



# GreenWay Revegetation and Bushcare Plan; *Creating an indigenous flora and fauna corridor*

Prepared as part of the  
GreenWay Sustainability Project – a partnership between Ashfield,  
Leichhardt, Marrickville and City of Canterbury Councils

January 2011



**COVER PICTURE:** Waratah Mills Bushcare Site, Dulwich Hill, Established and maintained by the Inner West Environment Group

## ACKNOWLEDGEMENTS

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### For more information please contact:

Adam Ward  
Biodiversity Officer  
GreenWay Sustainability Project  
Tel: (02) 9716 1865  
Email: [adamw@ashfield.nsw.gov.au](mailto:adamw@ashfield.nsw.gov.au)  
[www.greenway.org.au](http://www.greenway.org.au)

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# Abbreviations

ABBREVIATION	DESCRIPTION
MUDCRABS	Cooks River Mudcrabs
DECCW	Department of the Environment, Climate Change and Water
EEC	Endangered Ecological community
EPBC Act	Environment Protection and Biodiversity Conservation Act
IWEG	Inner West Environment Group
LGA	Local Government Area
NPW Act	National Parks and Wildlife Act
OHS	Occupational Health and Safety
PPE	Personal protective Equipment
RISI	Rail Industry Safety Induction
RLP Act	Rural Land Protection Act
STIF	Sydney Turpentine – Ironbark Forest
SWMS	Safe Work Method Statement
TSC Act	Threatened Species Conservation Act

# Executive Summary

The Cooks River to Iron Cove GreenWay (the GreenWay) in the Inner West of Sydney evolved in the 1990s, with a detailed strategy being produced in 2009 (GreenWay Co-ordination Strategy Working Group 2009). The total length of the Greenway is 5km and it runs through the Leichhardt, Ashfield and Marrickville Local Government Areas (LGA) touching upon the Canterbury LGA where it meets the Cooks River

Although its original native vegetation has been replaced by small mixed pockets of planted, weedy and remnant vegetation the GreenWay has special biodiversity values in the context of a highly developed urban landscape because it comprises of a green space corridor passing through the Inner Western suburbs of Sydney linking two major waterways. The vegetation provides habitat for a surprising range of native fauna species including the Superb-fairy Wren (*Malurus cyaneus*), Silvereye (*Zosterops lateralis*), and Eastern Blue Tongue Lizard (*Tiliqua scincoides*). Parts of the GreenWay are identified as habitat for the endangered population of the Long-nosed Bandicoot (*Perameles nasuta*) of Inner Western Sydney.

In the 1990s, the community became actively involved in the enhancement of the GreenWay's biodiversity values with the formation of bushcare groups which removed weeds and revegetated sites with native plants which are likely to have been part of the pre-European original vegetation communities that occurred in the GreenWay. There are now ten active bushcare sites operating in the GreenWay and more than twenty proposed new bushcare sites.

This Revegetation and Bushcare Plan provides guidance on the management principles and practices for GreenWay bushcare and revegetation sites and establishes a vision for the future enhancement of biodiversity in the GreenWay:

***“The continued re-establishment of pre-European flora and fauna along the Cooks River to Iron Cove GreenWay corridor, with a focus on environmental best-practice, sustainability and community engagement.”***

The establishment of new bushcare sites in the GreenWay to link and build upon the existing sites is fundamental to the achievement of this vision. To assist with ranking the commencement of new bushcare sites, essential and desirable criteria have been developed that link with the GreenWay biodiversity vision and objectives.

The planning and approval process for the NSW Government's Inner West Light Rail Extension and GreenWay is currently occurring during the planning phase for urban biodiversity conservation works as part of the GreenWay Sustainability Project, including this Revegetation and Bushcare Plan. This provides an excellent opportunity for Transport NSW, local Councils and the GreenWay Sustainability Project to co-ordinate the planning for biodiversity enhancement and infrastructure development projects.

This Revegetation and Bushcare Plan will enable a co-ordinated approach by all stakeholders so that the GreenWay can continue to develop as a significant “recognisable environmental, cultural and non-polluting corridor linking the sub-catchments of two of Sydney's most important waterways”.

# 1 Background

The greenway concept is not new a new concept, with fully operational and functional greenways operating overseas. However, for most Australians the greenway concept is new. A greenway can be described as “a linear open space corridor where trails and pathways can be used to create connected networks of open space and provide mechanisms for community engagement as sites for urban renewal” (GreenWay Coordination Strategy Working Group 2009). A greenway can be formed from either natural or urban features and can vary in scale from suburban features to trails across regions or countries.

## 1.1 COOKS RIVER TO IRON COVE GREENWAY

The concept for the Cooks River to Iron Cove GreenWay (the GreenWay) in the Inner West of Sydney evolved in the 1990s, with a detailed strategy being produced in 2009 (GreenWay Co-ordination Strategy Working Group 2009). The GreenWay runs through the Leichhardt, Ashfield and Marrickville Local Government Areas (LGA) (**Figure 1**) and touches upon the Canterbury LGA where it meets the Cooks River (**Figure 2**). In the north it begins at Haberfield and runs along the Hawthorne Canal and the disused Rozelle freight rail corridor from Lilyfield to Dulwich Hill. From here it runs along an unnamed tributary to the Cooks River. The total length of the GreenWay is 5 km and it runs through suburbs of the Inner West of Sydney including Leichhardt, Haberfield, Summer Hill, Dulwich Hill and Earlwood (Greenway Sustainability Project 2010).

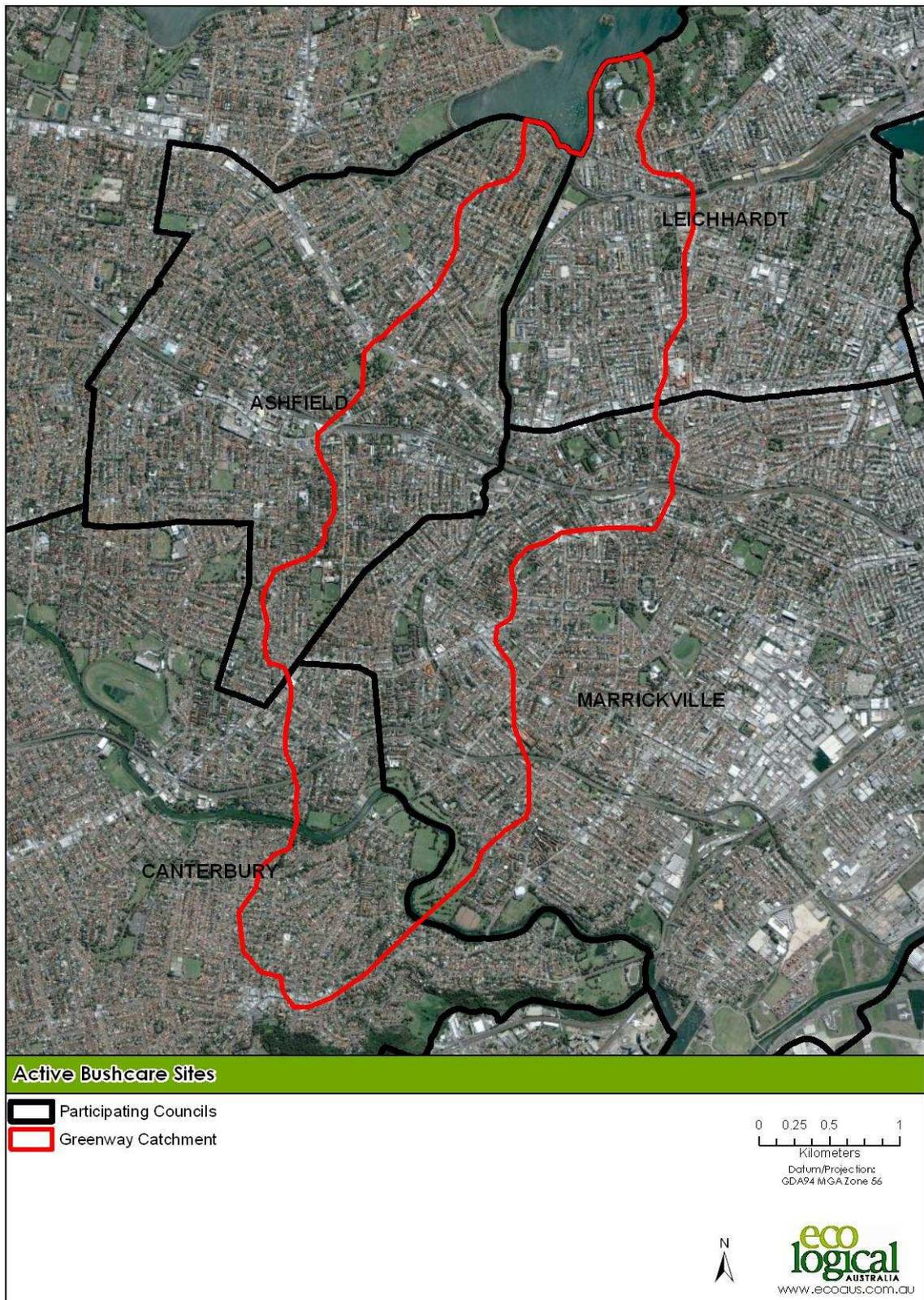
Although the original native vegetation has been replaced by small mixed pockets of planted, weedy and remnant vegetation, the GreenWay has special biodiversity values in the context of a highly developed urban landscape because it comprises of a green space corridor passing through the Inner Western suburbs of Sydney linking two major waterways. The existing areas of vegetation provide habitat for a range of fauna species and there is significant potential for enhancement and expansion to improve habitat for urban biodiversity.

Species commonly recorded in the GreenWay include the Superb-fairy Wren (*Malurus cyaneus*), Silvereye (*Zosterops lateralis*), New Holland Honeyeater (*Phylidonyris novaehollandiae*), Rainbow Lorikeet (*Trichoglossus haematodus*), Common Garden Skink (*Lampropholis guichenoti*) and Eastern Blue Tongue Lizard (*Tiliqua scincoides*) (Greenway Sustainability Project 2010). While these are relatively common species throughout the broader landscape, in the developed Inner West some of these species are uncommon. Two bandicoot carcasses from the endangered population of the Long-nosed Bandicoot (*Perameles nasuta*) were found at one of the bushcare sites (B Ashley pers. Comm. 2010). However, it is unclear how dependent this species is on the weed thickets found in the GreenWay (Leary *et. al.* unknown).

Figure 1: The Cooks River to Iron Cove GreenWay location within the Sydney Metro Catchment Management Area



Figure 2: Participating Councils in the GreenWay



## 1.2 COMPONENTS OF THE GREENWAY

### 1.2.1 Light Rail

In 2010 the NSW Government released a Metropolitan Transport Plan titled Connecting the City of Cities (NSW Government 2010). In this document the NSW Government indicates that it will expand the existing light rail network, which currently ends at Lilyfield, and extend it to Dulwich Hill (NSW Government 2010). A detailed study - *Sydney Light Rail - Inner West Extension Study* - was released (May 17<sup>th</sup> 2010) by the NSW Department of Transport and Infrastructure for public consultation. The study considers costs, demand, technical issues, and possible stop locations. The proposed line will utilise the existing disused Rozelle freight line within the GreenWay and construction is expected to commence in 2011. The project planning and approval process for the light rail extension and GreenWay shared bicycle and pedestrian pathway is occurring during the planning phase for urban biodiversity conservation works as part of the GreenWay Sustainability Project, including this Revegetation and Bushcare Plan. This provides an excellent opportunity to co-ordinate the planning for biodiversity enhancement and infra-structure development projects.

### 1.2.2 Shared Pathway

Associated with the Light Rail and GreenWay development is a 3m shared path for cyclists and pedestrians. This shared path will cater for pedestrians and cyclists from the Cooks River through to Iron Cove and will run adjacent to the proposed extended light rail network. The shared path will extend beyond the Dulwich Hill station to the Cooks River at Earlwood. Much of the shared pathway will be located in the rail corridor adjacent to the light rail.

### 1.2.3 Bushcare Sites

10 bushcare sites are established within the GreenWay catchment and there is the potential for further bushcare sites to be established. Nine of the bushcare sites were established by community groups, these being the Inner West Environment Group (IWEG), the Cooks River Mudcrabs (Mudcrabs) and Friends of Ewen Park. The remaining bushcare site is a National Tree Day site in Leichhardt Park, first planted by the community on Tree Day in 2007 and subsequently in 2010. It is maintained by Leichhardt Council Staff

Most existing sites and proposed new sites are in the existing rail corridor, the adjacent Hawthorne Canal and at the southern end of the GreenWay. They are located on land owned by local government authorities, Sydney Water and RailCorp.

Unfortunately the Waratah Mills and Davis Street Bushcare Sites at Dulwich Hill will be adversely affected due to the construction of the GreenWay shared pathway and the Waratah Mills Light Rail Stop as part of the Inner West Light Rail Extension and GreenWay. Transport NSW have given the partner Councils an undertaking that where possible disruption to the bushcare sites will be minimised and appropriate materials utilised for the pathway construction through the sensitive areas to assist the sites with their biodiversity objectives.

## 1.3 BIODIVERSITY IN THE GREENWAY

During early European settlement the suburbs of the Inner West were used as farming land, and in the last 150 years developed as industrial and urban areas (Benson *et. al.* 1999). This land management history has severely reduced the biodiversity of the Inner Western suburbs of Sydney. Despite this, the GreenWay catchment contains small remnants of the pre-European vegetation associations and provides suitable habitat for a variety of flora and fauna.

Undoubtedly the ongoing management and expansion of bushcare sites enhances the biodiversity of the GreenWay as previously weedy or bare areas are revegetated with a diverse range of native plants. However, the existing large areas of weedy vegetation also have important biodiversity values because they provide food and shelter for native fauna and are often located in inaccessible areas, such as the rail corridor.

In the northern section of the GreenWay corridor within the Leichhardt LGA, areas of dense vegetation line the rail corridor and the adjacent canal. While much of this vegetation is weedy, small patches of remnant vegetation remain and the entire area provides excellent habitat for native fauna such as small birds due to its inaccessibility to people and “bushy” multi-layer structure. There is an opportunity to extend this habitat further to the north through under-planting Darley Road street trees with mid-storey native plants. Within this area there may be also be potential to re-establish saltmarsh vegetation along the canal edge.

Significantly, an endangered population of Long-nosed Bandicoot can be found in the LGAs of Marrickville, Canada Bay, Ashfield, City of Canterbury and Leichhardt. However, it is unknown how extensively the bandicoots use the GreenWay. Several species of small birds and reptiles are also commonly recorded in the GreenWay and are of regional significance.

Some disruption to biodiversity is anticipated during the construction of the Inner West Light Rail Extension and GreenWay. Statements of commitment and mitigation measures are included within Transport NSW documentation including the Environmental Assessment and Response to Submissions.

### 1.3.1 Pre-European Vegetation

More than 220 years of farming, industrial and urban land-use have left very few clues about the pre-European vegetation that would have been present in the area.

From Iron Cove southwards, for approximately two kilometres, the pre-European vegetation was estimated to be a mixture of sandstone forest and heath vegetation communities (Benson and Howell 1990). Much of the vegetation surrounding the suburbs of Marrickville, Leichhardt, Annandale and Ashfield would have been Sydney Turpentine-Ironbark Forest. This land was extensively cleared for agriculture in the early nineteenth century and has subsequently been built on for urban development (Benson and Howell 1990). It is estimated that less than 4.5% of the original extent of Sydney Turpentine-Ironbark Forest remains since European colonisation in 1788. (DECC 2008). Accordingly, Sydney Turpentine-Ironbark Forest is listed as an Endangered Ecological Community (EEC) under the NSW *Threatened Species Conservation Act 1995* and as a Critically Endangered Ecological Community under the Commonwealth *Environment Protection Biodiversity Act 1999*.

At the southern end of the GreenWay, around the suburb of Hurlstone Park, the Cooks River follows a steep Hawkesbury Sandstone slope, which would have contained sandstone forest and heath vegetation (Benson and Howell 1990; Benson *et. al.* 1999). Small remnants of this vegetation can be found in the railway cuttings throughout the GreenWay.

As well as these vegetation communities, the pre-European vegetation associations in the vicinity of the Cooks River and Iron Cove were dominated by floodplain forests, mangroves and salt marsh vegetation communities. Small remnants of these vegetation communities remain in these areas today (Benson *et. al.* 1999).

### 1.3.2 Remnant Vegetation

Significant areas of remnant vegetation are located within the Bankstown rail corridor between the Dulwich Hill and Hurlstone Park stations and north of the New Canterbury Road overbridge on the western embankment (GreenWay Sustainability Project 2010). These are small remnants comprising of Sydney Turpentine-Ironbark Forest. Other small remnants can be found along the Rozelle freight line and within the Marrickville Golf Course (GreenWay Sustainability Project 2010). Work has taken place for several years at a number of bushcare sites in the vicinity of the Waratah Mills (GreenWay Co-ordination Strategy Working Group 2009). Although these sites contain native vegetation resembling the Sydney Turpentine-Ironbark Forest, they are not remnant bushland because they are composed entirely of plantings. These revegetation areas are not protected through DECCW by any formal conservation agreements (i.e. Voluntary Conservation Agreements), nor are they formally managed according to a site specific management plan (GreenWay Co-ordination Strategy Working Group 2009).

During a site assessment of the GreenWay, a small area of remnant vegetation was observed approximately 100-metres north of New Canterbury Rd on the western side of the corridor (site 17 in Figure 3). The site was not accessible and an extensive survey was not undertaken at this time. However, the site appeared to consist of skeletal rocky soils and contained Sickle Wattle (*Acacia falcata*), Sydney Green Wattle (*Acacia parramattensis*), Sweet Pittosporum (*Pittosporum undulatum*) and Kangaroo Grass (*Themeda australis*). Weeds in the vicinity of this site include Crofton Weed, Fennel, Lantana, Whiskey Grass and many other species. This site is likely to have survived in its current state due to the skeletal soils which make it difficult for weeds to invade. This area is a potential bush care site.

### 1.3.3 Existing Bushcare Sites

There is currently ten existing bushcare sites in the GreenWay. These bushcare sites are managed by Leichhardt Council, individuals, and community groups including the Inner West Environment Group (IWEG) and the Cooks River Mudcrabs (MUDCRABS). These areas were essentially devoid of native vegetation and entirely dominated by weed species prior to bushcare sites being established.

## 2 Overarching Principles and Objectives

All existing and new bushcare sites in the GreenWay are likely to be subject to the same management issues and requirements. Hence, it is important that all bushcare sites in the GreenWay follow the same principles and objectives to ensure continuity in bushcare site management.

### 2.1 BUSHCARE PRINCIPLES

The term 'bushcare' encompasses many different types of works applied to a particular area or site. Bushcare involves the regeneration of degraded areas of native vegetation, and can include the control of invasive weed species, feral animals and in some cases the planting of native species to increase floristic diversity, with the long term aim of providing a resilient diverse native vegetation community.

In the case of the GreenWay, the bushcare sites are generally not areas of remnant vegetation, but areas that are either dominated by weeds and require extensive weed control and revegetation, or areas that have undergone weed control and revegetation and require ongoing maintenance to control weed species.

