# 17: Sustainable Management

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# 17 Sustainable Management for our People, Environment and Economy

## 17.1 Regulatory Framework

### *17.1.1 Sustainability, Four Wellbeing's, and Levels of Service*

In taking a sustainable approach to asset management for its people, environment and economy, Council's decision-making criteria recognises the following:

i) The social, economic, and cultural well-being of people and communities; and

ii) The need to maintain and enhance the quality of the environment; and

iii) The reasonably foreseeable needs of future generations.

Council has a responsibility to enhance and maintain the balance of the social, economic, environmental and cultural well-being of our residents and communities, in accordance with section 14(h) of the Local Government Act, 2002. To this end, the following four, aspirational and long-term well-being statements have been developed for Selwyn, and are being consulted on as part of the 2021-31 Long Term Plan:

- **Environmental well-being**

  Selwyn's natural landscape and biodiversity are protected. We improve our sustainable and productive land uses to feed New Zealand and the world.

- **Social well-being**

  Selwyn's residents are successful; we support each other, enjoy spending time together and feel a sense of belonging. We love our families, are well educated and employed.

- **Cultural well-being**

  Selwyn is a connected and inclusive community. Mana whenua and tangata whenua thrive. We recreate and volunteer together. Everyone has a place to call home.

- **Economic well-being**

  Selwyn is defined by our innovative, quality and sustainable infrastructure and transport solutions. We love our towns and invest in our economy.

Selwyn District's four wellbeing's and sustainability principles are to be referred to and, as far as possible, built in to the Community Facilities activities and asset management approach.

The Sustainability Principles adopted by Council are inherent in the Levels of Service developed for the Community Facilities Activity. The connections and interactions are many and complex, and occur on different levels.

Specific initiatives to make current operational energy consumption sustainable are listed in the 'Sustainable Management' sections of Chapters 7 to 23. The energy-sustainability aspect of renewed and new assets is an integral part of the Capital Investment Options process applied to renewal and new works options as described in Chapter 19, Asset Management Practises, where environmental and economic efficiencies are identified and form part of the multi-criteria analysis.

### *17.1.2 Statutory and Regulatory*

In taking a sustainable approach to service delivery Council must also ensure that they and their contractors comply with:

- Local Government Act (2002) Amendment Act (2014);
- Resource Management Act (1991);
- Reserves Act (1977);

- Building Act (2004);
- Environment Canterbury (ECan) Regional Policy Statement (2013 & reviewed 2020), Land & Water Regional Plan (2016);
- Council's own District Plan and policies.

Other acts and regulations also apply to these activities, including the:

- Health Act (1956);
- Health and Safety in the Workplace Act (2015);
- Climate Change Response Act (2002);
- Hazardous Substances and New Organisms Act (1996);
- Health and Safety at Work (Mining Operations and Quarrying Operations) Regulations 2016).

Council is also responsible for, as far as possible, ensuring that facility users and individuals comply.

## 17.2 Social and Cultural Considerations

### *17.2.1 Overview of Society and Culture*

Activities associated with Council's community facilities have the potential to have both positive and negative environmental effects on community and individual health and wellbeing. This section provides a summary of those potential effects and a description of the management of current and likely future activities. The overall aim is to provide sustainable outcomes for the well-being of the district's communities and also, closely allied with our care of the natural environment, the physical health of each community.

Selwyn District has a mixture of societal characteristics which can be described in terms of the predominant occupations as follows:

- 'Satellite towns' whose residents work in Christchurch or in the local communities;
- 'Service towns' whose residents are employed in providing labour and services to farming and other businesses;
- Rural settlements or small farming communities which are more remote from Selwyn's townships and Christchurch.

Work undertaken as part of the *Selwyn 2031, District Development Strategy* (2014) and the *Eastern Selwyn Community Spaces Plan* (2016), identified the following anticipated trends in population growth;

- 80% of growth in the District will occur within identified urban boundaries, as opposed to the rural area.
- 80% of that urban growth will occur within the Greater Christchurch area, which includes Rolleston, Lincoln, Prebbleton and West Melton (Satellite towns).

The sustained population growth and rapid expansion of townships within the Selwyn District Council area over the last ten years has seen Eastern Selwyn in particular, evolve from dispersed isolated rural communities to more populous and diverse urban populations.

This results in varied expectations of the Community Facilities provided by Council:

- Satellite towns with a high proportion of residents who commute to Christchurch are more likely to expect provision by Council or by businesses, of facilities and attractions comparable in activity and standard to those in the city;
- Some townships and small communities retain a pioneering background, with a strong desire and ability to create their own leisure opportunities, attractions and activities, making them almost self-sufficient with strategic support from Council;

- With changes in desired lifestyle and choice of places to live, new residents tend to 'dilute' these characteristics so that the existing modes of provision of recreational activities may become less viable;
- People who spend longer commuting and working may not have the time to contribute to volunteering within the community;
- People with no background of practical involvement may not have the confidence or skills to contribute;
- Despite the differences between urban and rural perspectives, the research completed to inform the Eastern Selwyn Community Spaces Plan (2016) confirms the strong community interest in 'community' and 'belonging'.

