant stakeholders including the Moreland community, registered sporting clubs/ Committees of Management, the Ward Councillor and all other Councillors and individuals/ groups listed in section 4 of the policy. This list includes the Wurundjeri, several Women's groups, schools, historical societies and representatives of ethnic communities in Moreland.

APPENDIX C1

APPENDIX C1

Edgars Creek Conservation and Development Plan
Edwardes Lake to Merri Creek

SUMMARY REPORT
COMMUNITY CONSULTATION OUTCOMES
Undertaken during the research and analysis phase

Prepared by Thompson Berrill Landscape Design Pty Ltd
for
Moreland City Council and Darebin City Council

June 2012

TABLE OF CONTENTS

1. INTRODUCTION

1.1 Letter to residents and questionnaire

An information letter and questionnaire was prepared to seek feedback from the local community to inform preparation of the Edgars Creek Conservation and Development Plan. The letter was designed to identify existing use of the creek corridor, key values, issues and opportunities to be considered in preparation of the plan. The letter also invited residents to attend community meetings held Sunday 23/4/2012 and Wednesday night 2/5/2012. Refer Appendix A.

1500 Questionnaires were letter box dropped to residents in the local Moreland area in April and copies were at the Community meetings. Notices were also placed in the Moreland Leader. A total of 153 questionnaires were completed by residents of Moreland City Council and returned by closing date of 25/5/2012. 730 questionnaires were letter box dropped to residents in the local Darebin area in May. A total of 53 questionnaires were completed by residents of Darebin City Council and returned by closing date of 25/5/2012. The responses were summarised by Clare Johnson at Moreland City Council.

1.2 Informal community information session

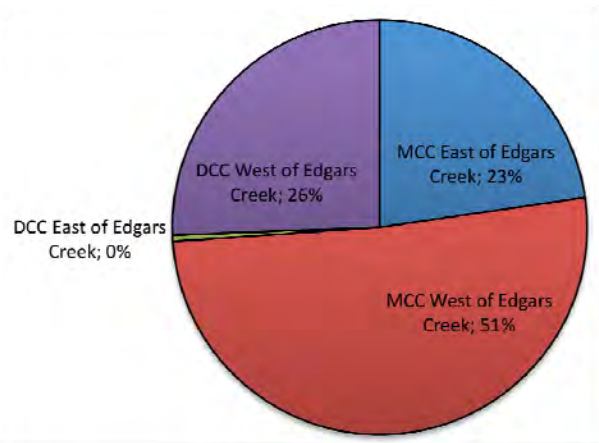
A community consultation was held on Sunday 29/4/2012 from 10am-12pm near the Ronald Street footbridge. Approximately 45 people come through. Generally the feeling of many of the residents was that they loved Edgars Creek and that they wanted to preserve its natural beauty. Many asked for improvements to the vegetation and appreciation for the work by Friends of Edgars Creek. Numerous dog walkers, and their dogs, were there and they appreciate the ability to have a dog off-leash area. There were some bike riders keen to get a track from Coburg Hill to Edwardes Lake and south to Coburg Lake, although the majority were happy to find an on road route other than through the creek corridor and to keep it for walking. Safety and access were also brought up, although not a major issue. There were all generations of people there and many stayed around to chat further with other residents or with the Council staff and the Friends of Edgars Creek.

1.3 Community meeting

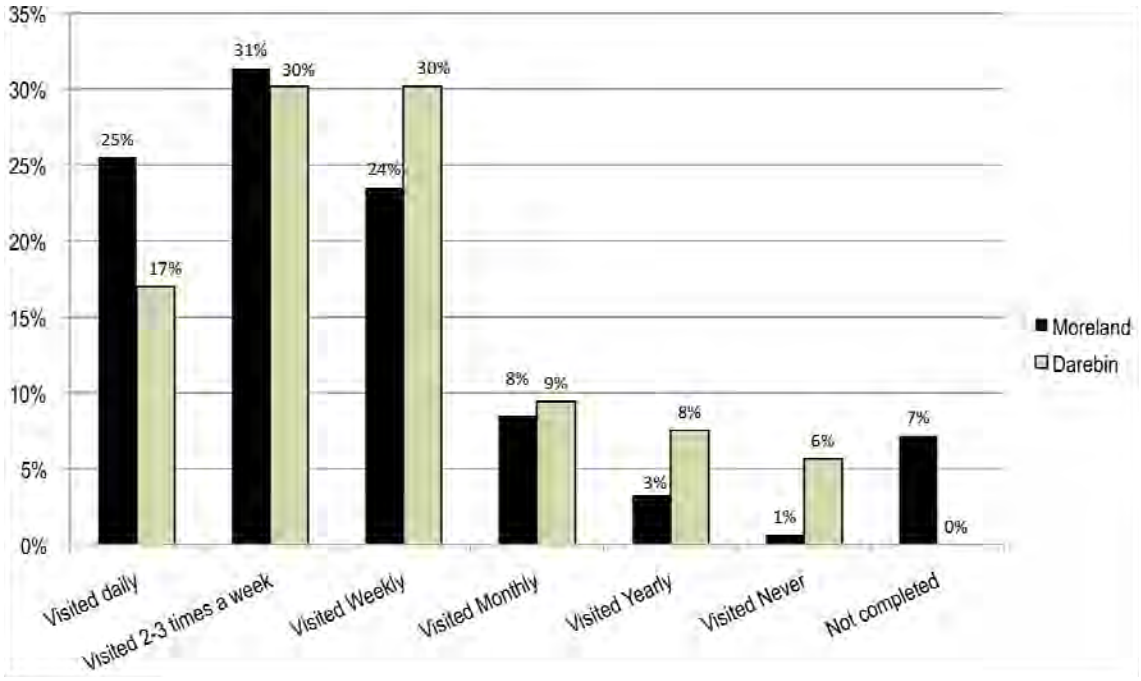
A community meeting was held Wednesday 2/5/2012 from 5pm to 6:30pm at the Newlands Senior Citizens Centre Murray Road Coburg. The meeting was attended by 10 people. Refer to Summary Meeting notes in Appendix B.

2. INFORMATION LEAFLET QUESTIONNAIRE #1 RESPONSES

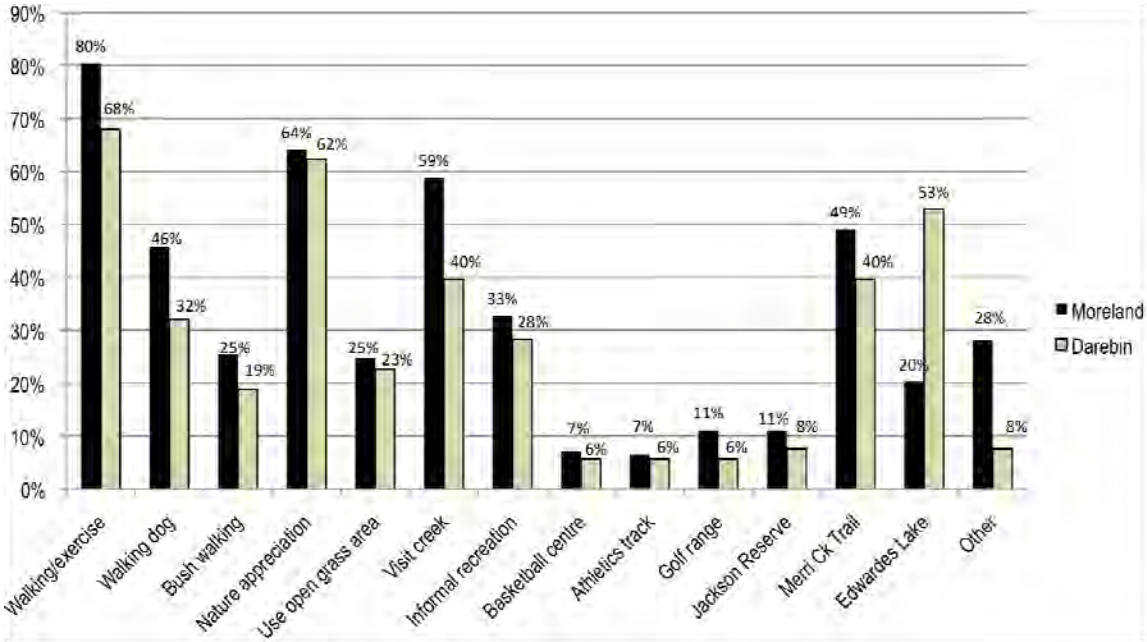
2.1 Location of questionnaire respondents



2.2 How often people visit Edgars Creek



2.3 Reasons to visit Edgars Creek

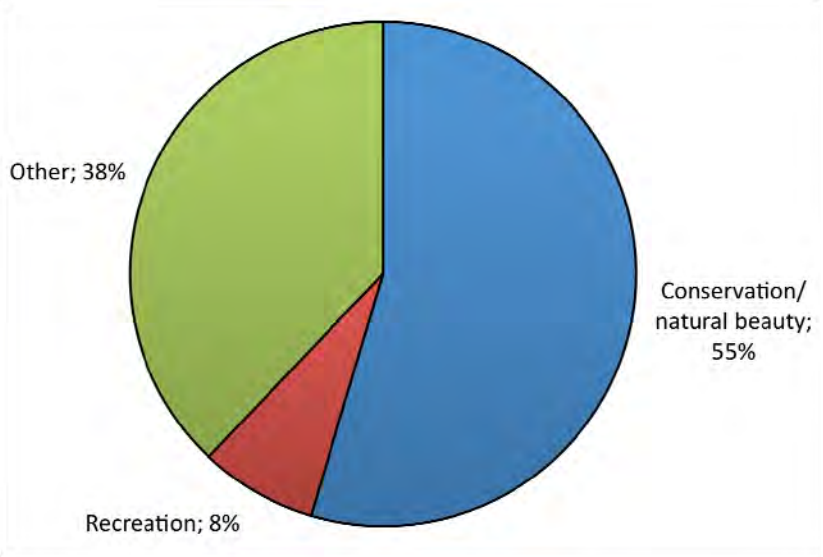


2.3.1 Other reasons to visit Edgars Creek

6 Cycling
5 Bike riding
2 Commuting
2 Dog walking upstream of Ronald St off leash
2 Revegetation
1 Bike ride along concrete path
1 Bike riding, play with kids, bushcraft, survival skills
1 Bird watching, community planting with Friends of Edgars Creek
1 Bush setting
1 Children experience wilderness, safe/child friendly cycling, connect with community looking after creek, reason they bought house in area
1 Coburg lake
1 Cross country running, loves the reveg works done and bushland/dirt tracks
1 Cycling, running
1 Enjoy casual walk in park overseeing the creek and open land
1 Fitness and wellbeing
1 Friends Of Edgars Creek, sense of community
1 Good to have space around you, good for kids and dogs
1 Jogging/bike riding
1 Live next to creek and appreciate its natural habitat
1 Meditation
1 Meditation, paddling, revegetation
1 Mountain bike riding
1 Nature based play
1 Photography
1 Planting with Friends Of Edgars Creek
1 Planting with Friends Of Edgars Creek, quiet contemplation
1 Planting, waterwatch, paint pictures of creek and wildlife
1 Play, plant trees
1 Revegetation, playing in creek
1 Running/fitness/adventures with kids
1 Socialise, let dogs have a swim
1 Tree planting, solstice, bike riding, community interaction
1 Very elderly and can't walk around area but used to walk there daily
1 Visit creek with grandchildren
1 Wildlife spotting

2.4 Existing open space values

2.4.1 Residents of Moreland City Council



Other values of Edgars Creek

Walking/jogging/active recreation

Dirt walking track around golf range

Good walking path

Running paths/walking paths natural not paved/concreted

Running track

Somewhere to walk

The escarpment, an open place to walk, the vegetation, the Coburg Harriers Athletic Club

Access

Easy access

Easy access to a great open space, dogs off leash space, ability to be close to nature and allow children to appreciate wildlife/natural habitats

Easy access, good for dogs

Freedom to visit anytime

It goes between the lakes

Contrast to urban environment

Bushland experience in urban environment

Country feel in urban environment

Creek in the midst of suburbia

Feels like being out of the city

Isolation and insulation from neighbours

Maintained as close to natural state as is possible in 'suburbia', 'green wedge' for future generations

Natural habitat close to home

Nature amongst neighbourhoods of concrete

Oasis in urban environment

Open space in the middle of the city
Sometimes it's like being in the bush then you catch a glimpse of buildings, the city, and we live here!

Good forest structure to be enhanced. Lots of people love it.

