PART 10: RESERVES, STREETSCAPE AND OPEN SPACES

CONTENTS

10.1 REFERENCED DOCUMENTS

Planning and Policy

- Selwyn District Plan (District Plan)

  www.selwyn.govt.nz/services/planning
- Resource Management Act (RMA) (1991)
- Building Act (2004)
- Fencing Act (1978)
- Historic Places Act (1993)
- Selwyn District Council *Trees & Vegetation in Selwyn District Manual (2010)*
- Selwyn District Council *Subdivision Design Guide (2009)*

  www.selwyn.govt.nz/__data/assets/pdf_file/0016/15163/ADOPTED-SDC-Subdivision-Design-Guide.pdf
- Christchurch City Council *Equity and Access for People with Disabilities Policy (2001)*

  www.ccc.govt.nz/thecouncil/policiesreportsstrategies/policies/groups/community/equityandaccessforpeoplewithdisabilities.aspx
- Christchurch City Council *Footpath Berm Policy (1999)*

  www.ccc.govt.nz/thecouncil/policiesreportsstrategies/policies/groups/streetsroads/footpathberms.aspx%20
- Christchurch City Council *Parks and Waterways Access Policy (PWAP) (2002)*

  www.ccc.govt.nz/thecouncil/policiesreportsstrategies/policies/groups/parksreservesamenities/parksandwaterwaysaccesspolicy.aspx
- Christchurch City Council *Artworks in Public Places Policy (2002)*

  www.ccc.govt.nz/thecouncil/policiesreportsstrategies/policies/groups/community/artworksplaces.aspx
- Christchurch City Council *Safer Christchurch Strategy (2005)*

  www.ccc.govt.nz/Publications/SaferChristchurchStrategy/SaferChristchurchStrategy.pdf
- Christchurch City Council The Styx Vision 2000 – 2040

  www.ccc.govt.nz/parks/publications/environmental_the_styx_vision_2000_2040.asp
- Christchurch City Council *Biodiversity Strategy*

  www.ccc.govt.nz/thecouncil/policiesreportsstrategies/strategies/healthyenvironmentstrategies/biodiversity.aspx
- Selwyn District Council *Reserves Activity Management Plan*

  www.selwyn.govt.nz/council-info/key-documents/selwyn-community-plan/activity-management-plans2/community-services

- Selwyn District Council *Trees and Vegetation in Selwyn District Management Policy Manual*

  www.selwyn.govt.nz/services/facilities/draft-trees-and-vegetation-policy
- Christchurch City Council Transport & City Streets *Activity Management Plan*
- Canterbury Regional Council Canterbury *Regional Pest Management Strategy 2005-2015*

  www.ecan.govt.nz/publications/Pages/regional-pest-management-strategy.aspx

Design

- Christchurch City Council *Waterways, Wetlands and Drainage Guide, Ko Te Anga Whakaora mö Ngä Arawai Rëpo (WWDG) (2003)*
- Christchurch City Council Thinking About Fencing?

  www.ccc.govt.nz/Content/Search/SearchResults.aspx?query=publications+thinking+about+fencing
- Christchurch City Council *Streamside Planting Guide*

  www.ccc.govt.nz/cityleisure/parkswalkways/environmentecology/streamsideplanting/index.aspx
- Christchurch City Council *Parks Sign Manual*
- Christchurch City Council *Design Guide Crime Prevention Through Environmental Design (CPTED)*

  www.ccc.govt.nz/cityleisure/projectstoimprovechristchurch/urbandesign/urbandesignguides.aspx
- NZS 5828: 2004 *Playground equipment and surfacing*
- NZS 4404: 2004 *Land development and subdivision engineering*
- NZS/AS 1657: 1992 *Fixed platforms, walkways, stairways and ladders. Design, construction and installation*
- SNZ HB 8630: 2004 *Tracks and outdoor visitor structures*
- Transit New Zealand *Guidelines for Planting for Road Safety*

Construction

- Christchurch City Council *Civil Engineering Construction Standard Specifications Parts 1-7 (CSS)*
  https://ccc.govt.nz/consents-and-licences/construction-requirements/construction-standard-specifications

Where a conflict exists between any Standard and the specific requirements outlined in the Infrastructure Design Standard (IDS), the IDS takes preference (at the discretion of the Council).

10.1.1 Source documents

This Part of the IDS is based on Part 7 of NZS 4404:2004, by agreement, and with the consent of Standards New Zealand.

10.2 INTRODUCTION

Landscape design for reserves, streetscape and open spaces is required at all levels of the subdivision and development process, in order to promote the social, economic, environmental, and cultural well-being of communities, in the present and for the future. Integrate it with the engineering design to:

- enhance the character, quality of life and environmental appeal of each development;
- complement and improve the amenity value and environmental quality of the surrounding neighbourhood;
- provide recreation opportunities;
- increase the region's biodiversity;
- enhance the image of Selwyn;
- provide areas for social interaction;
- contribute to the character, shape and form of the district's townships and surrounding environments.

All landscape developments must seek to **optimise long-term community and environmental benefits** whilst **minimising ongoing maintenance costs**, in order to provide for the **safe use and enjoyment** of the public assets.

Establish the overall objectives for the landscape design, such as wildlife corridors, the provision of reserves, the connection of open spaces, access to and location of watercourses and wetlands and protection of existing valued vegetation, at the outset and incorporate them into the initial concept for the development. Ensure the subsequent engineering design and works are compatible with these objectives.

