

SCHEDULE 6.14. TOKOMAIRO PLAINS INDUSTRIAL RESOURCE AREA LANDSCAPE DESIGN GUIDELINES

Refer to Rule IND.4.6.



Clutha District Council

*- Tokomairiro Plains Industrial Resource Area -
Landscape Design Guideline*

May 2020



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Introduction_Background

Council seeks to achieve a comprehensive landscape design strategy across the Tokomairiro Plains Industrial Resource Area (TP Area). This is to ensure high quality landscape outcomes are achieved within the TP Area. These outcomes are to be achieved through the use of a set of landscape design principles that guide future planting and other landscaping approaches as the area develops. The aim is to provide appropriate amenity and a high quality industrial zone character, with landscape treatments of sufficient scale to appropriately soften and balance the impact of large built elements.



Figure 1 : *View of Tokomairiro Plains from Anicich Road*

Introduction_Design Guidance

These principles and guidelines respond to the specific issues and opportunities identified in the context of the TP Area. They are intended to provide direction for future approaches to landscape components identified in the Clutha District Plan Rules for both subdivision and site development.

It is recommended that developers work with the council staff in preparing more detailed Layout or Development Plans including associated landscape components when proposing development within the Plan Change area.

Key design principles and outcomes sought for preparation of Development/Landscape Plans are:

- (i) Landscaping and any associated mounding shall seek to mitigate the visual dominance of future industrial development on site when viewed from public places and the wider receiving environment;
- (ii) Where adjacent to rural zoned land, integrate the industrial zone with the surrounding rural character;
- (iii) Enhance the internal visual amenity of the Industrial Resource Area (Toko Plains) to complement future industrial activities;
- (iv) Landscaping of a scale and impact to effectively mitigate the built elements and outdoor storage areas shall be provided for;
- (v) The green spaces identified within the Structure Plan are provided for. These shall be substantially unencumbered by services or other constraints that conflict with achieving the landscape mitigation objectives;
- (vi) Where appropriate, plantings shall seek to enhance the indigenous biodiversity and natural character of the area, particularly within the riparian and stormwater management areas (where appropriate)
- (vii) Plantings and other landscape treatments are to be appropriate to their intended mitigating function and specific situation. Further detail on appropriate landscape approaches plant species and mounding design is provided in the Tokomairiro Plains Industrial Resource Area Landscape Design Guidelines; Planting shall be undertaken using the range of species identified in Table 1 attached at page X;
- (viii) All development stages shall be underpinned with a landscape plan that is informed by the Tokomairiro Plains Industrial Resource Area Landscape Design Guideline and identifies any proposed mounding areas, planted areas detailing the proposed plant species, plant sourcing, plant sizes at time of planting, plant locations, density of planting, and timing of planting;
- (ix) A programme of establishment and post establishment protection and maintenance (fertilising, weed removal/spraying, replacement of dead/poorly performing plants, watering to maintain soil moisture, length of maintenance programme) and must provide for replacement and successful establishment of plants that die or fail to thrive; and
- (x) All landscaping shall be implemented prior to occupation of the development or where completion of the development occurs outside of a planting season then landscaping shall be undertaken within the first planting season following.

Landscape Character Planting Considerations

The TP Area is located to the north of Milton Township and sits within the low-lying flat floodplain of the Tokomairaro River with a gently undulating landform. Bounded on both sides of the floodplain are hill ranges that provide a backdrop to views from the plan change area outwards. One kilometer to the south of the plan change area is the built up residential township of Milton. On its outskirts there are mixed rural and industrial sites that then progress to residential properties.

The area receives a median annual rainfall of 800 – 900 mm. Winds reach 10 - 14 km/hr and there are 2.1-3.0 median frosts in October. The soils of the plan change area are pallic soils of the Tokomairiro Series. They are greater than 900mm in depth and of a silt loam texture on gently undulating slope.

The TP Area is located within the Otago Coast Ecological Region and within the Tokomairiro Ecological District. Recent riparian restoration of Gorge Creek and another scheduled drains that run through the plan change area has been undertaken through planting with a mix

of typical native restoration plantings, including Carex and Chionochloa grasses, Coprosma species, and cabbage trees (*Cordyline australis*).

Existing vegetation is consistent with its rural land use and characterised by hedges, formalised shelterbelts and informal amenity planting largely associated with house sites or recent plantings of specimen trees along internal roads and farm tracks.