Tranquil, resemblance to natural bush which is rare in northern suburbs

Walking in a relaxed atmosphere away from the noise and city bustle

Wildlife, even rabbits, bush feel close to city

Management of open space

Birds, good for dog walking, open grass areas

Dog off leash area, no bikes along this section

Dog off leash safely

Dog walking, no playground

Lack of man-made structure, wilderness, dogs off lead, community connection, easy pace, no lycra/bike bells, peaceful space

Love that there isn't a 3m wide bike path through the middle of it, space for off-leash dog running

Not formal areas, no bicycles

Open space to walk dog

Open space, dog walking aspect, Friends Of Edgars Creek

Safe off-lead dog walking, lack of infrastructure-hard paths

Sense of community, no lycra/high speed paths, relaxed people

Variety of activities, walking paths, dog off leash areas, golf, walk along creek

Walking the length of the creek without man-made pathways and bikes zooming by. Slow, peaceful meandering in the suburbs

Natural character

Areas of granite boulders within creek

Bike track, scenery, environment

Clean water, grassy, wildlife

Cleanliness of waterways and greenery
Combination of open space and wilder country, care by Friends Of Edgars Creek

Fish in water, playing hide and seek in trees/bushes, nests, birds, planting trees, playing in water

Green open spaces, views onto park, walking/riding/ playing golf, birdlife

I once saw an echidna that was amazing, protection of the fauna, and provision of habitat so future generations can enjoy what I had as a child

More green space for growing community, birdlife

Native habitat and wildlife, interesting space for exercise

Natural form of creek, geological features, mix of open space types

Mature trees-especially from Ronald St to caravan park

Cover of native trees, quiet, informal, natural, birds
View from hill (Conga Foods)

Natural wildlife and the sound of the water running after a rainy day

Not a concrete drain

Not very much now - used to be fantastic as children seeing blue tongue lizards, eels and plentiful birdlife

Nothing but earth, trees, creek and wildlife

Open grass areas, safe areas to walk

Open space with few people, dog can swim, birds, flora

Peace, no bikes, greenery, space, beautiful views, calming

Recreation in a bush setting

Seeing the wildlife

Semi natural environment, spatial qualities, complexity of open space, meandering intimate, simple tracks

The creek, the space, clears the mind, and planting taking place is beautiful to watch

Varied landscape

Watching its beauty and ducks going in and out of the water- a great leisure time for me living near the creek

Wildlife appreciation

Social/community values

Being able to walk and enjoy the park with family, dog and friends

Community feel-many resources, facilities, natural features not built structure, biodiversity

Community space

Encourages community to be active

Families running around enjoying the area

Great place to take son and dog, they love it

Informal meeting place for dog walkers and therefore has social value

Kids explore and play

Quiet, meeting people and their dogs, restoring natural balance

Socialising

Socialising, fauna, space to kick the footy, love the creek

Parkland for children, bike path to Coburg lake, important green space

Space for kids, lungs of city

Other values

Can't believe its at my doorstep

Consider what we have almost lost, what we have lost, and how we can protect what is left or replicate what we lost, it's a true natural treasure of diversity

Great job locals and council have done, beautiful waterfall area

Is very attractive

Love the park and thanks council for looking after it

Peaceful & quiet

Could be cleaner and bridges repaired

Playing in water

Precious open space

Replanting work and usually clean creek

There are no cars

Tranquility

Unfussy and big

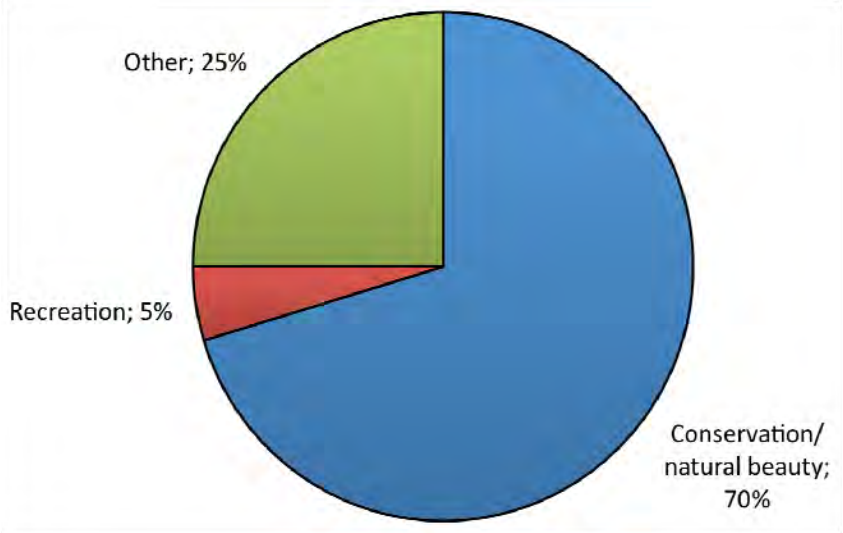
Wide space opposite Golf Rd

Unmade tracks, birds

Work Friends of Edgars Creek are doing

Love the cliffs, birds, the quiet peacefulness

2.4.2 Residents of Darebin City Council



Other values of Edgars Creek

Accessibility

Accessible paths

Dog off leash

Dog off leash, social interaction

Dog off leash, walking with kids

Ease of access

Edwardes lake is great for families

Freedom for the dogs to have long runs during winter, rarely go in summer due to snakes

Kodak cliff, gooseneck

Large open grass area - bigger than local park, quiet, dog walking

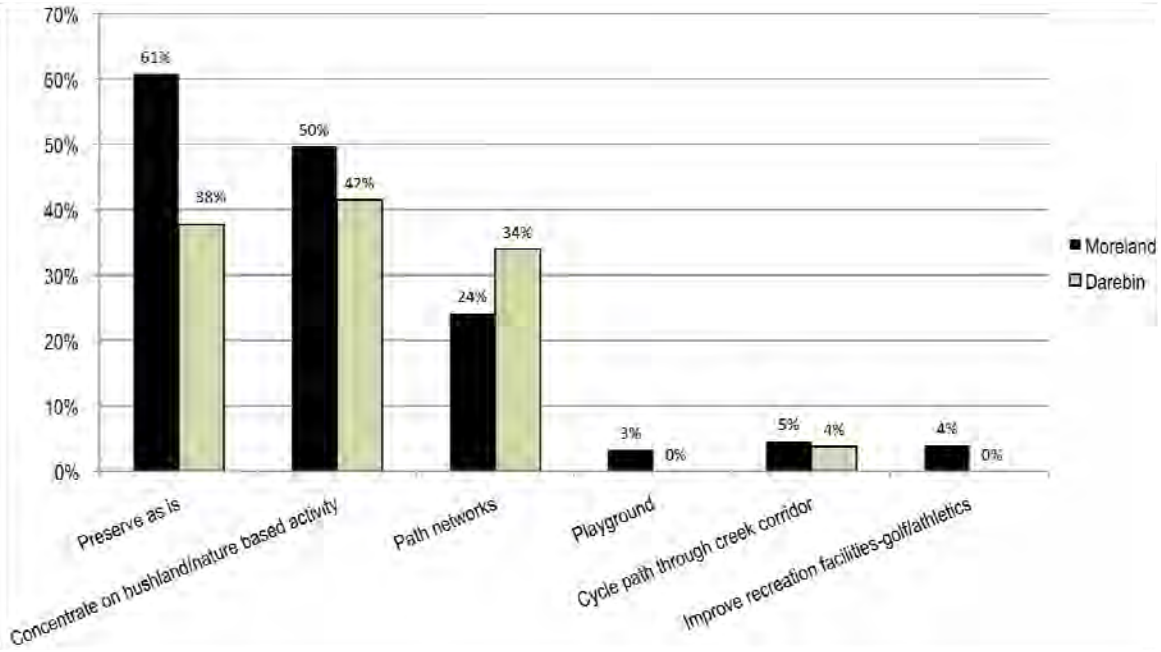
Meeting other dog-walkers and other people generally - it's like being in the country in some places!

Places for kids to explore and imagine

Riding track and picnic areas

Short cut

2.5 Issues and opportunities to be considered in development of the plan



2.5.1 Residents of Moreland City Council - Other issues and opportunities

Conservation/natural character

Conserve natural environment
Rubbish dumping and accumulation
Suitable walking tracks
Encourage use without losing wilderness values
Build on community work without losing sense of community project
Ensure wildlife is protected
Ensure accessible for people in the community
Protect against any further development
Few bushland places in northern suburbs, expand planting program
Land conservation
Not cutting down trees, importance of trees for habitat, shade, carbon emission reduction, collect rainfall, purify air
Not keen on foxes, preserve biodiversity and fauna
Original flora/fauna must be kept intact
Plenty of formal/conventional parkland along Merri Ck and at Coburg Lake, preserve Edgars as a bushland type environment
Pollution/runoff
Bike or walking access to lake from junction
Conservation & management of natural vegetation
Preservation of flora/fauna, regeneration with indigenous/native plants
The danger of all human interventions in natural systems, all natural, indigenous and biological values must be carefully protected, tread softly

Trails and paths

A path for bike riding, exercise, walking

Bicycle track/shared path

Bike path connecting Edwardes Lake to Coburg lake

Bike path, exercise stations, signage-no motorbikes

Bike track away from creek, prioritise slow activities

Walking and free space for dogs and kids to play

Manage dogs as becomes more populated

Issue of potential weeds from new/existing development on creek edge development (need to be vigilant)

Doesn't want bike path in corridor, rubbish bins, lighting for safety

Don't put concrete paths everywhere, conserve flora/fauna, dog off leash area very important

Like the quietness and not the 'freeway' atmosphere of bike path, but you should be able to ride up the creek to Edwardes lake

Make it a bikeway, plant fruit trees

More trails from basketball centre to Edwardes lake

Natural without concrete paths, keep green spaces and green verges along creek

Needs to be a cycle path

No bike path

No bike path, keep peaceful

Ice cream shop

No bikes, maintain current peace and tranquility

No cement paths, no more picnic areas (enough) bins and litter traps in the creek

Potential to turn into another bike path ruining peace/beauty and nature

Issue of bike path on floodplain

Stand against selling off or building on this area, bike access and trail

Dedicated website to keep us informed of status

Stop motorised trail bikes, fenced dog park

Walking track to Edwardes lake

Widen path for bikes and people

Water quality/condition

Address the issues of pollution in the creek, revegetate to bring back native fauna - what a wonderful thought!

Remove all non-native flora

Clean creek so dogs/kids can play in it

Encourage people to walk or ride

Clean river and be accessible to the wildlife

Health of creeks and rivers

Restore creek north of the footbridge-return back to creek not drain

Protect creek for and from Coburg Hill residents

Trap rubbish that gets into creek

Up stream pollution, loss of flora/fauna

Water quality, wetlands, rocky rapids instead of concrete

Water resources & quality

Weed infestation, water quality/health, maintain 'natural setting' - no paved paths

Wetland to improve water quality, bush tracks, weed control

Facilities/amenities

Need 2/3 seats near the 'cliff'

Amenities, bog free pathway

Bins and dog-poo bag dispenser

Paths mowed short to keep snakes away

Build a solid bridge that isn't damaged by floods

Drinking fountain, rubbish bins and playground

Fix bridges to make safe in flood

Fix the Edgars creek bridge - too long

Guided tours, lookouts

Ice cream shop near waterfall on Sundays, not to have concrete path or twirly wirly slide

Ice cream shop, make it real bush

Keep it open/safe, bins for rubbish, picnic tables, signs telling community of their responsibilities

More bins, dog poo disposal bins, signs to get people pick up after dog

More pathways, places for recreation, BBQ

Highlight natural features of landscape

Proper lighting/safety issues

Overflowing bins, rubbish around basketball stadium

Protect, attract more native fauna for the enjoyment and enrichment to the lives of our grandchildren, rubbish needs to collected regularly, another bridge crossing the creek, a children's play area with swings/flying fox and skate area for teenagers

Query about park on Newlands Rd - provision of traffic lights

Replace bridge over Edgars ck at top of Jackson Pde

Organise regular rubbish removal especially after flood

Perfect as is!

Retain dirt tracks, control rabbits/box thorn, cultivation of ephemeral wetlands, public toilet near basketball stadium car park, development of existing play area beside sports fields

Seat here and there, but no obvious development

Shaded picnic areas/seats for elderly, rubbish bins, well formed paths

Signage on snakes etc, dogs on leash

Toilet near existing facilities, maintain creek as nature reserve

Waterhole for swimming, water fountain, clean waterway, more bins, bike track, small footbridges to cross creek at various location

Design

Better use of open space - family friendly, cycle friendly

Issue with extreme weather impact

Permanent walking tracks and bridge crossings

Coburg Hill interface

Creek crossings, better pathways to lake, walkway from Arthur St over Edgars creek and over Merri Ck leading to Merlynston train station

Regular mowing/rubbish removal

Doesn't want undergrowth increased due to fire hazard

Don't build on parkland, replace bridge near waterfall, preserve goose-neck meander, plant more trees

Ease of access for older walkers, minimal seating, maintain informality

Ensure development doesn't infringe on natural environment

Ensure water and environmental sustainability

Fire management, safety & security

Impact of Kodak development-no more development along creek

Improve riparian area upstream of car park, lack of access west band upstream car park, maintain secluded atmosphere along the creek Ronald St to car park

Replace Kodak bridge with swing bridge

Prefer not to have path from Ronald up stream

Protect Silurian cliff, provision of dog off leash

Keep as natural and as untouched as possible

Keep as natural as possible, don't fill it with playgrounds, BBQ plenty around

Keep natural wildlife, natural plants, tidy up rubbish

Noisy factories on other side of creek

Keep parkland open and available for all uses including dog off lead

Maintain ecosystem / native setting

Minimise commercial intrusion, adventure & exploration, limit physical changes-no concrete paths

Multi-use area and needs to set out for all opportunities, some reveg opportunities and pathways need an integrated approach

Not to overdevelop the areas with playgrounds and other man-made structures - let people appreciate it

Opportunities to enhance natural bush

Remove high tension wires-underground at least, industrial buildings an eyesore and transfer station too noisy - relocate?

Remove or at least underground transmission wires

Safety for people

Maintenance

Current stakeholder, protection/maintenance of reveg works, maintain and ensure flora/fauna in area

Ensure area is clean and not overgrown with feral vegetation

Ensure no further encroachment of current size, keep regenerating/revegetating area

Halt/slow bank erosion, eradicate chilean needle grass

Maintain and value what we have, we need parkland

Maintain bridges, picnic area, issue with impact of increasing population, pollution of creek, littering, safety, cost of plans of ratepayers

Maintain golf range

Maintain natural, unstructured feel, space for off-lead dog walking, weed control, erosion, moderating stormwater runoff

Need path from Arthur St to creek and grass mowed more often, maintain what you do otherwise waste of money

Not too much interference

Re-establish barren areas with flora/fauna, walking path, rubbish cleaned - employ someone to keep area clean and safe

Regeneration, keep natural, we can restore this! Get rid of rubbish

Reveg/maintenance, accommodate a diverse range of uses while preserving intrinsic qualities of bushland, slow pace, no concrete footpath next to creek, water quality, protect flora/fauna, improve stormwater mgt/water quality, cafe near pool

Reviving natural habitat, regular rubbish removal particularly after flooding

Rubbish weeds

Sound, effective maintenance of the area to keep it attractive and used by the public

Weed removal, rubbish removal, stop pollution

Management/open space conflict

Address anti-social behaviour - littering, driving, trail bikes, vandalism

Arrogance of some dog owners - little regard of other users, especially small kids, water quality of creek

Community education about local environmental values ie signs about flora/fauna

Illegal dirt bikes

Irresponsible dog owners not picking up doggie do - educate and provide bins

Keep dog off leash areas, 1-2 safe creek crossings

No concrete paths/formal playground/bbq, improve erosion control, fix bridge, refreshment centre Coburg hill site, maintain ban on motorbikes, more reveg money and projects

Thinks conservation works not doing anything for the creek

Other issue/opportunity

Access without interfering with existing environment

Engaging people with the area, protecting it with the new population at Coburg hill

Fitness

Shared use, protecting the creek and peoples hard work

Space for people to enjoy a slow pace, peaceful

Worried about impact of influx of people spoiling the peace and quiet necessary for health and wellbeing

2.5.2 Residents of Darebin City Council - Other issues and opportunities

Aboriginal cultural heritage

Access to creek

Accessibility poor, rubbish, chemicals spilling from factories, preserve habitat

Accessible for walking/bike riding whilst retaining as natural as possible

Better track, safety of trail in evening, reduce pollution and improve wildlife habitat, information signs, more bridges, remove weeds

Community access

Community gardens along the way, clear cycle/ped paths. A great space for interesting landscapes. Community greenhouse.