10.3 QUALITY ASSURANCE REQUIREMENTS AND RECORDS

Provide the information detailed in Part 3: Quality Assurance and the *Construction Standard Specifications (CSS)*, during design and throughout construction.

10.3.1 The designer

The designer of all reserves and streetscapes that are to be developed as Selwyn District Council assets must possess both experience and qualifications that are relevant to the scope of the project.

10.3.2 Design report

The Design Report must include a design statement that:

- shows an understanding of the inherent characteristics and values of the site (e.g. social, cultural, environmental/ecological, economic, historic, recreational), including the existing landform and vegetation;
- outlines the design philosophy and intent;
- confirms compliance with the IDS;
- confirms compliance with the guidelines for safe environmental design outlined in the CPTED guidelines and Chapter 15 of the WWDG Part B;

- confirms compliance with the principles of providing a barrier free environment outlined in the *Parks and Waterways Access Policy (PWAP).*

The Design Report must include:

- the safety audit;
- details of the subsoil and its effect on the design e.g. remedial measures for areas of low permeability.

10.3.3 Design records

Provide detail of the unmodified site gained from a site visit and records which clearly demonstrate it e.g. coloured aerial photographs.

All drawings and documentation must be of sufficient detail and accuracy to ensure understanding of all aspects of the development proposal and assessment of the maintenance implications of the works.

Ensure specifications for all proposed works or items that are not covered in the *CSS* provide sufficient detail that construction standards are not compromised and the Council does not inherit faulty items, features or plantings that require removal, replacement, repair or high levels of maintenance.

Wherever the developer is using a cash-in-lieu contribution to carry out works on behalf of the Council, a schedule of prices and rates with the engineering drawings is required.

10.3.4 Drawings

Drawings must show all streetscape and reserve planting and all facilities, structures and furniture that the developer proposes to install, including existing features to be retained. Include the location of existing and proposed underground services, irrigation systems and streetlights. Label amenity beds individually.

Planting drawings must have a plant list. This should detail both botanical and common names, PB size at planting, quantity of individual species, staking, planting medium and other planting requirements. The source of the plants shall be recorded for revegetation projects Refer to *CSS: Part 7* clause 4 – Supply of Plant Materials for tree and plant specifications.

10.3.5 As-Built Information and Asset Data

As-built records and associated reserve asset data which comply with CoP Part 12: As-Builts, are required for all structures, services and developments on reserves. Where reserves may be geologically unstable, a geotechnical completion report, as detailed in Part 4: Geotechnical Requirements, with the as-built drawings is required.

10.4 EXISTING FEATURES

Discuss the layout of potential developments and the interaction with existing features with Council at the earliest opportunity.

10.4.1 Existing waterways and wetlands

The retention and enhancement of natural waterways and wetlands is an integral part of any development. Maximise opportunities for views by their inclusion in newly established reserves, providing walkways and cycleways along their banks, specifying planting, designing streetscapes that feature them, and ensuring that all boundary fencing is designed to enable clear visibility from neighbouring properties.

Ensure sufficient space is provided in wetland areas to enable ease of access for pedestrians, cyclists and maintenance machinery. Consideration should also be given for adequate drainage of paths and grassed areas in these environments.

Refer to the *WWDG* for further information and for definitions.

10.4.2 Existing vegetation

The Council may undertake an inspection of existing vegetation on land to be subdivided at the time of the application for subdivision consent, and may require that some trees and other existing vegetation deemed to be of ecological importance or significant amenity value e.g. vegetation that provides a visual screen, be protected and retained. Mark existing vegetation on the engineering drawings and plot the extent of all tree canopies, out to their drip lines. All trees and vegetation must be in a safe, healthy and undamaged condition when accepted by the Council.

Protect and retain all notable/historic trees protected under the *District Plan* or by other legal means, as per the Selwyn *Tree & Vegetation Policy*. *CSS: Part 1* clause 16 – Protection of Natural Assets and Habitats details particular measures to be taken during construction to protect vegetation.

A qualified arborist must undertake any arboricultural maintenance. Any trenching, excavation and filling within the drip line of a protected tree must be undertaken under the on-site supervision of a qualified arborist.

10.4.3 Historic & cultural features

Protect and retain culturally significant areas, historic areas (including Ecological Heritage Sites), objects and buildings protected under the *District Plan* or by other formal/legal means, those features of importance to the community, monuments and memorials. The treatment of archaeological remains must be in accordance with the requirements of the *Historic Places Act* and any accidental discovery protocol.

10.4.4 Natural landforms

Where practicable, protect natural landforms as they not only convey the natural heritage of the site, but also provide landscape features that add to the sense of place and local identity. Refer to clause 2.5.4 – Balancing landform choices (General Requirements) for further information.

10.4.5 Existing soils

Protect the structural and functional integrity of the soil system. Soils contain most of the life-sustaining features of the terrestrial ecosystem. These include the soil structural features such as organic and inorganic particles, nutrients, and

living components such as invertebrates and bacteria. These support and sustain the roots of plants that are dependent upon these components. If soils are degraded, their ability to support the range of living organisms declines and their contribution to their own and associated ecosystems will be compromised.