The following provides guidance for a range of approaches to ensure landscape and vegetation qualities are incorporated throughout the Toko Plains Industrial Zone.

These include:

- Streetscape/road green space;
- Riparian/Detention areas;
- Landform and mounding; and
- Landscape buffer strip plantings.

Given the scale of the buildings within the Zone (both 16m and 25m heights), it is expected that a range of exotic and native species be used to provide a degree of screening and softening of the buildings. Some of these plantings will

be broad expanses of native restoration while others will be specimen plantings alongside roads and/or along site boundaries between future development sites.

It is not expected that full screening of development within this plan change area will be possible or appropriate. It is instead anticipated that screening will be targeted as providing vegetation of a scale (height) that has some ability to provide softening of the built forms and to provide vegetation links to the broader landscape - thereby reducing the dominance of the buildings.

Planting along future subdivision boundaries will allow for a disruption in the perceived bulk of built form along the length of the plan change area. It is noted however, that planting is unlikely to completely screen all of the built form.

Landscape Character Principles

Streetscape/Road Greenspace

The main roads through the TP Area provide an opportunity for establishment of large scale specimen planting and a cohesive approach to road-side planting through the TP Area. These corridors also assist in visual mitigation of adjacent built form and break up the expanse of built form when viewed from outside the TP Area. A cohesive approach to the streetscape environment is desired with space provided either side of the road to allow for large scale specimen plantings.

Riparian/Detention/Wetland Areas

A range of detention areas will be required throughout the TP Area to support stormwater management. These are connected to adjacent green space and together provide a series of corridors of habitat and vegetation within the TP Area.

As Gorge Creek to the north end of the plan change area creates a strong intersecting feature, there is an opportunity to accentuate and enhance the natural landform of the

stream edge and streamside environments as a valuable amenity asset for the surrounding community. Along with providing a green break within the development, the streamside reserve (with associated walk and cycleway) will provide passive recreational opportunities for those living on the outskirts of Milton township and for those coming from further afield.

Riparian planting along the edges of the waterways will provide a degree of habitat value and wildlife corridor connectivity through the plan change area. It is recommended that this planting is restricted to locally appropriate indigenous species.



Figure 2 : *Existing Riparian area plantings*



Figure 3 : *Existing higher level riparian plantings*

Landscape Character Principles

Landform and Mounding

The existing Revolution Hills site has used mounding and landform shaping as an effective way to screen the associated industrial buildings on this site while also providing an interesting and varied landscape treatment alongside the State Highway. Landform and mounding with associated low planting may be an appropriate approach for some areas - in particular, between the existing rural lifestyle properties at the southern end of the TP Area and where sufficient space exists. This will provide a degree of buffering between the industrial activities and those rural properties.

There are opportunities within the TP Area for mounding to be incorporated. Where mounding is to be integrated the preferred approach is to ensure it is designed to integrate with surrounding landforms. Lineal, regular bunds should be avoided and mounding should be designed to soften built form by using natural, flowing forms. Adequate space is required to successfully integrate mounding, which should be low and wide in proportion rather than narrow and steep if it is to integrate

well and not look contrived. Mounding design will also need to factor in drainage flows and the requirements for ongoing maintenance of its vegetative cover.



Figure 4 : *Example mounding approach at Revolution Hills*



Figure 5 : *Example mounding approach with trees*



Figure 6 : *Example mounding along Waihola Highway*

Landscape Character Principles

Planting

Principles for Landscape Buffer Strip Plantings

The purpose of plantings within the landscape strips surrounding the TP area is primarily to screen, soften and visually balance the impact of the often large scale built elements. As the TP area is within a wider rural context, it will often be appropriate to utilize plantings of a character that integrates with those in the rural landscape surrounding. Where possible and consistent with wider mitigation objectives, plantings should also seek to enhance indigenous biodiversity. Where public pathways / cycleways run through these areas it will be appropriate to also consider amenity enhancement and safety considerations for users.

The following general principles are likely to be relevant:

- Use tree species of appropriately large scale and quick growth rates to provide effective mitigation and / or;
- Provide for large blocks of trees and shrubs which, as an entity, provide for a visually effective block of 'natural' impact to balance the impact of large scale built form;
- Consider the long term maintenance requirements associated with plantings and where appropriate provide for both quick growth species that may possibly be thinned out or removed in the long term, and longer term species;
- Species diversity and the inclusion of both lower and higher level screening will generally be beneficial in terms of robustness and effectiveness;
- Have regard to constraints such as the need for adequate sightlines near road intersections; and
- The use of species characteristic in the local rural landscape and / or local indigenous species will often be appropriate.