Some parts of the Selwyn District have cultural history and character that create diversity and result in support for various interests, as follows:

**Tangata Whenua**

Ngai Tahu Whanui, represented by Papatipu Runanga and Te Runanga o Ngai Tahu, comprise people of Ngai Tahu, Ngati Mamoe and Waitaha descent, and hold customary tribal authority over an area that includes the entire Selwyn District.

The Tangata whenua have cultural, spiritual, historic and traditional association with, and customary rights to, the land and resources of the Selwyn District. The District has an extensive history of Maori settlement, particularly in the coastal areas where food resources were abundant, and consequently there are many places throughout the District which have been used and occupied by Tangata whenua. The area is spiritually and culturally important to Tangata whenua, who have specific concerns for the integrity of the District's natural environment. These concerns include but are not limited to:

- Recognition of the rights of Tangata whenua to be involved in all aspects of natural and resource management in the District, including on-going involvement in decision making processes;
- Identification and protection of those natural and physical resources of importance, such as coastal and inland water bodies and areas of indigenous vegetation;
- Protection and, where necessary, restoration of the overall integrity of the District's natural environment;
- Protection of waahi tapu, waahi taonga and mahinga kai (food gathering sites) from any use or development which may threaten the values of these areas, in particular avoidance of water body contamination by human, industrial or animal wastes;
- Protection and, where necessary, restoration of continued access to waahi tapu, waahi taonga and mahinga kai sites;
- Protection of culturally significant sites and areas, such as urupa (burial sites) and occupancy sites.

**European Settlement**

European settlement in what is now Selwyn District occurred from around the 1850's and was primarily based around farming activities. Many small towns grew throughout the district to provide services to the rural community. The townships and localities have, in many cases, strong links to the past with descendants of the original settlers still living in the towns, farms and rural communities.

Some towns were developed to meet specific needs such as Lake Coleridge which was originally built to service the power station. Burnham Military Camp was established in 1920 and has been a significant feature in the district since that time. It has its own community and associated infrastructure.

Lincoln University (formerly Lincoln College) has been established on its site near Lincoln Township for over 140 years, initially as an agricultural college and more recently as a modern university facility. It has made a substantial contribution to the formation of the district and the people that have lived here. The Crown Research Institutes at Lincoln have also been a key aspect in the district's history.

### *17.2.2 Negative Social and Cultural Effects*

The table below provides a summary of activities managed under the Community Facilities Activity with potential social and cultural effects, which may be positive or negative, as signified by 'P' or 'N' in the below table. Management of these effects is discussed in the following sections. The effect of activities on Public Health and Safety is discussed in Section 17.4.6 together with related natural environment effects.

| Activity | Potential Social or Cultural Effects ('N' = negative; 'P' = positive) | | | | |
|---|---|---|---|---|---|
| | Diversity | Pride in Community or District | Enrichment of Experience | Health (Physical, Mental) | Other/Comment |
| Recreation Reserves | P | P | P | P | |
| Passive Reserves & Streetscapes | | P | P | P | |
| Cemeteries | | P | P | | |
| Public Toilets | | | | P | |
| Community Centres & Halls | P | P | P | | |
| Swimming Pools | | P | | P | |
| Properties & Buildings | P | P | P | P | P: Libraries – Education; Historic – Diversity, Pride, Experience; Medical Centre – Health.<br>P: Offices – accountable & accessible staff |
| Rental Housing | | | | P | |
| Gravel Reserves | | | | P/N | Negative impact on society and possibly culture until restored. |
| Forestry | | | | P | Where walking access is provided. |

*Table 17-1: Social and Cultural Effects*

### *17.2.3 Demand Changes*

Changes in historical community activity use patterns have occurred, from localised and relatively informal uses to increasing numbers of organised events with more participants. Increased demand on local and centralised facilities is expected as population numbers grow and as increased urbanisation of townships occurs. Demand changes and increases will be managed by monitoring and planning to maintain and develop facilities which preserve the current service levels.

Council has a *Physical Activity Strategy* (2007) and an *Open Space Strategy* (2015). These strategies identify additional requirements for recreation and the subsequent reserve provision and improvements/infrastructure needed. In addition, Council has partnered with other local authorities to develop a '*Canterbury Spaces and Places Plan*' (2017) that guides the provision of facilities at the regional level.

While the district has a strong population growth in several areas, statistics also show that the population in some smaller communities will remain relatively static.

Changes in the level of interest for different social and cultural activities may also be expected as the district's population ages and a greater diversity of ethnic groups come into the District. This means that Council needs to manage its facilities to accommodate changing uses (declining use by some sectors of the community and increasing use by others). It also means Council needs to partner with other facility providers to jointly deliver a range of accessible spaces that suit an increasingly diverse population.

### *17.2.4 Management for Social and Cultural Sustainability*

Where compensating demand exists, the facilities may require reconfiguration to accommodate different activities. New buildings are designed as multi-use facilities, with such long-term variations in mind. In the absence of compensating demand, the need for some existing facilities may decrease to the point where they are no longer viable.