Preserve topsoil in its existing state in reserve areas unless its removal is specifically necessary to allow the construction of infrastructure. Refer to clause 4.6.1 – Suitability of Landform (Geotechnical Requirements) for further information.

10.5 DESIGN AND DEVELOPMENT OF RESERVES

10.5.1 General considerations

The Council gives priority to the integration of reserves, open space and recreation opportunities into developments and their equitable distribution throughout the District and within each area of urban expansion.

The developer is expected to consider the community's needs and aspirations, environmental criteria, existing features and vegetation of the development site, and the direct and indirect economic implications of the reserve when locating, planning and designing each reserve.

To assist with this, the developer is encouraged to engage a Landscape Architect and discuss reserve concepts with the Council, to ensure that the provision of reserves will satisfy all of these requirements. It is preferable for this process to begin at a pre-application meeting before applying for resource consent.

The requirements for each reserve area may be specific and will depend on what has generally been agreed between the Council and the developer.

Each reserve must be classified in accordance with its primary purpose e.g. recreation or local purpose (utility), and this must be recorded on the subdivision consent layout plan.

A developer who wishes to contribute to the early development of recreation facilities and/or landscape features on a proposed reserve should enter into negotiations with the Council to reach agreement on:

- a landscape plan for the reserve;
- what elements of the landscape plan the developer will implement;
- the standard of finish to which completed works are carried out;
- the level of development to which completed works are carried out;
- the balance of reserve contribution owing to the Council in cash (if applicable).
- Future maintenance requirements

The reserve will be vested in Council once the reserve is developed to the agreed level, the 224(c) certificate is signed off although maintenance responsibilities will not be transferred to Council until the maintenance period is completed. The Council will if necessary carry out further landscape development as and when capital funding becomes available.

10.5.2 Design factors

Consider the following factors when designing reserves:

- The suitability of the site for its intended purpose;
- The extent and nature of the topsoil and subsoil, including their fertility, structure, moisture-holding capacity and drainage;
- Existing and proposed levels and their relationship to the levels of the surrounding land and to the provision of underground services;

- The presence of contaminants and/or imported materials and how any adverse effects can be accommodated and/or mitigated;
- The stability of the site and how any instability can be accommodated and/or mitigated;
- Opportunities for shared use of the land for both recreational and infrastructural purposes, such as drainage easements and stormwater retention in an extreme event (20 year return period or greater), provided the main purpose of the reserve is not unduly compromised;
- Access through the area for pedestrians and cyclists;
- The relationship of one reserve to another with reasonable proximity, to avoid duplication.

In general, all recreation reserves shall be required to have:

- Appropriate shaping and gradients to allow for mowing and stormwater control;
- Adequate drainage to provide year-round use;
- Adequate topsoil depth;
- An even ground surface free of lumps and hollows;
- No stones, gravel or rubble at the ground surface;
- No gorse or other noxious weeds;
- A grass surface developed, watered, mown and maintained as per *CCS Part 7* – Landscapes clause 13
- A layout that provides a safe environment for users;
- Features will be matched to the purpose of the reserve and be of an acceptable maintenance schedule;
- Structures that have an indefinite design life but not less than 25 years.

10.5.3 Utilities

Any proposed primary utility lines and structures located on reserves must be shown accurately and to scale on the landscape drawings.

Aboveground structures, such as power kiosks and pump stations, must not be located on recreation reserves. Where there may be hazards created by the placement of utilities on reserves e.g. gas storage, these will have adequate physical separation from recreation reserves.

Aboveground structures should be located on other types of reserve where they do not reduce the use of the reserve for its prime purpose or interfere with pedestrian and cycle paths.

The Council must approve the location of any above-ground structure and underground utilities in any reserve. Clause 9.5.5 – Aboveground utilities (Utilities) sets out criteria to consider when planning aboveground structures.

Wherever reserves are to be provided, the developer shall supply a water connection as specified in the resource consent conditions and show this on the reserve development plan. This shall be installed over the legal boundary into the reserve and to the specified location.

10.5.4 Local purpose (utility) reserves

Where the terrain is suitable and space is available, the Council prefers the use of swales, soakage basins and wetlands within new developments to store, filter and move stormwater through reserves. In most situations, the Council will agree to the vesting of these areas as local purpose (utility) reserves.

Provide sufficient open space for general recreational purposes (if this is part of the reserve's primary purpose), so that land set aside for utility purposes does not limit the provision and use of open space for the community to enjoy. Refer to Part 5: Stormwater and Land Drainage and *WWDG* for further information.

10.5.5 Design criteria

The assessment criteria used when evaluating development layouts and reserve designs are:

Community - The provision of recreational assets that cater for the needs of the surrounding community, as identified by the Council in *Activity Management Plans* and through analysis of local demographics, residential densities, and activity and leisure trends.

Accessibility - The provision of logical, safe and attractive access from the surrounding community and good linkages within and between reserves and community facilities. Refer to *CPTED* and *PWAP*.

Existing features – protection of existing features as set out in clause 10.4 – Existing Features.

Use and enjoyment - The provision of assets which are safe, function efficiently, have high aesthetic appeal, and do not cause unjustified nuisance for adjoining landowners.

Maintenance - The provision of durable assets whose on-going maintenance and eventual replacement will not place a disproportionate burden on Council resources.