Figure 7 : Existing rural shelterbelts

Preferred Approaches_ Internal Road



Figure 8 : Internal Road

Preferred Approaches_30m Highway Boundary (no mounding)



Figure 9 : 30m Highway Boundary

Preferred Approaches_30m Highway Boundary (mounding)



Figure 10 : 30m Highway Boundary (mounding)

Preferred Approaches_10m Highway Boundary

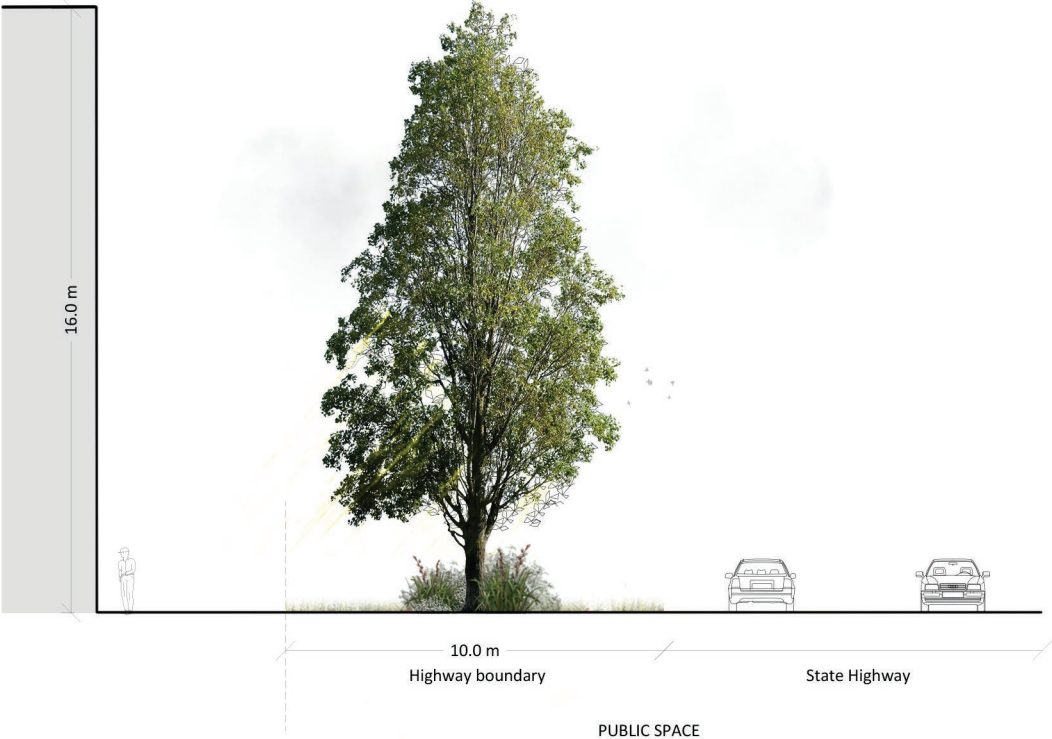


Figure 11 : 10m Highway Boundary

Preferred Approaches_20m Western Boundary – Adjoining Large Format Area



Figure 12 : 20m Western Boundary - Adjoining Large Format Area

Preferred Approaches_10m Western Boundary for 16 metre height area up to Limeworks Road (and excluding Pan Pac site legally described as Section 1 SO 465421 and Lot 2 DP 23974)