These changes are monitored as part of the core asset management discipline; however it may be expected that residents are reluctant to see any facility closed, until it is demonstrated that 'sustainability' includes both social and economic factors.

The Capital Investment Options process applied to renewal and new works options as described in Chapter 19, Asset Management Practises, includes cultural and social sustainability considerations as part of the multi-criteria analysis.

Examples of typical management initiatives that help to sustain the District's Society and Culture are given in the following table. Further initiatives specific to asset groups are given in similar tables, found in Chapters 7 to 16.

| Wellbeing | Sustainable Approach |
|---|---|
| Social | Provide facilities and opportunities for people to engage in activities and social interaction to promote health and wellbeing and community connectivity. |
| Social | Develop attractive and safe open space areas that encourage use and help to create liveable environments that support stable and strong communities. |
| Cultural | Ensuring heritage features are preserved to provide ongoing representation of the social and cultural history of the district. |
| Cultural | Ensure that services and facilities respond to the changing cultural and ethnic needs of the community. |

*Table 17-2: Sustainable Management Initiatives - Social and Cultural Effects*

## 17.3 Economic Considerations

### *17.3.1 Overview of Economy*

The Selwyn District economy has historically performed well, both within the broader context of the Canterbury Region and nationally. The Selwyn economy was the best performing in New Zealand according to the 2013 BERL Regional Performance Report[1], remaining within the top five districts since 2008. This has primarily been driven by strong population and employment growth during this period.

More recently, the global pandemic has slowed, but not stopped, Selwyn's extraordinary growth. The district was one of the few in New Zealand whose economy grew in the year to June 2020 according to economic profile figures released by Infometrics. Provisional estimates (Infometrics) show that Selwyn's GDP grew 1.7% over the year to December 2020, including 4.7% growth in the December 2020 quarter. Across Canterbury, GDP fell by 2.3 per cent and by 2.1 per cent nationally. Local industries such as agriculture and food processing have buoyed the district's economy, particularly while international borders remain closed. A total of 443 new residential building consents were issued in Selwyn District in the December 2020 quarter, compared with 341 in the same quarter last year.

Activities associated with Council's community facilities have the potential for both positive and negative economic effects on the community. The provision of excellent community facilities will attract people to live in the district, and additional facilities required to service growth may be provided by developers through Council's financial contributions process. If contributions are too onerous, new dwellings and businesses will not eventuate. The cost of operating, maintaining, and renewing the facilities also has to be met by the district's ratepayers.

This section provides a summary of the potential effects. The overall aim is to provide sustainable outcomes for the economic well-being of the district's people and communities, through keeping costs within what is affordable in the long term.

### *17.3.2 Negative Economic Effects*

The tables below provide a summary of activities managed under the Community Facilities Activity with potential economic effects, which may be positive or negative, as signified by 'P' or 'N' in the below table. Management of those effects is discussed in the following sections.

[1] BERL (Business and Economic Research Ltd) is a leading economics consultancy based in Wellington that publishes an annual report ranking New Zealand's 72 Territorial Local Authority's (TLA) by nine key performance indicators.

| Activity | Potential Economic Effects (N = negative; P = positive) | | | | |
|---|---|---|---|---|---|
| | Attract Population | Affordability for Ratepayers | Attract Employment | Attract Tourism | Other/Comment |
| Recreation Reserves | P | N | | P | |
| Passive Reserves & Streetscapes | P | N | P | P | N: may also limit parking and affect retail business. |
| Cemeteries | | | | | |
| Public Toilets | | N | | P | |
| Community Centres & Halls | P | N | | | Potentially unsustainable by community directly served. |
| Swimming Pools | P | N | | | |
| Properties & Buildings | | P | P | | Depots optimise operational costs. |
| Rental Housing | | | P | | Staff houses encourage people to move and try working for SDC. |
| Gravel Reserves | | | P | | P: Support for Infrastructure |
| Forestry | | P | | | Assumes positive cash flow. |

*Table 17-3: Economic Effects*

### *17.3.3 Demand Changes*

The different community types (satellite and service towns, and rural settlements) that exist within the Selwyn District result in a degree of disparity around the ability to pay for Community Facilities provided by Council. For example:

- Residents who commute to Christchurch for regular employment are more likely to want to, and be able to afford to, pay for attractions comparable in activity and standard to those in the city.
- Smaller rural communities, which have a higher tendency to experience variable incomes due to seasonal and economic changes, may have difficulty affording the funding of public facilities or difficulty affording transport to (as increases in fuel costs continue) and entry costs for centralised facilities. They are also more likely to have less of a need or dependence on facilities provided by Council (e.g. for recreation).

A funding change (in 2018/19) to a district wide rate for public facilities such as Recreation Reserves, Community Centres and Halls, Libraries and Swimming Pools more closely aligns costs with those who receive the benefit and alleviates concerns that previous funding policies were not sustainable in the long term, particularly in smaller rural communities where the cost of provision was distributed over a small number of households.