The key principle for bushcare sites in the GreenWay is the type of vegetation community to be re-established. Three broad pre-European vegetation associations of the Cooks River Valley were identified by Benson *et. al.*(1999). These are:

- Estuarine vegetation, including mangroves and saltmarsh in the Iron Cove – Hawthorne Canal areas,
- Sydney Turpentine – Ironbark Forest (STIF) between Iron Cove and the Cooks River; and
- Sandstone vegetation south of Iron Cove for approximately 2km and along the sandstone escarpments of the Cooks River.

The bushcare principles for the GreenWay are to re-establish STIF and Sandstone vegetation in appropriate areas of the GreenWay. Where these areas are to be re-established the process of primary weed control, mulching, revegetation and maintenance weeding must take place. Further details, including weed control techniques, mulching techniques, species to be used in revegetation, threatened species considerations and reporting processes will be addressed in detail in this document.

### 2.2 INNER WEST ENVIRONMENT GROUP BUSHCARE PRINCIPLES

The following bushcare principles guide the work of the Inner West Environment Group which has undertaken the majority of bushcare work in the GreenWay to date.

#### 2.2.1 Bushcare Strategy

Site selection and overall bushcare strategy is guided by the need to put in place a connected corridor of bush, which can act as wildlife corridor. This follows principles put forward in such strategies as the Sydney Greenweb corridors project, Sydney Metropolitan CMA and protocol for working within RailCorp

corridors. Where possible, continuous bush corridors are created rather than working on separate patches.

### 2.2.2 Habitat enhancement

Although originally habitat enhancement has been pursued primarily for small birds, recent evidence of Long-nosed Bandicoots (*Perameles nasuta*) being in the corridor, has highlighted the need to consider small mammal habitat needs as well. Actions are to retain existing weedy thickets partly in place until such time as re-established bush provides new habitat. Species selection includes the planting dense copses of small prickly shrubs (such as *Bursaria spinosa* and *Acacia ulicifolia*) to provide refuge for small birds.

To retain habitat refuges debris piles, branches, and some litter such as tin, iron etc., leaving logs and large dead tree limbs, and building rubble mounds are left on site rather than taking this material off-site or creating a "clean" site. A major issue recently has been the establishment of large colony of native Noisy Miner (*Manorina melanocephala*), not to be confused with the introduced Indian Myna (*Acridotheres tristis*), which exclude other small birds.

Recent research indicates that providing non-eucalypt small trees and a dense shrub cover with an even canopy height will be less favourable for the noisy miners, compared with eucalypts in a 'parkland' setting which they prefer and easily dominate.

### 2.2.3 Recognition of "weedy" areas as high habitat value

Ensure that areas that currently provide high habitat value for a range of animals are not cleared prior to assessing their value, and before additional native habitat can be fully established alongside or in a manner that provides an alternative for the fauna which utilise the "weedy" habitat. This is particularly so for the Lantana, Blackberry and Green Cestrum thickets in the rail corridor that has proven to be high value habitat for reptiles, small birds and possibly for the Long-nosed Bandicoot.

### 2.2.4 Progressive work

It is important to control, and consolidate a site or portion of a site and then move along to establish new areas or to further expand the site. This is particularly important when there are often only limited volunteer resources to provide regular weeding maintenance. It can easily take up to five years to fully establish a site, and regular maintenance is required otherwise a site can readily revert to weed covered in a short period of time if the conditions are conducive.

### 2.2.5 Regular maintenance

It is essential that there be a visit to the site at least every two weeks, and so preventing invasive weeds from reproducing or seeding. This may be less in droughts, but may require even more frequent attention when there is warm and humid weather and good rainfall.

### 2.2.6 Involve adjoining properties and private landholders

To provide a sense of "ownership", it useful is to engage with neighbours to the sites and encourage them to involve themselves both with site establishment and in ongoing site maintenance and additional planting etc. This also helps expand the area of bush habitat if they are willing to plant in their own backyards.

### 2.2.7 Reconstruction through Revegetation

Revegetation measures should be instated when regeneration potential has been wholly or severely depleted and it is assessed that key missing species are not able to be naturally recruited to an area.

For areas where highly disturbing and large-scale alterations have occurred, such as the rail corridor a revegetation approach is more appropriate (DPNR 2003).

### 2.2.8 Connectivity and Habitat Creation

Wildlife and habitat corridors are part of the overall connectivity of the landscape. Habitat connectivity has been defined as a concept used to describe how the spatial arrangement and the quality of elements in the landscape affect the movement of organisms among habitat patches (NPWS 2000). Vegetation corridors between existing habitat areas encourage a greater diversity of wildlife to use the project site and extends the habitat potential of sites of small sites in an urban context (National Trust 2010). An increased rate of functional connectivity among habitats and populations is critical factor determining a wide range of ecological phenomenon such as gene flow, population dynamics, seed dispersal, population persistence, and maintenance of biodiversity. Preserving and restoring connectivity has become a major conservation priority, and conservation organizations are investing considerable resources to achieve these goals (McRae et al. 2008).

At the local scale where habitats have been lost and connectivity is discontinuous or adversely affected by habitat fragmentation as a result of urbanisation revegetation projects have the potential to increase opportunities for a wider range of species to disperse, occupy and breed up in habitats that currently may be difficult to access (NPWS 2000).

Community managed revegetation projects in the cooks River to Iron Cove GreenWay have been guided by the objective of instating a connected corridor of native vegetation which can act as wildlife corridor. Following the principle that continuous bush corridors are created rather than working on separate patches (IWEG undated).

### 2.2.9 Recommendations

All revegetation works within the corridor need to adhere to the objective of maximising the connectivity along the corridor for wildlife movement. Site management plans should clearly acknowledge that this is an overall objective of the GreenWay.

## 2.3 GREENWAY CORRIDOR BIODIVERSITY VISION AND OBJECTIVES

The following vision and objectives for the GreenWay Revegetation and Bushcare Plan were suggested at a community workshop and stakeholder meetings for the development of this plan:

### 2.3.1 Vision

***“The continued re-establishment of pre-European flora and fauna along the Cooks River to Iron Cove GreenWay corridor, with a focus on environmental best-practice, sustainability and community engagement.”***

### 2.3.2 Objectives

- Create an indigenous flora and fauna corridor which reflects the original vegetation of the area, provides habitat and facilitates movement for a range of animal and plant species throughout the GreenWay catchment,
- Promote community education about the importance of biodiversity, and encourage active community involvement in protecting and restoring biodiversity in the GreenWay catchment,
- Protect and build upon existing indigenous vegetation areas to increase biodiversity and long-term sustainability,
- Protect and enhance the habitat of locally significant native species, including the endangered Long-nosed Bandicoot population of Inner Western Sydney,
- Undertake restoration works using environmentally sustainable methods in a manner which is safe for workers (council employees, agency employees, contractors and volunteers) and the community,
- Use a cautious staged approach to revegetate weedy areas to ensure there is minimal or no disruption to existing fauna habitat, and
- Ensure biodiversity values are considered when planning and designing infrastructure and landscaping works in the GreenWay corridor.

## 2.4 DEVELOPMENT OF INDIGENOUS FLORA AND FAUNA CORRIDOR

Currently there is a corridor with vegetated areas from the Cooks River to Iron Cove; however, this is dominated by weeds. While this introduced flora has habitat value, particularly for small birds and, potentially, small mammals, the aim is to create a vegetated corridor which is composed of native flora. The development of this indigenous flora and fauna corridor will require the removal of small areas of introduced flora within the GreenWay, and revegetation with appropriate native species.

These areas will be established as bushcare sites, with the long-term aim being to establish a continual corridor of native vegetation from the Cooks River through to Iron Cove. The corridor will facilitate animal movement and dispersal of plant pollen and seeds carried by insects, birds and, possibly, small mammals.

## 2.5 STAKEHOLDERS

The GreenWay was initiated by local residents and community groups, and developed to include the four partner councils (Ashfield, Marrickville, Leichhardt and City of Canterbury), local business, state agencies, non-government organisations and educational facilities (GreenWay Co-ordination Strategy Working Group 2009).

The GreenWay Steering Committee was established to provide strategies and guidance for the GreenWay. This Steering Committee is serviced by the GreenWay Coordinator and comprised of representatives from the various stakeholder groups, including the four Councils, the Inner West Environment Group, Friends of the GreenWay, Bicycle User Groups and local residents who meet as required to ensure actions undertaken are consistent with a common vision.

The GreenWay Sustainability Project is a partnership between Ashfield (lead), Leichhardt, Marrickville and City of Canterbury Councils funded by the NSW Environmental Trust from 2009 to 2012. The Project is serviced by a project team and is focussed on objectives including developing a sustainable governance model for the GreenWay; improving urban biodiversity; promoting and providing options for active transport and community engagement and capacity building activities.

## 3 Role of Local Government

The GreenWay passes through four LGAs, these being Leichhardt Council, Ashfield Council, Marrickville Council and the, City of Canterbury. While all the councils will have a role in the management of the GreenWay, Ashfield Council is the lead agency and will be referred to from here on as the Council.

### 3.1 LANDCARE SUPERVISOR

The GreenWay Landcare Supervisor works in a part-time capacity as part of the GreenWay Sustainability Project across the entire GreenWay. The role of the Landcare Supervisor is to facilitate and co-ordinate the work of bushcare volunteers and contractors in the GreenWay. This role includes, but is not limited to, providing the site inductions, ensuring OHS policies and principles are followed, reviewing and updating OHS policies and procedures, and supervising volunteer work sessions (not including IWEG work sessions).

The Landcare Supervisor also has an important community engagement and capacity building role. This involves encouraging more residents to become involved in GreenWay bushcare sites, and educating the broader community about urban biodiversity conservation issues in the GreenWay and Inner West area of Sydney.

### 3.2 OHS REQUIREMENTS

Under the NSW *Occupational Health and Safety Act 2000* (OHS Act), all agencies and organisations have responsibility for the welfare and safety of their staff, volunteers, and contractors that are engaged to undertake work. Accordingly, the Council is responsible for the health and safety of all council staff, contractors and volunteers working on the GreenWay project.

The requirements identified here are a minimum standard and will require regular revision to ensure that the health, safety and welfare of staff, contractors and volunteers are not impacted upon. It will be the responsibility of the Landcare Supervisor to maintain and revise OHS requirements and documentation.

#### 3.2.1 Site Induction

All contractors and volunteers working on bushcare sites in the GreenWay are required to undertake a site induction with Council's Landcare Supervisor. This site induction covers all OHS issues and controls relevant to bushcare work, which are discussed below.

#### 3.2.2 Training

##### *Volunteers*

Volunteers working in the GreenWay are not required to have specific training in bushcare. However, volunteers must be supervised by the Landcare Supervisor or a nominated site supervisor when working on Council-managed land. Volunteers using herbicides must be supervised by the Landcare Supervisor whether working on Council land or other land, unless they have successfully completed ChemCert training. Due to the importance of minimising the impact of work on corridor fauna habitat, there is benefit in training volunteers in fauna-friendly bushcare.

### *Professional Bush Regeneration Contractors*

Contractors are required to have appropriate training in bush regeneration (i.e. Natural Areas Management TAFE Level 2 as a minimum). All contractors will be required to have ChemCert qualifications if they are using herbicides. All contractors undertaking works in the GreenWay must attend an induction by the Landcare Supervisor prior to any works being undertaken.

#### **3.2.3 Personal Protective Equipment**

All contractors and volunteers working in the GreenWay will be required to wear appropriate Personal Protective Equipment (PPE). Minimum PPE includes, long pants, long shirt sleeves, covered shoes, eye protection, gloves and high visibility vests. Eye protection, gloves and vests are supplied by Council. If volunteers are working in the rail corridor they must wear steel-capped boots. When contractors are using machinery (e.g. chainsaws) steel-capped boots and ear protection are required.

#### **3.2.4 Rail Industry Safety Induction**

Rail Industry Safety Induction (RISI) is a requirement by RailCorp for any person entering the rail corridor, where some of the bushcare sites are located. The Rozelle Freight Line is classed as a “live but not active” rail corridor. Negotiations between Council and RailCorp have led to the relaxation of the need for bushcare workers to have RISI. However, as a minimum, RailCorp require the following safety requirements to be implemented for bushcare sites located in the rail corridor:

- the boundary of the bushcare sites must be fenced using Para web fencing (fluoro orange fencing) to a height of 1200mm,
- persons entering the corridor are required to wear RailCorp approved safety vests or clothing and all other PPE (as identified above),
- site specific safety management plans and Safe Work Method Statement (SWMS) must be submitted to RailCorp by the Landcare Supervisor for all volunteer and contract bushcare sites, and
- funding and management of bushcare sites in the rail corridor must be the responsibility of Council.

#### **3.2.5 Access**

All bushcare volunteers must advise Council of the time, date and volunteer names for every working bee. Currently, several bushcare sites are difficult to access because they are fenced, and volunteers are required to access them through gates. As a minimum, gates suitable for pedestrian and vehicle access are required for existing and newly fenced bushcare sites.

### **3.3 THREATENED SPECIES**

All land owners and managers are required to comply with the NSW *Threatened Species Conservation Act 1995* (TSC Act) and the NSW *National Parks and Wildlife Act 1974* (NPW Act). Of particular relevance to Council is the presence of the Long-nosed Bandicoot (*Perameles nasuta*) and the need to have a Section 132C licence under the NPW Act to collect seed from Sydney Turpentine-Ironbark Forest, which is listed as an endangered ecological community (EEC) under the TSC Act.

The Long-nosed Bandicoot population of Inner Western Sydney is listed as an endangered population. Council has an obligation not to damage any areas identified as key habitat for this species. While the habitat requirements of this population are unclear, it appears to be roosting during the day beneath houses in the Inner Western suburbs of Sydney (Leary *et. al.* Unpublished).

There is also potential that individual Long-nosed Bandicoots utilise Lantana thickets along the disused Rozelle freight line (Leary *et. al.* Unpublished). Any clearance of Lantana thickets should be undertaken cautiously with surveys for Long-nosed Bandicoots or their diggings undertaken before any weed removal is commenced.

Under the NPW Act, the collection of seed from an EEC requires a Section 132C licence. As the sites where seed is collected will be located outside the GreenWay, approval from the landowner and DECCW will be required before any seed from STIF can be collected and used for revegetation purposes.

### 3.4 NOXIOUS WEEDS

Under the NSW *Noxious Weeds Act 1993*, land owners and managers are required to control all noxious weeds on their land. A complete list of noxious weeds listed in the participating Council areas can be found at:

<http://www.dpi.nsw.gov.au/agriculture/pests-weeds/weeds/noxweed>

Significant noxious weeds in the GreenWay include, but are not limited to, Lantana (*Lantana camara*), Castor Oil Plant (*Ricinus communis*), and Asthma Weed (*Parietaria judaica*). Under the *Noxious Weeds Act 1993*, Council is required to undertake a control program in accordance with control plans produced by the local Council.

### 3.5 PEST ANIMALS

Under the NSW *Rural Land Protection Act 1998* (RLP Act) Council is required to control all pest animals on their land. The only declared pest species found in the GreenWay is the rabbit (*Oryctolagus cuniculus*). The most appropriate method to control this species is by the use of Pindone baits. However, if Council is to proceed with the control of rabbits using Pindone, baiting should occur in fenced off areas where public access is not permitted, and appropriate signage erected.

There are no legislative requirements for council to control the Fox (*Vulpes vulpes*) or Feral Cat (*Felis catus*) on Council owned land. However, Council will participate, in accordance with the RLP Act, in any control programs that are implemented by DECCW to protect the Long-nosed Bandicoot population in the Inner West of Sydney from feral predators, such as the Fox and Feral Cat.

## 4 Development of Light Rail and the GreenWay

The NSW Government announced on 19 July 2010 that it would be extending the Inner West Light Rail Service from Lilyfield to Dulwich Hill, including the GreenWay, a walking and cycling pathway connecting the Cooks River Cycleway to the Iron Cove Bay Run. Following the announcement, NSW Transport has undertaken an Environmental Assessment as part of the Part 3A process for major developments. During consultation with Councils and GreenWay stakeholders, Transport NSW has indicated that the GreenWay Revegetation & Bushcare Plan would form a guiding document for future bushcare and revegetation works in the rail corridor as part of the Inner West Light Rail Extension and GreenWay. Documentation is available at <http://www.transport.nsw.gov.au>.

### 4.1 SHARED PATHWAY

A key element to be implemented as part of the Light Rail Extension is a 3m wide shared path for cyclists and pedestrians. This shared path will cater for pedestrians and cyclists from Iron Cove through to the Cooks River, and will run adjacent to the light rail network. The GreenWay will follow an on road route beyond the Dulwich Hill stop to the Cooks River at Earlwood.

### 4.2 BUSHCARE SITES

Protecting and minimising damage to the existing bushcare sites and securing a commitment to the establishment of new bushcare sites has been a key consideration for GreenWay stakeholders during the planning, consultation and approval process for the Inner West Light Rail Extension. The Waratah Mills and Davis Street bushcare sites at Dulwich Hill will be impacted due to the construction of light rail infrastructure in this vicinity including the Waratah Mills Stop and the GreenWay shared pathway. Naturally the adverse impacts are a strong cause of concern to the volunteers involved in the sites' establishment over a number of years. The GreenWay Steering Committee and GreenWay Sustainability Project are working with Transport NSW to achieve the best possible outcomes during the early works and construction phases to minimise damage and implement mitigation measures.

### 4.3 INTEGRATION OF BIODIVERSITY ENHANCEMENT WORKS

There is the opportunity to integrate biodiversity enhancement works with the construction of the Light Rail Network in the GreenWay. The construction of the Light Rail Network will require the removal of some of the dense weed infestations. Once the construction works are completed, these areas, which were once vegetated and then cleared for construction purposes, will need to be stabilised to prevent soil erosion and increase amenity value. This provides an opportunity to establish new bushcare sites by revegetating these areas using native species and managing them using the methods described throughout this document. (*Concept image below courtesy Transport NSW.*)



## 5 Existing Bushcare Sites

Within the GreenWay there are ten existing bushcare sites. Four of these bushcare sites are located in the central area of the GreenWay; these sites are Waratah Mills, Pigott St, Davis St, and a private bushcare site (located on Little Street, Dulwich Hill) at the rear of a private residence and managed by this resident). Four sites are located in the northern section of the GreenWay along Hawthorne Canal at Lords Rd, Cadigal Reserve, Richard Murden Reserve, and Lilyfield Rd at Leichhardt Park. The remaining two bushcare sites are established in the south of the GreenWay at Foord Ave and Ewen Park

The bushcare sites were established by Leichhardt Council and three community groups, the Inner West Environment Group (IWEG), the Cooks River Mudcrabs (Mudcrabs), and the Friends of Ewen Park. A brief description of sites and the community groups is provided below.

### 5.1 LILYFIELD RD

The Lilyfield Rd site is an area of approximately 2000m<sup>2</sup> in Leichhardt Park planted by the community on National Tree Days in 2007 and 2010. It is currently maintained by staff from Leichhardt Council.