Conservation of the area, maintenance of current facilities and improved access and infrastructure

Dog off leash areas, more regular maintenance of grass, runoff from factories smells horrid

Educate people about indigenous vegetation, weed/pest control, replace non indig plants with indig plants

Edwardes Lake

Extend bike track to Edwardes Lake, ensure Kodak redevelopment doesn't adversely effect area, signage pointing out significant geological, historical or biological features

Few seats and bridge crossing in different areas, welfare of ducks/frogs

Fix the bridge

Flooding

If putting in bbq's maybe charge a booking fee as always very busy

Improve lighting and people dump meat/bones that might make dog sick

Increase size of reserve to cater for expanding population, and provide habitat links to the creek for a greater wildlife corridor, bird nesting boxes in trees, plant more trees, how to keep creek clean after storms

Issue with Coburg Hill and potential for mis-use of creek, maintain tranquil nature of the space

Maintenance - clean exit to creek at Edwardes St - snake hazard and missing link to continue past Edwardes Lake and beyond. Return cycle link

Maintenance - clean up overgrown areas, remove rubbish from water

Maintenance - control vermin, cut grass

Maintenance - litter free, grass cut, safe for public

Manage pollution

Meeting needs of public while conserving nature, subtle placement of rubbish bins and benches

No pollution

Path along the eastern side of Edgars Creek linking to Murray Rd with a port bridge near Hopetoun Crt, then path changing to west side to Edwardes Lake

Please fix bridge at Ronald St and Golf Rd, local indigenous plantings and safety considerations

Poor access from caravan park

Promote healthy community by providing outdoor space and activity

Protecting local wildlife is top priority

Remove rubbish, noxious weed control, encourage tree growth

Retain off lead areas, keep wild space, minimise human structures and continue great work of Friends of Edgars Creek

Safe walking paths, seating or resting, observation and meditation

Safety of women and children from 'seedy' men hanging around creek

Walking link from Henty St to Coburg Lake as well as bike track

Walking tracks on both sides of creek, footbridge crossing in Arthur St/Norfolk Crt area

Weed control, maintain informal status of area

Wheelchair/pram access - steps into a ramp, more support for Friends of Edgars Ck, rabbit elimination

APPENDIX A

Letter to residents and questionnaire

Doc. No. D12/85592
Enq: Clare Johnston
Tel: 8311 4387

The Resident
?
?

Dear Sir/Madam

EDGARS CREEK CONSERVATION & DEVELOPMENT PLAN CONSULTATION

Moreland City Council is in the early stages of developing a conservation and development plan for Edgars Creek, from Edwardes Lake, Reservoir to the confluence at Merri Creek in Coburg North. The plan is looking at how the creek corridor can be protected and enhanced to provide conservation of the creek environment as well as providing for appropriate recreational opportunities along the creek and its environs.

Although many areas of the creek have been highly modified, the section flowing between Edwardes Lake and the Merri Creek is still in a semi-natural state with gentle creek meanders boasting significant geological and biological features. The creek is also an important habitat corridor providing a critical link through the city between areas of significant biodiversity value.

The creek and adjoining open space is highly valued by the local community for the ability to experience the 'wild' environment within the inner city and for passive recreation use. While many areas are still inaccessible, the Friends of Edgars Creek, along with Melbourne Water, Darebin and Moreland Councils have ongoing weed control and revegetation projects which are aiming to protect and restore flora and fauna values along the creek.

The objective of the plan is to establish a clear strategic direction for future integrated planning and management of open space along Edgars Creek between Merri Creek and Edwardes Lake over the next ten years. The plan will identify environmental, cultural and social values of the corridor developing strategies to maintain a balance between protection of these values and provision and maintenance of service assets and recreational facilities such as paths, seats, playgrounds and picnic areas.

The area is currently identified as a conservation zone in Council's Open Space Strategy and the development of this plan is an action noted in the strategy.

The Conservation & Development Plan is to be developed in close consultation with key stakeholders including Friends of Edgars Creek, Melbourne Water, Darebin and Moreland City Councils and Merri Creek Management Committee.

Understanding the way in which local residents and the community use and value the creek is vital in being able to develop a successful plan and your input is important to us at this information gathering stage.

Where is the project up to?
The project is in the first phase of research to assess site use and values and to identify if there are any additional issues and opportunities to be considered in preparation of the plan.

How can you be involved?
There will be an informal on-site session on **Sunday 30 April** along Edgars Creek near Ronald Street, Coburg North (Mel Map ref: 18 A9). Come along anytime between **10am-12noon** and complete a survey or discuss your thoughts over a **FREE** cup of coffee.

And/ or come to a community workshop to discuss issues and opportunities to be considered in the plan on

Wednesday 2 May 2012 from 5.00pm-6.30pm
Newlands Community Centre
Corner Connolly Avenue and Murray Road, Coburg North
There will be light refreshments provided.

There is a questionnaire attached to this letter which you can fill out and send back to Council in the replied paid envelope. A copy of the survey will also be available on Council's website www.moreland.vic.gov.au

To register for the workshop, receive another copy of the information leaflet questionnaire or for further information please contact Moreland City Council on 8311 4300.

We look forward to you participating in the development of this important strategic plan for Edgars Creek.

Yours sincerely

Clare Johnston
OPEN SPACE PLANNER & DESIGN OFFICER

/ / 2012

Enclosed: Survey and map of area

Edgars Creek Conservation & Development plan questionnaire:

Q1. Your Street Name: _____
Suburb:_____

Q2. Why and how often do you visit open space along Edgars Creek?

Daily 2-3 times weekly monthly yearly never (circle the appropriate answer)

Walking/Exercise
Walking the dog
Bush walking
Nature Appreciation
Use open grass areas
Visit the creek
Nature Appreciation
Informal recreation

Basketball Centre
Athletics Track
Golf Range
Jackson Reserve
Informal recreation
Merri Creek Trail
Edwardes Lake
Other (please list)

Q3. What do you value most about Edgars Creek?

Q4. What issues or opportunities do you think need to be considered in preparation of the plan?

Q5. Would you like to remain informed and be notified when the Draft Plan is available for review and comment? If yes, please provide preferred method of contact i.e. Name and e-mail or postal address or telephone number

Name:

e-mail/postal address/phone:

Melways map Edgars Creek corridor

Murray Road to Edwardes Street

APPENDIX B

Evening Community Meeting Notes 2/5/2012

MEETING NOTES

Edgars Creek Conservation and Development Plan

Community Group Meeting #1

Wednesday 2 May 2012 – 5:00 to 6:30pm, Newlands Senior Citizens Centre, 49-53 Murray Rd, Coburg

Attendees:

10 local residents.

Cr Lenka Thompson	Moreland City Council (MCC)
Fiona McKinnon (FM)	Coordinator Open Space Design & Development Unit, MCC
Clare Johnston (CJ)	Open Space Planner & Design Officer, MCC
Lori Arthur (LA)	Natural Resource Management Officer, MCC
Matthew Bolton (MB)	Associate, Thomson Berrill Landscape Design (TBLD)
Marc Chung (MC)	Landscape Architect, TBLD

1.0 WELCOME & PROJECT BACKGROUND

Cr Thompson welcomed all to the meeting and emphasised the importance of preserving existing biodiversity values along the Edgars Creek open space corridor, as well as its importance in providing the community with informal recreational opportunities.

2.0 BRIEF OUTLINE OF PROJECT PROCESS CONSULTATION COMPLETED TO DATE

Clare Johnston (CJ) and Matthew Bolton (MB) provided a brief overview of the project process and a summary of the consultation process completed to date.

CJ noted that a community information session was conducted on site on Sunday 29 April 2012, with approximately 46 local residents stopping by.

As part of the consultation process, Council have completed a letterbox drop of 1,500 leaflets and surveys to the residential properties adjoining the study area, with approximately 120 completed returns to date. CJ added that Darebin City Council will also undertake consultation with the residential and industrial areas adjacent to the study area between Jenkins Street and Edwardes Road using the same letterbox drop process as Moreland City Council. Returns are expected 25/5/2012 and will also be amended.

3.0 OVERVIEW OF EXISTING CONDITIONS AND SITE ANALYSIS

MB gave a brief presentation summarising the existing conditions of the reserve. The following is a brief summary of the discussion points raised:

3.1 Values

- The natural environment as a break from the built up areas
- Natural values of the creek, including access to the water, flora and fauna
- Openness of Edgars Creek and the network of open space
- People enjoy the opportunity to have quiet walks
- The Caravan Park brings many visitors to Edgars Creek and the owners of the Caravan Park should be consulted.

3.2 Issues

- Weeds were noted as being an issue
- Pests such as rabbits and foxes

- Erosion of the banks
- Flood and the need for flood mitigation
- The issue of noise pollution due to the dropping off of bins at the Darebin Waste Transfer station was raised.

3.3 Opportunities

- Opportunity to provide a balance between the natural values of the creek and new infrastructure in the reserve
- Opportunity for community gardens/orchard – type gardens for fruit trees in areas of the underutilised open space away from the creek.
- Opportunity for urban forest on the upper part of the former VicRoads land where views to the City are fantastic.
- Opportunity for the master plan to include a Fire Plan and provision of emergency fire access.
- A bicycle link along the creek should be investigated. It was noted that most of the creek corridor is located in the floodplain that this may limit opportunities in some areas.
- Create a formal path on one side of the creek and an informal walking track on the other bank. Maintain a balance between providing new facilities and maintaining and improving the natural values of the creek corridor.
- Remove the existing concrete channel located at Ronald Street
- Identify where erosion processes can be allowed to occur naturally and where works need to be completed to improve the creek bank stability.
- Potential flood mitigation including new wetlands along the creek.
- Is it Council's long term objective to acquire adjacent industrial land as public open space? FM noted that Council is reviewing the existing PAOs (Public Acquisition Overlays) to investigate opportunities along the creek corridor to acquire land however this is an expensive exercise and there are no current plans/overlays in this area.

4.0 NEXT STEPS

- The consultation outcomes, including those from the questionnaire will be collated into a Consultation Report to be made available on Councils website
- Responses will be considered in development of the Draft Plan.
- Draft Plan will be prepared and made available for public review and comment around September 2012.

5.0 MEETING CLOSED

Cr Thompson thanked all for their attendance and input.

APPENDIX C2

APPENDIX C2

Edgars Creek Conservation & Development Plan
Edwardes Lake to Merri Creek

SUMMARY REPORT
COMMUNITY CONSULTATION OUTCOMES
Undertaken during the Draft Plan phase

Prepared by

Thompson Berrill Landscape Design Pty Ltd

for

Moreland City Council and Darebin City Council

May 2013

TABLE OF CONTENTS

1. INTRODUCTION

1.1 Information leaflet and questionnaire #2

A second information leaflet and questionnaire was prepared to seek feedback from the local community regarding the key recommendations of the Draft Edgars Creek Conservation and Development Plan. The information leaflet summarised the key values, issues and opportunities raised by respondents from the first phase of consultation which were considered in preparation of the draft plan. The information leaflet also invited residents to attend a community information sessions held on site Sunday 17/3/2013. Refer Attachment 1.

1473 information leaflet #2 questionnaires were letter box dropped to residents in the local Moreland area during February/March 2013 and copies were also available on site at the community information session. A further 94 copies were e-mailed to respondents Moreland residents who provided their address in the first phase of consultation as well as 25 Darebin residents.

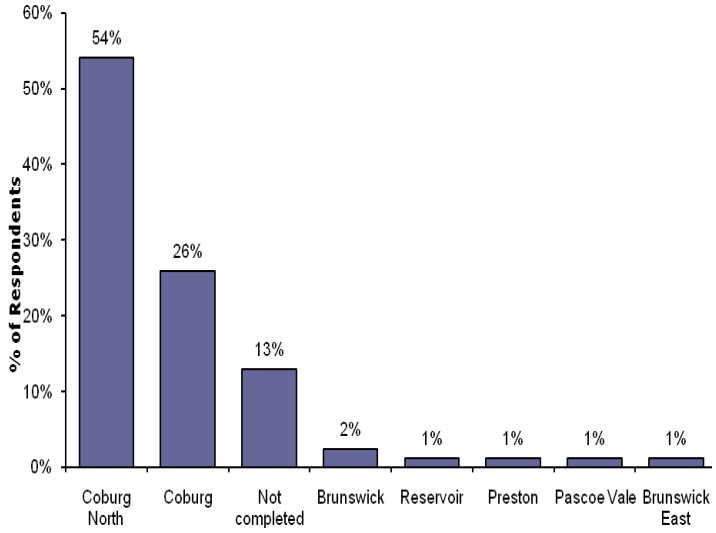
A total of 85 questionnaires were completed and returned by closing date of 29/3/2013.

1.2 Informal community information session

A community information session was held on Sunday 17/3/2013 from 10am-12pm near the Ronald Street footbridge. Approximately 20-25 people come through. Generally the people attending were very supportive of the draft plan. There was some concern about regarding the potential future establishment of sporting fields on existing open grass areas near Newlands Road. There were also differing opinions from some cyclists and pedestrians regarding formalization of the path network. The discussion and feedback on the day regarding these issues is accurately reflected in the questionnaire responses to Q9 and Q10.

1.3 Location of questionnaire respondents

The distribution of respondents to Information leaflet questionnaire #2 was very similar to those responding to questionnaire #1. There was however no direct mail out/letter box drop in Darebin aside from those 25 people who left their details in responding to the first questionnaire. This naturally resulted in lower numbers from residents in these areas compared to information leaflet #1.



2. INFORMATION LEAFLET QUESTIONNAIRE #2 RESPONSES TO DRAFT KEY RECOMMENDATIONS

The following table is a summary of the overall community response to key draft recommendations. For the overall summary in the table below *'strongly agree' and 'agree'* responses have been added together as have the '*disagree' and 'strongly disagree'* responses. 'N/C' is not completed.