### *17.3.4 Infrastructure Management for Economic Sustainability*

**Future Initiatives (Growth/Decline)**

The population growth in some areas of the district and nil growth in others provides an opportunity, and possibly an imperative, to rationalise facilities (remove, replace or build new where there is demand). Rationalisation of assets must, however, consider the economic factors for ratepayers mentioned in 17.3 above as well as those for the asset management financials.

**Clarity for Future Development and for Developers**

The public and private economy of the district, the long term financial sustainability of the infrastructure, and the financial impacts on individual ratepayers must all be analysed and balanced by Council in order to provide the optimum climate for continued growth. The scope of this is beyond that of an AcMP, however, this Plan provides the information on the long term costs of infrastructure as an input to high level analysis. Factors that need to be considered include:

- The build standard of Community Facilities is established to optimise whole of life costs. The Council intends, in most cases, to provide the facilities for the long term, and will manage them to preserve them indefinitely. This means that the quality of public buildings will typically be higher than that of residential builds;

- Council is expected to show leadership. For infrastructure management, this may mean that some facilities are designed to combine and exemplify environmental and cultural sensitivity, energy-efficiency; flexibility of use; and other intangible sustainability features which may be difficult to fully justify on an economic basis;
- Conversely, Council understands that the economics of property development are shorter-term and that development will not flourish, providing the ratepayer base that makes the district economically sustainable, if development contributions are set at a higher level than elsewhere. In effect, Council is competing with its neighbouring districts for the investment of developers;
- It is imperative that the standard of public infrastructure contributed by developers is adequate and comparable to the existing assets, so that the lifetime costs of operation and maintenance are also comparable to costs for existing infrastructure;
- This Plan forecasts the required additional Community Facilities infrastructure to service growth to 2031, on the basis of existing service levels, forecast population, and development in accordance with the District Plan. Given that most developer-funded Community Facilities are procured by Council, it is considered that the developer's costs are quite clearly indicated. Council has the task of providing additional assets that meet its specifications, within the funding available from developer contributions.

**Impact of other Activities**

The co-location of storm-water detention or treatment areas within reserves, with maintenance generally undertaken as part of parks asset management, reduces the maintenance cost for these assets.

**Funding – equity and district approach**

The means of funding each group of Community Facilities is covered in sections 7 to 16. Where previously, local facilities were, at least in part, funded locally, Council has, since 2018/19 funded these facilities via a district wide rate. With the change in use patterns and broadening of user catchments, a district wide funding approach recognises any benefits provided by these facilities that accrue to others beyond the local catchment, ensuring a more equitable match between those who benefit and those who pay.

If a facility becomes uneconomical and unsustainable for the community or catchment served, this will trigger consideration for disposal of the asset and the transfer of any activity still hosted by the facility, to an alternative venue. Disposals are not currently foreseen, but where a population is decreasing, and/or use of the facility declining, Council must plan for this step.

This planning includes establishing a process for deciding when disposal is necessary. It is noted that in practice, these decisions are often triggered by the need for maintenance or renewal of an asset component whose failure renders the facility inoperable or exposes further components to risk of deterioration. A decision to fund the repair results in the deferment of a decision on disposal until the next failure, and so on, while the facility as a whole continues to be economically unsustainable.

Intergenerational equity is a higher-level issue, considered by Council when setting depreciation funding and borrowing policies.

**Changes to Procurement**

There is the potential for the voluntary operation and maintenance of some recreational reserves and community facilities to revert to Council-managed provision, due to diminishing voluntary involvement, inconsistent levels of service, an increased need for skilled inputs, and Council's potential exposure to liability (e.g. Health and Safety). The existing arrangement has been a means of keeping costs down as well as a potential source of social wellbeing through the community working together. Council is aware that a change will result in additional costs, and must balance the social and economic sustainability and service/liability issues.

Examples of typical management initiatives that help to sustain the District's Economy are given in the following table. Further initiatives specific to asset groups are given in similar tables, found in Chapters 7 to 16.

| Wellbeing | Sustainable Approach |
|---|---|
| Economic | Look for opportunities with other agencies/businesses for provision of facilities to consolidate supply. |
| Economic | Look for opportunities to meet multiple demands to reduce the likelihood of duplication. |

*Table 17-4: Sustainable Management Initiatives - Economic Effects*

### *17.3.5 Economic Sustainability within Council*

In addition to managing the assets in an economically sustainable way, Council will also manage its internal operations to optimise their cost, efficiency and effectiveness, so that in the long term the costs of administering the infrastructure are sustainable. While the overall view of this is not a subject for this plan, the management of Council's Property Group (operations and maintenance) is relevant.

**Human Resource Management – Staffing Levels vs Asset Inventory**

Currently the Property Group has approximately 30 full time equivalent employees and 25 are associated with the management of Community Facilities including Property and Reserves.

Significant increases in population and associated facility and property infrastructure are currently occurring. Because of this, assessment of staffing requirements will be required on an annual basis to ascertain the appropriate requirements for the increased workload. Assessment needs to consider the level of staffing coverage required to implement all of the Property Group's functions including internal management, information systems management, project management, design, supervision, construction, operations and maintenance.