### 5.2 INNER WEST ENVIRONMENT GROUP

The IWEG began in the late 1990s and submitted a grant to the NSW Environment Trust in 2000 to begin bushcare works at the Waratah Mills site. This bushcare work soon expanded, and work began at the Pigott Rd and Davis St bushcare sites. Waratah Mills, Pigott St and Davis St are all operated under a licence agreement between Marrickville Council and IWEG.

#### 5.2.1 Waratah Mills

The Waratah Mills site is located adjacent to the old Waratah Mills north of Johnson Park in Dulwich Hills. This site can be only accessed through a gate at its northern end. Although the site is on RailCorp managed land, IWEG have a key to this gate to allow access for bushcare work.

The site was originally entirely dominated by thickets of Lantana, Castor Oil Plant and other weeds. Extensive weed control works have taken place since 2000. Weed removal was followed by mulching and revegetation using over 100 different native plant species found in Sydney Turpentine-Ironbark Forest (STIF). The most significant work requirements involve the control of emerging herbaceous weeds and managing the threat of Lantana re-invasion from the surrounding landscape.

#### 5.2.2 Pigott St and Davis St

The Pigott St and Davis St bushcare sites are located opposite the Waratah Mills site on the other side of the Rozelle freight line in Dulwich Hills. They are separated by Davis St. Access to both sites is via RailCorp managed gates at the end of Pigott St and Davis St. IWEG has keys to these gates to allow access for bushcare work.

These sites were originally entirely dominated by thickets of Lantana, Castor Oil Plant, *Cestrum* (*Cestrum parqui*), *Cotoneaster* (*Cotoneaster glaucophyllus*) and other weeds. Extensive weed control works have been undertaken, followed by mulching and revegetation using over 100 different native plant species found in STIF. Some secondary control of Lantana, Castor Oil Plant, *Cestrum* and *Cotoneaster* is required along with the control of emerging herbaceous weed species.

### 5.2.3 Private Bushcare Site (Little Street, Dulwich Hill)

This bushcare site is located adjacent to the rail corridor to the north of Davis St and Pigott St, and worked by a local resident. As this is a private bushcare site, it is unknown whether the site is accessed via the private residence.

There is a potential access point via gates on Short St, however, these gates are managed by RailCorp and IWEG does not have a key.

The site was originally dominated by weed species, particularly Lantana and Castor Oil Plant. These weed species were removed and revegetation has used plant species found in STIF. It is unknown what level of species diversity has been used at this bushcare site, but the diversity of species is less than the Waratah Mills, Pigott St and Davis St bushcare sites.

### 5.2.4 Cadigal Reserve

Cadigal Reserve is located immediately north of Grosvenor Crescent in Summer Hill. The site can be accessed via Grosvenor Crescent from a small car park, which provides access to the whole reserve. IWEG began working on the site in 1999, with works including weed control and revegetation. Primary weed control works have focused on woody weeds such as Cestrum, Lantana, Castor Oil Plant and Camphor Laurel, with secondary works focusing on Annual Veldt Grass (*Ehrharta annua*) and herbaceous species such as Paddy's Lucerne (*Sida rhombifolia*), Ribwort (*Plantago lanceolata*), Onion Weed (*Asphodelus fistulosus*), Spear Thistle (*Cirsium vulgare*) and others. Over 40 species of native plants have been propagated from local provenance seed, including tree, shrub and grass species. One native species, Commelina (*Commelina cyanea*), is treated as a weed because it has established as a mono-culture.

### 5.2.5 Lords Rd

The Lords Rd bushcare site is a small site established by IWEG in 2001 on land owned by RailCorp and Sydney Water near Lords Rd at Lilyfield. The site is accessed by a GreenWay shared pathway from Lords Rd. Twelve native local provenance species have been planted at this site and ongoing work involves control of woody and herbaceous weed species.

### 5.2.6 Richard Murden Reserve

Richard Murden Reserve is adjacent to Hawthorne Canal and can be accessed by Hawthorne Pde, Haberfield. This site is approximately 10 metres wide and 150 metres in length. IWEG began working at this site in 2000 as part of the Olympic Landcare project. Works have largely focused on removal of weed species such as Cestrum, Lantana, Castor Oil Plant and Camphor Laurel, with follow up work focusing on the control of herbaceous species including Paddy's Lucerne, Ribwort, Onion Weed, Spear Thistle and others. Approximately 27 species of local provenance plants have been planted at this bushcare site, including tree, shrub and grass species.

### 5.3 COOKS RIVER MUDCRABS

The Mudcrabs undertake work at one bushcare site at Foord Ave within the GreenWay catchment. The group also works on other sites along the Cooks River, these being Rosedale Reserve and Warren Park. The Mudcrabs are also interested in establishing a bushcare site at Gough Whitlam Park where there is an area of Coastal Saltmarsh (listed as an Endangered Ecological Community under the TSC Act).

The Mudcrabs initial focus was on cleaning up rubbish along the Cooks River. This evolved into bushcare work when in 2005-06 they began working at Rosedale Reserve.

#### 5.3.1 Foord Ave

The Foord Ave bushcare site is located at the end of Foord Ave next to a small cliff face and cycleway. The cycleway provides access to the bushcare site. The Mudcrabs began work at this site in 2009 and identified 18 different plant species, including Matt Rush (*Lomandra longifolia*), Running Postman (*Kennedia rubicunda*) and Bracken fern (*Pteridium esculentum*). The Mudcrabs have focused their work on the removal of weeds, particularly Camphor Laurel (*Camphora cinnamomum*), Cobblers Peg (*Bidens pilosa*), and grasses, particularly Kikuyu (*Pennisetum clandestinum*). Subsequent revegetation work has been undertaken with selective planting using 21 species of sandstone vegetation including Weeping rye Grass (*Microlaena stipoides*), Hakea (*Hakea sericea*), Coastal Wattle (*Acacia longifolia*) and Sweet Wattle (*Acacia suaveolens*). The Mudcrabs do not use tree species in revegetation works, however, Smooth-barked Apple (*Angophora costata*) has been observed regenerating at this site. There are no restrictions at this site preventing the growth of trees (e.g. powerlines).

### 5.4 EWEN PARK

Ewen Park is located near Tenant Pde in Hurlstone Park and is accessed through open parklands. This bushcare site is owned by Marrickville Council, who contracts a professional bush-regeneration company, Apunga Ecological Management, to manage work at the site.

The site was initially open parkland, which was sprayed, jute-matted, mulched and then revegetated. The Mudcrabs began working here in 2009, and have been involved in revegetation works at this site to plant a variety of species including Wallaby Grass (*Austrodanthonia* sp.), Weeping Rye Grass, Coastal Wattle, Red Mahogany (*Eucalyptus resinifera*), Matt Rush, Knotweed (*Persicaria decipiens*) and many other species.

#### 5.4.1 Friends of Ewen Park

The Friends of Ewen Park have been involved in the management of Ewen Park, and have been involved with consultation with the Canterbury City Council in the management of the park, since 2008 (City of Canterbury 2006).

## 6 New Bushcare Sites

The GreenWay vision is to re-establish pre-European flora and fauna along the Cooks River to Iron Cove corridor. The development of new bushcare sites in the GreenWay to link and build upon the existing sites is fundamental to the achievement of this objective. The list of sites in table 1 has been proposed by IWEG except for site 3 which contains wetland vegetation surrounding a stormwater retention basin which has been proposed by Leichhardt Council. It is important to note that not all native vegetation in the GreenWay will comprise of bushcare sites, native landscaping in parks and in the future around light rail infrastructure will also form an important vegetated component of the GreenWay.

Detailed maps of all proposed bushcare sites are included in **Appendix F**.

**Table 1: Proposed New Bushcare Sites**

Name	Location	Site Number
Leichhardt Park	Glover St, Lilyfield	1
Church St	Church St, Lilyfield	2
Blackmore Park	Canal Rd, Leichhardt	3
Darley Rd	Darley Rd, Leichhardt	4
William St	William St/Darley Rd, Leichhardt	5
Hawthorne Parade	Waratah St/Hawthorne Pde Haberfield	6
Loftus St (signs of past work)	Loftus St, Leichhardt	7
Walter St	Walter St, Leichhardt	8
Lords Rd East	Lords Rd, Leichhardt	9
Haig Ave	Haig Ave, Summer Hill	10
Barker St	Barker St, Lewisham	11
Longport St	Longport St, Summer Hill	12
Smith St	Smith St, Summer Hill	13
McGill St	McGill St, Lewisham	14
Old Canterbury Rd	Old Canterbury Rd, Summer Hill	15
Little St	Little St, Dulwich Hill	16
Denison Rd	Denison Rd, Dulwich Hill	17
Williams Pde	Williams Pde, Dulwich Hill	18
Hercules St, North	Hercules St, Dulwich Hill	19
Hercules St, South	Hercules St, Dulwich Hill	20
Blackwood Ave	Blackwood Ave, Dulwich Hill	21
The Parade	The Parade, Dulwich Hill	22
Ewart St	Ewart St, Dulwich Hill	23
Jack Shanahan Park	Ness Ave, Dulwich Hill	24
Tennyson St	Tennyson St, Dulwich Hill	25
Will's Ground	Lang Rd, Dulwich Hill	26

Figure 3: Existing Bushcare Sites in the GreenWay

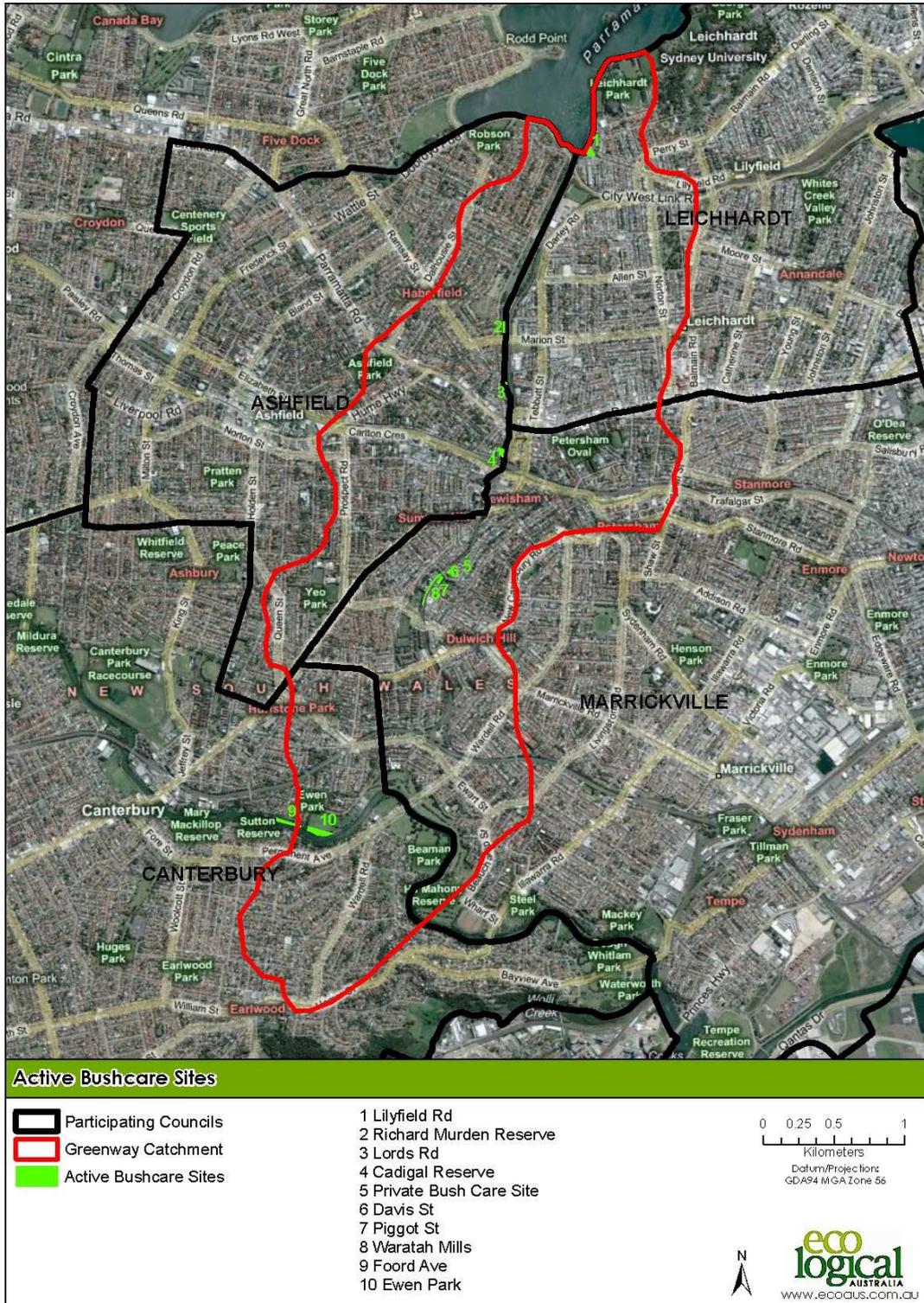
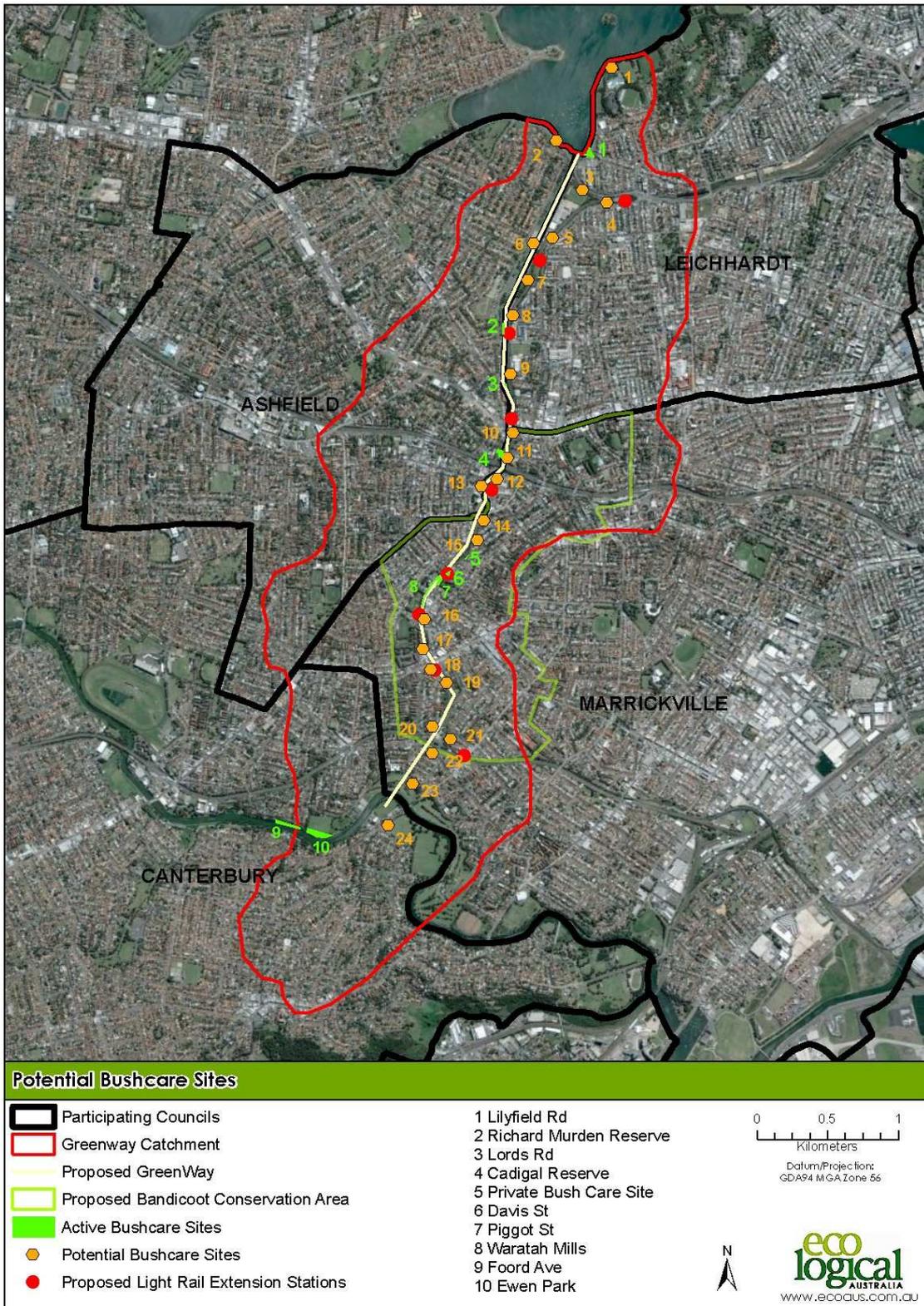


Figure 4: Potential Bushcare Sites in the GreenWay



## 6.1 RANKING THE COMMENCEMENT OF NEW SITES

To assist with the allocation of financial and Council staff resourcing, a ranking system for the commencement of new sites has been developed which identifies essential criteria and allocates points to desirable criteria which are consistent with GreenWay biodiversity objectives listed in **Section 2.3**.

To determine the priority for commencing a new site, the answer to each of the essential criteria in table 2 must be 'yes'. Then the site is given a total score using the points allocated to desirable criteria in table 3. Sites with higher scores have higher priority for commencement.

### 6.1.1 Essential Criteria

**Table 2 Essential Criteria which must be satisfied prior to ranking new sites**

Sufficient community interest to establish and maintain a site, or alternatively funding available for contract bush-regenerators	Yes/No
Landcare Supervisor is able to provide support if site managed by volunteers	Yes/No
Long-term access to the site has been secured either through an MOU or leasing/licence arrangement with the land holder	Yes/No
No significant safety risks (topography, traffic, rail corridor etc) if site managed by volunteers	Yes/No
Site location does not conflict with proposed light rail infrastructure	Yes/No

#### *Contract or Volunteer Bushcare Site*

Professional contract bush-regenerators in the GreenWay funded by Council can be most effectively used in two capacities:

- working sites that have potential hazardous access issues, e.g. at the proposed new bushcare site north of New Canterbury Rd, which contains important remnant vegetation, and
- working sites that do not have sufficient numbers of volunteers to manage them.

Volunteer bushcare workers will undertake initial weed removal, mulching of the bushcare site, revegetation and subsequent maintenance weeding. While the aim is to commence new bushcare sites along the GreenWay, sites should not be established without recruitment of new community volunteers taking ownership of them unless there is funding for contract bush-regenerators to support their work. If community members involved in the management of existing bushcare sites are required to establish and maintain new bushcare sites, this could result in the "burn out" of these community members. An essential long-term component for the management of new bushcare sites is to maintain and expand the number of community members involved. Hence, essential to the establishment of new bushcare sites are new community members becoming involved in the GreenWay bushcare project and taking ownership of new bushcare sites.