For further detail and community comments refer to Sections 2.1 to 2.14.

		COMMUNITY RESPONSE		
No.	**DRAFT PLAN RECOMMENDATION**	**AGREE**	**DISAGREE**	**N/C**
1	*Protect areas of existing remnant vegetation and continue indigenous revegetation works in collaboration with local community groups to increase biodiversity and to link fragmented habitat areas.*	*99%*	*1%*	*0%*
2	*Prioritise weed control efforts focusing on weeds of national significance and protection of areas with high value remnant indigenous vegetation.*	*95%*	*2%*	*3%*
3	*Retain natural processes associated with Edgars Creek and protect landscape values associated with significant geological landforms.*	*98%*	*1%*	*1%*
4	*Minimise the impact of existing urban areas on the 'secluded bushland character' of the creek reserve though appropriate buffer planting to existing open space boundaries.*	*99%*	*1%*	*0%*
5	*Implement best practise planning and design guidelines for new development areas to ensure appropriate set back and buffer planting to retain and improve the 'secluded bushland character'.*	*97%*	*1%*	*2%*
6	*Protect and improve understanding of indigenous cultural heritage values.*	*87%*	*3%*	*10%*
7	*Improve water quality in Edgars Creek targeting at source litter control and improvements to existing stormwater connections to the creek where possible.*	*98%*	*0%*	*2%*
8	*Establish a new water quality treatment wetland on the existing golf range area to treat urban stormwater runoff prior to discharge to Edgars/Merri Creek and improve floodplain habitat values.*	*81%*	*15%*	*4%*
9a	*Establish a new 2.5 wide sealed walking/cycling path from new development areas at Coburg Hill to the existing Merri Creek trail and Coburg Lake along to the west bank of Edgars Creek.*	*79%*	*17%*	*4%*
9b	*Establish a new 1.5m wide unsealed all weather walking only path in stages north from Coburg Hill to Jenkin Street on the east side of the creek.*	*83%*	*13%*	*4%*
9c	*Improve on road cycling links between Coburg Hill and Edwards Lake via Elizabeth Street, where cycle paths cannot safely be established or are inconsistent with environmental objectives along the creek.*	*87%*	*9%*	*4%*
10	*Retain flat grass open space areas away towards Newlands Rd to meet the recreational needs of existing and future communities including establishment of a playground longer term sports fields if required.*	*74%*	*20%*	*6%*
11	*Provide additional seats overlooking the creek and key views while ensuring design is consistent with the bushland character of the open space corridor.*	*87%*	*10%*	*3%*

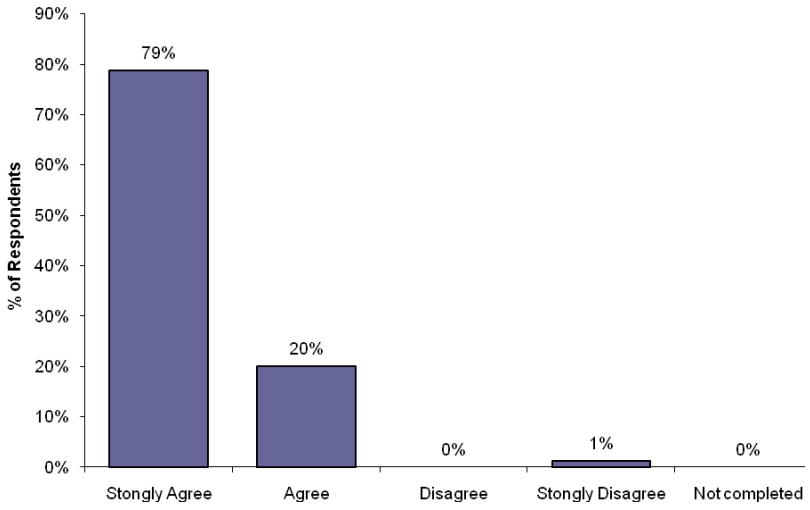
The questionnaire respondents were asked to indicate their views on each of the draft key recommendations of the Draft Conservation and Development Plan. Respondents were invited to tick a box indicating whether they *'strongly agree'*, '*agree, 'disagree'* or *'strongly disagree'*.

The survey also allowed respondents the opportunity to detail the reasons for their responses, or other thoughts, in a general comments area summarised in Section 2.2.3 of this report. Comments relating to the particular draft recommendations have been added within each section, with any comment receiving multiple responses noted in brackets.

There were three more detailed written submissions received. The comments and feedback from these has been included in response to each draft key recommendation where relevant and/or in the general comments section.

2.1 Key Recommendation 1:

Protect areas of existing remnant vegetation and continue indigenous revegetation works in collaboration with local community groups to increase biodiversity and to link fragmented habitat areas.

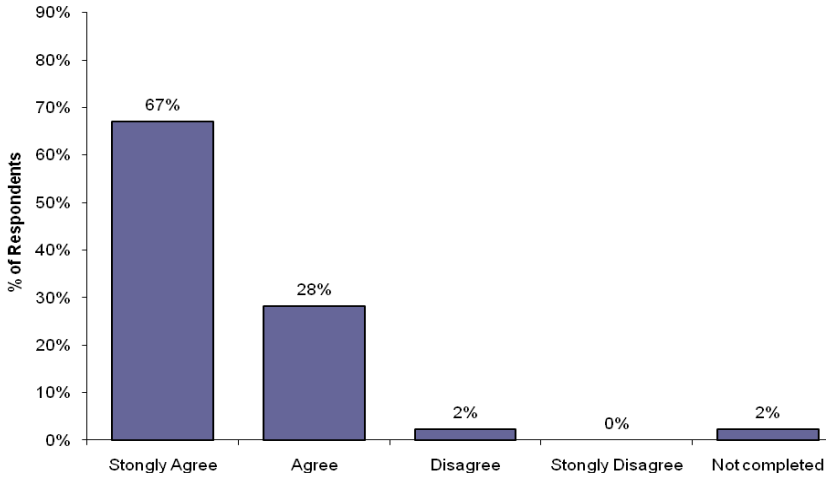


Q1 related comments:

- Protection of existing remnant vegetation should be the number one priority (7)
- Maintain and restore indigenous bushlands (3)
- Mass replanting to reduce stream flow erosion of banks.
- Protect existing vegetation e.g.; older gum trees.
- Retain and enhance natural landscape and increase native vegetation
- We need to protect our environment and native fauna, to be worthy custodians for our future generations.

2.2 Key Recommendation 2:

Prioritise weed control efforts focusing on weeds of national significance and protection of areas with high value remnant indigenous vegetation.

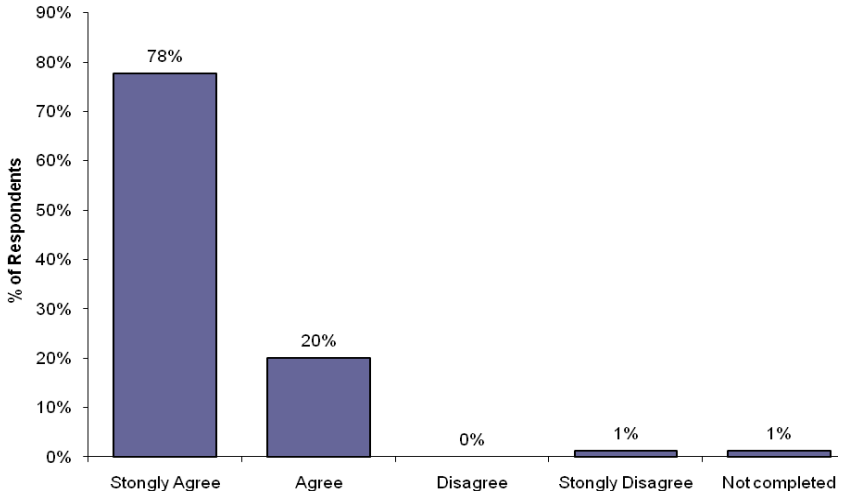


Q2 related comments:

- Prioritising weed control efforts should be the number one priority (4)
- Weed control efforts should be broader especially to prevent downstream spread of riparian weeds (2)
- Alternative weed control should be used instead of 'round up' which ends up in the creek and water table
- Eradicate exotic grass weeds in and adjacent to creek area
- Decrease use of herbicides
- Tidy up the spaces by removing weeds and litter

2.3 Key Recommendation 3:

Retain natural processes associated with Edgars Creek and protect landscape values associated with significant geological landforms.

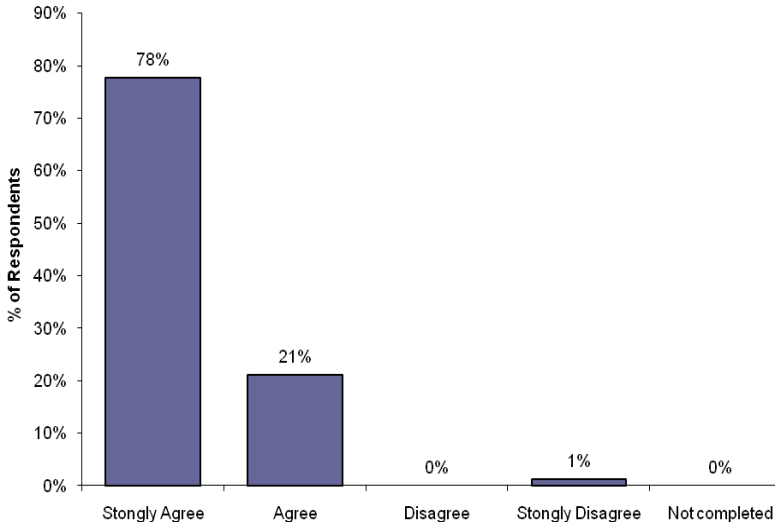


Q3 related comments:

- Retaining natural processes is a key priority (2)
- Priority of working with geological environment then progress with upgrade of aesthetics and functionality.

2.4 Key Recommendation 4:

Minimise the impact of existing urban areas on the 'secluded bushland character' of the creek reserve though appropriate buffer planting to existing open space boundaries.

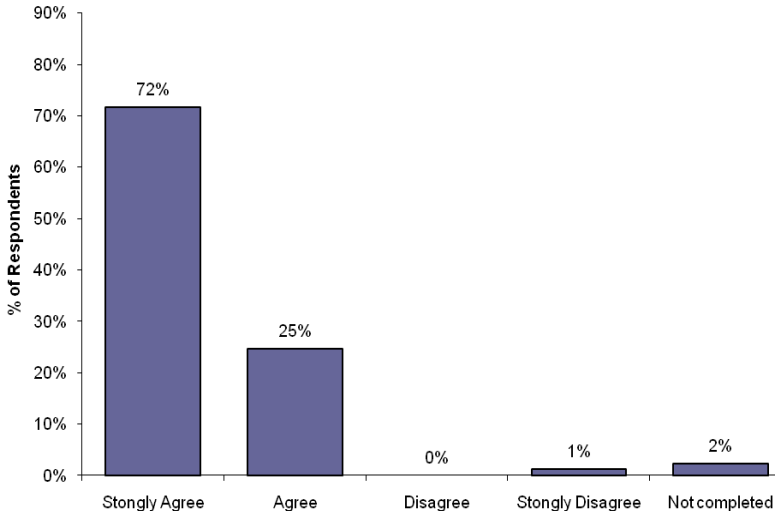


Q4 related comments:

- Minimising impact of existing urban areas should be a number one priority (3)
- Establish effective buffer planting along with Coburg Hill development
- Plant more trees in Coburg Hill development
- Minimise impact of urban development
- Limit impact of human traffic as much as possible but still allowing access for recreation, nature appreciation, fitness, dog walking and family activities.

2.5 Key Recommendation 5:

Implement best practise planning and design guidelines for new development areas to ensure appropriate set back and buffer planting to retain and improve the 'secluded bushland character'.



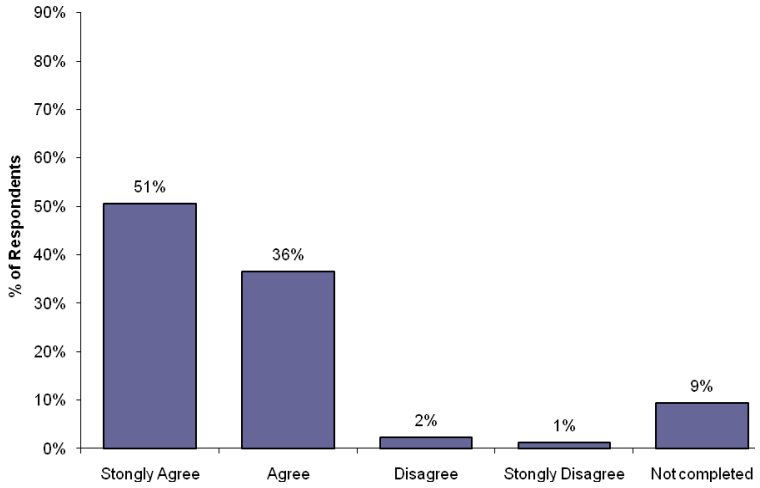
Q5 related comments:

- Anything that retains and encases that "in the bush" experience so hard to get in Melbourne. There are zillions of developed play areas

- Ensure Coburg Hill does not encroach on the plan
- Improve and preserve the bushland character
- Improving 'secluded bushland character' should be a high priority
- Maintain secluded bushland character.
- Protecting habitat and NOT overdeveloping the area
- Residents enjoy the area as it is, don't try and commercialise it
- Area near Golf Road has housing lots shown on it. Any suggestion that more green space could be lost to housing should be dismissed outright by Council.

2.6 Key Recommendation 6:

Protect and improve understanding of indigenous cultural heritage values.