**Human Resource Management – Skills**

In addition to staffing numbers, assessment of staffing levels needs to consider the skill requirements to meet the demands of the infrastructure that Council does and will own and operate.

Increases in the complexity of facilities such as event centres, aquatic centres, indoor sports courts, and council's own accommodation are occurring. This will require skilled and trained staff for operation, maintenance and supervision. A review of Council policy on resourcing the operations and maintenance is required to ascertain the most appropriate method for delivery of the required levels of service.

**Human Resource Management – Training**

Training of staff is presently on an ad-hoc basis with no structured long term development plans for the individual staff members in the asset management field. The link between asset life, and the ability to deliver levels of service with the skills of the people who plan, design, install, operate and maintain the assets is inevitable. It is crucial that the skill gaps of staff, contractors and service providers are identified; that there are structured training programmes to close these gaps; and that the effectiveness of the training provided is evaluated. Training programmes should be designed and reviewed for each individual – not for a business unit, contractor or service provider as an entity.

Asset management and planning training received will be recorded, staff development needs programmed, and a succession plan developed.

**Human Resource Management – Succession Planning**

Succession planning is considered necessary to reduce the risk associated with staff leaving the organisation. This discipline ensures that institutional knowledge is passed on, and assists in ensuring continuity, both within the organisational culture and in the long-term asset management and planning. Succession planning techniques that Council has considered appropriate are:

- Sourcing suitable replacement staff from within the organisation wherever possible;
- Developing personal career development plans for all relevant staff. This can include identifying weaknesses in training and experience, and attempting to address those weaknesses by use of mentoring, involvement with relevant projects and continuing a professional development programme;
- Identifying likely staff retirements, promotions, resignations or position changes on an annual basis;

- Identifying potential internal staff to fill positions becoming vacant, and providing those staff with projects that extend them and give them relevant experience for filling these positions.

**Human Resource Management – Specialist and Peak Workload Approach**

External consultant and contractor services are procured where Council expertise or resources are not available, either in the required time or to the required degree. It is not sustainable to engage permanent staff where there is no on-going requirement for specialist expertise or for intermittent peaks in workload. In these circumstances, Council seeks additional temporary assistance at rates which are economic giving consideration to the intermittent duration and/or specialist knowledge required.

Procurement of consultants is by professional services brief. Procurement of contractors is by contract conditions of engagement.

**Energy Management – General**

Energy is identified as one of most significant costs to the organisation and increased energy consumption is expected to be driven by population growth in the district over time.

The Community Facilities and Property activity is energy intensive, accounting for a high proportion of Council's total energy consumption. This consumption impacts on economic sustainability as well as on the natural environment, and effective management of building energy consumption is essential to achieving a commitment made by Council to reduce its energy consumption. Development of an energy management strategy and policy was undertaken in early 2019 as part of a long-term Energy Management Programme to identify opportunities to reduce utility consumption and cost. The strategy and policy provides close alignment with the Energy Management Standard: ISO50001.

Carbon emissions for many current energy sources contribute to climate change. The direct use of fossil fuels is generally limited to repetitive maintenance of facilities, intermittent construction projects, and staff transport. Electrical energy is consumed in the heating, ventilating, air-conditioning and lighting of buildings, and the treatment of swimming pools. Indirect use of energy occurs during the manufacture of materials used in construction, operation and maintenance of assets.

Energy prices have increased significantly over recent years, impacting on operational costs for Community Facilities. This trend is expected to continue.

Council will manage its energy consumption as follows:

- Monitor current and forecast fossil fuels prices and associated effects on its asset management and operation annually;
- Identify effective and efficient opportunities to reduce usage and reliance on this energy source;
- Seek reliable and sustainable alternatives as they arise. New buildings may be provided with energy-efficient systems where affordability and an acceptable return in the short to medium term can clearly be demonstrated for the additional investment;
- Look for opportunities through procurement of energy resources to deliver appropriate savings and benefits;
- Minimise use of and conserve energy, as far as practicable while still meeting agreed levels of service;
- Identify and reduce carbon emissions where a benefit is shown, through more efficient use of materials and services;
- By factoring 'Green Star' or other applicable principles into facility and open space design to minimise energy consumption.

**Energy Management - Electrical**

Power to all Council's services is supplied via Orion. Selwyn District Council is included with Christchurch City Council's electricity supply contract.

An initial electricity tariff review was completed in 2005. This made a number of recommendations for electricity tariff changes. Some of these have been implemented. A further review of these was carried out in 2008 confirming that further costs savings could be achieved by tariff and time of use changes. This

exercise was again repeated in 2017 which resulted in further annual savings (of more than $145,000) being achieved.

In addition, 'Green Star' principles are being factored into the design, fixtures and fittings of facility new builds, particularly in respect to efficient electricity demand for heating, cooling, insulation, and lighting. Type 2 Energy Audits have been completed for the following facilities:

- Rolleston Headquarters - expected energy savings are 24,400 kWh (worth $6,900/year);
- Selwyn Aquatic Centre - expected savings from the project are 47,300 kWh (worth $8,700/year) excluding solar PV installation (a longer-term consideration).