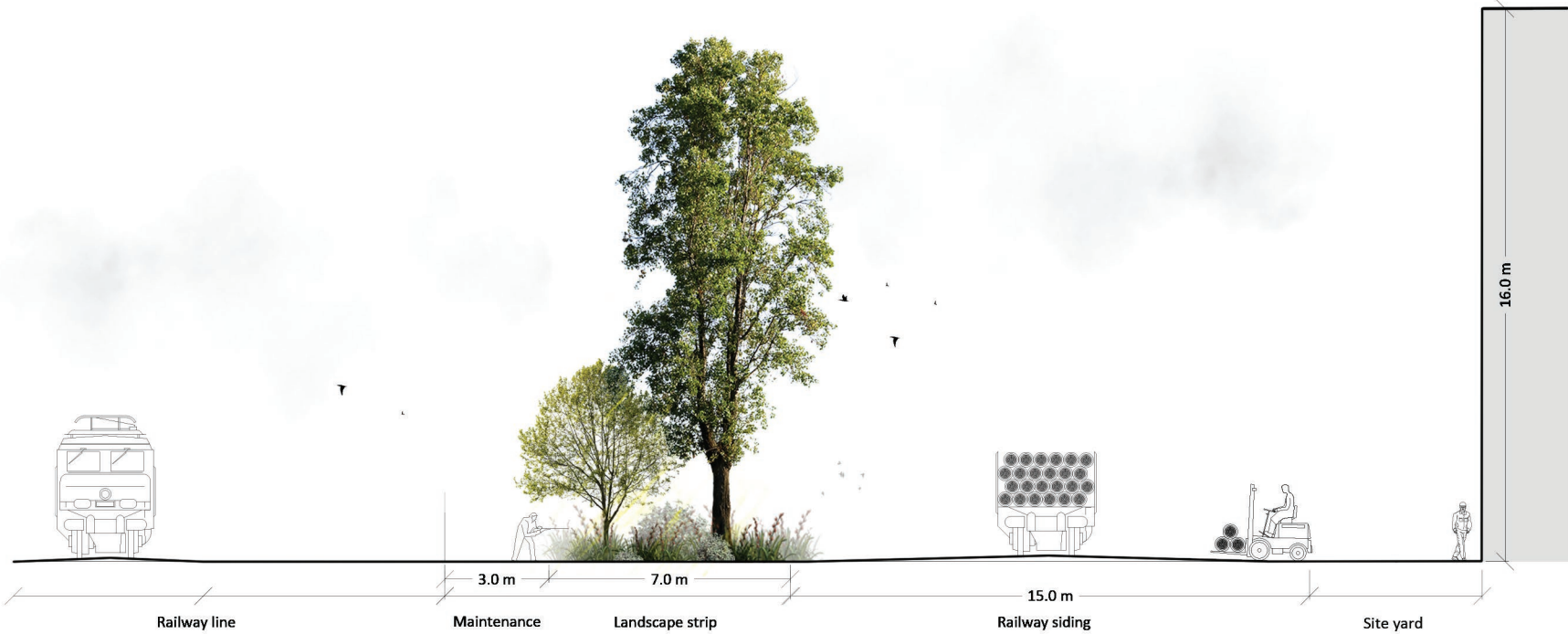


Figure 13 : 10m Western Boundary for 16 metre height area up to Limeworks Road (and excluding Pan Pac site legally described as Section 1 SO 465421 and Lot 2 DP 23974)