10.5.6 Reducing waste

When designing the development, consider ways in which waste can be reduced:

- Plan to reduce waste during demolition e.g. minimise earthworks, reuse excavated material elsewhere.
- Design to reduce waste during construction e.g. prescribe waste reduction as a condition of contract.
- Select materials and products that reduce waste by selecting materials with minimal installation wastage.
- Use materials with a high recycled content e.g. recycled concrete subbase.

The Resource Efficiency in the Building and Related Industries (REBRI) website has guidelines on incorporating waste reduction in your project www.rebri.org.nz/ .

10.6 RESERVE AND STREETSCAPE FACILITIES, STRUCTURES AND FURNITURE

All built assets (e.g. signs, fences, artworks, lighting, structures and furniture) must be robust, low-maintenance, and safe for use by the public. The design and model of reserve assets shall require the approval of Council Reserves staff. The life-span of built assets should be considered, to reduce the frequency of renewing or replacing such assets in the future.

Consider colours and construction materials in aesthetic terms, for built assets that form part of a reserve.

Note that the developer is responsible for gaining all necessary building consents and Code of Compliance Certificates required under the Building Act. These will be applied for and granted to the developer as the applicant and owner of the asset at the time of construction/installation.

10.6.1 Playgrounds and play structures

The Council's objective is to provide and develop interesting and exciting playgrounds that meet the needs of the local community and, in the case of district facilities, the needs and aspirations of the wider community. Not all sites will be suitable for playgrounds.

Approval shall be obtained from the Council for any play equipment within a reserve, including the types and style of equipment. This prevents oversupply or duplication of play facilities in other reserves nearby.

It is important that any proposal integrates the formal and informal play equipment into the entire landscape design for the reserve. The use of natural features in conjunction with formal play structures is desirable. Provide structures which cater for a wide range of ages and abilities that are challenging and provide learning opportunities for children.

All play facilities must comply with:

- NZS 5828:2004 *Playground equipment and surfacing*;
- *Reserves Activity Management Plan*
- The *Building Act*
- *Parks and Waterways Access Policy.*

10.6.2 Recreational hard surfaces, ball courts and skate-boarding facilities

Recreational hard surfaces are designed to be suitable for many different uses such as skateboarding, rollerblading or handball games.

Approval must be obtained from the Council for any recreational hard surfaces, ball courts and skateboarding facilities within a reserve, including the types and style of equipment. This prevents oversupply or duplication of these facilities in other reserves.

10.6.3 Structures

Structures may be installed at the discretion of the Council. These include: pergolas, bridges, jetties, boardwalks, barbeques and internal walls, fences, entrance walls/features and screens.

The design of structures must fulfil both functional and aesthetic requirements. They must be durable and vandal resistant and not require a high level of maintenance. Where building consents are required these will be applied for and final inspections undertaken with Code of compliance certificate issued in the name of the developer prior to Council taking ownership of that asset.

Consider the impact of structures on traffic safety. Guidelines for the placement of structures in urban environments are available in clauses 8.17.7 – Street furniture and 8.17.10 – Clear zones (Roads and Transport).

10.6.4 Artworks and sculptures

The Council will consider any requests to install sculptural or other artworks on public spaces on their merits. The Council will only accept artworks that are durable and do not require a high degree of maintenance.

Any artwork must be acceptable to the majority of the public, appropriate to the character of its setting and other structural features. Integrated or functional artworks are preferred, such as bridges, light standards and seats.

Refer to the *Art in Public Places Policy* which sets out the process and purpose of public artworks.

10.6.5 Signs

Reserve signage will be installed by the Council following vesting of the reserve.

10.6.6 Seats and picnic tables

The design of proposed seating and tables must be consistent with the character of the reserve and its locality.

The proposed seating and tables must be robust, low-maintenance and safe for use by the public. They can be constructed from materials such as timber, concrete, steel or stone, but the material is not restricted to these examples. Their design must be approved by the Council.

10.6.7 Drinking fountains and litter bins

These items must be durable, vandal-resistant and consistent with other proposed site furniture and the overall character of the reserve. Council Reserves staff must approve the design and installation of these items.

10.6.8 Boundary fencing

Fencing covenants are required as a condition of consent for new reserves, including drainage reserves. The developer should co-ordinate fence designs around any reserve or waterway before the subdivision is completed and sections are sold, in order to establish a consistent character.

The Council encourages the use of open frontages onto reserves, where acceptable to the residents. This concept ranges from no fence, so that private gardens merge with the reserve landscaping, to a low fence up to 1.2m high. Hedges, climbers on trellis and other "green living" barriers are encouraged up to this height.

Funding of boundary fencing must comply with the Fencing Act, whereby if one of the occupiers of adjoining lands not divided by an adequate fence requires a fence, both parties are liable to contribute in equal proportions to the cost of a basic boundary fence. The Act does not apply to fences alongside legal roads or esplanade reserves.

Where permanent fencing of common boundaries of reserves, including esplanade reserves, is required by a resource consent condition, by the Council, or by the adjoining landowner, the Council will contribute half of the cost of a basic boundary fence. Where the proposed fence complies with the open frontage concept, the Council may contribute towards the additional cost.

Refer to *CPTED* and chapter 13.9 of *WWDG Part B* for more information about open frontage fencing.

10.6.9 Lighting

The Council prefers to light only those paths and cycleways that are designated safe routes, as identified through the *CPTED process*. Although lighting can be beneficial, areas that are lit are not necessarily safe and can give an undesirable message that it is safe to use an area after dark.