*Landcare Supervisor*

The position of the GreenWay Landcare Supervisor was recently created as part of the GreenWay Sustainability Project to provide support to community groups that manage bushcare sites in the GreenWay. The Landcare Supervisor position is essential in providing an adequate level of support to each of the volunteers to ensure that all existing and new bushcare sites become self-sustaining in the long term. This position will ensure that the:

- work of bushcare groups is co-ordinated and environmentally sound,
- bushcare groups can source funds from grant agencies to undertake work, and
- bushcare groups work towards the goals and aims of the GreenWay Revegetation and Bushcare Plan.

If the Landcare Supervisor is not able to support these groups adequately, the success of bushcare in the GreenWay will be significantly reduced. Hence, it is a high priority to maintain funding for this position.

*Site Access*

Site access requires consideration, as many potential sites are located in an existing rail corridor. Long-term access to any site that is not under the control of a Council must be secured either through an MOU or leasing/licence arrangement with the land holder

*Safety Risks – Site Specific Aspects*

The Occupational Health and Safety of volunteers and contract bush regenerators is a high priority. General issues regarding the use of equipment, manual handling issues, rail corridor OHS issues, use of herbicides, and other health hazards have already been discussed in **Section 3.2**. However, additional site issues need to be considered. These include the slope, topography and access to the new bushcare sites.

During the site assessment, proposed new bushcare sites were observed. Associated with the new bushcare sites are several hazards. Most significant were access issues and the presence of embankments up to 5-metres high. Site specific OHS access criteria are:

- no vertical embankments that are higher than one metre,
- an embankment slope that can be safely traversed by all volunteers (i.e. <math><25^\circ</math>), and
- appropriate access points, with permission from all land owners/managers, appropriate training and safety supervisors (if required).

One new bushcare site north of New Canterbury Rd contains important remnant vegetation. This site is in an area with vertical rock embankments approximately 5 metres high. Bush regeneration works on this site will be required to be undertaken by professional bush regenerators, who have the appropriate qualifications, to access the site safely using ropes.

*Light Rail Infrastructure*

The Inner West Light Rail Extension is progressing rapidly. Proposed station locations in the GreenWay have been identified and are being finalised as part of the project approval process. While the location of Light Rail infrastructure will have impacts to existing bushcare sites, the location of new sites should ensure that there is no conflict with the Light Rail Network.

### 6.1.2 Desirable Criteria

**Table 3 Desirable Criteria used in ranking new sites**

CRITERIA	SPECIFICATION	POINTS
Stepping Stones within corridor	Location of new site > 500m from an existing site	3
	Location of new site <500m > 200m from an existing site	2
	Location of new site < 200m from an existing site	1
Connectivity	Location of site within 100m of remnant vegetation and/or dense weedy areas which provide fauna habitat	3
Access and Facilities	Water available on or near site	1
	Site easily accessed by foot (gates present if fenced)	1
	Vehicle access available	1
Area to Width Ratio	Minimum width of the site is >10m	3
	Minimum width of the site is <10m >5m	2
	Minimum width of the site is <5m	1
Random Factor	Interpretive opportunities which promote community involvement (consider location of light rail stations)	1
	Educational opportunities	1
	Other	1

#### *Establishing New Sites (Stepping Stones) in Corridor Gaps*

Existing bushcare sites in the GreenWay tend to be clumped within the central area of the corridor. This criterion encourages the establishment of new sites in the southern and northern areas of the corridor as stepping stones between existing sites.

#### *Connectivity*

A major aim of the GreenWay Sustainability Project is to build on the biodiversity and corridor values of the GreenWay by linking existing vegetation. As identified previously in this document even existing weedy vegetation in the GreenWay will provide valuable habitat to fauna in the absence of native remnant vegetation. Establishing new sites in the vicinity of remnant vegetation and/or dense weedy areas will assist the movement of both birds and ground dwelling fauna through the corridor.

*Access and Facilities*

These criteria relate to practical long-term management issues such as access to a source of water to water new plantings and vehicular access to remove vegetation rubbish.

*Area to Width Ratio*

The size and shape of any potential bush regeneration sites is difficult to alter within the GreenWay due to its urban context and the confines of the GreenWay corridor. Bushcare sites within the GreenWay will almost always be a narrow shape and adjacent to infrastructure such as roads, rail networks, housing, industrial developments or areas of open space (e.g. parks). Where possible, new bushcare sites should be designed to minimise a long and narrow configuration as this decreases the area-to-perimeter ratio. Sites with a low area-to-perimeter ratio will be more susceptible to weed invasion and other disturbances because they have a smaller core/interior area and lots of edges. However, within the GreenWay this will be difficult as the constraints of the rail corridor, roads, buildings and other open space will always be present as a factor when new bushcare sites are established. Selection of new bushcare sites should prioritise wider sites over narrower sites. Interpretation and Educational Opportunities

*Random Factor*

There are many other desirable criteria that have not been identified in table 3 but should be considered in the ranking system where appropriate.

Interpretive opportunities associated with the expanded Light Rail network may be a relevant random factor to consider in the establishment of new sites. Stations will provide a high visual amenity and an excellent opportunity for interpretative and educational signage. Signage could cover topics such as:

- native flora and fauna species of the Greenway (particularly the endangered population of Long-nosed Bandicoot)
- vegetation communities that occurred in Sydney's Inner West prior to European colonisation (e.g. Sydney Turpentine-Ironbark Forest)
- GreenWay restoration works including the involvement of IWEG and the MUDCRABS, and
- Aboriginal and European heritage of the locality.

Several other areas within the GreenWay have a high amenity value, such as Arlington Recreation Reserve adjacent to the Waratah Mills bushcare site and Richard Murden Reserve. These areas are frequented by many people on a daily basis and there is the opportunity to educate the wider public about the work being undertaken at bushcare sites in, or adjacent to, these reserves.

## 7 Planning for Revegetation and Bushcare Works

Revegetation needs clear goals and objectives and a realistic long planning horizon. The objectives of revegetation should take into account both what is required to achieve the predetermined aspiration for the site and the potential of the site. A strategic approach of this nature will ensure suitable levels of species diversity as the ideal or preferred range of species to be included in the project will be identified in advance. An unplanned approach usually results in the use of a limited range of easily grown and quickly available species, with low species diversity.

A site specific management plan should be completed within the planning phase. . The GreenWay Revegetation and bushcare plan provides a site management plan template within **Appendix B**.

### 7.1 PATTERN AND SEQUENCE OF REVEGETATION

To decide what species are introduced and the timing of their introduction, consideration should be given to:

- The goals and objectives established for sites
- The plant community desired, and achievable
- Practical constraints relating to species availability
- Practical management and maintenance issues
- The level of competition posed by weed growth on sites
- The best route to achieve a workable ecological succession

One approach to revegetation projects is to introduce all layers, including a range of grasses and groundcovers at the outset. This approach has been applied where sites are smaller, a high degree of weed control has been achieved and sufficient maintenance resources are available. This approach is especially appropriate where there are erosion problems in order to provide cover and ensure diversity in root depth.

Ground covers are important to the structure of native vegetation and are important for biodiversity and a functioning ecosystem. One way of introducing ground covers in significant but manageable quantities is to plant them very densely in clusters to achieve solid patches of ground cover quickly, and to facilitate weed management. These 'islands' or mosaic patches of densely planted ground covers can then be managed to facilitate their expansion to replace areas of exotic grass and other weeds (DIPNR 2003).

### 7.2 SPECIES SELECTION AND REPRESENTATION

The species to be used for revegetation of bushcare sites in the GreenWay are dependent on two factors: the soil type and the original pre-European vegetation community. The two possible original pre-European vegetation community vegetation communities are Sydney Turpentine-Ironbark Forest or Sandstone vegetation communities.

### 7.2.1 Sydney Turpentine-Ironbark Forest

The species recommended to be used for revegetation of STIF have been determined using information from Benson *et. al.* (1999), and the final determination for STIF (NSW Scientific Committee 2010). A complete list of species to be used in the revegetation of STIF is shown in **Appendix A**.

### 7.2.2 Sandstone Vegetation Communities

The species recommended for use in the revegetation of the GreenWay where Sandstone vegetation is present has been taken from Benson *et. al* (1999). These species are shown in **Appendix A**. No issues have been identified where tree species have the potential to affect infrastructure where the Sandstone vegetation is present, hence tree species of all heights are recommended. A percentage of Turpentine iron Bark / sandstone forest and Sandstone Heath species are difficult to include in revegetation programs because of lack of knowledge regarding their collection and propagation requirements. This is particularly the case for ground storey species however, some have found that with specialist application a wider range of species can be propagated. In practice, it is generally the more easily obtained/collected and propagated species that tend to be used in revegetation projects, and these are typically canopy trees (eg Eucalyptus spp.) and certain pioneer shrub species (eg Fabaceae species). As a result the use of ground covers can sometimes be restricted. In planning the distribution and abundance of species, it is recommended practitioners are guided by their observation of existing remnants and by the available literature.

Guidance on the appropriate distribution and abundance of species can be sought from the observation of existing remnants and the following literature:

- Benson, D.H. & Howell, J. (1990) *Taken for Granted: The bushland of Sydney and its suburbs*. Kangaroo Press.
- Benson, D. Ondinea, D. and Bear, V, (1999) *Missing Jigsaw Pieces: The Bushplants of the Cooks River Valley*. Royal Botanic Gardens Sydney

Planning should identify the ideal or preferred range of species to be included. As much time as possible (two years would be a good minimum) should be allowed so that local provenance seed collection and propagation can be carried out (DIPNR 2003). Running concurrently with weed control and soil management” (M. Walters, pers.comm.). It is recommended that planting be staged, so that as many species as is practicable from the range identified can be included. This is particularly important in relation to key component species of the community (DIPNR 2003).

Astute planning will allow for the allocation of sufficient resources for implementing revegetation, prior weed control and for ongoing maintenance e.g. follow-up weed management to maximise the likelihood of a successful project (DIPNR 2003). Revegetation sites require a minimum of 5 years follow up maintenance to achieve a recommended level of site stability however the requirement of weed control in an urban context is continual (M. Walters, 2010). Requirements for maintenance of this nature will reduce with the increased success life of the site.

### 7.3 LOCAL PROVENANCE SPECIES SELECTION

The following information is sourced from the NSW Government 2006 Sydney Metropolitan Catchment Management Authority 'Planting Local Provenance Species' Policy.

The use of local provenance species in plantings is important for a variety of reasons. Not least of these is because planting local species grown from provenance propagation material maintains the genetic integrity and diversity of a particular area.

Planting programs using species from a local provenance seed source are often better adapted to local environmental conditions such as climatic extremes and may be more adaptable to further changes in conditions in their own area. In general, plants of local provenance have a better capacity to provide habitat, food and other resources for local wildlife. Furthermore, local plants are a part of our natural and cultural heritage and their continued existence is fundamental to maintaining these heritage values. By using species of known local provenance, the planting program will be better able to reflect the unique local character and to complement and enhance existing habitat values.

#### 7.3.1 Provenance

The term 'provenance' is used to refer to seed (or plants grown from such seed) collected from a local natural (remnant) population and is one of the basic units of genetic diversity used to acknowledge differences in adaptation characteristics that can develop within a species. The concept of provenance has emerged to describe the patterns of localised genetic variation that can be exhibited by a species over its full geographic range. This unique genetic variation found within a species and within an area, is of value and needs to be preserved.

#### 7.3.2 Benefits of local provenance planting programs

Local plants will often be naturally better adapted to local conditions. This is important for establishing new plant populations and many seed users have practical experience of better performance from local plants in terms of survival and growth.

Using local plants can, if used properly:

- Promote genetic and ecological sustainability of local vegetation. In doing so, the genetic integrity and unique characteristics of vegetation remnants are more likely to be maintained
- Using local plants and keeping long-term records about collection and planting localities builds on the capacity to collect, use and better manage the vegetation that grows in the local area
- The use of local plant material is important for the rehabilitation of disturbed conservation areas or where there is likely to be interaction with local wildlife; and
- Use of local plants reduces the potential for hybridisation between cultivated species and other species in surrounding areas, or between cultivated species and local varieties of that species.

### 7.4 SEED COLLECTION AND GENETIC INTEGRITY AND DIVERSITY

Material for propagation is best found on site, or close to it, i.e. local provenance. The use of site-adapted local genotypes for propagation is best for restoring pre-existing plant communities and conserving local (and potentially unique) biodiversity. It is also more likely to lead to a self-perpetuating plant community.

The collection of suitable propagation material of local provenance is constrained when small, isolated remnants are involved, and where the plant community is restricted in occurrence.

The limited availability of source material creates pressures for collection from the remaining sources of material and could lead to over collection of seed, and at worst to the placing of remnant populations of plants at risk. The resultant plantings are not necessarily an adequate genetic replacement for the remnant population from which the seed was taken.

The practice of seed collection is best carried out within the framework of a formal, documented seed collection policy or code of practice. Planning for seed collections should consider the following: A self-perpetuating plant community is promoted by the use of site-adapted endemic genotypes in propagation material. Such material is best found on site, or close to it, i.e. that is of local provenance. This is also crucial for restoring pre-existing plant communities and conserving endemic biodiversity.

A list of indigenous flora of the GreenWay from the Sydney Turpentine Ironbark Forest, Sandstone Forest and Woodland and Sandstone Heath communities is presented in Appendix A.

A range of policies, guidelines and codes of conduct exist. The *Model Code of Practice -for Community Based Collectors and Suppliers of Native Plant Seed* (1999) by FloraBank is the most recent. This can be found on the FloraBank website ([www.florabank.org.au](http://www.florabank.org.au)).

#### 7.4.1 Collection Locations

In terms of collection locations, “local provenance” is currently interpreted to mean either as close as possible to a site, or within a local catchment. Establishing consistent criteria for collection locations is difficult and is best dealt with on a site-by-site and species-by-species basis with assistance from expert personnel. If resources allow, genetic testing of populations can give precise information on suitable collection ranges for seed. Consistently applied, such genetic determination could lead to the development of defined provenance ranges for botanic families, genera, or species across Sydney.

If the choice is made to undertake a planting program using local species, the selection of species will be determined by what was growing on the site originally, whether any remnant vegetation is left on or near the project site (including plants that exist in the soil as seeds) and, most importantly, if local seed or plant material is available in quantities that can be collected sustainably.

#### 7.4.2 Further information

Advice from suitably qualified personnel (eg. the Botanic Gardens Trust, Bushcare or Landcare Officers or appropriate ecological horticulturalists) is recommended prior to commencing any planting program. Further information can also be found in the booklet “Be Smart with Seed: A guide for the management of local native seed in the Sydney metropolitan catchment” (Green Web Sydney, 2005).

#### 7.4.3 Recommendations

Where possible, seed sources for plants to be raised for use should be sourced from remnant areas within 5km of Hawthorne Canal. For many species this may not be possible, and thus the nearest source that reflects the planting site conditions, and is from roughly within the same catchments. A local provenance species list is included in **Appendix A**.

The GreenWay and Transport NSW adopts and adheres to the Sydney Metropolitan Catchment Management Authority ‘Planting local provenance species’ policy. Local plant and seed stock may not be readily available and regular sources may have been depleted. In this situation the identification of an alternative approach to the selection of suitable plant material may be required to maintain species diversity.

## 7.5 METHODS AND TECHNIQUES FOR PROPAGULE INTRODUCTION

Planting of tube stock is the most commonly used method to reintroduce vegetation, and most frequently this occurs along degraded edges and boundaries, to create links, establish connectivity, and to create buffer zones. Less frequently, it is carried out more widely across sites, depending on the degree and location of degradation that has occurred. It is resource intensive, but can allow for community participation.

## 7.6 PREFERRED LIST OF PLANT SUPPLIERS

The following list is of local provenance vegetation suppliers that have a relationship with the GreenWay Project; a strong understanding of the constraints of local provenance seed collection and propagation as well as a comprehensive understanding of the species composition of relevant vegetation communities:

- Marrickville Community Nursery
- Gladesville Community Nursery/Cornucopia Nursery
- Rozelle Bay Community Nursery

## 7.7 SITE PREPARATION AND MAINTENANCE

Revegetation works should be staged to avoid leaving areas with depleted habitat values. Areas of land void of vegetation cover should be minimised as open ground will reduce niche habitat availability and increase the likelihood of weed proliferation and erosion of the soil profile. The GreenWay Revegetation and Bushcare Plan provides a list of criteria to rank potential bushcare sites within the corridor within Section 6 'New Bushcare Sites'.

### 7.7.1 Site Assessment & Preparation

Potential areas for a revegetation project should be assessed on the individual merits and constraints of each site within the site management plan the following parameters should be addressed prior to the start on ground works.

- Determination of the existing soil profile
- Testing for soil contaminants and completion of remediation required.
- Determination of site topography and hydrology (including erosion)
- Potential safety issues arising from revegetation practices in close proximity to light rail infrastructure.

Once access to the site is assured through a formal agreement, a site management plan should be completed.

Initial site preparation works should aim to increase the site suitability and stability through the installation of erosion control measures such as the installation of matting, 'Coir' logs or the repositioning of natural features such as logs or rocks found on site. The installation of protective fencing or other barriers to protect and delineate areas should also be completed at this stage. Requirements for the installation of drainage infrastructure (hard landscaping) should be assessed at each site.

Secondary site preparation measures should include primary and secondary weed control (usually up to 2 months - but ideally over six months or longer) to deplete the existing weed seed bank.

The application of mulch prior to planting conserves moisture and delineates revegetation areas clearly for those undertaking adjacent maintenance practices. Follow-up weed control should continue after planting - the frequency and duration dependent on resources.

Site preparation should also consider the requirement and availability water resources for follow-up watering taking into consideration resource availability, weather conditions, the degree of 'investment' in the planting and the level of risk of plant loss.

## 8 Implementation of Bushcare Works

### 8.1 WORK ON BUSHCARE SITES

Work on Bushcare sites is to be carried out in accordance with a site management plan or site strategy. Site management plans will outline the short and long term goals for the rehabilitation of the site, and the means by which they can be achieved. It is essential that the preparation of management plans be completed in consultation with a variety of stakeholders including as members of local bushcare groups and landowners.

Site management plans for revegetation works should be drafted in accordance with biodiversity vision and objectives outlined within the GreenWay Revegetation and Bushcare Plan. Clearly stated site specific objectives and aims should be included as well as mapping information, land use and condition assessment as well as description of the sites physical characteristics. The management plan should also include a works program detailing the remediation work to be undertaken and what is required to realise agreed objectives.

The works program should include scheduling of timetables of activities and should take into account volunteer numbers, the number of working hours available to the group, and the potential loss of volunteers over time. Consideration should be given to maintenance of existing areas and future ongoing maintenance of new areas prior to any recommendation about new primary work (City of Canada Bay 2009).

A site management plan should be completed within the planning phase. A site management plan template is included in **Appendix B**.

### 8.2 WASTE MANAGEMENT

Throughout the GreenWay, large amounts of waste and rubbish have been deposited over time. This rubbish includes household waste (e.g. paper, plastic bags, green waste, etc), solid industrial waste (e.g. wooden rail sleepers, galvanised iron sheets etc), and industrial waste (e.g. asbestos).