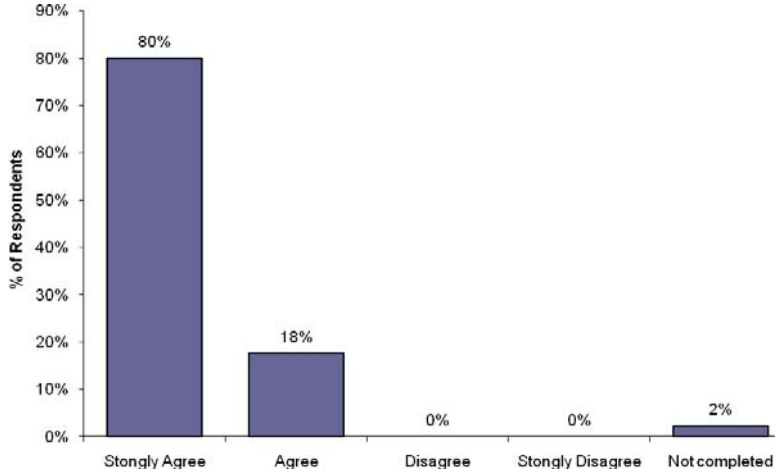


Q6 related comments:

- Protection of cultural heritage values is a key priority

2.7 Key Recommendation 7:

Improve water quality in Edgars Creek targeting at source litter control and improvements to existing stormwater connections to the creek where possible

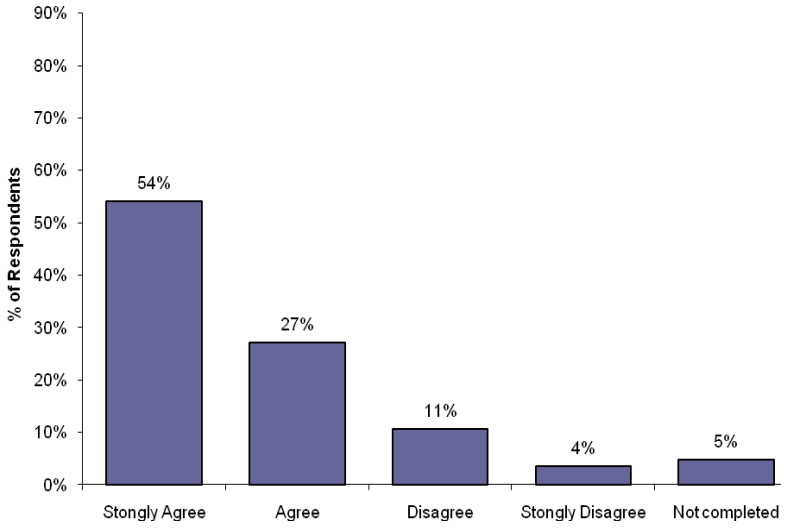


Q7 related comments:

- Improving water quality is a high priority (6)
- Conserving water needs to be given the highest priority (2)
- An idea is to place a wetland area near the new footbridge to Coburg Hill on the west side as it is low-lying there
- Highest priority is improving water quality and litter control.
- More "Clean up Days" arranged to help improve the water quality as often the water stinks
- Storm water needs to re-divert into the landscape, into suitably planted wetlands.

2.8 Key Recommendation 8:

Establish a new water quality treatment wetland on the existing golf range area to treat urban stormwater runoff prior to discharge to Edgars/Merri Creek and improve floodplain habitat values.



Q8 related comments:

- Establish a wetlands area with boardwalk for bird watching and studying.
- I welcome the golf driving range being better made use of for better things. So much land for so few people! A remnant of another era when golf was unaffordable for most, an elitist sport.
- Retain the golf driving range, as it is so good to have a free facility to practice and enjoy
- In 50 years, area has only been seen to flood 3 times, otherwise remains very dry.
- Keep it natural, get rid of the golf range.
- Wetland needs to be treated as a high priority
- The regeneration and re-establishing of wetlands is a high priority.
- I remain unconvinced that this will significantly improve water quality as there are many drains that release water into Edgars Creek. Seems like a bit of a 'greenwash' to me and removes space currently used as a walking area.
- Concerns about water flow through the area, where will the water come from during the warmer months.
- Would love to see all the frogs there
- Are you aware of the flood prone land behind the houses on Golf Road, near the Merri CK park?

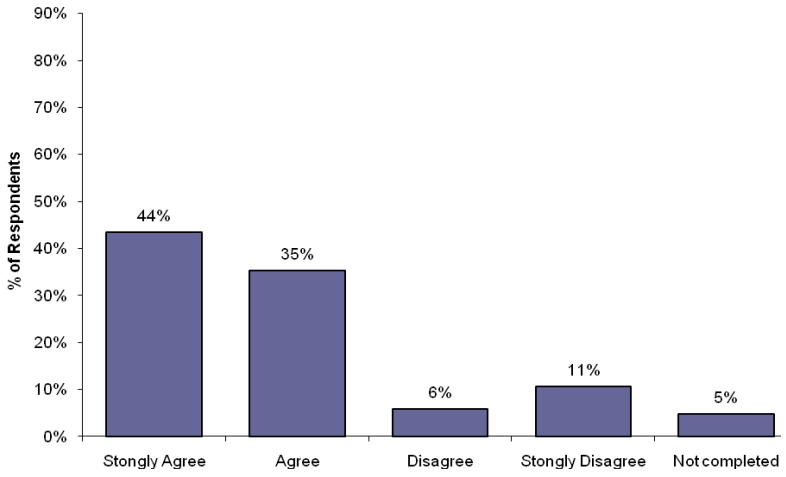
2.9 Key Recommendation 9:

Improve walking and cycling access between Edwardes Lake and Merri Creek Trail including 9a, 9b and 9c:

The improvement of walking and cycling access between Edwardes Lake and Merri Creek Trail has been identified in the Open Space and Cycling Strategies of both Moreland and Darebin City Councils. Assessment completed as part of this Draft Plan confirmed that it was not possible to achieve an off road shared cycle trail along the entire length Edgars Creek in accordance with current trail flood safety standards and environmental impact minimisation requirements. This question was therefore broken up into three sections, relating to the proposed path type/level of access proposed in each section of the creek.

2.9a Key Recommendation 9a:

Establish a new 2.5 wide sealed walking/cycling path from new development areas at Coburg Hill to the existing Merri Creek trail and Coburg Lake along to the west bank of Edgars Creek.

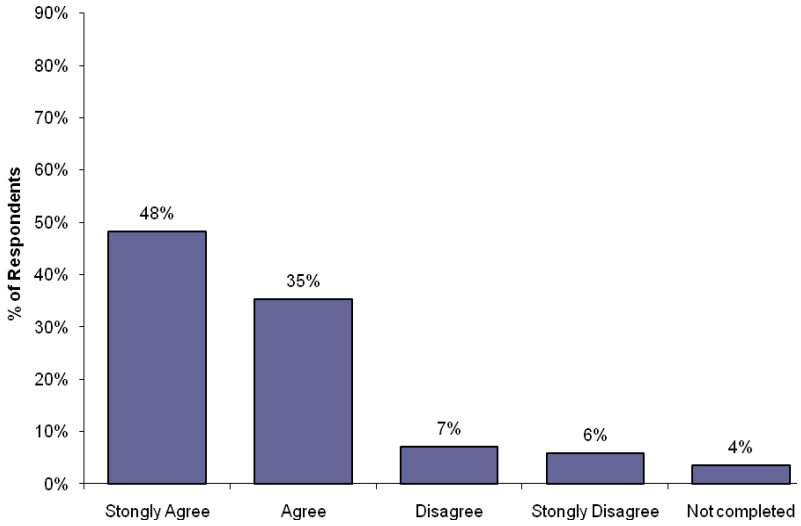


Q9a related comments:

- Path should be a high priority (2)
- Create more paths
- Improvement of cycling and walking tracks is a high priority
- No way should there be a sealed walking/cycling path along the west bank of Edgars Creek
- This would be fantastic as we currently walk/scoot/ride from McMahons Road to Newlands Primary - perfect!
- Development and safety on cycling and walking tracks is important
- Extension of the cycling and walking park will encourage healthy exercise
- The proposed path will completely dissect the golf practice area reducing the utility of this area as open space.
- Golf Road could be designated as a safe cycling route, this would only add a few minutes to the trip and would remove the need for establishment of the path and loss of open space.

2.9b Key Recommendation 9b:

Establish a new 1.5m wide unsealed all weather walking only path in stages north from Coburg Hill to Jenkin Street on the east side of the creek.

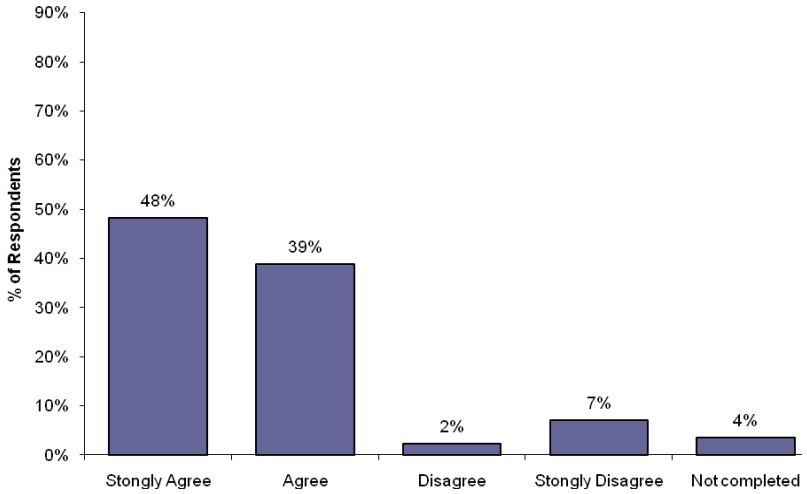


Q9b related comments:

- A safe and environmentally friendly bike path needs to be built between Coburg Hill and Jenkin Street.
- All the future/potential trails need to be 'shared'.
- Establishing a sealed walking only path should be a high priority.
- If you only put in a dirt track to Edwardes Lake people with cycle it anyway, I know I will.
- Love it all! Would hate to see a concrete path all the way, so loving the dirt path.
- The people who use this area the most (every day!) are cyclists and people walking their dogs and jogging.
- There are two sides to this creek, and it needs to meet both the desires of bush walking and recreation cycling. Please prioritise connecting the Edgars Creek trail to Edwards lake
- Please provide more than one new footbridge to allow trail users to better explore the parklands
- The addition of a raised boardwalk would not only protect the environment but enhance it
- We like it how it is now, the only thing required are new stairs. We are against adding paths as they are altering the existing environment
- Why waste money on walking tracks that already exist in the area?
- Why wasn't Bicycle Victoria invited to be part of the consultation paper? Why just two planting groups with strong interests in not making cycling part of this proposal and with a strong history of trying to plant out industry standard path widths?
- Lighting around Hopetoun Crescent is required to improve public safety.
- Increased use of the existing informal path has led to a rise in theft from cars in Hopetoun Crescent, improved lighting is required NOW not later when the boardwalk and path are built.

2.9c Key Recommendation 9c:

Improve on road cycling links between Coburg Hill and Edwards Lake via Elizabeth Street, where cycle paths cannot safely be established or are inconsistent with environmental objectives along the creek.

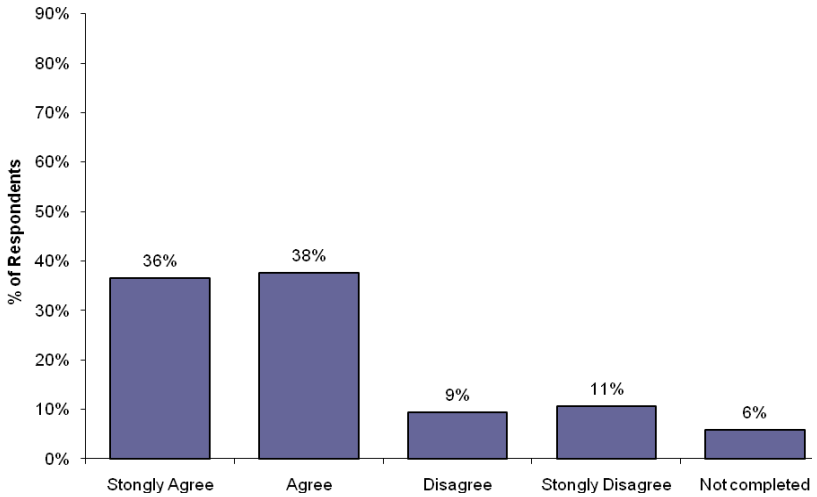


9c related comments:

- Highest priority is cycle infrastructure. Elizabeth street needs bike lanes and traffic calming measures.
- Cycling access needs to more highly prioritised. On road cycling links are not an acceptable alternative.
- A sealed cycle path should be put all the way through to Edwardes Lake
- Please prioritise connecting the Edgars Creek trail to Edwardes Lake.

2.10 Key Recommendation 10:

Retain flat grass open space areas away towards Newlands Rd to meet the recreational needs of existing and future communities including establishment of a playground longer term sports fields if required.



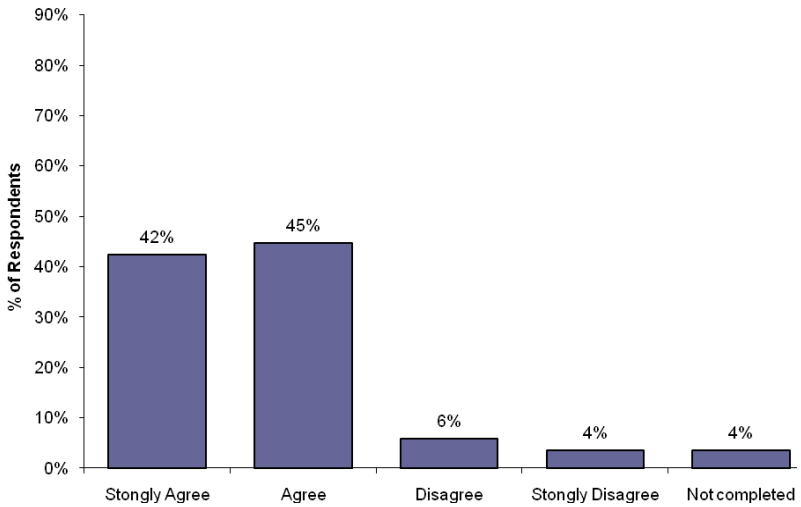
Q10 related comments:

- Areas of Vic Roads land should be enhanced by plantings, particularly of CBD view on top of hill where natural vegetation is creating a wonderful bush retreat with the best views of the Melbourne city skyline ever seen
- Didn't Moreland have difficulty supplying water to existing sports fields in time of drought?