Preferred Approaches_ Riparian/Wetland/Detention



Figure 14 : *Riparian/Wetland/Detention*

Preferred Approaches_ Residential Use Set Back

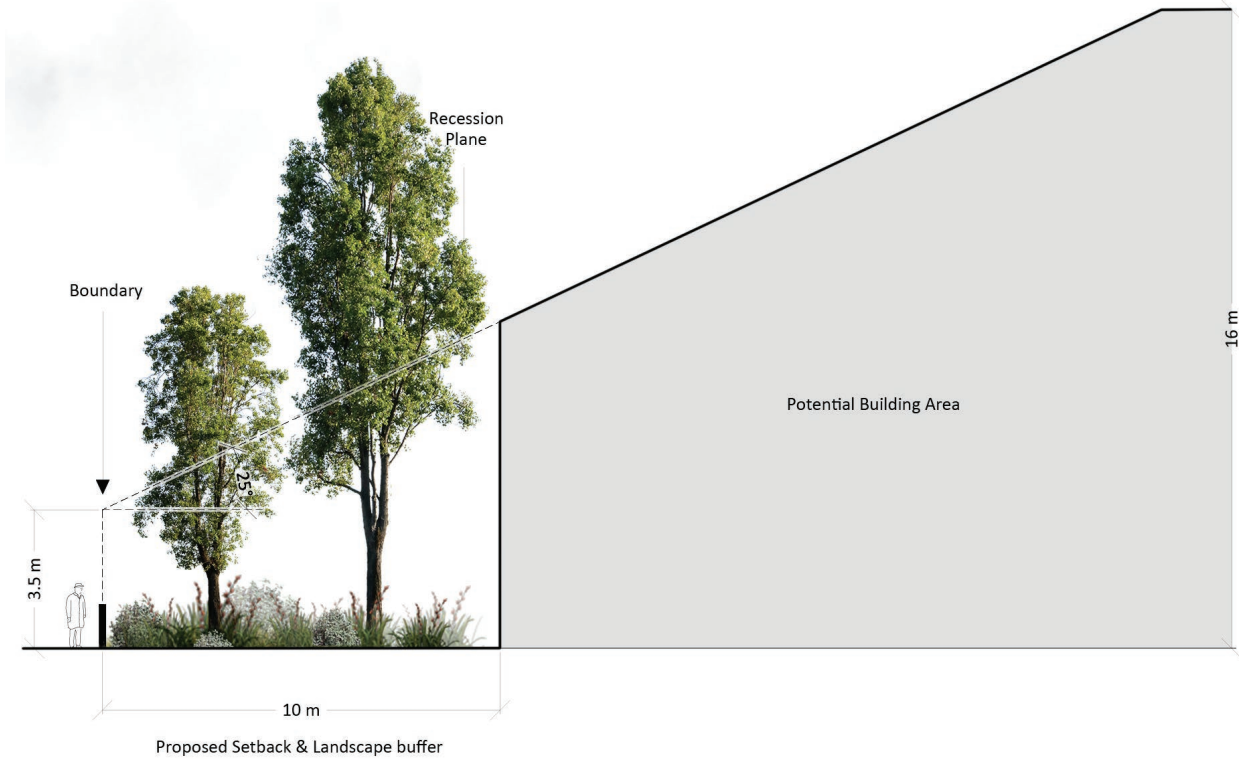


Figure 15 : Residential Use Set Back

Preferred Approaches_Southern Boundary



Figure 16 : Southern Boundary

Species Guidance Principles

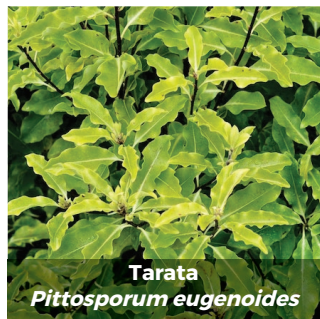
The following tables provides an indication of the native and some exotic plant species that would be appropriate to achieve the heights required for effective screening of particular zones across the plan change area.

Tree planting within the Tokomairiro Plains Industrial Resource Area will enhance its internal amenity and help to soften and balance the visual effect of built elements.

The character of this planting could take various forms as a new industrial zone environment is created. Adherence to a plant list provides for unity and the creation of strong and distinctive character, and is recommended. Planting schemes which seek to balance the impact of industrial elements by utilizing large specimen trees, or by using large blocks of trees and shrubs are both potentially appropriate.

The tables provide guidance only and these lists are not considered to be exhaustive and do not preclude the use of other species as appropriate.

For example: planting to provide more human scale and amenity outcomes such as orchard/fruit tree planting, planting for colour and arboretum style specimen plantings may be appropriate in some areas.



Tarata
Pittosporum eugenoides



Upright English Oak
Quercus robur fastigiata



Lombardy Poplar
Populus nigra italica



Mānuka
Leptospermum scoparium



Harakeke
Phormium tenax



Scarlet Maple
Acer rubrum



Tawhai
Fuscopora menziesii



Kōwhai
Sophora microphylla



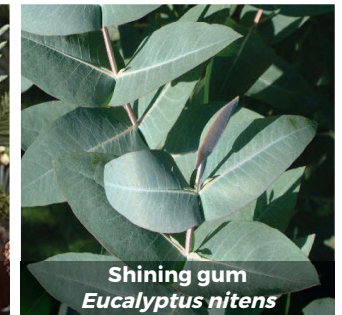
Kahikatea
Dacrycarpus dacrydioides



Tī Kōuka
Cordylīne australis



Redwood
Sequoia sempervirens



Shining gum
Eucalyptus nitens

Buildings and Structures up to 25m High

Recommended species for mitigation of the visual effects of buildings and structures up to 25m high including plantings along the western (railway) side of the area.

The following species are recommended for use in areas where mitigation of the effects of large buildings on rural character is required. Note that these include both tall fast - medium growing trees (both evergreen and deciduous) as well as smaller species for lower level screening.