Although SDC does not mandate that energy efficiency be considered in future building designs and retrofits, new, larger builds such as the Rolleston Headquarters, Selwyn Aquatic Centre, and Te Ara Ātea are equipped with building management systems (BMS) which allow control and monitoring of equipment such as HVAC. These systems allow for significant energy savings through analysis of a BMS, and provides a site with greater control of the utilities on site and allows for early identification of failing equipment.

In 2016 a business case was developed for the use of LED lighting on Foster Park. The technology was introduced as a trial and has proven to be successful both from a user point of view (quality) and cost of operation outcome. As a result LED lighting will continue to be included as an option in park development projects.

Renewable generation (typically by installing solar PV) is a good way to visibly display SDC's commitment to sustainability to all employees and the general public. Some preliminary work has been undertaken to identify and evaluate alternative energy sources. This initially focussed on the potential to use solar panels and wind turbines to power low demand sites. Currently, capital costs far outweigh the very low annual energy cost savings and is unlikely to meet SDC's typical investment criteria, with a simple payback period in the range of 10+ years. This makes conversion of existing sites unattractive. Solar panels may be a viable option for new installations without an existing mains power supply. For example, there is potential for solar power to be used in remote public toilets. Limited solar capacity has been installed on the Selwyn Sports Courts, and is considered a 'trial' at this stage.

Council owns a number of diesel powered generators installed as standby emergency power supplies. There is potential to utilise these systems during peak power demand periods and take advantage of lower tariff structures. Another option under consideration is to use the generation capacity to supply the main grid at peak times when the electricity spot price is high. These options may provide net cost savings for SDC, but need to be considered in a wider context for alignment with Council's sustainability principles, e.g. fossil fuels and greenhouse gas emissions, significant capital investment.

Further investigation is required in this area and detailed site audits will be required to review efficiency of specific items and identify improvements. IP: 11-104 - A review of electrical energy efficiency is included in the Improvement Plan.

**Energy Management – Petrol and Diesel**

A brief analysis of liquid fossil fuel usage, including the component of Councils Service Delivery supervisory personnel travel related costs, is included in the Improvement Plan.

As per Council's Vehicle Replacement and Procurement Policy, replacement and new vehicles shall be selected using a multi-criteria assessment, including 'Green Fleet' principles, which includes looking at fuel economy, CO2 emissions and pollutants as an input to ranking vehicles. The Council has purchased three e-bikes to trial as a healthy, sustainable and cost effective option for transportation for staff around the district.

## 17.4 Natural Environment Considerations

### *17.4.1 Overview of Natural Environment*

Activities associated with Council's community facilities have the potential to have both positive and negative environmental effects on air, land and water resources, with results that may also affect physical health. This section provides a summary of those potential effects and a summary of the management of current and likely future activities to provide sustainable environmental and community health outcomes.

### *17.4.2 Activity Summary and Negative Environmental Effects*

Tables 17-6 and 17-7 below provide a summary of activities managed under the Community Facilities, and details the potential environmental effects, which may be positive or negative, as signified by 'P' or 'N'. Management of those effects is discussed in the following sections.

### *17.4.3 Demand Changes*

Changes in historical community activity use patterns have occurred, from localised and relatively informal uses to increasing numbers of organised events with more participants. Increased demand on local and centralised facilities is expected as population numbers grow and as increased urbanisation of townships occurs. Increased local demand may also result from changes in travel patterns, as increases in fuel costs continue. Demand changes and increases will be managed by monitoring and mitigation to manage local environmental effects at sustainable levels.

Council has completed a Physical Activity Strategy (2014) and an Open Space Strategy (2015). Additional requirements and management decision-making guidance for recreation and other reserves are identified through this strategy work.

As communities grow, stormwater treatment systems including wetlands, rain gardens, and planted flood storage areas are being extended. These areas offer passive recreation opportunities and so fit within the township reserves and streetscapes service group.

Gravel extraction is an activity historically undertaken by Council over a very long period, with many pits now dis-used. Aftercare and end use of extraction areas as passive or recreation reserves will require careful design and management.

### *17.4.4 Climate Change*

Climate change is one of the most pressing issues faced by central and local governments worldwide. It is internationally accepted that the climate is changing due to the increase in greenhouse gases in the atmosphere – with changes observed at a global and regional level.

Climate change is considered as a critical consideration in the Council's long term planning. Council is following direction from the New Zealand Government on this issue and is collaborating with our regional partners in the Canterbury Climate Change Working Group and the Mayoral Forum Climate Change Steering Group. This Group is coordinating planning and response at a regional level, including to provide guidance on identifying threats and opportunities, and is currently in the process of preparing an in-depth risk assessment for the region.

Council adopted a Climate Change Policy in December 2020.

**Climate Change Projections for the Canterbury Region**

Regionally, climate change is already having visible effects in Canterbury, and these are predicted to become more apparent over time. Modelling of climate change impacts in Canterbury has been completed by the National Institute of Water and Atmospheric Research (NIWA). Projections of climate change depend on future greenhouse gas emissions, which are uncertain, and therefore the future impact of climate change on New Zealand and Canterbury is highly uncertain also. There are four main global emissions scenarios used in making projections ranging from a low emissions to a high emissions future.