- Ensure that the transfer of former Vic Roads land is complete and the council signs off on maintaining the land
- Keep the parks open feel; don't fill it with paths like other parks. It is very particular especially if you live on Newlands Road which is a *very* busy truck road all the time
- No sports fields, leave it open space
- Protecting all green space should include no road near the golf course
- Provide a children's play area e.g.; swings, maybe a roller skating area for older children
- There is a need for space for kids that are *not* play equipment. There should be space and bush so they have a different experience to readymade play facilities
- We already have an abundance of sports facilities nearby!
- Please consider something other than a sports oval, we are a diverse community!
- If designed in such a way not to impinge on open space and its current use as one of the very few large dog off lead walking areas in Moreland.
- In principle a playground is a good idea.
- Why can't open space be left as green open space. My concern is that sports fields by definition reduce public access to open space once sports clubs ultimately gain control over use.
- Ping pong tables are perfect low maintenance, multi generational activities for public spaces
- Trees need to be planted and recreational facilities designed for the area next to Conga foods.
- Recreational needs seem to be very well met here already, a lot more could be done in this space
- Leave as much open area as is possible for kids to walk, play, run and enjoy.
- Ban playground and sports grounds which need protective fences, toilets, club rooms and car parks, which would all destroy the essential open parkland setting
- No establishment of formal sports fields west of Edgars Creek, which will detract from the bush setting and create the whole area into a sports precinct

2.11 Key Recommendation 11:

Provide additional seats overlooking the creek and key views while ensuring design is consistent with the bushland character of the open space corridor.



3.0 SUMMARY OF GENERAL COMMENTS

Below is a summary of additional general comments included in the survey for the Edgars Creek Conservation and Development Plan in which did not relate directly to the draft recommendations 1 – 11.

Dogs

- Please provide bins for dog walkers to deposit their dog's waste
- Installation of dog faeces litter bins to reduce rubbish on creek.
- A few doggy poo bag dispensers are required.
- Off-lead parks are valued for exercise and important socialising of dogs, and people come with dogs from all over Melbourne.
- Owners congregate at the footbridge all throughout the day to use the off-lead field.
- It's really important that the area remains OFF LEASH for dogs
- A fenced dog park is needed

Rubbish/Litter

- Please place extra rubbish bins on tracks
- Please provide more rubbish bins

General

- Please think about what Moreland is missing to support the community. What about our arts community? Music stage for festivals and community gatherings? A skate park?
- Some questions are a bit verbose. A simple summary translated into Arabic/Greek/Italian would be good.
- All recommendations are worthwhile. However time for implementation should be 2-3 years, not 10-15 years.
- I appreciate the councils awareness of the importance of the development of the Edgars Creek area.
- I have lived here 40 years and have seen that any intervention is usually to the earths detriment
- Would like to see a public toilet somewhere near Edgars Creek, perhaps near car park beside basketball stadium.

4.0 SUMMARY RESPONSE TO THE KEY ISSUES RAISED DURING THE CONSULTATION PROCESS

The following tables summarise the comments or key issues raised in the questionnaire responses. The tables include a response to the comment and in italics at the end of the response a draft recommendation as to whether a change will be made to the draft conservation and development plan as a result of the comment.

ITEM	REC No.	SUMMARY OF COMMENT	DRAFT RESPONSE
4.1	Weed Control		
4.1.1	2	Decrease use of herbicides. Alternative weed control should be used instead of 'round up' which ends up in the creek and water table.	Ongoing weed control is critical to protection of areas of remnant vegetation and revegetation. Council also appoints specially qualified bushland management contractors who are skilled in selecting and implementing alternative techniques such as ecological burning, scorching and flame weeding and incorporate regimes of brushcutting/slashing and handweeding where appropriate to limit weed seed set. These methods are selected for both improved ecological results and a reduced dependency on herbicides. Unfortunately many weeds found along Edgars Creek can only be controlled using herbicides. Weed control using herbicides is only undertaken by skilled staff and contractors from Council, Melbourne Water and Friends of Edgars Creek. Herbicides used are specifically designed to minimise impacts on waterway environments and are only used in strict accordance with Council and Melbourne Water Guidelines and material data sheets. *Recommendations:* *Add note regarding operator skills and appropriate herbicide usage to weed management recommendations in the report in Section 2.4.* *Add note to promote broader education program about weed/pest control. (High priority.) in recommendation table 2.4.2.*
4.2	Water quality and proposed wetland establishment		
4.2.1	8	Retain the golf driving range, as it is so good to have a free facility to practice and enjoy.	Refer R4/1 pg 51 The existing golf practice range is unregulated and presents a significant risk to other users of open space including walkers. The draft plans recommends closure of the golf practice range removing existing signs and distance markers and installation of signage indicating use of the area for golf is now prohibited. Users will be instead directed to the nearest dedicated public golf facilities at Northcote, Essendon/Riverside and Bundoora Park. If high levels of informal use of the area for golf persist Council may investigate establishment of a dedicated practice net near Outlook Road car park. Closure of the informal golf practice facility will also enable establishment of the water quality treatment wetland and the new sealed shared trail link from Ronald Street Bridge (Coburg Hill) to Merri Creek trail and Coburg Lake. *Recommendation: No change to plan.*
4.2.2		Remain unconvinced that the proposed wetland will significantly improve water quality as there are many drains that release water into Edgars Creek. Seems like a bit of a 'greenwash' to me and removes space currently used as a walking area.	Merri Creek Constructed Urban Wetlands Feasibility Study 2009 completed for Council and Melbourne Water indicated there is sufficient room on the proposed site to treat the contributing 21ha catchment to best practice water quality treatment standards. Establishment of a wetland at the confluence of Merri Creek and Edgars Creek will also provide a significant habitat node providing a refuge for birds and other fauna migrating along both creek corridors through the built up urban environment. Closure of the golf range and establishment of the wetland will improve both public safety and landscape amenity for walkers in the area and the large open grassed area to the north will be retaining for passive open space use.

ITEM	REC No.	SUMMARY OF COMMENT	DRAFT RESPONSE
			Recommendation: No change to plan
4.2.3	8	In 50 years, area has only been seen to flood 3 times, otherwise remains very dry. Concerns about water flow through the area, where will the water come from during the warmer months.	The proposed ephemeral wetland to be constructed on the informal golf practice area will be fed by urban stormwater and has a catchment of approximately 21ha. The detailed design and size of wetland will be hydraulically modelled to ensure sustainability with this catchment. Natural drying out of the wetland and reduction in water levels through the warmer months is expected and forms an important part of both water quality treatment and maintenance of wetland plant diversity and habitats for many bird species and frogs expected to colonise the wetland when established. *Recommendation: No change to plan*
4.2.4	8	An idea is to place the wetland area near the new footbridge to Coburg Hill, as the west side of the creek is low-lying there. Are you aware of the flood prone land behind the houses on Golf Road, near the Merri Creek park?	This area was assessed as part of the Merri Creek Constructed Urban Wetlands Feasibility Study 2009 completed for Council and Melbourne Water. The report concluded that the level of the existing stormwater drains connecting to the site were too high and required too much excavation for cost effective establishment of a constructed wetland in this location and the selected area at the informal golf range was preferred. However naturally low lying flood prone areas including both these sites, provide an excellent opportunity for reestablishment of indigenous riparian vegetation originally found in many areas along Edgars Creek and Merri Creek floodplains. Melbourne Water Guidelines *Constructed wetland systems: Design Guide for Developers 2005*, indicates that wetlands should not be constructed where the waters edge is within 25m of an allotment boundary and this would preclude use of floodprone areas near the houses for this purpose. However staged revegetation of these areas to improve habitat links will continue in close consultation with Melbourne Water, Merri Creek Management Committee and Friends of Edgars Creek. *Recommendation: No change to plan*
4.3	Improvement of walking/cycling access between Merri Creek Trail and Edwardes Lake		
4.3.1	9	A sealed cycle track should be put all the way through to Edwardes Lake.	Refer 2.5.1 pg 29 There is no existing walking/cycling trail link along Edgars between Edwardes Lake and Merri Creek. Investigation of this link is a high priority in Darebin and Moreland Cycling and Open Space Strategies. Development of shared trail access must ensure compliance with Austroads Design Standards and Melbourne Water Guidelines in relation to flood safety and waterway impacts. The trail link must also consider the significant environmental and cultural heritage values found along the creek and open space corridor. Investigation completed as part of the draft plan concluded that provision of continuous off road cycling access between Edwardes Lake and Merri Creek is not achievable within existing public land ownership and funding constraints. The landscape and environmental impacts, including vegetation removal and habitat fragmentation, associated with establishment of the required infrastructure, bridges and boardwalks to overcome flood constraints in sections of narrow and confined open space are considered too great. The summary of overall draft recommendations include: • New sealed shared trail between the existing Ronald Street footbridge shared trail and the Merri Creek Trail/Coburg Lake along the west bank, requiring closure of the golf practice range. • New shared trail link from Ronald Street to Kodak Bridge to be established away from the creek along the new Coburg Hill development frontage. • New shared trail link from Kodak Bridge to Elizabeth St to be established in new open space link through Coburg Hill. • Improve on road cycling access along Elizabeth Street.

ITEM	REC No.	SUMMARY OF COMMENT	DRAFT RESPONSE
			Potential improved pedestrian cycle links through Darebin managed land (subject to detailed design) may include: • Potential future shared trail link between Kia Ora Road and Henty Street on the east bank. • Potential future shared trail link between Henty Street and Edwardes Lake (subject to future development and acquisition of open space along the west bank). • As an interim measure until the links between Kia Ora Road and Edwardes Lake can be achieved consider improved on road cycling access via Carrington Road, Glenvale Road and Gilbert Road. *Recommendation: Update recommendation in 2.5.1 about improvement to shared trail links in Darebin managed land to note trails as potential future shared trail links, subject to feasibility and funding. Update Figure 8 (page 23) to show potential future shared trail links.*
4.3.2	9a	No way should there be a 2.5m sealed walking/cycling path along the west bank of Edgars Creek. The proposed path will completely dissect the golf practice range area. Golf Road could be designated as a safe cycling route, this would only add a few minutes to the trip and would remove the need for establishment of the path and loss of open space.	Council acknowledges a significant increase in population in the area as a result of the Coburg Hill residential development. Council must consider supporting alternative means of transport to reduce pressures on road networks, encourage active lifestyles and reduce environmental pollution from cars. Refer R5/1 pg. 52 There is currently no off road sealed shared trail link between new development areas at Coburg Hill and the Merri Creek Trail. The proposed establishment of an off road cycling link through Coburg Hill will also improve links over to existing residents west of Elizabeth Street. Unlike upstream sections of Edgars Creek there is plenty of room to establish the proposed sealed shared trail through this area in accordance with required safety standards without impacting on environmental values. The proposed shared path will be aligned from the west bank of the existing Ronald Street footbridge through to the Merri Creek trail near the existing bridge over the creek to Coburg Swimming Pool. The path alignment is to be on the west side of the proposed new water quality treatment wetland that will be established closer to Edgars Creek to maximise habitat values. The existing informal golf range is to be closed. Refer 4.2.1 from this report. *Recommendation: No change to plan*
4.3.3	9b	If you only put in a dirt track to Edwardes Lake people will cycle it anyway, I know I will. All the future/potential trails need to be 'shared' by pedestrians and cyclists. Cycling needs to be more highly prioritied, on road cycling links are not and acceptable alternative.	Refer R1/2, R2/2 pg 61 and 4.3.1 from this report. There is informal off road walking access between Jenkin Street (Elizabeth Street north) and Livingstone Street . The draft plan recommends establishment of a min 1.5m wide (2.0m where possible) unsealed walking track between Jenkin Street and Livingstone Street on the east bank. The section north of Hopetoun Crescent adjacent to the caravan park is steep and highly constrained and even 1.5m wide access may not be possible around the steep escarpment. The draft plan recommends use of boardwalk and/or retaining wall and handrail to achieve a min 1.2m wide all ability walking only access clearance. These works will be subject to specialist geotechnical investigation. *Recommendation: No change to plan*
4.3.4	9b	Lighting around Hopetoun Crescent is required to improve public safety.	There are existing street lights along Hopetoun Crescent. Review of existing street lighting was outside the scope of this project however investigation to improve the lighting arrangement at Hopetoun Crescent could be considered to improve public safety at this entry point to the Edgars Creek corridor. *Recommendation: Add issue and recommendation at LU8/2 for Council to liaise with the engineering department to investigate potential improvements to*

ITEM	REC No.	SUMMARY OF COMMENT	DRAFT RESPONSE
			street lighting at Hopetoun Crescent.
4.3.5	9b	We like it as it is now, the only thing required is new stairs. We are against adding paths as they are altering the existing environment. Why waste money on walking paths that already exist in the area?	The Edgars Creek open space corridor is a popular area for walking all year round. The high levels of use in some sections have cause significant wear, especially in wet weather and the existing tracks in some areas limit access by persons with limited mobility. The increase in population from the Coburg Hill development is anticipated to increase usage of the parkland and place additional pressures on these path networks causing increased wear. The aim of the plan is to improve all weather and ability access on the east bank adjoining existing and future residential areas on this side. The dirt tracks on the west bank upstream of Ronald Street footbridge are less well used and will continue to provide informal access only. *Recommendation: No change to plan*
4.3.6	9c	Elizabeth Street needs bike lanes and traffic calming measures. Cycling access needs to be more highly prioritised. On road cycling links are not acceptable.	Establishment of bike lanes along Elizabeth Street and improved provision of on road traffic calming to assist cyclists is a high priority recommendation in this plan (refer 4.3.2 pg 67) and the Moreland and Darebin Cycling Strategies. Refer also 4.3.1 from this report. *Recommendation: No change to plan*
4.3.7	N/A	Please provide more than one new footbridge to allow trail users to better explore the parklands	Refer 2.5.3 pg 30 The narrow public open space corridor steep and confined topography in upper sections of Edgars Creek result in high velocity flood events. New paths and bridges will require appropriate flood protection and safety measures in accordance with Melbourne Water Guidelines. In many areas these requirements limit opportunities for establishment of new bridges. Refer also 4.3.5 from this report. *Recommendation: No change to plan*
4.4	Existing large grass open space near Newlands Road		
4.4.1	10	Ensure that the transfer of former Vic Roads land is complete and the council signs off on maintaining the land. Area near Golf Road has housing lots shown on it. Any suggestion that more green space could be lost to housing should be dismissed outright by Council.	Refer LU4/1 pg 54 Former VicRoads Freeway Reservation is zoned Public use (PUZ1) but managed by Council as public open space. The draft plan recommends formalising Council management of former VicRoads land between Edgars Creek and Newlands Road and rezoning as public open space (PPRZ) as a high priority. *Recommendation: No change to plan*
4.4.2	10	Areas of Vic Roads land should be enhanced by plantings. Trees need to be planted and recreational facilities designed for the area next to Conga foods.	Refer E8/1 pg 54 There is limited indigenous vegetation on the west bank across to Newlands Road (former VicRoads Land). This areas has also been filled and is currently managed as open mown grass for informal recreation. The draft plan recommends revegetation using scattered indigenous overstorey trees along the existing and future paths to improve landscape amenities on the west bank across to Newlands Road. Open mown grass areas will be retained for informal recreation allowing sufficient space to upgrade these areas to formal playing fields if required in the future. *Recommendation: Remove reference to future formal playing fields as these are not required in the short – medium term. If required in the longer term they would only be considered following a formal recreational needs assessment. Refer also 4.4.4 from this report.*
4.4.3	1	No sports fields, leave it open space. Ban playground and sports grounds which need protective	Refer R9/1 pg 52 Additional recreation facilities including playing fields, may be required at some point in the future and existing filled flat open grass areas between Newlands Road and Edgars Creek are currently of low environmental value and are located far enough from the Edgars Creek primary conservation zone to enable use for this purpose. This includes sufficient space for ancillary