The *CPTED* guidelines explain how to use lighting appropriately. Refer to clause 8.5 – Off Road Linkages (Roads and Transport) and clauses 11.9.3 – Category P (cycleways and paths in reserves) lighting and 11.9.9 – Pole locations (Lighting) for more detail.

10.6.10 Irrigation

The Council's long-term goal is efficient and sustainable use of the District's water supply. The reliance on irrigation should therefore be minimised by matching plant species to the local site conditions.

Generally permanent irrigation in streets and reserves will be necessary in order to overcome difficulties with local site conditions that could prevent the reasonable establishment and growth of amenity tree and shrub plantings. Pop up irrigation for maintaining a green sward in summer may be required especially in reserves in high profile locations.
Once the maintenance period is completed, the Council will require the developer to demonstrate the successful, fault free operation of the system prior to hand over of ownership and maintenance of the installed irrigation system.

Revegetated and restored sites are not to be watered unless extreme drought conditions prevail during establishment.

Irrigation systems should be installed in accordance with *CSS: Part 2* clause 7.0 - Irrigation. Specify the backfill material to the irrigation trench.

10.7 PARK AND RESERVE ACCESS

10.7.1 Vehicle Access and Parking

Access points are required for vehicles to undertake mowing, waterway management, rubbish collection, general maintenance, and for emergency vehicles. Consider the location of the vehicle access points as part of the overall design.

Vehicle access points must be large enough to allow the entry of heavy machinery to clear dangerous vegetation and blocked waterways during storm events and fire fighting equipment wherever structures or planting present a potential hazard.

Access roadways and off-street parking may be required for reserves such as garden and heritage parks, regional parks and the starting points of tracks. Consult the Council to ensure that adequate parking areas are provided.

Refer to the *Parks and Waterways Access Policy* and the *District Plan* for parking requirements, design and layout.

Where removable barriers are considered necessary by Council to prevent unauthorised vehicles from damaging the reserve, the design of barriers must be consistent with other design elements in the reserve and be located to best achieve their purpose.

The design and construction of roadways, parking areas, vehicle crossings and cut downs must comply with Part 8: Roads and Transport and *CSS: Part 6.*

10.7.2 Pedestrian and Cycle Paths

Pedestrian and cycle paths are an integral part of the reserve design, as they connect access points and activity areas within and across the reserve. They must be accessible, convenient and safe, in accordance with *CPTED*. They must also comply with the *Parks and Waterways Access Policy* and the *Equity and Access for People with Disabilities Policy.*

Formed pedestrian-only paths should be between 1.5m and 2.0m wide, and paths shared by pedestrians and cyclists should be at least 2.5m wide. Increase the width to 3.0m wherever a lot of people are expected to use the path.
Walking, mountain bike and multi-use tracks and bridle paths are also integral to the development of some reserves and the enhancement of existing networks, if new tracks can be linked to them. Design mountain bike tracks in accordance with *Trail Solutions*. Design and construct walkways or other tracks to comply with NZS/AS 1657 and SNZ HB 8630.

In some reserves, boardwalks may be required as part of the path or walkway/track network to allow the area to be accessible to disabled people and to protect sensitive areas such as wetlands and the root zones of protected trees. These must be durable and slip resistant and necessary building consents approved.

Clause 8.5 – Off Road Linkages (Roads and Transport) has further information on designing off-road linkages and Part 11: Lighting has information on providing lighting. The design and construction of pedestrian and cycle paths

must comply with Part 8: Roads and Transport and *CSS: Part 6.* Install approved bollards to prevent vehicle access.

10.8 LANDSCAPE PLANTING

10.8.1 Benefits of Landscape Planting

Landscape planting may not be compulsory for some developments. All planting must be appropriate to the scale and character of the development and the local conditions. Design planting to make a positive contribution to the subdivision and the surrounding local district in one or more of the following ways:

Functionally

- Provide shade, shelter and privacy.
- Reduce noise and air pollution.
- Calm traffic.
- Assist drivers to recognise road bends, intersections and the type of road.
- Reduce glare and reflection.
- Control erosion.
- Create physical barriers.
- Provide recreation and amenity value.
- Protect and restore cultural and historical resources and values.
- Protect and enhance indigenous biodiversity.
- Protect and improve water quality.

Aesthetically

- Frame views.
- Emphasise landforms, soil types and landscape features.
- Structure spaces.
- Reduce the visual impact of roads and hard surfaces.
- Screen unsightly outlooks.
- Provide colour, form and texture.
- Extend and enhance the District's heritage and image.
- Provide a legible and imaginative planting framework for the District.

10.8.2 Planting Design

Trees and planting shall be in accordance with an approved landscape plan. All planting must comply with the Selwyn *Tree & Vegetation Policy;* the guidelines for safe environmental design outlined in *CPTED*, plus the additional guidelines in Chapter 15 of *WWDG Part B.*

All planting must be appropriately designed and located for the scale and character of the development and the particular requirements of the street or reserve. Plantings must not constrict future use or development opportunities for the area.

Public safety, the effect on neighbouring properties, access and maintenance costs are the principal determinants of the planting design. The proximity of houses, buildings, services, existing or future footpaths, cycleways and access ways should be considered when selecting plant species and their location.