#### 8.2.1 Household Waste

All household waste should be collected and removed from each new bushcare site. This material may include plastic or glass bottles, paper waste, plastic bags, green waste and other items. Hazardous waste items such as hypodermic needles and broken glass bottles may also be encountered. Specific protocol will be required for the collection and removal of such hazardous material from bushcare sites, and only appropriately trained people should handle this material. All household waste should be removed from the bushcare sites during the primary weed control stage and disposed of appropriately.

#### 8.2.2 Inert Industrial Waste

Throughout the GreenWay, industrial waste such as rail sleepers, iron rail tracks, corrugated iron and other items have been dumped. This material is generally inert, and the greatest OHS issue is the removal of this waste. As this material provides habitat for ground dwelling fauna such as reptiles and, potentially, the Long-nosed Bandicoot, it should be retained, where possible, as fauna habitat. However, if this industrial waste has been identified as a potential OHS issue (e.g. sharp edge, slip/trip hazard, etc), its removal and appropriate disposal will be required.

### 8.2.3 Contaminated Industrial Waste

Within the GreenWay, contaminated industrial waste such as asbestos has been found. Soil testing for contamination is recommended before any new bushcare sites are established. Waste that should be tested for includes asbestos, heavy metals, diesel, and any other material that could affect the health of volunteers and professional bush regenerators working on the site. Appropriate remediation of the site must be undertaken by suitably qualified personnel, and no bushcare volunteers or contractors should access the site until it has been remediated. All material must be disposed of appropriately.

### 8.3 THREATENED SPECIES CONSIDERATIONS

Special consideration should be given to threatened species that have been observed in the GreenWay. In the past, several threatened fauna species have been recorded in the GreenWay (Ashfield City Council 2010), (see **Table 4**), however, only one of these species, the Long-nosed Bandicoot, is likely to still occur at regular intervals. Weed removal along the disused freight corridor should be undertaken cautiously in the area between New Canterbury Rd and Parramatta Rd, as several records of the Long-nosed-Bandicoot have been made in this area and the adjacent suburb of Lewisham. Specific management considerations for Long-nosed Bandicoots at bushcare sites are discussed below.

Sydney Ironbark Turpentine Forest would have been the dominant vegetation community in the GreenWay. Revegetation on many bushcare sites in the northern section of the Greenway focuses on plant species propagated from this community. As this vegetation is listed as a Critically Endangered Community under the TSC Act and EPBC Act, a section 132C licence under the NSW *National Parks and Wildlife Act 1974* is required for seed collection within STIF areas.

**Table 4: Threatened Species recorded in the GreenWay**

Common Name	Species Name	TSC Act	EPBC Act
Turquoise Parrot	<i>Neophema pulchella</i>	V	
Powerful Owl	<i>Ninox strenua</i>	V	
Masked Owl	<i>Tyto novaehollandiae</i>	V	
Regent Honeyeater	<i>Xanthomyza phrygia</i>	E	E
Superb Fruit-Dove	<i>Ptilinopus superbus</i>	V	
Pied Oystercatcher	<i>Haematopus longirostris</i>	V	
Swift Parrot	<i>Lathamus discolor</i>	E	E
Grey-headed Flying Fox	<i>Pteropus poliocephalus</i>	V	V
Eastern Bent-wing Bat	<i>Miniopterus schreibersii oceanensis</i>	V	
Long-nosed Bandicoot	<i>Perameles nasuta</i>	V	

### 8.3.1 Long-nosed Bandicoot

Prior to any clearance of weed thickets, the site should be assessed to determine if it is being used by the Long-nosed Bandicoot. To determine the presence of the Long-nosed Bandicoot, surveys for the distinctive conical diggings should be undertaken regularly prior to the primary weed control.

If conical diggings are observed, the Department of Environment, Conservation and Water (DECCW) must be informed and any proposed works delayed until DECCW approval is provided. If it is determined that the Long-nosed Bandicoot is not presently using the site, weed clearance should be undertaken in stages, with only a small amount of weed material removed at each stage.

There is no scientific evidence to indicate what the appropriate rate of weed clearance is in such circumstances. When weed clearance is being undertaken, the precautionary principle should be followed to minimise the impact of these works. Hence, it is recommended that the clearance of weed thickets should not exceed more than 10 metres in length per year in any one location, as this has the potential to negatively impact on the Long-nosed Bandicoot population of Inner Western Sydney.

## 8.4 TIMING AND CLEARANCE OF WEEDS

Existing weed infestations may provide fauna habitat in the form of shelter and food, particularly for avifauna and, potentially, the Long-nosed Bandicoot. Accordingly, the clearance of weedy areas requires careful planning and timing to ensure that fauna that utilise these areas have sufficient habitat remaining in the GreenWay.

When new bushcare sites are established, a carefully monitored staged approach should be used in the clearance of weed infestations. This clearance should involve clearing three or four separate areas that are 10 -15 metres in length, and then revegetating these areas using the techniques described below. Once the revegetated areas have reached a suitable structural form (3 – 5 years, depending on the growth rates of revegetation), and are providing suitable fauna habitat, the weed infestations in between the revegetated areas can be cleared and planted.

Where this methodology is followed, it will be of high importance to undertake regular works in the bushcare sites to prevent weed species, particularly Castor Oil Plant and Lantana, from re-establishing in the areas that are being revegetated.

## 8.5 HERBICIDE USE

Herbicides are required for the management of woody, vine and grass weeds in the GreenWay. Several different herbicides will be required, and these are discussed below in more detail.

The grass-specific herbicide Fusilade<sup>®</sup> can be used for grass control. It must not be used in, or adjacent to, waterways as it is extremely toxic to aquatic life. This herbicide is to be used where introduced grasses are found invading bushcare sites with low native grass cover and abundance. If there is a high cover and abundance of native grasses, a non-specific herbicide should be used as it is less toxic.

Herbicides with the active ingredient Triclopyr can only be used to control Blackberry. These types of herbicides are extremely toxic to aquatic life and must not be used in, or adjacent to, waterways.

Where an alternative broad leaf herbicide is required to be used to control different broad leaf weeds, BrushOff (metsulfuron methyl) will be used. This herbicide is not effective at controlling Blackberry, but is effective at controlling other broad leaf weed species.

Where non-specific herbicides are required for use, glyphosate is the most suitable. If herbicides are required to be used near waterways, a glyphosate-based herbicide suitable for use near waterways will be used (i.e. RoundUp<sup>®</sup> Biactive<sup>™</sup>).

All staff using herbicides will have appropriate training in the use of herbicides, and appropriate records will be kept in accordance with the NSW *Pesticide Regulation 2009*.

## 8.6 APPROPRIATE USE OF MULCH

The use of mulch is very important because it provides organic matter to the top soil, improves soil structure and aeration, water infiltration, nutrient availability, and is also useful in the suppression of weed growth (Buchanan 2009). The depth to which the mulch should be spread depends on the type of vegetation community which is being re-established. For example, Sandstone vegetation communities often occur on shallow sandy soils and the re-creation of these communities would require less mulch. Sydney Turpentine-Ironbark Forest occurs on deeper clay soils and would contain much more organic material in the soil profile. However, as a minimum, mulch should be spread to a depth of 100mm for it to have any ability to suppress weed growth (Buchanan 2009). Where mulch is used it should be in an advanced state of decomposition (2-3 months) before it is spread over the bushcare site, so it is able to break down easily once it is deposited on site. Planting should not occur after a minimum period of 6 months from the time the mulch was spread, to allow it to be incorporated into the soil profile.

### 8.6.1 Sydney Turpentine-Ironbark Forest

For the re-creation of Sydney Turpentine-Ironbark Forest, at existing bushcare sites IWEG have spread mulch to a minimum depth of 100mm and a maximum depth of 200mm (Bruce Ashley pers comm. 2010). After reflection on the use of mulch, it was considered that 150mm of mulch was the optimal depth (Bruce Ashley pers comm. 2010). The reason for this is that if plants are planted directly into the mulch they will find it difficult to establish their roots in the top soil. Hence, the thicker the mulch, the deeper the plant must be planted into the mulch. The use of mulch to these depths is recommended for Sydney Turpentine-Ironbark Forest as it gives the plants the greatest chance of survival, while providing suitable competition against weed species.

### 8.6.2 Sandstone Communities

For the restoration of Sandstone vegetation, the MUDCRABS have used a layer of mulch approximately 40 mm thick. While the mulch layer in Sandstone vegetation is likely to be thinner, the minimum recommended depth of mulch is 100 mm, with the upper limit being 150 mm, for Sandstone vegetation for it to have been effective in suppression weed regrowth.

### 8.6.3 Crushed Sandstone Capping

There are likely to be many areas along the Greenway where the original soil profile has been altered by the deposition of fill material that is unsuitable for revegetation. A landscape technique that is used on large-scale revegetation sites is to cap the fill material with a layer of clean crushed sandstone, sourced relatively cheaply from the excavated material of building sites. This approach may significantly reduce ongoing weeding requirements and has been successfully implemented at the Lilyfield Rd site in Leichhardt Park for community planting programs on National Tree Days in 2007 and 2010.

## 8.7 PHYTOPHTHORA PROTOCOL

*Phytophthora cinnamomi* is a microscopic soil borne organism which causes environmental damage in natural ecosystems including root rot of a wide variety of native plant species. Other species of *Phytophthora* may cause diseases on a wide range of plants but are generally less severe. The biology and control measures are very similar so this outline will concentrate only on *Phytophthora cinnamomi*.

Investigations by the Royal Botanic Gardens Sydney has shown that there are currently no known occurrences of *Phytophthora cinnamomi* within the GreenWay however with an increase in native vegetation the potential for introduction of a pathogen of this nature is increased.

Where there is a risk of *Phytophthora cinnamomi*, Bushcare volunteers and Bush Regeneration contractors/ council workers must follow hygiene related processes with equipment prior to entering the GreenWay bushcare sites.

This includes:

- Cleaning off all dirt from boots on arrival and departure from site;
- Disinfect boots with mentholated spirits;
- Scrub boot with stiff brush and follow similar principle for tools
- Use of Metholated spirits in spray bottle for secateurs, loppers, knives, etc.

Plants infected by *Phytophthora cinnamomi* should be treated with a fungicide containing potassium phosphonate in accordance with best practice guidelines.

## 8.8 PEST ANIMAL CONTROL

Within the GreenWay, four species of introduced mammals and four species of introduced birds have been recorded (GreenWay Sustainability Project 2010), these are shown in **Table 5**. The only species declared as a pest species under the NSW *Rural Lands Protection Act 1998*, is the Rabbit (*Oryctolagus cuniculus*).

**Table 5: Feral Animals recorded in the GreenWay**

Common Name	Species Name	Declared Pest
<b>Mammals</b>		
Domestic Dog	<i>Canis lupus domesticus</i>	
Feral cat	<i>Felis catus</i>	
Rabbit	<i>Oryctolagus cuniculus</i>	Yes
Red Fox	<i>Vulpes vulpes</i>	
<b>Birds</b>		
Indian Myna	<i>Acridotheres miles</i>	
Red Bulbul	<i>Pycnonotus jocosus</i>	

Rock Dove	<i>Columba livia</i>	
Spotted-turtle Dove	<i>Streptopelia chinensis</i>	

### 8.8.1 Rabbit Control

Rabbits have the potential to impact on bushcare sites as they graze on newly planted revegetation areas. Baits poisoned with Pindone are a successful control method for rabbits in the urban environment, but should be used carefully because other animals may be affected. Rabbit control should only be considered if rabbit damage is seriously compromising bushcare works. Baiting should only be permitted at RailCorp sites with restricted access.

### 8.8.2 Predator Control

Predation by Domestic Dogs (*Canis lupus domesticus*), Feral Cat (*Felis catus*) and Red Fox (*Vulpes vulpes*) has been identified as a threat to the Long-nosed Bandicoot population of Inner Western Sydney (DECCW 2010). However, there are significant constraints associated with controlling these pest species in urban environments through baiting, shooting and trapping. Hence, no predator control options are available for these predators within the Greenway, and predator control will not be undertaken unless it is co-ordinated by DECCW.

## 8.9 HABITAT INFRASTRUCTURE

A major component often missing from habitat restoration and revegetation projects is the presence of suitable habitat for fauna. Suitable habitat includes tree hollows, leaf litter, logs, boulders, and soaks, which provide habitat for a wide variety of species. Where possible these habitat structures can be re-instated using artificial means.

Tree hollows come in different sizes and are used by many species to roost or nest. These include arboreal mammals (e.g. possums), small bats, and various species of birds (including parrots, owls). Artificial nest boxes can be a substitute for a lack of tree hollows in restoration projects. However, aggressive bird species, such as Rainbow lorikeets (*Trichoglossus haematodus*), often dominate the use of these nest boxes, particularly in urban environments, and this can create additional problems.

Logs and boulders in natural systems create suitable habitat for a wide variety of species including ground dwelling mammals (e.g. bandicoots, dunnarts, etc), reptiles, (skinks, geckos, snakes, etc), some bird species, and amphibians. These logs or boulders often have hollows or small caves, which provide suitable nesting and roosting habitat. Where possible logs or tree limbs can be re-instated to bushcare sites to create this habitat or, alternatively, urban materials, such as railway sleepers or roof tiles, can be used to provide suitable habitat for ground dwelling fauna..

Soaks are areas which are inundated with water, either temporarily or permanently. Soaks are used by amphibians for breeding and to provide habitat for tadpoles. In an urban restoration context, the creation of such habitat is problematic and needs to be considered in the context of Water Sensitive Urban Design, as water run-off will be captured and diverted by stormwater design mechanisms. Due to the narrow nature of the bushcare sites and the infrastructure which is proposed to be built in the GreenWay (i.e. the Light Rail Network), features such as soaks will need to be designed as part of a WSUD program associated with the Light Rail Network and, where possible, incorporated into bushcare sites in the GreenWay.

It must be noted that the general public often view this material as unsightly and may request council to clean up “rubbish” in bushcare sites. Signage may be used to educate the public about the importance of this material as fauna habitat in the GreenWay.

**Figure 5: Artificial Fauna Habitat created from Old Railway Sleepers**



## 9 Monitoring, Evaluation and Reporting

Monitoring and evaluation needs to be sufficient to scrutinize progress and change and to assess the effectiveness of revegetation approaches and techniques. Evaluation programs should include clear specification of desired ecological outcomes and good prior and ongoing documentation of works and ecological variables.

Recommended evaluation techniques include the preparation of flora species lists denoting planting density and composition as well as the recording of fauna species lists to provide baseline data. Records should be completed noting qualitative observations and accounts of relevant site phenomena e.g. disturbance events and apparent site responses. The recording of hours and categories of work completed, including techniques used and areas involved should be completed. Periodic reports of this nature detailing work activity and note and analyse changes in site variables such as flora composition and species frequencies will provide an appropriate basis for evaluating site performance.

Furthermore, ongoing progress should be documented through records indicating the nature of weeds and weed management techniques used, the extent of site worked, e.g. square metres covered. As well as Monthly, half yearly and/or annual reports, including maps and 'before and after' photographs to that document changes in required weed treatment level, maintenance requirements and site condition descriptions. Reports should identify descriptive factors such as current ratios of weeds to natives, species list updates to indicate changes in species diversity and other changes to community structure observed. The rate of recruitment and growth of native species should also be noted to provide an indicator of site success (DIPNR 2003).

### 9.1 MEASURES OF PERFORMANCE

Measures of performance should relate back to the desired ecological outcomes and objectives identified within site management plans and the evaluation framework. Measures of site performance should include:

- Changes over time in hours required for different treatment levels in defined areas.
- Changes in the ratios of weeds to natives in defined areas.
- Changes in the area of each site considered to be at a reduced required maintenance level.
- Changes to species diversity as indicated by species list updates. Include fauna, feral animals and evidence of use as habitat.
- Changes to observed community structural integrity and structure such as structural re-formation or degradation is occurring
- The rate of native recruitment and growth\*

*\*It may take several years before the changes to be achieved are significant.*

## 9.2 REPORTING OF BUSHCARE WORKS

All bushcare volunteers and contractors must provide a regular report to the GreenWay Landcare Supervisor on work that has been undertaken at each bushcare site within 14 days of every work session. A reporting template is included in Appendix D. The reporting format should include the following details:

- Name of the volunteer group
- Site name
- Date of work session
- Weather
- Location worked within the site
- Objectives of the work session
- Person hours on site
- Area weeded, pest animals removed, area revegetated, and kg rubbish removed
- OHS issues and incidents
- Site activities undertaken, and
- A species list of plants used for revegetation.

Consistency in bushcare reports is required to assist the GreenWay Sustainability Project fulfil its reporting obligations to their funding body, the NSW Environmental Trust.

## 9.3 BUSHCARE SITE MANAGEMENT PLAN TEMPLATE

A bushcare site management plan template for sites within the GreenWay has been developed, see **Appendix B**. The management plan template must be filled when a new bushcare site is established. It should be revised on a yearly basis. This will ensure that an adaptive management framework is established for each bushcare site and that, if any new management issues arise through time, these issues will be documented and addressed appropriately.