Scientific name	Māori or Common name
Tall, fast – medium growing species	
<i>Sequoia sempervirens</i>	Redwood
<i>Eucalyptus nitens</i>	Shining gum
<i>Eucalyptus regnans</i>	Mountain ash
<i>Populus nigra 'Italica'</i>	Lombardy poplar
<i>Populus tremuloides</i>	Quaking aspen
<i>Betula pendula</i>	Silver Birch
<i>Quercus robur fastigiata</i>	Upright English Oak
<i>Quercus cerris</i>	Turkey oak
Understorey species	
<i>Cordyline australis</i>	Cabbage tree
<i>Kunzea robusta</i>	Kanuka
<i>Leptospermum scoparium</i>	Manuka
<i>Pittosporum eugenioides</i>	Lemonwood
<i>Pittosporum tenuifolium</i>	Kohuhu
<i>Phormium tenax</i>	Flax

Buildings and Structures up to 16m High

Recommended tree species for mitigation of the visual effects of buildings and structures up to 16m high, including plantings along the eastern (State Highway) side of the area, and streetscape planting within the Tokomairiro Plains Industrial Resource Area.

The following species are recommended for use in areas where mitigation of the effects of large buildings on rural character is required. Note that these include both tall fast growing trees (both evergreen and deciduous) as well as smaller species for lower level screening.

Scientific name	Māori or Common name
Tall - medium scale trees	
<i>Eucalyptus ovata</i>	Swamp gum
<i>Eucalyptus pauciflora</i> 'Niphophila'	Snow gum
<i>Dacrycarpus dacrydioides</i>	Kahikatea
<i>Populus tremuloides</i>	Quaking aspen
<i>Betula pendula</i>	Silver birch
<i>Quercus robur</i>	English oak
<i>Quercus cerris</i>	Turkey oak
<i>Fuscospora fusca</i>	Red beech
<i>Fuscospora menziesii</i>	Silver beech
<i>Fuscospora cliffortioides</i>	Mountain beech
<i>Podocarpus totara</i>	Totara
<i>Liriodendron tulipifera</i>	Tulip tree
<i>Fagus sylvatica</i>	European beech
<i>Acer rubrum</i>	Scarlet maple
<i>Cordyline australis</i>	Cabbage tree

Scientific name	Māori or Common name
Lower level screening species	
<i>Pittosporum eugenioides</i>	Lemonwood
<i>Pittosporum tenuifolium</i>	Kohuhu
<i>Kunzea robusta</i>	Kanuka
<i>Plagianthus regius</i>	Ribbonwood
<i>Hoheria angustifolia</i>	Narrow-leaved lacebark
<i>Phormium tenax</i>	Flax
<i>Phormium cookianum</i>	Mountain flax
<i>Griselinia littoralis</i>	Broadleaf
<i>Hebe salicifolia</i>	Koromiko
<i>Leptospermum scoparium</i>	Manuka
<i>Sophora microphylla</i>	Kowhai
<i>Pseudopanax colensoi</i>	Orihou
<i>Pseudopanax crassifolius</i>	Lancewood
<i>Melicytus ramiflorus</i>	Mahoe
<i>Myrsine australis</i>	Mapou

Riparian/Wetland/Detention Area Restoration

The following species are recommended for use in areas where restoration of riparian margins or indigenous vegetation character appropriate to the site is required, including stormwater detention areas.

Scientific name	Māori or Common name
Tall - medium scale trees	
<i>Austroderia richardii</i>	Toetoe
<i>Carex geminata</i>	Cutty grass
<i>Carex virgata</i>	Pukio
<i>Chionochloa rubra</i>	Copper tussock
<i>Coprosma propinqua</i>	Mingimingi
<i>Cordyline australis</i>	Cabbage tree
<i>Dacrycarpus dacrydioides</i>	Kahikatea
<i>Fuchsia excorticata</i>	Fuchsia
<i>Griselinia littoralis</i>	Broadleaf
<i>Hebe salicifolia</i>	Koromiko
<i>Kunzea robusta</i>	Kanuka
<i>Leptospermum scoparium</i>	Manuka
<i>Phormium tenax</i>	Flax
<i>Pittosporum tenuifolium</i>	Kohuhu
<i>Plagianthus regius</i>	Ribbonwood
<i>Podocarpus totara</i>	Totara
<i>Prumnopitys taxifolia</i>	Matai
<i>Pseudopanax crassifolius</i>	Lancewood
<i>Sophora microphylla</i>	Kowhai