A report (Climate Variation Report – Impact of Climate Cycles and Trends on Selwyn District Council Water Assets) prepared for Selwyn District Council by Aqualinc Research LTD in September 2016 (and later reviewed in 2020) provides a snapshot on the potential change in climate patterns over the next 30 years to 2050.

Alongside this, there are a number of reports that have been produced at a regional and national level that provide an overview of how the climate in the Canterbury region is likely to change into the future and what implications this will have. Relevant reports include;

- New Zealand's first National Climate Change Risk Assessment and Next Steps (Ministry for the Environment, 2020)
- Climate Change Implications for New Zealand (Royal Society of New Zealand, 2016)
- Canterbury Climate Change Risk Screening – Interim Report (Tonkin & Taylor for Environment Canterbury, 2019);
- Climate Change – An Analysis of the Policy Considerations for Climate Change for the Review of the Canterbury Regional Policy Statement (Environment Canterbury, 2007).

The Canterbury region is expected to experience the following climate changes by the end of this century:

- The annual mean temperature is projected to increase by +3.0°C by the end of century (under a high emissions scenario);
- A significant decrease in the number of frost days experienced in the region, and an increase in the number of hot days (days exceeding 25°C);
- A corresponding increase in evapotranspiration rates;
- An increase in rainfall in the Southern Alps, with no long term change in rainfall on the plains;
- Less rainfall in winter on the plains and more in summer.
- Less frequent, but higher intensity rainfall events, stronger storms and an increase in westerly winds;
- Significant decreases in seasonal snow and duration of snow cover (at lower elevations. At higher elevations this may be offset by overall higher precipitation)

The above predicted changes are likely to be contributing factors in the following environmental scenarios:

As winter rainfall is the largest contributor to groundwater recharge, climate change is likely to induce lower overall recharge and lower groundwater levels. This has particular significance for groundwater recharge and foothills-fed rivers such as the Waikirikiri / Selwyn (see also Groundwater summary below). The impact downstream will also be affected by the increase in evapotranspiration on the plains.

Less frequent, but higher intensity rainfall events will also have a corresponding effect on mean river flows, with higher peak flows and longer periods of low flow between rainfall events. It is also projected that pluvial, fluvial and coastal and estuarine flooding events will increase.

Rising temperatures will cause snowlines to rise to higher elevations and a decrease in the duration of snow cover. Less winter snowfall and an earlier spring melt may cause marked changes in the annual cycle of river flow in river catchments that rely on snowmelt, with an increase in the possibility of larger winter floods due to precipitation falling as rain instead of being stored as snow.

Climate change is expected to have only a minor impact on groundwater levels. The application of irrigation water from the Central Plans Water scheme will have a much greater impact than climate change and will increase groundwater levels. This will artificially but significantly compensate for the effects increasing evapotranspiration and any variation in rainfall events.

There will be a significant increase in the average water deficit across Canterbury. Severe drought events are projected to occur more frequently and there is likely to be an increased fire risk. This will include longer fire seasons, increases in fuel drying, easier ignition, and faster fire spread due to wind. Potential increases in thunderstorms and lightning may also play a role. Table 17-5 below provides an overview of climate change projections (for the Canterbury region) for environmental factors that are identified as having the greatest impact to the Community Facilities activity area.

The projected changes are calculated for 2031–2050 (referred to as 2040) and 2081–2100 (2090) and are compared to the climate of 1986–2005 (1995).

| Climate Variable | | Direction of Change | By 2040 | | By 2090 | Effects / Risks |
|---|---|---|---|---|---|---|
| Temperature | Mean Temperature | ↑ | 0.7°C - 1.0°C | | 0.7°C - 3.0°C | Land & Vegetation - pest incursion / drought / fire / species diversity<br>Native Biodiversity - pest incursion / drought / fire / reduced habitat<br>Freshwater - lake eutrophication / stratification / increased demand |
| | Daily Temperature Extremes: Hot Days (exceeding 25°C) | ↑ | 37% | | 40% - 300% | |
| | Daily Temperature Extremes: Frost Days | ↓ | 30% - 50% | | 30% - 90% | |
| Rainfall | Mean Precipitation | ↑ / ▬ | 5% (Alps) | 0% (Plains) | | Land & Vegetation - pluvial, fluvial flooding /<br>Freshwater - pluvial & fluvial flooding / pollution / erosion / sedimentation |
| | Seasonal Precipitation | ↑↓ | ↑ Summer | ↓ Winter | ↓12% (winter rainfall) | |
| | Extreme Precipitation Events | ↑ | 4% - 12% | | | |
| Snowfall | Snow Days | ↓ | | | 30 snow days / yr | Native Biodiversity - reduced habitat<br>Freshwater - pluvial & fluvial flooding / pollution / erosion / sedimentation |
| | Seasonal snowlines | ↑ | Elevated | | Elevated | |
| Wind | Mean Wind Speed | ▬ | No change | | No change | Land & Vegetation - windfall / fire |
| | Extreme Wind Speeds | ↑ | ↑ 1% - 2% | | ↑ 2% - 10% | |
| Evapo – Transpiration | Annual Potential Evapotranspiration Deficit (PED) | ↑ | 60mm (6%) | | | Land & Vegetation - drought / fire / species diversity<br>Native Biodiversity - reduced habitat |
| Sea Level | Sea level rise | ↑ | 0.08 to 0.23m | | 1.0m | Native Biodiversity – reduced habitat |