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# Appendix A: Plant Species to be used in the Revegetation of the GreenWay

Sydney Turpentine Ironbark Forest, Sandstone Forest/ Woodland and Sandstone Heath plants of the Cooks River to Iron Cove GreenWay

(Provided by the Biodiversity Officer GreenWay Sustainability Project)

## Key

TI = Sydney Turpentine Ironbark Forest

Sf = Sandstone Forest and Woodland

Sh = Sandstone Heath

t = tree

s = shrub

g = groundcovers, grasses and low shrubs (<0.5m)

f = fern

v =vine

[ ] = a previously used name

Species name	Common Name	Growth Form	Plant community		
			TI	SF	Sh
<i>Acacia binervia</i>	Coast Myall	t	TI	Sf	
[ <i>Acacia glaucescens</i> ]					
<i>Acacia bynoeana</i>					Sh
<i>Acacia decurrens</i>	Sydney Green Wattle	t	TI		
<i>Acacia falcata</i>	Sickle Wattle	s/t	TI	Sf	
<i>Acacia floribunda</i>	Sally Wattle	s/t		Sf	
<i>Acacia hispidula</i>		s		Sf	
<i>Acacia implexa</i>	Hickory	s/t	TI		
<i>Acacia linifolia</i>	Flax-leafed Wattle	s		Sf	
<i>Acacia longifolia</i>	Sydney Golden Wattle	s	TI		Sh
<i>Acacia longissima</i>		s	TI		
<i>Acacia myrtifolia</i>	Myrtle Wattle	s	TI		Sh
<i>Acacia parramattensis</i>	Parramatta Green Wattle	s/t	TI	Sf	

<i>Acacia pubescens</i>	Downy Wattle	s	TI		
<i>Acacia stricta</i>		s	TI		
<i>Acacia suaveolens</i>	Sweet-scented Wattle	s			Sh
<i>Acacia terminalis</i>	Sunshine Wattle	s		Sf	Sh
<i>Acacia ulicifolia</i>	Prickly Moses	s		Sf	Sh
<i>Acianthus exsertus</i>	Gnat Orchid	g			Sh
<i>Acmena smithii</i>	Lillypilly	t		Sf	
<i>Actinotus helianthi</i>	Flannel Flower	g			Sh
<i>Actinotus minor</i>		g			Sh
<i>Adiantum aethiopicum</i>	Maidenhair Fern	f	TI	Sf	
<i>Agrostis avenacea</i>	Blown Grass	g	TI		
<i>Allocasuarina littoralis</i>	Black She-oak	s/t		Sf	Sh
<i>Alphitonia excelsa</i>	Red Ash	t		Sf	
<i>Amyema congener ssp. congener</i>	Mistletoe	s		Sf	Sh
<i>Amyema pendulum</i>		s		Sf	
<i>Angophora costata</i>	Smooth-barked Apple	t		Sf	
<i>Angophora floribunda</i>	Rough-barked Apple	t	TI	Sf	
<i>Angophora hispida</i>	Dwarf Apple	s			Sh
<i>Anisopogon avenaceus</i>	Oat Speargrass	g			Sh
<i>Aotus ericoides</i>		s		Sf	Sh
<i>Aristida ramosa</i>	Three-awn Speargrass	g	TI		Sh
<i>Aristida vagans</i>	Three-awn Speargrass	g	TI	Sf	Sh
<i>Aristida warburgii</i>		g		Sf	
<i>Asplenium australasicum</i>	Bird's Nest Fern	f		Sf	
<i>Asplenium flabellifolium</i>	Necklace Fern	f		Sf	
<i>Astroloma humifusum</i>	Native Cranberry	g	TI		Sh
<i>Astroloma pinifolium</i>		g			Sh
<i>Baeckea linifolia</i>	Heath-myrtle	s		Sf	

<i>Banksia integrifolia</i>	Coastal Banksia	t		Sf	
<i>Banksia oblongifolia</i>		s			Sh
<i>Banksia serrata</i>	Old Man Banksia	s/t		Sf	Sh
<i>Banksia spinulosa</i>	Hair-pin Banksia	s			Sh
<i>Bauera rubioides</i>	Dog Rose	s		Sf	
<i>Billardiera scandens</i>	Apple Berry	v	TI	Sf	Sh
<i>Blandfordia nobilis</i>	Christmas Bells	g			Sh
<i>Blechnum cartilagineum</i>	Gristle Fern	f		Sf	
<i>Blechnum indicum</i>	Bungwall Fern	f			Sh
<i>Bossiaea heterophylla</i>		s		Sf	Sh
<i>Bothriochloa macra</i>		g	TI		
<i>Brachyloma daphnoides</i>	Daphne Heath	s			Sh
<i>Breynia oblongifolia</i>	Breynia	s	TI	Sf	
<i>Burchardia umbellata</i>	Milkmaids	g			Sh
<i>Bursaria spinosa</i>	Blackthorn	s	TI	Sf	
<i>Caesia parviflora</i>	Grass-lily	g			Sh
<i>Callicoma serratifolia</i>	Black Wattle	s/t		Sf	
<i>Callistemon citrinus</i>	Crimson Bottlebrush	s			Sh
<i>Callistemon linearis</i>	Narrow-leaved Bottlebrush	s			Sh
<i>Calochilus campestris</i>	Copper Beard Orchid	g			Sh
<i>Calochlaena dubia [Culcita dubia]</i>	False Bracken Fern	f		Sf	
<i>Calotis cuneifolia</i>	Blue Burr-daisy	g	TI		
<i>Cassinia aculeata</i>		s	TI		
<i>Cassinia arcuata</i>		s	TI		
<i>Cassinia aureonitens</i>		s		Sf	
<i>Cassinia longifolia</i>		s	TI		
<i>Cassinia quinquefaria</i>		s	TI		
<i>Cassinia uncata</i>		s	TI		

<i>Cassytha pubescens</i> [ <i>Cassytha paniculata</i> ]	Devil's Twine	v	TI		Sh
<i>Cayratia clematidea</i>		v	TI		
<i>Centella asiatica</i>		g	TI		
<i>Centrolepis fascicularis</i>		g			Sh
<i>Ceratopetalum apetalum</i>	Coachwood	t		Sf	
<i>Ceratopetalum gummiferum</i>	Christmas Bush	s/t		Sf	Sh
<i>Cheilanthes sieberi</i>	Mulga Fern	f	TI		Sh
<i>Chiloglottis reflexa</i>	Ant Orchid	g			Sh
<i>Chloanthes stoechadis</i>		g			Sh
<i>Christella dentata</i>		f		Sf	
<i>Cissus hypoglauca</i>	Native Grape	v		Sf	
<i>Clematis glycinoides</i>	Old Man's Beard	v	TI	Sf	
<i>Clerodendrum tomentosum</i>		s	TI	Sf	
<i>Commelina cyanea</i>		g	TI	Sf	
<i>Conospermum longifolium</i> subsp. <i>angustifolium</i>	Cone-seed	s			Sh
<i>Correa reflexa</i>		s	TI		Sh
<i>Corybas aconitiflorus</i>	Cradle Orchid	g			Sh
<i>Crassula sieberana</i>		g			Sh
<i>Cryptandra amara</i> var. <i>amara</i>		s			Sh
<i>Cyathea australis</i>	Rough Treefern	f		Sf	
<i>Cymbopogon refractus</i>	Barbed-wire Grass	g	TI	Sf	
<i>Cyperus enervis</i>		g		Sf	
<i>Cyperus imbecillis</i>		g		Sf	
<i>Dampiera stricta</i>		g			Sh
<i>Danthonia setacea</i>	Wallaby Grass	g	TI		
<i>Danthonia tenuior</i>	Wallaby Grass	g	TI	Sf	Sh
<i>Daviesia ulicifolia</i>		s	TI		

<i>Dendrophthoe vitellina</i>	Mistletoe	s	TI	Sf	
<i>Dianella caerulea</i>	Flax Lily	g	TI	Sf	Sh
<i>Dianella longifolia</i> var. <i>longifolia</i> [ <i>Dianella laevis</i> ]	Flax Lily	g	TI		
<i>Dianella revoluta</i>	Flax Lily	g	TI		
<i>Dichelachne crinita</i>	Plume Grass	g	TI		Sh
<i>Dichelachne inaequiglumis</i>	Plume Grass	g	TI		
<i>Dichelachne micrantha</i>	Plume Grass	g	TI	Sf	Sh
<i>Dichelachne rara</i>	Plume Grass	g	TI	Sf	
<i>Dichondra repens</i>	Kidney Weed	g	TI		Sh
<i>Digitaria diffusa</i>	Fingergrass	g			Sh
<i>Digitaria parviflora</i>	Fingergrass	g			Sh
<i>Dillwynia parviflora</i>		s	TI		
<i>Dillwynia retorta</i> [includes ssp. A]	Parrot Pea	s			Sh
<i>Dillwynia sieberi</i> [previously included in <i>Dillwynia juniperina</i> ]		s	TI		
<i>Dipodium punctatum</i>		g		Sf	
<i>Dodonaea triquetra</i>	Hop Bush	s	TI	Sf	
<i>Dodonaea viscosa</i>		s	TI		
<i>Drosera auriculata</i>	Sundew	g			Sh
<i>Drosera peltata</i>	Sundew	g			Sh
<i>Drosera spathulata</i>	Sundew	g			Sh
<i>Echinopogon caespitosus</i> var. <i>caespitosus</i>	Hedgehog Grass	g	TI		
<i>Echinopogon ovatus</i>	Hedgehog Grass	g			Sh
<i>Einadia hastata</i> [ <i>Rhagodia</i> <i>hastata</i> ]	Berry Saltbush	g	TI		
<i>Einada trigonos</i> ssp. <i>trigonos</i>	Fishweed	g	TI		
<i>Elaeocarpus reticulatus</i>	Blueberry Ash	t	TI	Sf	
<i>Entolasia marginata</i>		g	TI	Sf	

<i>Entolasia stricta</i>	Wiry Panic	g	TI	Sf	
<i>Epacris longiflora</i>	Native Fuchsia	s		Sf	Sh
<i>Epacris microphylla</i>	Coral Heath	s			Sh
<i>Epachris pulchella</i>	Coral Heath	s			Sh
<i>Epilobium billardieranum</i> [including <i>ssp. cinereum</i> and <i>ssp.</i> <i>hydrophilum</i> ]		g	TI	Sf	
<i>Eragrostis brownii</i>	Brown's Love Grass	g	TI	Sf	Sh
<i>Eragrostis leptostachya</i>	Love Grass	g			Sh
<i>Eriostemon australasius</i>	Pink Wax Flower	s			Sh
<i>Eriostemon scaber ssp. scaber</i>	Wax Flower	s			Sh
<i>Eucalyptus botryoides</i>	Bangalay	t		Sf	
<i>Eucalyptus fibrosa ssp. fibrosa</i>	Broad-leaved Ironbark	t	TI		
<i>Eucalyptus globoidea</i>	White Stringybark	t	TI		
<i>Eucalyptus haemastoma</i>	Scribbly Gum	t		Sf	Sh
<i>Eucalyptus longifolia</i>	Woollybutt	t	TI		
<i>Eucalyptus moluccana</i>	Grey Box	t	TI		
<i>Eucalyptus obstans</i>		s/t			Sh
<i>Eucalyptus paniculata</i>	Grey Ironbark	t	TI		
<i>Eucalyptus pilularis</i>	Blackbutt	t	TI	Sf	
<i>Eucalyptus piperita</i>	Sydney Peppermint	t		Sf	
<i>Eucalyptus punctata</i>	Grey Gum	t	TI	Sf	
<i>Eucalyptus resinifera</i>	Red Mahogany	t	TI		
<i>Eucalyptus robusta x tereticornis</i>		t		Sf	
<i>Eucalyptus saligna</i>	Sydney Blue Gum	t	TI	Sf	
<i>Eustrephus latifolius</i>	Wombat Berry	v	TI	Sf	Sh
<i>Exocarpos cupressiformis</i>	Native Cherry	t	TI	Sf	
<i>Ficus rubiginosa</i>	Port Jackson Fig	t	TI	Sf	
<i>Fimbristylis dichotoma</i>		g			Sh

<i>Gahnia clarkei</i>	Sword Grass	g			Sh
<i>Gleichenia dicarpa</i>	Coral Fern	f		Sf	
<i>Gleichenia microphylla</i>	Coral Fern	f		Sf	
<i>Glochidion ferdinandi</i>	Cheese Tree	t	TI	Sf	
<i>Glycine clandestina</i>	Love Creeper	v	TI	Sf	Sh
<i>Glycine microphylla</i>	Love Creeper	v			Sh
<i>Glycine tabacina</i>	Love Creeper	v	TI		Sh
<i>Gonocarpus micranthus</i>		g			Sh
<i>Gonocarpus teucroides</i>	Raspwort	g	TI		Sh
<i>Goodenia bellidifolia</i>		g	TI		
<i>Goodenia hederacea</i>		g	TI		Sh
<i>Goodenia ovata</i>		s	TI		
<i>Grevillea buxifolia</i>	Grey Spider flower	s			Sh
<i>Grevillea mucronulata</i>		s			Sh
<i>Grevillea sericea</i>	Pink Spider Flower	s			Sh
<i>Grevillea sphacelata</i>		s			Sh
<i>Hakea dactyloides</i>		s		Sf	Sh
<i>Hakea sericea</i>		s			Sh
<i>Hardenbergia violacea</i>		v	TI	Sf	Sh
<i>Hemarthria uncinata</i>		g			Sh
<i>Hibbertia aspera</i>		s	TI	Sf	Sh
<i>Hibbertia bracteata</i>		s		Sf	
<i>Hibbertia dentata</i>		v		Sf	
<i>Hibbertia diffusa</i>		g	TI	Sf	
<i>Hibbertia empetrifolia</i>		g			Sh
<i>Hibbertia pedunculata</i>		g	TI		
<i>Hibbertia scandens</i>	Snake Vine	v	TI	Sf	Sh
<i>Hibbertia serpyllifolia</i>		g			Sh

<i>Histiopteris incisa</i>	Batswing Fern	f		Sf	
<i>Hovea linearis</i>		s		Sf	
<i>Hybanthus monopetalus</i>		g		Sf	
<i>Hydrocotyle peduncularis</i>	Pennywort	g		Sf	
<i>Hypericum gramineum</i>		g			Sh
<i>Hypolepis muelleri</i>	Harsh Ground Fern	f		Sf	
<i>Imperata cylindrica var. major</i>	Blady Grass	g	TI	Sf	
<i>Indigofera australis</i>	Native Indigo	s	TI		
<i>Isopogon anemonifolius</i>	Drumsticks	s			Sh
<i>Jacksonia scoparia</i>		s			Sh
<i>Juncus planifolius</i>		g			Sh
<i>Kennedia rubicunda</i>	Dusky Coral Pea	v	TI	Sf	Sh
<i>Kunzea ambigua</i>	Tick Bush	s	TI		Sh
<i>Kunzea capitata</i>		s			Sh
<i>Lagenifera stipitata</i>		g		Sf	
<i>Lambertia formosa</i>	Mountain Devil	s			Sh
<i>Lasiopetalum ferrugineum var. ferrugineum</i>	Rusty Petals	s			Sh
<i>Laxmannia gracilis</i>	Slender Wire-lily	g			Sh
<i>Lepidosperma laterale</i>	Sword-sedge	g	TI		Sh
<i>Leptomeria acida</i>	Native Currant	s			Sh
<i>Leptospermum arachnoides</i>		s			Sh
<i>Leptospermum juniperinum</i>		s			Sh
<i>Leptospermum polygalifolium</i> [ <i>Leptospermum flavescens</i> ]	Yellow Tea-tree	s		Sf	Sh
<i>Leptospermum trinervium</i> [ <i>Leptospermum attenuatum</i> ]		s		Sf	Sh
<i>Lepyrodia scariosa</i>		g			Sh
<i>Leucopogon amplexicaulis</i>		s		Sf	
<i>Leucopogon ericoides</i>	Beard-heath	s			Sh

<i>Leucopogon juniperinus</i>	Beard-heath	s	TI	Sh
<i>Leucopogon lanceolatus</i>	Beard-heath	s		Sf
<i>Leucopogon microphyllus</i>		s		Sh
<i>Lindsaea linearis</i>	Screw Fern	f		Sh
<i>Lindsea microphylla</i>	Lacy Wedge Fern	f		Sh
<i>Lissanthe strigosa</i>	Native Cranberry	s	TI	Sh
<i>Livistonia australis</i>	Cabbage Palm	t		Sf?
<i>Lobelia dentata</i>		g		Sf
<i>Lobelia gracilis</i>		g		Sf
<i>Logania albiflora</i>		s		Sf
<i>Lomandra cylindrica</i>	Mat-rush	g	TI	
<i>Lomandra filiformis</i> [includes ssp. <i>coriacea</i> and ssp. <i>filiformis</i> ]	Mat-rush	g	TI	Sh
<i>Lomandra glauca</i>	Mat-rush	g	TI	Sh
<i>Lomandra longifolia</i>	Mat-rush	g	TI	Sf Sh
<i>Lomandra multiflora</i> [includes ssp. <i>multiflora</i> ]	Mat-rush	g		Sh
<i>Lomandra obliqua</i>	Mat-rush	g		Sh
<i>Lomatia silaifolia</i>	Crinkle Bush	s		Sf Sh
<i>Macrozamia communis</i>	Burrawang	s		Sf
<i>Marsdenia suaveolens</i>		v		Sf
<i>Maytenus silvestrus</i>	Orangebark	s	TI	
<i>Melaleuca deanei</i>		s		Sh
<i>Melaleuca decora</i>		t	TI	
<i>Melaleuca linariifolia</i>	Snow-in-summer	t		Sh
<i>Melaleuca nodosa</i>		s	TI	Sh
<i>Melaleuca styphelioides</i>	Prickly-leaved Paperbark	t		Sf
<i>Melaleuca thymifolia</i>		s		Sh
<i>Micrantheum ericoides</i>		s		Sh

<i>Microlaena stipoides</i>	Weeping Meadow Grass	g	TI	Sf	
<i>Monotoca elliptica</i>	Tree Broom-Heath	s			Sh
<i>Monotoca scoparia</i>		s			Sh
<i>Muellerina celastroides</i>	Coast Mistletoe	s		Sf	
<i>Notelaea longifolia</i>	Mock Olive	s	TI	Sf	
<i>Notelaea ovata</i>	Mock Olive	s		Sf	
<i>Olearia microphylla</i>	Bridal Daisy Bush	s	TI	Sf	
<i>Omalanthus nutans</i> [ <i>Omalanthus populifolius</i> ]	Bleeding Heart	s/t	TI	Sf	
<i>Omphacomeria acerba</i>		s			Sh
<i>Opercularia aspera</i>	Stink Weed	s			Sh
<i>Opercularia varia</i>		g	TI		
<i>Oplismenus aemulus</i>	Basket Grass	g	TI	Sf	Sh
<i>Oplismenus imbecillis</i>	Basket Grass	g			Sh
<i>Oxalis exilis</i>		g	TI		
<i>Ozothamnus diosmifolius</i> [ <i>Helichysum diosmifolium</i> ]	Everlasting	s	TI	Sf	Sh
<i>Pandorea pandorana</i>	Wonga-wonga Vine	v	TI	Sf	Sh
<i>Panicum simile</i>	Panic	g	TI	Sf	
<i>Paspalidium distans</i>		g	TI		
<i>Patersonia fragilis</i>		g			Sh
<i>Patersonia glabrata</i>		g			Sh
<i>Pelargonium inodorum</i>		g		Sf	
<i>Pellaea falcata</i> var. <i>falcata</i>	Sickle Fern	f		Sf	
<i>Persoonia lanceolata</i>	Geebung	s			Sh
<i>Persoonia laurina</i>	Geebung	s		Sf	Sh
<i>Persoonia levis</i>	Geebung	s		Sf	Sh
<i>Persoonia linearis</i>	Geebung	s	TI	Sf	
<i>Petrophile pulchella</i>	Cone-sticks	s			Sh

<i>Philydrum lanuginosum</i>	Woolly Frogmouth	g		Sf	
<i>Phyllanthus gastroemii</i>	Blunt Spurge	s	TI		
<i>Phyllanthus hirtellus</i> [ <i>Phyllanthus thymoides</i> ]		g	TI		Sh
<i>Pimelea linifolia</i>	Rice Flower	s		Sf	Sh
<i>Pittosporum revolutum</i>		s	TI	Sf	
<i>Pittosporum undulatum</i>	Sweet Pittosporum	t	TI	Sf	
<i>Platylobium formosum</i>	Flat-Pea	s		Sf	
<i>Platysace lanceolata</i>	Native Parsnip	s			Sh
<i>Platysace linearifolia</i>	Carrot Tops	s		Sf	Sh
<i>Poa affinis</i>	Tussock Grass	g	TI	Sf	Sh
<i>Podocarpus spinulosus</i>	Plum Pine	s			Sh
<i>Podolobium ilicifolium</i> [ <i>Oxylobium ilicifolium</i> ]	Native Holly	s	TI		
<i>Polyscias sambucifolia</i>	Elderberry Panax	s	TI	Sf	
<i>Pomaderris discolor</i>		s		Sf	
<i>Pomaderris ferruginea</i>		s		Sf	
<i>Pomaderris intermedia</i> [ <i>Pomaderris sieberana</i> ]		s		Sf	Sh
<i>Pomax umbellata</i>		g	c	Sf	Sh
<i>Poranthera corymbosa</i>		s		Sf	
<i>Poranthera microphylla</i>		g	TI	Sf	Sh
<i>Pratia purpurascens</i>		g	TI	Sf	
<i>Pseuderanthemum variabile</i>		g	TI	Sf	
<i>Psilotum nudum</i>	Skeleton Fork-fern	f		Sf	
<i>Pteridium esculentum</i>	Bracken Fern	f	TI	Sf	Sh
<i>Pterostylis concinna</i>	Greenhood Orchid	g			Sh
<i>Pterostylis grandiflora</i>	Greenhood Orchid	g			Sh
<i>Pterostylis nutans</i>	Greenhood Orchid	g			Sh
<i>Pultenaea daphnoides</i>	Bush Pea	s		Sf	