ITEM	REC No.	SUMMARY OF COMMENT	DRAFT RESPONSE
		fences, toilets, club rooms and car parks, which would all destroy the essential open parkland setting Why can't open space be left as green open space. My concern is that sports fields by definition reduce public access to open space once sports clubs ultimately gain control over use. Recreational needs seem to be very well met here already, a lot more could be done in this space. Please consider something other than a sports oval, we are a diverse community!	facilities such as off street parking, pavilion, public toilets and picnic/play facilities which could be established in this area while still maintaining adequate future revegetation buffer zones to the creek and adjoining houses. The draft plan recommends retaining flat open grass areas between Newlands Road and Edgars Creek on the west bank as informal active recreation areas. Longer term and subject to funding and increasing development on the west bank (not currently planned) the grass surface may be upgraded to provide multipurpose sporting fields. This would only occur if need was clearly identified through further detailed recreational needs assessment s. *Recommendation: Remove reference to potential future sporting use of this area as outlined in R9/1 pg 5 and E8/1 pg 54. Retain reference to an ongoing requirement for retention of a large area of informal open grass open space free from planting for informal active recreation and potentially larger community events. Remove the rectangle indicative sports fields shapes while retaining a similar area free from future new tree planting.*
4.4.4	10	Provide a children's play area e.g.; swings, maybe a roller skating area for older children. There is a need for space for kids that are *not* play equipment. There should be space and bush so they have a different experience to readymade play facilities.	There is an existing junior play facility located on the eastern side of the Coburg Basketball Stadium and recently upgraded sub regional play facilities at Coburg Lake. There are existing sub regional playground facilities at Edwardes Lake. The draft plan recommends new play facilities could be considered in the future on the west bank between Newlands Road and Edgars Creek to complement the environmental and passive open space values of the Edgars Creek corridor. *Recommendation: Add reference for new playground design requirements at R9/1 to reflect the need for establishment of a playground with a character reflective of the natural open space character of Edgars Creek corridor, and complement existing play facilities leaving Lake and proposed play facilities at Coburg Hill. This will include reference to use of natural materials and a design theme which encourages creative play and interaction with the surrounding natural environment rather than standard off shelf play equipment. Action to remain a low priority given proposed play facilities at Coburg Hill and recent upgrade to playground at Coburg Lake.*
4.5	Other general comments		
4.5.1	N/A	Some questions are a bit verbose. A simple summary translated in Arabic/Greek/Italian would be good.	Moreland is a diverse community. The information leaflet and questionnaire contained reference for the Moreland language link which provides a translation service for the Information Leaflet over the phone into 9 different languages including Arabic/Greek/Italian. *Recommendation: No change to plan*
4.5.2	N/A	What about our arts community? Music stage for festivals and community gatherings?	Retention of open grass areas between Newlands Road and Edgars Creek on the west bank would allow for future staging of larger community events and festivals if required. Refer draft recommendation 10 and 4.4.1, 4.4.2and 4.4.3 from this report. *Recommendation: No change to plan*
4.5.3	N/A	Installation of dog feaces litter bins to reduce rubbish on creek Please place extra rubbish bins on tracks	There are few existing rubbish bins in the Edgars Creek open space reserve. While provision of additional rubbish bins within the reserve is not recommended as they are difficult to service and can contribute to an increase in litter the provision of some additional bins at key entries and popular dog walking areas should be considered. *Recommendation: Add new issue at 2.5.7 and liaise with Council waste*

ITEM	REC No.	SUMMARY OF COMMENT	DRAFT RESPONSE
			management services to investigate provision of additional bins near park entries at Golf Road, Ronald Street and Livingston Street as a high priority.
4.5.4	N/A	A fenced dog park is needed. It is really important the area remains off leash for dogs	Cash Reserve off Livingstone Street and areas off Golf Road are designated dog off leash areas. Initial consultation and recommendations from the draft plan do not recommend any changes to existing dog off lead areas along Edgars Creek. Fenced dog parks are typically used in smaller park areas to separate conflicting user groups. The large area of open space between Newlands Road/Golf Road and Cash Reserve on Edgars Creek is suited to existing dog off lead use and provision of a fenced dog park is not required or recommended. *Recommendation: No change to plan*
4.5.5	N/A	Would like to see a public toilet somewhere near Edgars Creek, perhaps near the car park beside the basketball stadium.	There are no public toilets within the Edgars Creek open space reserve. The nearest facilities are located at either end of the study area at: Coburg Lake Reserve (600m west along the Merri Creek Trail) and in the north there are also toilets at Edwardes Lake Reserve. The existing Coburg Basketball Stadium and pavilion at Jackson Reserve provides restricted public access to toilets during sporting events. The majority of the car park area near the Basketball Stadium is subject to flooding and is therefore not suitable location for a public toilet facility. In accordance with *Councils Public Toilets Strategy 2012* Public toilets are also typically only provided where there is a designated community gathering point such as a picnic/barbeque, major playground area or multi use sports field. i.e. 'Public destinations with high activity and extended periods of visits require public toilet facilities during times of activity'. Currently there are is no need or desire to establish new facilities of this type along Edgars Creek however longer term if additional facilities were established in passive open space areas provision of public toilets may also be considered. *Recommendation:* No change to plan.
4.5.6	N/A	All recommendations are worthwhile however time for implementation should be 2-3 years not 10-15 years.	Council currently manages 576 ha of public open space. While implementation of recommendations arising from the Edgars Creek Conservation and Development Plan across 2-3 years would be desirable currently Council resourcing and access to external funding is not available to achieve this. The initial expenditure outlay and timing must also consider the ongoing maintenance costs required which can sometimes be greater than the capital outlay overtime. 10-15 years is a realistic and achievable timeframe for implementation of many draft conservation and development plan actions however even then some actions will be subject to Council obtaining external State and/or Federal funding. *Recommendation: No change to plan*
4.6	Additional Comments/Information		
4.6.1	E9/1	Newlands Road remnant escarpment area – the Moreland Indigenous Vegetation Assessment identified the remnant area to the west of Conga Foods as being of significant value, particularly as a result of the number of remnant and rare species or escarpment shrubland. E9/1 picks up on this but the draft plan in figure 15 does not show this area as a	This is a mapping error and will need to be rectified. There is no intent or need to remove significant vegetation from the escarpment and detailed investigation of future path alignments will reflect this. *Recommendation: Amend Figure 15 to illustrate significant escarpment vegetation and update path alignment as shown to avoid this area.*

ITEM	REC No.	SUMMARY OF COMMENT	DRAFT RESPONSE
		conservation/vegetated zone. It would be good to show this as currently the proposed path cuts directly through the zone.	
4.6.2	N/A	Naming of parkland – some of the open space areas have a dedicated name and other areas are referred to by local features eg Golf Road. It is unclear where some areas start and finish (eg Cash Reserve). Would it be possible to create some definitions or land management units that could potentially be the zones for renaming. Or should it all be referred to as Edgars Creek Linear Parkland?	The naming of individual open space areas will assist inland management, providing a clearer understanding of the specific area under management and acknowledging the diversity of values, uses and management requirements. Naming of individual sections of open space can also provide an opportunity to reflect cultural heritage/local history and features in a manner more consistent with current patterns of community use. *Recommendation: Add issue and recommendation for investigation of provision of additional open space place names in accordance with Council policy Naming Places in Moreland. .* *Opportunity to formally name open space along Edgars Creek Reserve from Edwardes Lake to confluence with Merri Creek including recognition of culturally significant areas/values.*
4.6.3	N/A	An organised Cycle-cross event was held on Sunday 17 July 2011 at Edgars Creek (north of the current Golf Practice range) and the mountain biking event resulted in damage to the grassed areas and sections of remnant vegetation.	Cycle-cross and other formal 'mountain bike activities/events' are not appropriate or supported along the Edgars Creek corridor due to the proximity of the creek and natural vegetation values of the area. These formal high impact events can severely impact on the surface of informal walking tracks, especially in wet weather, and reduce safety and amenity for local walkers using the area on a daily basis. *Recommendation: Add issue and recommendation as noted above to Final Report.*
4.6.4	N/A	A couple of months ago Council received a request for a trail link from the Merri Creek shared trail, south across the existing footbridge to link with the Coburg Pool and road crossing to Pentridge Village.	This path is outside the current study area but was discussed at the Reference Group as to inclusion on the Final Plan. This area was not reviewed in detail as part of the project however the proposed alignment as shown in the diagram below as a red line provides a possible route skirting the overflow parking area for the pool. *Recommendation: New path proposal and alignment is supported in providing link from the Pentridge Village to the Merri Creek trail and proposed path network up along the Edgars Creek corridor.*

Attachment 1
Information Leaflet Questionnaire#2

Moreland City Council

Edgars Creek Conservation and Development Plan

Information Leaflet

Where is the project up to?

Following site assessment and consultation with the local community and key stakeholders including Melbourne Water, Merri Creek Management Committee and the Friends of Edgars Creek the Draft Conservation and Development Plan has been prepared for review and comment.

Where can you see the Draft Report and Plans?

Copies of the Draft Report and Plans will be displayed at:

Moreland City Council Offices,
Bell Street, Coburg.

A full version can also be viewed on Council's website: *www.moreland.vic.gov.au*

How can you be involved?

An information session will be held on site.
Sunday 17 March 2013
10am-12pm near the Ronald St footbridge (free coffee provided).

Submissions and completed questionnaires on the Draft Report and Plan must be returned to Council by:

Friday 29 March 2013 via:
mail (free of charge)
direct delivery to the Council Customer Service Centre or e-mail.

If you require any further information please contact:

Clare Johnston
Tel: 8311 4387 or
E-mail: cjohnston@moreland.vic.gov.au

Moreland language link

中文	9280 1910	Español	9280 1916
Italiano	9280 1911	Hrvatski	9280 1917
Ελληνικα	9280 1912	हिन्दी	9280 1918
العربية	9280 1913		
Türkçe	9280 1914	**All other languages**	
Việt Ngữ	9280 1915	9280 1919	

What is the plan for?

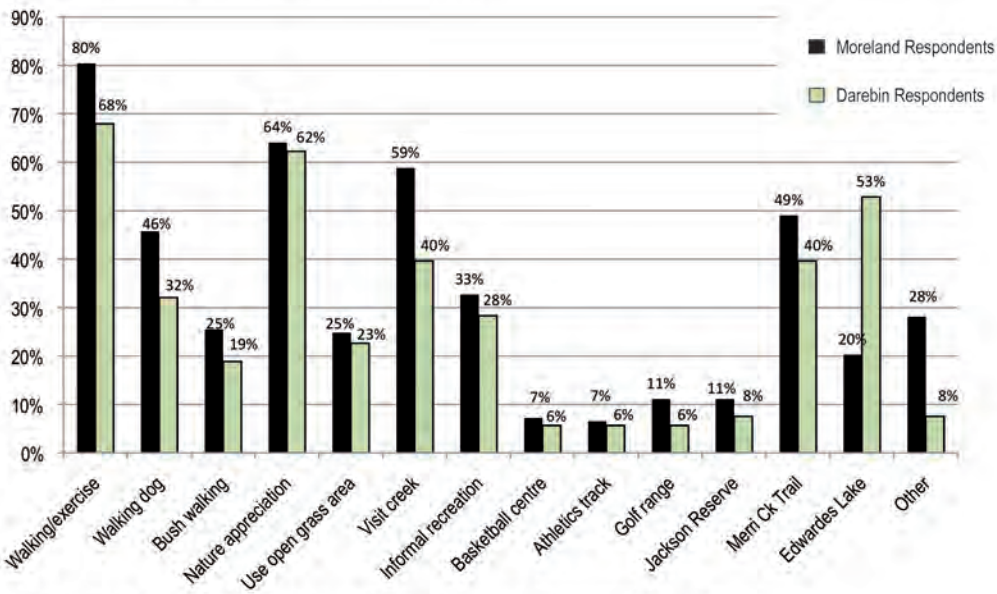
Areas along Edgars Creek, like many other areas in Melbourne, are experiencing strong growth as former industrial land is redeveloped and housing and population densities increase.

The conservation and development plan seeks to establish a clear strategic direction for future integrated planning and management of open space along Edgars Creek between Merri Creek and Edwardes Lake over the next ten to fifteen years. The plan aims to protect and enhance the unique geology, cultural heritage and environmental values while achieving a sustainable balance between conservation and public access and use of open space along Edgars Creek. A key outcome will be to maintain the secluded bushland character while continuing to improve local community access to open space and pride in the area.

Summary of community consultation outcomes

2230 Information Leaflet/Questionnaires were letter box dropped to Moreland and Darebin residents in the local area in April and May 2012. Community Meetings were advertised and held on site Sunday 29/4/2012 and Wednesday evening 25/5/2012. A total of 206 questionnaires were completed (153 by Moreland residents and 53 by Darebin residents).