Design and implement all planting around waterways and detention ponds in accordance with the *WWDG.*

10.8.3 Compatibility with Engineering Design

Landscape plans shall be associated with engineering and earthworks drawings to ensure that the engineering works, earthworks and planting works are all compatible.

The location of specimen tress and plant beds must not compromise the efficient operation of existing infrastructural services. Trees must not be planted within 2m of any sewer lateral and 0.9m from other underground services. The effect on plantings of any services must also be considered.
Plant locations must comply with the legal overhead and underground clearance requirements of the network operators, with allowance made for the natural growth of the plants to maturity.

Ensure planting in swales does not obscure or obstruct the access to structures or access for maintenance machinery. Nor should plantings compromise the hydraulic functionality of the system over time.

10.8.4 Species Selection

The selection of trees, shrubs and groundcover plants should take into consideration maintenance requirements and longevity, and must be appropriate for the conditions at the planting site, such as soil type, drainage and local climate, to ensure healthy, attractive, well-formed, mature plants.

Trees should be selected and located to minimise ongoing pruning costs and other maintenance requirements. An over-reliance in any one species should be avoided.

When selecting and locating trees, make allowance for each tree to grow healthily for an **expected life of 50 years** without unduly compromising services, safety or amenities, or causing unacceptable shading (especially evergreen species). Space trees sufficiently far apart to allow healthy development of mature canopies.

Trees and plants used in swales must be able to tolerate both waterlogged soils and dry conditions.

Various plant species must **not** be planted in Selwyn streets or reserves due to undesirable characteristics such as their:

- known potential to become weeds.
- invasive root systems and potential to sucker.
- heavy production of seeds and quick germination.
- heavy production of pollen and/or allergenic pollen.
- poor form and weak branch structure.

- susceptibility to disease and pests.
- poisonous bark, leaves, seeds or fruit.

Council's Reserves staff will be able to advise further on suitable plant and tree species.

10.8.5 Tree Selection and Placement

Selection of reserve and street trees is to be in accordance with the Selwyn *Tree & Vegetation Policy.* Refer also to *CSS: Part 7* clause 4.0 - Supply of Tree and Plant Materials.

Landscape plans should specify reserve & street trees with a minimum grade of PB95. The recommended height of tree specimens once planted is 2.5 metres with exceptions due to species and site to be approved by Council.

Bare root stock will be accepted only in exceptional circumstances, at the discretion of the Council. Whips or trees grown on canes will not be accepted.

Trees will not be planted during summer months or during drought conditions.

Locate trees to minimise ongoing pruning requirements and maintenance costs. Tree placement is to be in accordance with the Selwyn *Tree & Vegetation Policy*, with prescribed planting offsets from boundaries with residential properties, utilities services, sightlines to and from vehicles, or from hard surfaces like kerbs, footpaths and cycleways.

Alternative location and design proposals will be encouraged, such as: boulevards, the provision of trees in a dedicated "non-services" berm on either side of a footpath; meandering footpaths; trees placed in specialised tree planting pits within the carriageway but outside of the live lane. Provide protection for trees planted within the carriageway from vehicles being parked.

Variation of the boundary lines along streets can create spaces for trees to be planted in groups and can help accentuate road perception, particularly at intersections. Strategically placed grouped plantings of trees may have more impact than individual trees placed outside each house. Refer to SDC Subdivision Design Guide.

Plant street trees at a distance from the edge of the traffic lane that provides a clear zone as specified in clause 8.17.10 – Clear zones (Roads and Transport). Locate street trees to ensure that they will not affect street lighting, create dark spots or create shaded areas that could lead to icing of carriageway areas in winter.

Plant street trees in berms that are over 1.5m wide. Where the berm is under 2.0m width, carefully consider the relationship between the final tree trunk size and the clearances required.

10.8.6 Shrub and Groundcover Selection and Placement

Specify shrubs or groundcovers with minimum grades of PB2 for revegetation plantings and PB5 for amenity plantings.

Select and space shrubs and groundcover plants to achieve good form and coverage of the planted site within 2 to 3 years and to grow healthily for a design life of 10 to 15 years without unduly compromising services, safety or amenities, or causing unacceptable shading. Planting must not result in congestion that requires removal, pruning or thinning in the short to medium term. Shrub and groundcover placement is to be in accordance with the Selwyn *Tree & Vegetation Policy and prescribed* planting offsets from residential boundaries, sightlines to and from vehicles, or from hard surfaces like kerbs, footpaths and cycleways.

Plant low maintenance shrubs and/or groundcovers in medians, traffic islands and other places where grass mowing would be difficult.

Shrub beds shall be mulched to suppress weed growth and maintain soil moisture levels refer CSS: Part 8 for mulching specifications. Mulch type should ensure a consistent size material and type not prone to being scattered or blown about i.e. consolidates and binds together well.

All shrubs and/or groundcovers should be grouped together in mulched plant beds that are designed to minimise maintenance requirements. The edge definition may be a boundary fence, footpath, kerb, timber batten or informal trench margin. Informal trench margins are not appropriate in sandy soils.

Plants with drooping stems or leaves that might trip pedestrians should be positioned so that the leaves of the mature plants will not hang over any footpath.

Passengers must be able to exit parked vehicles without traversing a planted area. The noses or tails of vehicles must be able to extend over kerbs without damaging planting.