<i>Pultenaea linophylla</i>	Bush Pea	s		Sf	
<i>Pultenaea stipularis</i>	Bush Pea	s		Sf	
<i>Pultenaea villosa</i>	Bush Pea	s	TI		
<i>Ranunculus lappaceus</i>	Buttercup	g	TI		
<i>Rapanea variabilis</i>	Mutton Wood	s	TI	Sf	
<i>Rubus parvifolius</i>	Native Raspberry	v	TI		
<i>Rumex brownii</i>		g	TI		
<i>Sarcopetalum harveyanum</i>	Pearl Vine	v		Sf	
<i>Scaevola ramosissima</i>	Fan Flower	g			Sh
<i>Schoenus apogon</i>		g	TI		
<i>Schoenus melanostachys</i>		g		Sf	
<i>Senecio hispidulus var. hispidulus</i>	Rough Groundsel	g	TI	Sf	
<i>Smilax glycyphylla</i>	Smilax	v	TI	Sf	
<i>Sporobolus diander</i>		g	TI		
<i>Stackhousia monogyna</i>		g		Sf	
<i>Stackhousia viminea</i>		g	TI		
<i>Stipa pubescens</i>	Speargrass	g	TI		
<i>Stipa rudis ssp. nervosa</i>	Speargrass	g	TI		
<i>Stylidium graminifolium</i>	Trigger Plant	g		Sf	Sh
<i>Styphelia triflora</i>	Five-corners	s			Sh
<i>Styphelia tubiflora</i>		s			Sh
<i>Syncarpia glomulifera</i>	Turpentine	t	TI	Sf	
<i>Syzygium paniculatum</i>	Magenta Lillypilly	t		Sf	
<i>Tetratheca juncea</i>		g			Sh
<i>Themeda australis</i>	Kangaroo Grass	g	TI	Sf	Sh
<i>Todea barbara</i>	King Fern	f		Sf	
<i>Trachymene incisa ssp. incisa</i>		g			Sh
<i>Trema aspera</i>	Native Peach	s/t		Sf	

<i>Tristaniopsis laurina</i>	Water Gum	t		Sf	
<i>Tylophora barbata</i>		v	TI	Sf	
<i>Velleia lyrata</i>		g			Sh
<i>Veronica calycina</i>	Speedwell	g		Sf	
<i>Veronica plebeia</i>	Speedwell	g	TI	Sf	
<i>Viminaria juncea</i>	Golden Spray	s			Sh
<i>Wahlenbergia gracilis</i>	Native Bluebell	g	TI	Sf	Sh
<i>Xanthorrhoea arborea</i>	Grass-tree	g		Sf	
<i>Xanthorrhoea media</i>	Grass-tree	g			Sh
<i>Xanthosia pilosa</i>		g		Sf	Sh
<i>Xanthosia tridentata</i>		g		Sf	Sh
<i>Xylomelum pyriforme</i>	Woody Pear	s/t		Sf	
<i>Zieria pilosa</i>		s			Sh
<i>Zieria smithii</i>		s	TI	Sf	

# Appendix B: GreenWay Revegetation and Bushcare Site Management Plan Template

A Site Management Plan will clarify the goals and objectives of management and revegetation of the site and clearly set out the proposed actions and their general sequence. A Management Plan will act as a mechanism for agreement among stakeholders and ensures appropriate direction of practice and its continuity across the different personnel involved in restoration work and the organisation of restoration work.

Please complete a Site Management Plan for any new bushcare or revegetation site using this template as a guide. The titles included within this template provide a recommended basis for a best practise based site management plan. Some subject fields may not be relevant to some sites and certain information may not be obtainable for some fields

## 1. Site Assessment

*Conduct an initial assessment of the site prior to the commencement of works to determine the current status of the site and the specific constraints and potential opportunities afforded by the site.*

### 1.1 General Site Details and Description

Site Name:	
Volunteer Group Name:	
Site location (Street Name, Suburb):	
Site Description (i.e. approximate perimeter length and total area of site):	
Date of management plan completion:	
Proposed date of implementation:	

### 1.2 Site Access

Provide details of:

Licence, lease or land use agreement:	
Site access for volunteers:	
Site access for vehicles:	
Relevant considerations included within any existing plans of management or other reports affecting the site:	

### 1.3 Site Map

Prepare a site diagram showing site boundaries. Clearly show vegetation and natural features to be retained. Include a description of the topography and land use within and adjacent to the site. Include the location, type and extent of weed species present and in what density.

Show subterranean infrastructure or 'Dial Before you Dig' results.

**Tip: You may wish to contact the local Council or landholder for a base map; alternatively you could generate a map on Google Maps or a similar program.**

### 1.3 Topography

Aspect:

Slope:

Potential and actual erosion and/or deposition of substrate:

Potential safety risk:

### 1.4 Substrate

Underlying Geology:

Topsoil/litter layer quality condition:

Soil structure, texture and type:

### 1.5 Hydrology

Possibility of flooding:

Surface water runoff/drainage and velocities:

Consideration of Water table height and potential sea level rise if applicable:

### 1.6 Drainage

Groundwater:

Surface water:

Sedimentation, erosion control and/or stabilisation works required:

### 1.7 Site Contaminants

Document the presence or history of Acid sulphate soils; salinity, roads and pathways, railways, airfields, service infrastructure (water, sewerage, gas, electricity, communications); (If contaminants have been previously removed from site prior to the completion of the management plan provide details of removal and remediation techniques)

<b>1.8 Existing infrastructure</b>	
Fencing:	
Lawn or pathway borders:	
Taps / Access gate:	
<b>1.9 Health and safety considerations</b>	
Identify potential public safety issues and actions taken too mitigate these risks:	
Identify actual public safety issues and actions taken too mitigate these risks:	
<b>1.10 Waste currently on site</b>	
Household waste:	
Industrial waste:	
Contaminated waste:	
<b>1.11 Flora</b>	
Vegetation history of this site:	
Conduct a baseline flora survey noting existing remnant native vegetation species present (note abundance and condition)	
Describe existing vegetation structure:	
Proximity of closest vegetation remnant (if applicable):	
Proposed vegetation community to be established at this site:	
Species names of weeds currently on site:	
Presence or evidence of endangered species &/ or ecological communities/existing vegetation communities, etc:	
<b>1.12 Fauna</b>	
Native fauna access:	
Herbivores and pest species access (rabbits, hares, ducks, foxes etc.):	
<b>1.13 Critical habitat considerations</b>	
Does the potential exist of the activities preposed within this management plan to adversely affect habitat that may be deemed critical under <i>The NSW Threatened Species Conservation Act 1995</i> ?	
Are there any signs of habitat utilisation from the Long-nosed Bandicoot or other significant fauna (Surveys for conical diggings, observations etc)?	
List the existing habitat infrastructure on site (logs, rocks etc)	

<i>Natural:</i>	
<i>Artificial:</i>	

### 1.14 Habitat and corridor values

Does this site currently possess or have the potential to provide habitat linkage on a broader landscape scale?

## 2. Description of project tasks

*Describe each task necessary for the implementation of the plan, how each task will be done, time in hours to complete tasks and the duration of each task, the priority order for each task and who will be responsible for undertaking each task.*

### 2.1 Aims and objectives

Outline the aims and objectives for the bushcare site:

### 2.2 Initial tasks

- Obtain or secure a Licence, lease or land use agreement
- Review relevant existing Plans of management; All activities need to be in accordance with Council's Management Plan and any plans of management or other plan applying to the reserve.
- Site assessment
- Education and training strategy for site manager and volunteers
- Prepare a plant species lists (existing vegetation)
- Prepare a plant species lists (vegetation to be planted)

### 2.3 Seed Collection and Propagation

Identify local native seed sources, check on any licences required:

Identify who will collect and propagate seed stock:

Provide details on local provenance plant suppliers if tube stock etc. is to be used:

## 2.4 Site Preparation:

- Soil testing and remediation
  - Mapping
  - Protection of plants to be retained
  - Installation of sediment and erosion control devices
  - Completion of any site works (if any)
  - Application of herbicides
  - Topsoil/litter layer storage
- 
- Surface preparation (levelling, deep ripping, scarifying, mulching, etc.)
  - Surface stabilisation - (needs to be suitable for the site/vegetation - erosion matting, mulch, brush matting, sterile cover crops, binding sprays, etc.)
  - Site drainage preparation

## 2.5 Weed treatment program

Area of Weed Infestation to be cleared/  
managed:

Weed infestation sources /pathways:

Prioritisation of weed treatment actions:

Primary Weed Control works (i.e. species,  
work undertaken by volunteers or contractors,  
weed control technique, proposed timing)  
Secondary Weed Control Works (i.e. weed  
species required to be controlled, techniques)  
Techniques to increase the weed resistance of  
the site

*\*An important consideration of the site  
strategies is to ensure that vegetation is not  
cleared beyond the group's maintenance  
capacity.*

## 3.Site Implementation

### 3.1 Planting program

Describe the planting program and method:  
provide a species list as well as details  
explaining staging priorities and approach and  
also consider the installation of weed mats,  
mulch, stakes & ties, tree guards and the use  
of fertiliser types (justify their need).

**3.2 Plant stock**

Plant stock: (Tubestock/virocells/long stems/direct seeding, etc.),  
Proposed vegetation (species/communities)  
Constraints (unavailable species)

**3.3 Planting details**

Source:

Provenance:

Plant community:

**4. Documentation, Monitoring and Evaluation**

Describe the monitoring and review process: include a method of performance evaluation, assessing the need for replacing plant losses, addressing deficiencies and six-monthly reporting.

Documentation needs to be sufficient to monitor progress and change, assess the effectiveness of approaches and techniques. Summarise the intended methods of evaluation that will be used in this project. For example: Comparison with baseline data established in the planning phase.

You may choose to keep daily work records, monthly, half yearly and/or annual reports, 'before and after' photographs and/or maps or vegetation quadrat descriptions.

**5. Other considerations**

Below is a list of considerations that could be relevant to the project. Please include details of these where appropriate

Risk of vandalism:

Signage:

Relevant legislation:

Planning instruments/ guidelines:

Frost areas:

Fire issues:

Community involvement and liaison with land owners and managers.	
How can other parts of the site and adjacent areas be managed to compliment the vegetation strategy (eg weed control, drainage).	

## 6. Works Program /Action Plan

*Complete a program detailing remediation work to be undertaken and the scheduling of activities. The work schedules should take into account volunteer numbers, the number of working hours available to the group, and the potential loss of volunteers over time. Consideration should be given to maintenance of existing areas and future ongoing maintenance of new areas prior to any recommendation about new primary work.*

### 6.1 Timeline

Prepare a time frame to address all tasks in the project.

## 7. Site Maintenance

*Please include details of a maintenance approach for the site. For example a proposed maintenance programme or bushcare roster that demonstrates how the condition of the site will be maintained in the future. (Note: A minimum of five years maintenance is recommended after last plantings completed).*

*This could include:*

Weed follow up treatment:	
Sediment and erosion control:	
Watering:	
Replacement of plant losses:	
Disease and insect control:	
Replenishment of mulch:	

## References

Buchanan, R.A., 2009. *Restoring Natural Areas in Australia*. AABR, NSW Government Industry and Investment.

Department of Infrastructure, Planning and Natural Resources, 2003 *Bringing the Bush Back to Western Sydney Best Practice Guidelines for Bush Regeneration on the Cumberland Plain* Department of Infrastructure, DIPNR 2003. Click Media Penrith NSW.

The National Trust of Australia (NSW) 2010. *Bush Regenerator's handbook*, Third Edition 2010, The National Trust of Australia.

Walters, M 2010, Ryde College, TAFE NSW email, 22 November 2010.

# Appendix C: Reporting template for GreenWay Bushcare sites

(Developed by the GreenWay Landcare Supervisor and Inner West Environment Group)

## GreenWay Bushcare Work Record

*(submit and file electronic copy where possible)*

<b>Volunteer Group/Contractor Name:</b>				
<b>Site Name:</b>				
<b>Date/Time:</b>				
<b>Weather:</b>				
<b>Location within site:</b>				
<b>Work Session objectives:</b>				
<b>Site Condition:</b>				
<b>Site Preparation:</b>				
<b>Supervisor/Site Manager:</b>	<b>Name:</b> <b>Hours on site:</b>			
<b>Volunteers:</b>	<b>Number of Volunteers:</b> <b>Total Volunteer hours:</b> <b>Names of New volunteers:</b> <small>(please ensure new volunteers have filled in a 'BushCare New Volunteer Registration Form' and all volunteers have signed the 'Volunteer Attendance and Site OH&amp;S Induction Record')</small>			
<b>Statistics:</b>	<b>area weeded m<sup>2</sup></b>	<b>pest animals removed m<sup>2</sup></b>	<b>area revegetated m<sup>2</sup></b>	<b>rubbish removed kg</b>
<i>These must be filled in please.</i>				
<b>OH&amp;S:</b>				
<b>Safety Issues:</b>	<b>Incidents – nil Action – N/A</b>			
<b>Site Activity</b>				

<b>details :</b>	
<b>Materials Used:</b>	
<b>Comments:</b>	

**Figure 1.**

**Figure 2.**

**Planting List**

Species	Provenance	Supplier*	No. Supplied	No. Planted	Comments
	TOTAL				

\* GCN= Gladesville Nursery; MCN = Marrickville Community Nursery; IWEG = Inner West Environment Group; RMR = Richard Murden Reserve

**Report Prepared by:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Please submit this form to the GreenWay Landcare Supervisor when materials or plants used on the site have been supplied by the GreenWay Project. Please submit completed within 14 days of work session to:**

Sue Stevens, Landcare Supervisor  
GreenWay Sustainability Project  
Ashfield Council  
260 Liverpool Road, Ashfield NSW 2131  
E: [sues@ashfield.nsw.gov.au](mailto:sues@ashfield.nsw.gov.au)  
T: (02) 9716 1816

# Appendix D: Weed Control Techniques

Various weed control techniques are required to control weed species in the GreenWay. While the primary weed control will focus on woody weeds and mainly the cut and paint method, other techniques may be required to control woody weeds and other types of weed in the short to long term. Hence a variety of different weed control techniques have been included, although some of them may not be relevant at this point in time. These weed control techniques have been described by Muyt (2001) and are summarised below. It is important to note these techniques are guidelines only and that over time weed control techniques will change and evolve.

## 1. CUT AND PAINT

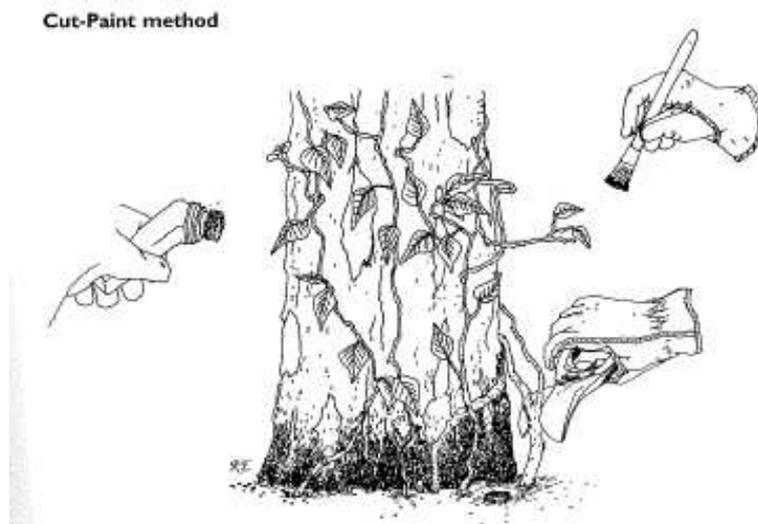


Image from Muyt (2001)

**Figure 6: The Cut and Paint Method**

The cut and paint method is suitable for the control of woody weeds and climbers. It is used when the biomass is to be removed from the site following the primary weed control. It is most suitable for plants with a small diameter at the base and a single stem or trunk. In the GreenWay the cut and paint method is suitable for the control of Lantana and Castor Oil Plant. Where plants have a larger diameter at the base or multiple stems, the drill and fill method is more suitable.

The plant should be cut as close to the base as possible, below any branches and the cut should be horizontal. The tools required to make the cut should be either a handsaw or secateurs. A chainsaw may be used on hard woods, but if this is required the drill and fill technique should be considered. Any dirt on the stump needs to be removed and the herbicide needs to be directly applied to the stump using a dabber bottle (**Error! Reference source not found.**). Some plant species re-sprout after this treatment and follow up work

may be required to kill the plant effectively. A non-specific herbicide will be used for the cut and paint method.

## 2. DRILL AND FILL

The drill and fill method is suitable for woody weeds with a large diameter at ground height or for plants with multiple stems at the base. This control method is useful where dead trees are intended to be left standing as habitat trees and would be a suitable method for the eradication of large Camphor Laurel trees in the GreenWay, providing the dead trees do not present a hazard to the public at a later stage.

The drill and fill method involves drilling a hole into the base of a tree below any branches with a hand drill using a 9 or 10mm drill bit at an angle of 40-60°. The hole should only penetrate through the sap wood and not through to the heart wood (**Error! Reference source not found.**). The hole should then be filled immediately with the appropriately mixed herbicide. An eye dropper or a squeeze bottle with a narrow nozzle can be used to fill the hole. If the plant re-sprouts follow up work will be required to kill the plant. A non-specific herbicide will be used for the drill and fill method.