Results indicated that over 75% of respondents visit Edgars Creek at least once per week. Reasons to visit Edgars Creek included:



Issues and opportunities raised by the local community included:

- Maintain the existing secluded bushland character
- Protection and enhancement of the natural environment
- Improve water quality and remove rubbish/weeds
- Improve walking access
- Improve cycling access (some respondents were against establishment of a bike path)
- Provide additional seats but don't over-develop with facilities

A full summary of community feedback is available in the draft report.

Edgars Creek Conservation and Development Plan
Questionnaire # 2

Moreland City Council

Your Street Name: _____ Suburb: _____

Please tick the appropriate box to indicate your view on proposed key recommendations of the Draft Edgars Creek Conservation and Development Plan. Further detail on draft recommendations can be found in the full report. If you would like to complete this survey online, or if another member of your household would like to complete this survey, please visit *moreland.vic.gov.au*

Proposed Key Recommendations of the Draft Management Plan	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE	DON'T KNOW
1. Protect areas of existing remnant vegetation and continue indigenous revegetation works in collaboration with local community groups to increase biodiversity and to link fragmented habitat areas.					
2. Prioritise weed control efforts focusing on weeds of national significance and protection of areas of high value remnant indigenous vegetation.					
3. Retain natural processes associated with Edgars Creek and protect landscape values associated with significant geological landforms.					
4. Minimise the impact of existing urban areas on the 'secluded bushland character' of the creek reserve through appropriate buffer planting to existing open space boundaries.					
5. Implement best practice planning and design guidelines for new development areas to ensure appropriate set back and buffer planting to retain and improve the 'secluded bushland character'.					
6. Protect and improve understanding of indigenous cultural heritage values.					
7. Improve water quality in Edgars Creek targeting at source litter control and improvements to existing stormwater connections to the creek where possible.					
8. Establish a new water quality treatment wetland on the existing golf range area to treat urban stormwater runoff prior to discharge to Edgars/Merri Creek and improve floodplain habitat values.					
9. Improve walking and cycling access between Edwardes Lake and Merri Creek Trail including:					
9a. Establish a new 2.5m wide sealed walking/cycling path from new development areas at Coburg Hill to the existing Merri Creek Trail and Coburg Lake along the west bank of Edgars Creek.					
9b. Establish a new 1.5m wide unsealed all weather walking only path in stages north from Coburg Hill to Jenkin Street on the east side of the creek.					
9c. Improve on road cycling links between Coburg Hill and Edwardes Lake via Elizabeth Street, where cycle paths cannot safely be established or are inconsistent with environmental objectives along the creek.					
10. Retain flat grass open space areas away towards Newlands Rd to meet the recreational needs of existing and future communities including establishment of a playground and longer term sports fields if required.					
11. Provide additional seats overlooking the creek and key views while ensuring design is consistent with the bushland character of the open space corridor.					

first fold

In your opinion what are the highest priority recommendations and do you have any additional comments? (Please feel free to attach additional comments if there is insufficient space provided below)

_____

_____

second fold

Moreland City Council

Delivery Address:
Locked Bag 10
MORELAND VIC 3058

No stamp required if posted in Australia

Open Space Design and Development Unit
Moreland City Council
Reply Paid 70474
MORELAND VIC 3058

Areas along Edgars Creek, like many other areas in Melbourne, are experiencing strong growth as former industrial land is redeveloped and housing and population densities increase.

The draft conservation and development plan seeks to establish a clear strategic direction for future integrated planning and management of open space along Edgars Creek between Merri Creek and Edwardes Lake over the next ten to fifteen years. The plan aims to protect and enhance the unique geology, cultural heritage and environmental values while achieving a sustainable balance between conservation and public access and use of open space along Edgars Creek. A key outcome will be to maintain the secluded bushland character while continuing to improve local community access to open space and pride in the area.

The draft plan below is a summary of key recommendations only. To see a full copy of the Draft Report and more detailed plans go to *www.moreland.vic.gov.au* or visit the Coburg Civic Centre, 90 Bell Street Coburg.

DRAFT OVERALL RECOMMENDATIONS

1. Protect areas of existing remnant vegetation and continue indigenous revegetation works in collaboration with local community groups to increase biodiversity and to link fragmented habitat areas.
2. Prioritise weed control efforts focusing on weeds of national significance and protection of areas of high value remnant indigenous vegetation.
3. Retain natural processes associated with Edgars Creek and protect landscape values associated with significant geological landforms.
4. Minimise the impact of existing urban areas on the 'secluded bushland character' of the creek reserve through appropriate buffer planting to existing open space boundaries.
5. Implement best practice planning and design guidelines for new development areas to ensure appropriate set back and buffer planting to retain and improve the 'secluded bushland character'.
6. Protect and improve understanding of indigenous cultural heritage values.
7. Improve water quality in Edgars Creek targeting at source litter control and improvements to existing stormwater connections to the creek where possible.

PROPOSED WORKS (Refer Draft Plan)

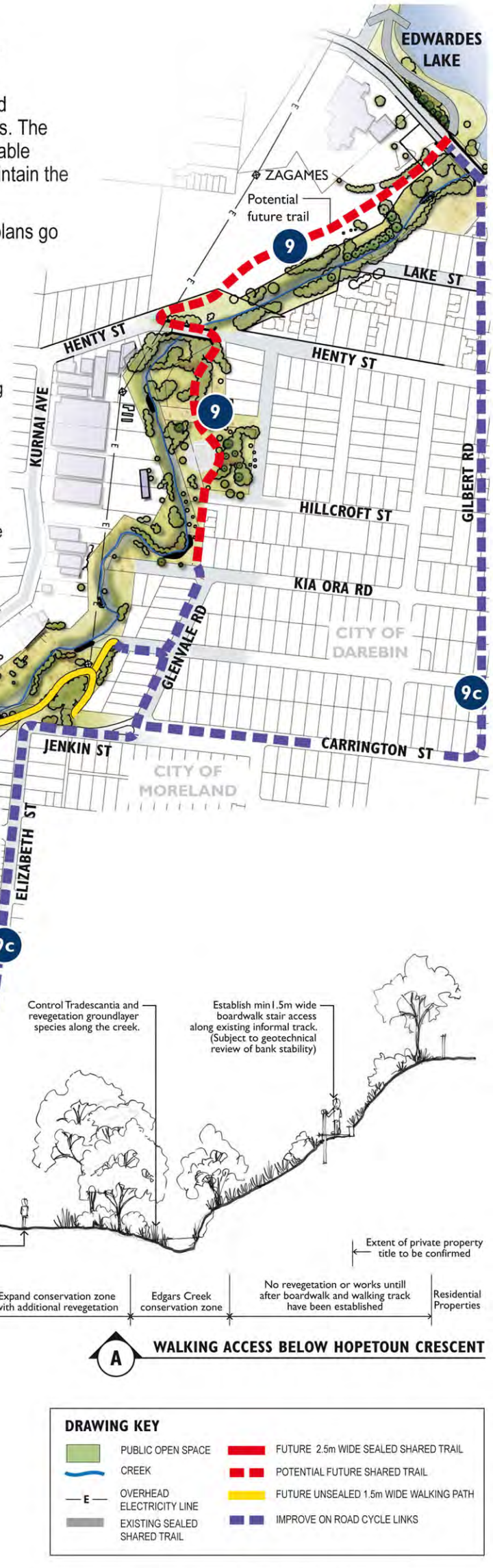
8. Establish a new water quality treatment wetland on the existing golf range area to treat urban stormwater runoff prior to discharge to Edgars/Merri Creek and improve floodplain habitat values.
9. Improve walking and cycling access between Edwardes Lake and Merri Creek Trail including:

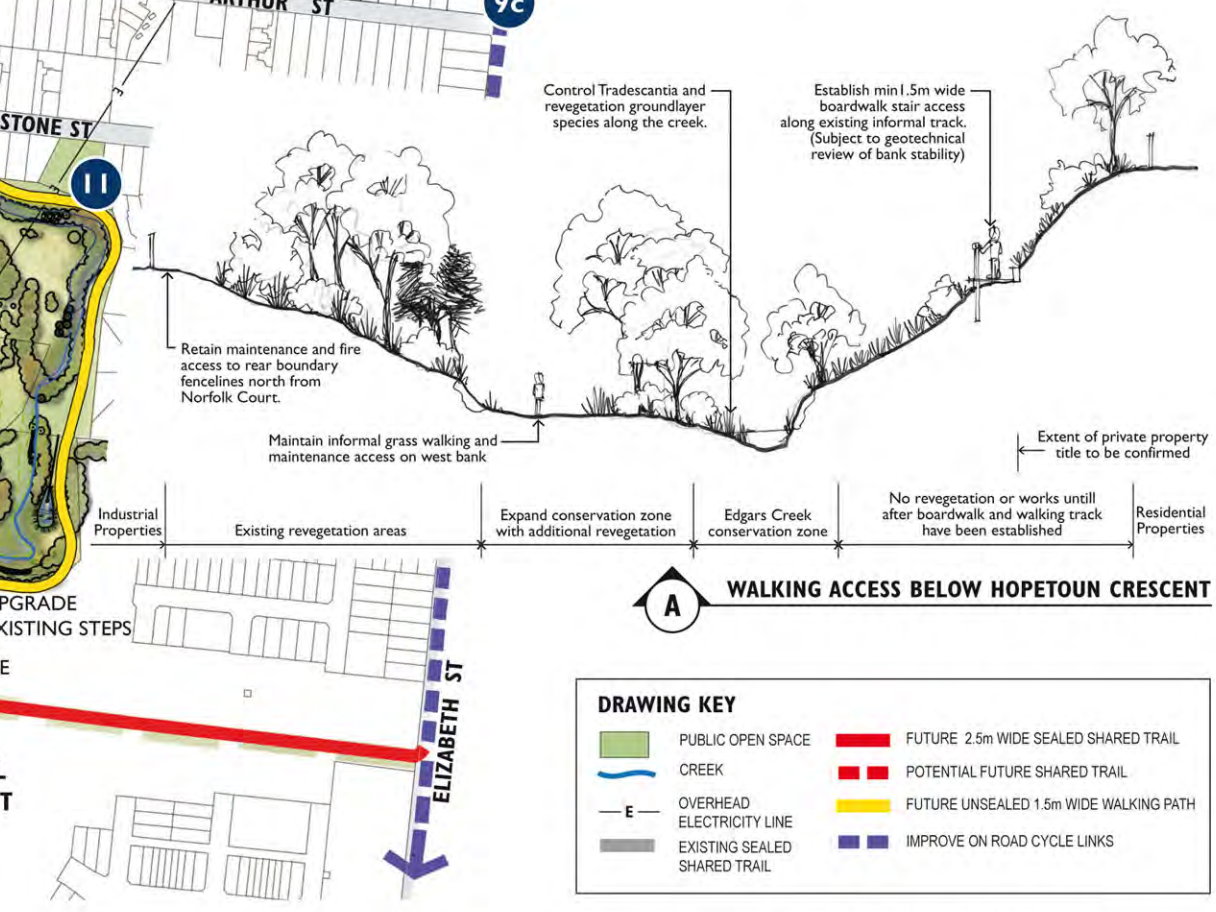
9a. Establish a new 2.5m wide sealed walking/cycling path from new development areas at Coburg Hill to the existing Merri Creek Trail and Coburg Lake along the west bank of Edgars Creek.

9b. Establish a new 1.5m wide unsealed all weather walking only path in stages north from Coburg Hill to Jenkin Street on the east side of the creek using the existing track.

9c. Improve on road cycling links between Coburg Hill and Edwardes Lake via Elizabeth Street, where cycle paths cannot safely be established or are inconsistent with environmental objectives along the creek.

10. Retain flat grass open space areas away towards Newlands Rd to meet the recreational needs of existing and future communities including establishment of a playground and longer term sports fields if required.
11. Provide additional seats overlooking the creek and key views while ensuring design is consistent with the bushland character of the open space corridor.

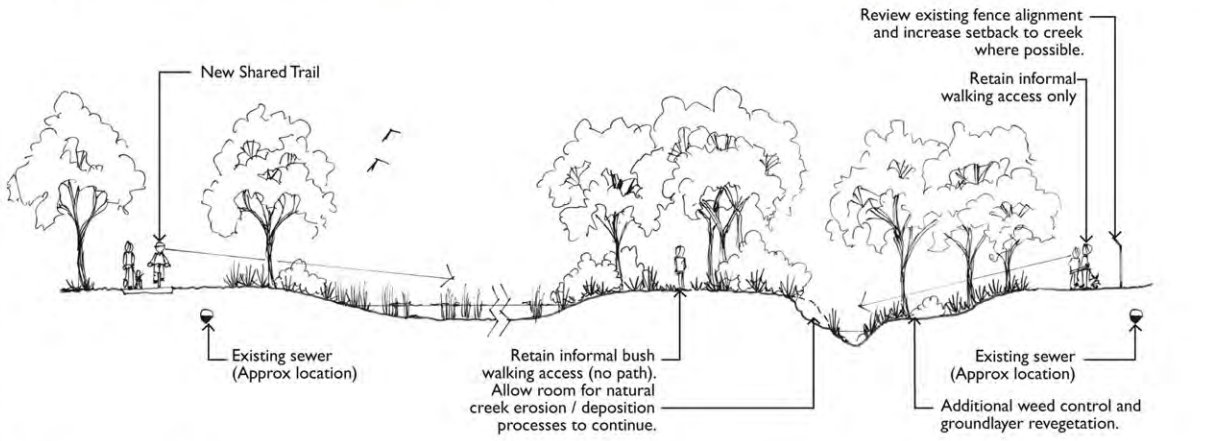




A WALKING ACCESS BELOW HOPETOUN CRESCENT

DRAWING KEY

- PUBLIC OPEN SPACE
- CREEK
- E — OVERHEAD ELECTRICITY LINE
- EXISTING SEALED SHARED TRAIL
- FUTURE 2.5m WIDE SEALED SHARED TRAIL
- POTENTIAL FUTURE SHARED TRAIL
- FUTURE UNSEALED 1.5m WIDE WALKING PATH
- IMPROVE ON ROAD CYCLE LINKS



B PROPOSED WETLAND

THOMPSON BERRILL LANDSCAPE DESIGN P/L with Ecology and Heritage Partners P/L

Edwardes Lake To Merri Creek
EDGARS CREEK CONSERVATION & DEVELOPMENT PLAN

FEBRUARY 2013

0 20 50 100