10.8.7 Amenity floral beds

Amenity floral beds are gardens that contain plants which require significant horticultural management. The high cost of establishment and maintenance of such gardens may make them unsuitable for most streets and reserves.

Approval for any amenity floral bed proposal will be given to developers only under extenuating circumstances.

Refer to *CSS: Part 7 & 8* for planting and mulching specifications.

10.8.8 Revegetation, Plantings

Revegetation means planting native trees, shrubs and groundcover plants, based on ecological principles. It may involve infill planting in existing remnant plant associations or the re-establishment of lost associations. Such opportunities should be identified at the earliest stage of planning.

Developers should identify opportunities to use waterway corridors, recreation reserves and street trees to form ‘green corridors’ linking existing and proposed habitats.
Revegetation and restoration planting may also be required along stream and riverbanks and into and around swales, soakage basins and wetlands. Include the use of species that will tolerate inundation and variations in the groundwater and

surface water levels. Take into account existing and future variations in micro-topography and microclimate.

Plants should generally be endemic to the area and eco-sourced where possible . Eco-sourcing means that the plants are grown from seeds which have been collected from old naturally established plants (e.g. forest remnants) that are as close as possible to the revegetation site. There are nurseries that specialise in eco-sourced plants.

Group the plants informally or space them individually to produce a natural appearance. Plant spacings must be between 1.5m and 0.75m centres, dependent on the species. In some circumstances (e.g. steep slopes or unstable ground) reduce spacings to less than 0.75m centres to ensure quick coverage, promote bank stability and lessen maintenance costs. The selection and placement of plants should reflect the natural succession process.

Revegetation and restoration sites are not usually mulched. However, if weed suppression or moisture retention are major issues, mulch or individual weed mats may be applied. Mulch must not be placed where it is likely to be washed into the stormwater system during heavy rain.

Establishment will focus on eradicating plant pests and controlling exotic weed species. Utilise stem protectors and identification stakes, installed to *CSS: Part 7* clause 9.0 – Staking Trees and Shrubs, to aid in plant establishment.

Further information and guidance is provided in the *Streamside Planting Guide* and the *WWDG.*

10.8.9 Grassed Berms

All lawn areas must have gradients that ensure that surface water drains to a suitable area or outlet. Wherever gradients are flat the subsurface must have sufficient free drainage to ensure that water does not pond or settle, to maintain grass growth and health and to ensure that use of the area is not compromised. Areas that may be inundated by water regularly or for long periods are not appropriate for lawns. Consider establishing a wetland area instead.

Provide access for mowers to all lawns and berms. Lay out lawns in reserves so that the tractor-mounted or ride-on mowers typically used by maintenance staff can mow them. This will require a minimum width clearance of 2.5 metres to all grassed areas that will be mown by ride on mowers.

All grass slopes must be no steeper than a 1 in 4 gradient. On mounds, or where there is a significant change in gradient, design and construct lawns to avoid mowers scalping the ground surface. Refer to clause 8.17.4 – Batters (Roads and Transport) for further information.

The area for seeding must have adequate topsoil and fertiliser, and be free of weeds.

Use grass mixes appropriate to the lawn use e.g. playing field mix in playing field areas.
Refer to clause 8.17.3 - Grassed berms (Roads and Transport) for details regarding berms on legal road.

10.9 ESTABLISHMENT AND MAINTENANCE

10.9.1 Presentation at Practical Completion of Reserves and Streetscapes

At the time of Practical Completion, all reserves and street gardens must be presented in a tidy condition in accordance with the agreement negotiated with the Council. Refer to clause 10.5.1 - General Considerations.

Any variation to the design plans requires Council's acceptance in accordance with the non-conformance process set out in clause 3.7.1 – Control of non-conforming work (Quality Assurance).

Landscaped areas that have been developed must, as a minimum, meet the following general requirements:

- Be free of weeds species, tree stumps (above and below ground) and other specified vegetation;
- Be free of surplus, unwanted construction materials, debris, waste (liquid or solid) and rubbish;
- Present an established cover of grass complying with clause 13 – Sowing of Lawn Areas of *CSS: Part 7*;
- Meet the minimum standards and specifications for all trees and planted areas;
- Be completed by the developer to agreed plans and standards, within the agreed timeframes and to the satisfaction of the Council.

The Council will inspect all new assets prior to the release of the 224(c) certificate to ensure that the minimum standards and specifications set out in *CSS: Part 7* are met before the Council will accept ownership. This will include the operation of assets such as irrigation systems, drinking fountains, and lighting to ensure their operational fitness.

10.9.2 Maintenance Requirements

The developer is responsible (and may be bonded) for the establishment, routine maintenance and any replacement of the planting, lawns and associated works during the maintenance period. This includes all those works set out in clause 14 – Establishment of *CSS: Part 7*.

The length of the maintenance period for street and reserve plantings is 12 months. The maintenance period is to demonstrate that the plants are well established, healthy and fit for purpose.

The developer shall rectify any damage to turf or surrounding areas including scalping, wheel rutting and damage caused by faulty machinery and third party contractors.

All dead, dying, diseased or damaged trees and plants (damage includes inappropriate pruning, vandalism, theft and acts of God) or those trees and plants that do not conform to the standards set out in *CSS: Part 7* shall be replaced at the developer's cost as required to maintain the original numbers, grade and species as per the approved plans. Replacement shall take place as soon as

favourable planting conditions exist (i.e. winter months). Replacement trees shall be subject to a further 12 month maintenance period.