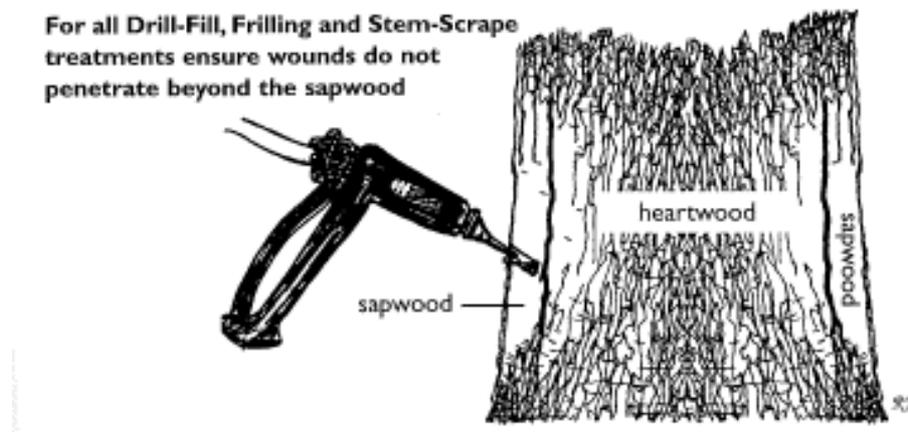


Image from Muyt (2001)

Figure 7: The Drill and Fill Method

## 3. STEM SCRAPE

The stem scrape method is used to control climbing weed species with a woody stem, but is not suitable for herbaceous climbing species such as Bridal Creeper (*Asparagus asparagoides*).

The stem scrape method involves using a sharp knife to scrape back the top layer of bark from the vine 10-20cm long. An appropriately mixed herbicide needs to be applied immediately using a dabber bottle. Every individual vine needs to be treated and more than one scrape can be applied to a vine, as long as it is on the opposite side (Figure 8). The root system of the plant should not be disturbed until the plant has died as this may

reduce the effectiveness of the herbicide. A non-specific herbicide will be used for the stem scrape method.

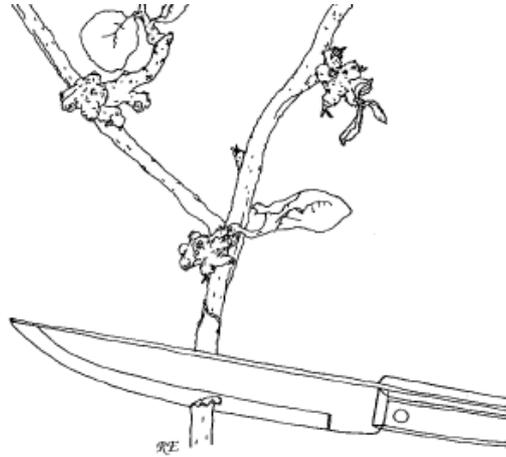


Image from Muyt (2001)

Figure 8: The Stem Scrape Method

#### 4. SPOT SPRAYING GRASSES

The most important issue to consider when controlling grasses is to understand their active growing period. Some species are only actively growing in late winter - spring, while other species are actively growing in spring – summer.

The control of grasses needs to be undertaken while they are actively growing, but before their flowering season to prevent seed set. All grasses need to be slashed using a brush cutter before they are sprayed to remove any dead foliage and to promote the growth of new foliage. The grasses should then be sprayed, using a back pack spray, once new growth has sprouted ensuring herbicide mix is sprayed carefully to prevent off target damage from occurring.

If adjacent aquatic environments, a non-specific herbicide suitable for use near waterways (i.e. RoundUp<sup>®</sup> Biactive<sup>™</sup>) will be used. However, in circumstances away from aquatic environments the use of grass specific herbicides may be suitable to be used (i.e. Fusillade<sup>®</sup>). The use of a grass specific herbicide will prevent off target damage to broad leaf species.

#### 5. SPOT SPRAYING BLACKBERRY

Blackberry can be an extremely difficult plant to control. The Blackberry complex consists of a large number of different species lumped into the group *Rubus fruticosus* aggregate and it can be difficult to identify individual species. These different species can all have different growing periods, although many species are actively growing during warmer months from November - February, with many species fruiting in December - January. Infestations of Blackberry need to be controlled when they are actively growing to ensure that the herbicide is absorbed properly, hence infestations are required to be monitored to determine if they are actively growing.

Blackberry infestations need to be sprayed, using a back pack spray, once new growth has sprouted and prior to or during flowering, using an appropriately mixed herbicide mix. The herbicide needs to be sprayed carefully to prevent off target damage from occurring.

The most suitable herbicide for the control of Blackberry is Triclopyr (i.e. Garlon<sup>®</sup>). However, care needs to be taken using this herbicide as it is a broadleaf herbicide which will kill native species and it can be extremely toxic to aquatic life.

## **6. HAND PULLING**

The hand pulling of weeds is suitable for many species of weeds as long as they have a shallow root system. This includes woody weeds, grasses and herbaceous species. It is useful for follow up work on woody weeds to control seedlings. The hand pulling of weeds involves pulling the plant as close to the base as possible and ensuring the entire tap root is pulled out of the soil. This usually results in soil disturbance and the soil should be replaced and compressed to prevent further weed invasion.

## Appendix E: New Bushcare Sites

Potential bushcare sites as discussed in Chapter 6 were applied to the matrix for selection of new bushcare sites also outlined in this section. The top 12 ranked sites were included in a shortlist. The results of this process are presented below.

**Table 6: Shortlist of potential bushcare sites**

Site	Site Number	Score	Ranking	Notes
Jack Shanahan Park, Ness Ave, Dulwich Hill	24	11	1	
Tennyson St Tennyson St, Dulwich Hill	25	11	1	
Loftus St, Leichhardt	27	10	2	Previous works completed by the community and Plantings by Railcorp
Haig Ave, Summer Hill	10	10	2	Establishment works completed
Smith St, Summer Hill	13	10	2	Allied Mills Mungo Scott Development Pending
Blackwood Ave, Dulwich Hill	21	10	2	Active Rail Corridor
Leichhardt Park Glover St, Lilyfield	1	10	2	
Will's Ground, Lang Rd, Earlwood	26	10	2	Lang Rd, Dulwich Hill
Blackmore Park, Canal Rd Leichhardt	3	9	3	RTA land - land owner engaged
Williams Parade, Dulwich Hill	18	9	3	Light Rail Corridor
Ewart St, Dulwich Hill	23	9	3	Active Rail Corridor
Old Canterbury Rd , Summer Hill connected to Little Street site, Dulwich Hill	15	9	3	Light Rail Corridor

The shortlist of sites was presented at the second GreenWay Revegetation and Bushcare Plan consultation session in November 2010 to seek input on the Essential Criteria/Community interest component of the matrix. As a result, the following three sites were identified as the top priority sites from a strategic community perspective.

Targeted consultation with residents nearby to the sites would also need to be undertaken as part of the planning process.

- Jack Shanahan Park, Dulwich Hill
- Blackmore Park, Leichhardt
- Old Canterbury Road, connected to Little Street Site, Dulwich Hill

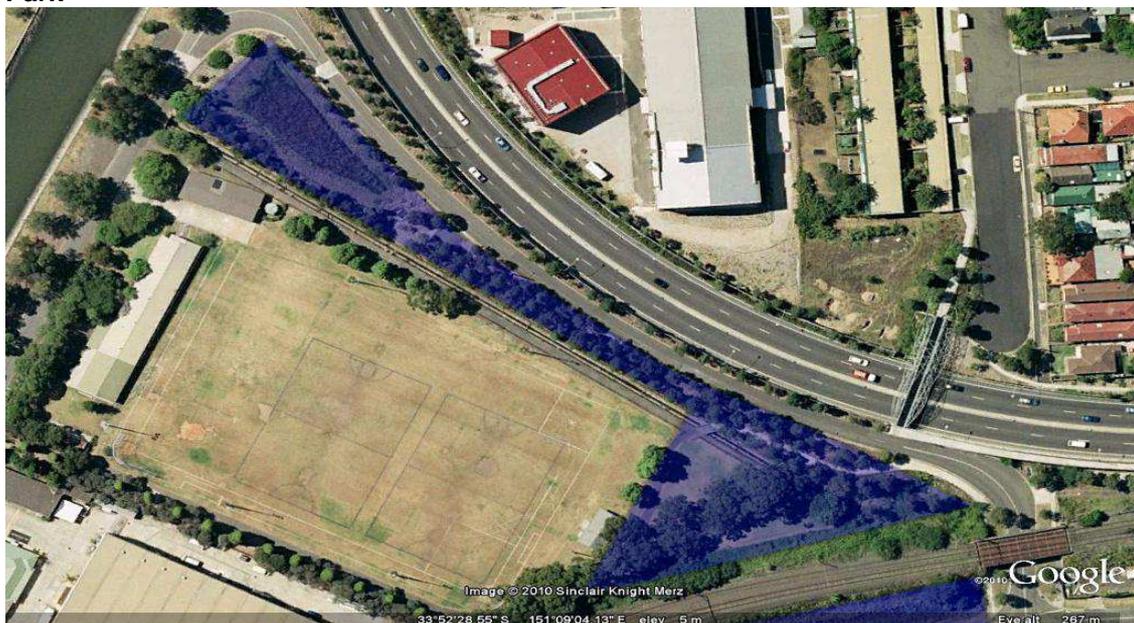
These sites will be pursued in 2011 by the GreenWay Sustainability Project with a view to establishment and implementation as part of the Project. Other identified bushcare sites in the shortlist will be discussed with Transport NSW with a view to implementation as part of the construction of the Inner West Light Rail Extension and GreenWay.

# Appendix F: Maps of new Bushcare Sites

- Site 1  
Leichhardt Park, Glover St, Lilyfield &  
Site 2  
Church St, Lilyfield



- Site 3  
Blackmore  
Park



**Site 4**  
**Darley Road, Leichhardt**



**Site 5**  
**William Street, William Street/Darley Rd, Leichhardt**



**Site 6**  
**Hawthorne Parade, Haberfield**



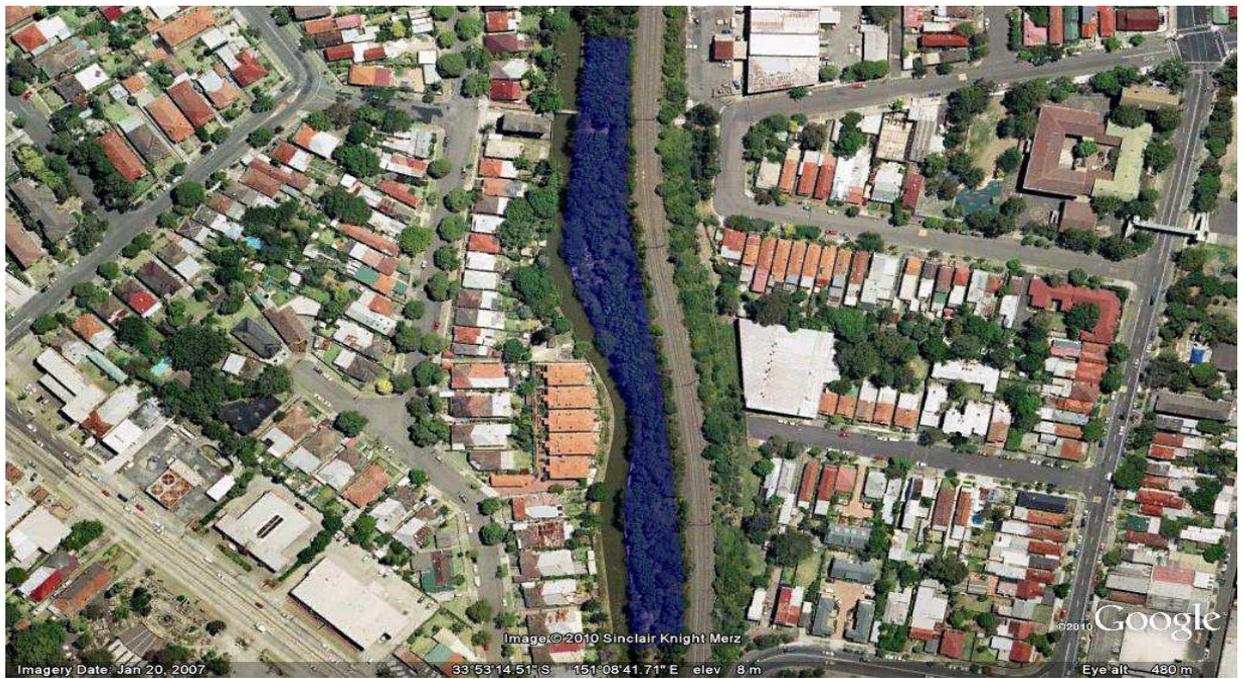
**Site 7**  
**Loftus Street, Leichhardt**



**Site 8**  
**Walter Street, Leichhardt**



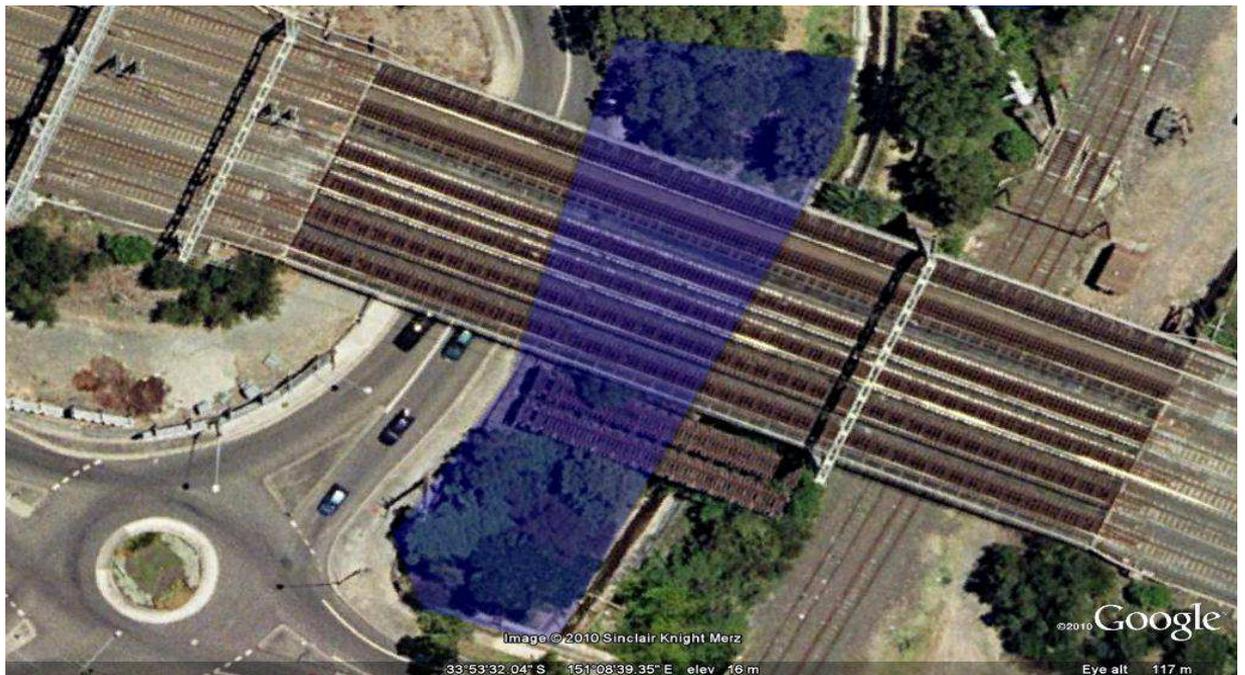
**Site 9**  
**Lords Road East, Leichhardt**



**Site 10**  
**Haig Avenue, Summer Hill**  
&  
**Site 11**  
**Barker Street, Lewisham**



**Site 12**  
**Longport Street, Lewisham**



Site 13  
Smith Street Site



Site 14  
McGill Street, Lewisham



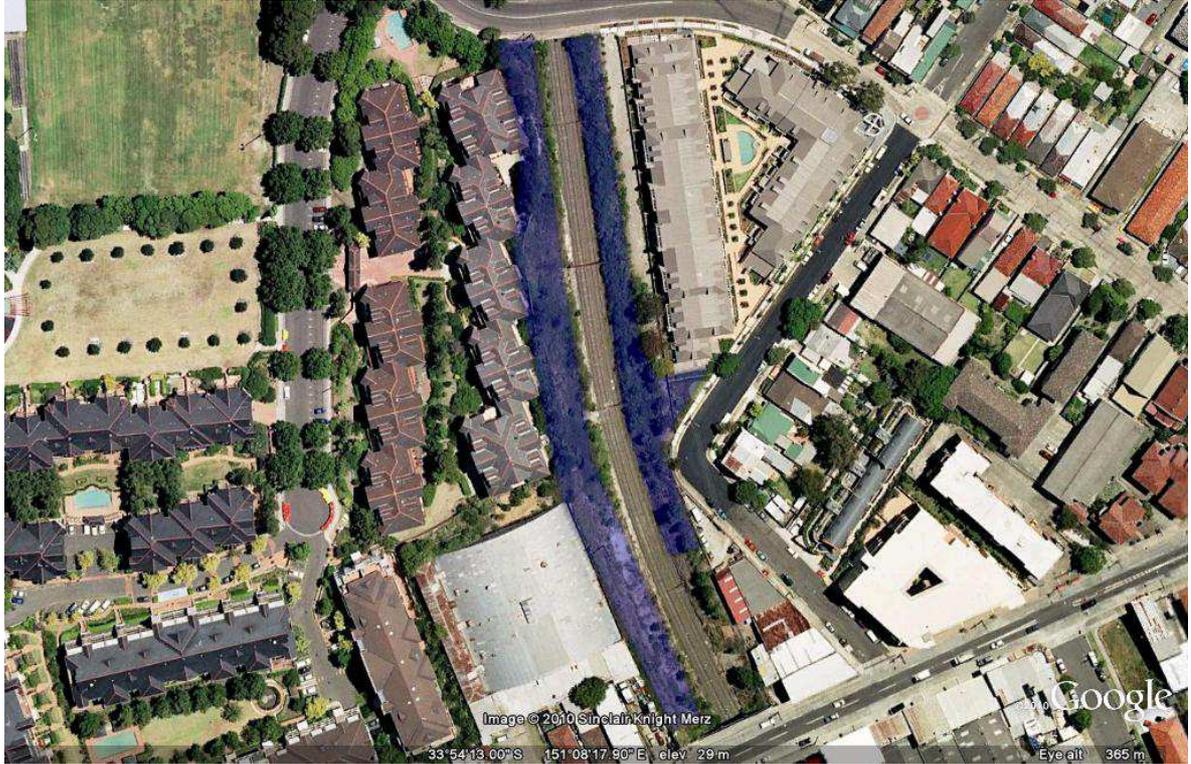
**Site 15**  
**Old Canterbury Road (Connected to Little St Site), Dulwich Hill**



**Site 16**  
**Little St, Dulwich Hill (Initial works undertaken by private resident)**



**Site 17**  
**Denison Road, Dulwich Hill (Right hand side)**  
&  
**Site 18**  
**Williams Parade, Dulwich Hill (Left hand side)**



**Site 19**  
**Hercules Street North, Dulwich Hill**



**Site 20**  
**Hercules Street South, Dulwich Hill**



**Site 21**  
**Blackwood Avenue, Dulwich Hill (Right hand side)**



**Site 22**  
**The Parade, Dulwich Hill (Top side)**  
&  
**Site 23**  
**Ewart Street, Dulwich Hill (Bottom side)**



**Site 24**  
**Jack Shanahan Park, Dulwich Hill**



**Site 25**  
**Tennyson Street, Dulwich Hill**



**Site 26**  
**Will's Ground; Lang Rd, Earlwood**