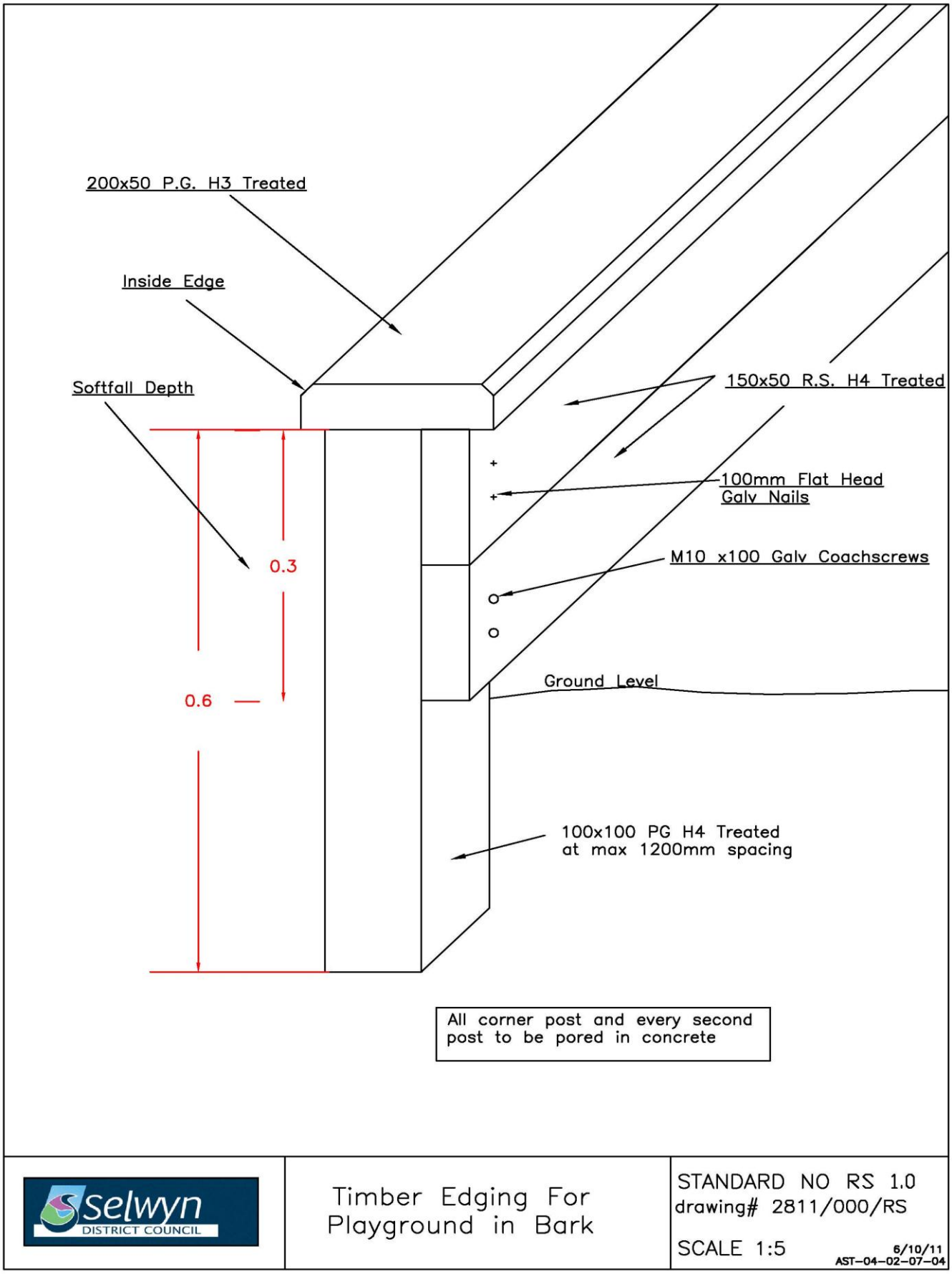
Paths, roads and all other accessways shall be kept clear of excess growth. This includes sightlines and clearance heights as prescribed in the Selwyn *Tree & Vegetation Policy.*

A qualified arborist must undertake pruning of trees, once planted. All pruning must comply with recognised international arboricultural practice. *A qualified horticulturalist must undertake any required pruning of plants (e.g. shrubs and groundcovers) once planted. All pruning must comply with recognised horticultural best practice.*

CSS: Part 7 outlines the minimum establishment and maintenance standards required, and the recommended procedures to be followed, to ensure that all landscape works are at an acceptable standard prior to final inspection and release of the bond (if a bond was required).

APPENDIX 1 STANDARD DRAWINGS

RS 1.0 Timber Edging for Playground in Bark


200x50 P.G. H3 Treated
Inside Edge
Softfall Depth
150x50 R.S. H4 Treated
100mm Flat Head Galv Nails
M10 x100 Galv Coachscrews
0.3
0.6
Ground Level
100x100 PG H4 Treated at max 1200mm spacing
All corner post and every second post to be pored in concrete
Selwyn DISTRICT COUNCIL
Timber Edging For Playground in Bark
STANDARD NO RS 1.0
drawing# 2811/000/RS
SCALE 1:5
6/10/11
AST-04-02-07-04