KEY:

↑ = Increase ↓ = Decrease ▬ = No Change

Blue text = Low Emissions Scenario

Red text = High Emissions Scenario

*Table 17-5: Climate Change Projections for the Canterbury Region*

Adapting to these climate changes requires long-term planning to allow for changes to behaviour and infrastructure. Council also needs to be planning for new opportunities as a result, and many of these may stem from a shift in infrastructure focus that gives a longer term consideration of the environment e.g., 'fit for purpose' facilities.

### *17.4.5 Climate Change Effects*

Specific effects that may impact on the Community Facilities Activity are set out below along with potential mitigation options.

**Land and vegetation:** Hotter temperatures, increased evapotranspiration and associated drought conditions could have detrimental effects on existing vegetation (including turf) on sites managed under the community facilities activity. This may mean that future planting schemes and turf selection will need to consider more drought tolerant species. The Code of Practice for Development chapter on streetscape and reserve assets has been edited to reflect this requirement for both climatic and best practice reasons.

There may also be a need to install additional or more efficient irrigation schemes, but this will be dependent on water availability.

Some plains plantations (forestry) may not be sustainable with the current cropping regimes and different land management approaches may be required for these sites. There is also likely to be increased fire risk for forestry plantations which will require more intense management to reduce the risk.

Conversely, there may be opportunities for native afforestation/revegetation through changes in land use or land being retired.

**Natural Ecosystems:** Climate change is expected to have far-reaching consequences for the health and distribution of species and ecosystems. In particular, temperature increases (increased drought and fire weather, ocean chemistry changes, lake eutrophication, and reduced snow and ice), and changes in rainfall and sea-level rise, will alter the geographical distribution of habitats and associated species. Where distribution shift cannot easily occur ('habitat squeeze') the effects of climate change are likely to put considerable stress on these ecosystems, threatening vulnerable habitats and species.

Climate-induced impacts on biodiversity and interactions between species are highly uncertain, but could have a number of economic flow-on effects, including for the food system.

**Pest Incursion:** Hotter temperatures would allow a distribution shift of pest species, resulting in new and increased incursions of pests. This could include both plant and animal pests. It is likely that further monitoring and eradication programmes will be required in the future particularly on forestry and rural reserve sites.

**Water availability:** Increasing demand for water is currently an important issue for Canterbury. This increased demand is likely to become increasingly critical in a future characterised by drier average conditions, and an associated increase in both drought frequency and intensity. This may mean, as an example, that it will be more difficult to obtain the required water to irrigate playing surfaces. SDC will need to be prudent about how it designs and builds assets, and, manages water allocations in the future.

The potential for less groundwater recharge may also affect the reliability of existing wells that service community facilities.

**Physical resources:** Extreme weather events can have devastating effects on physical resources, both individual property and strategic infrastructure. Any increase in the frequency, and particularly severity would increase the risk to people, and physical resources. Consideration will need to be given to design and location aspects for council buildings and properties to reduce the risk of damage or loss of service due to extreme weather events.

**Community effects:** Increased extreme weather events could have a detrimental effect on society through injury, loss of life, and mental health and wellbeing. While some extreme weather events would be an intensifying of natural hazards which we are used to, heatwaves and new disease vectors such as mosquitoes carrying Ross River virus and dengue fever would require a new response. This may have

implications for services such as cemeteries in terms of ensuring capacity to respond to deaths resulting from natural disasters or spread of disease. Health risks from drinking or swimming in water contaminated with pathogens (disease-causing microorganisms) such as E. coli and salmonella may increase if extreme rainfall and floods become more frequent.

Climate change will impact on the wellbeing of vulnerable individuals, households and communities in a number of different ways and on a range of levels. Through climate change, an increased awareness for the natural environment, and the wellbeing benefits of physical exercise and outdoor recreation may lead to new opportunities as a result.

### *17.4.6 Changes in Environmental Requirements*

Changes in legislative and community environmental and health requirements are expected to continue. Activity environmental management will be updated and modified as these changes occur.

| Activity | Potential Effects on Natural Environment (N – negative; P – positive) | | | | | | |
|---|---|---|---|---|---|---|---|
| | Landscape and Visual | Fire | Pests | Water Contamination | | Water Resources | Land Contamination |
| | | | | Surface | Ground | | |
| Recreation Reserves | P/N | N | N | N | N | P/N | N |
| Passive Reserves & Streetscapes | P/N | N | N | | | | |
| Cemeteries | P/N | N | N | | N | | N |
| Public Toilets | P/N | | | N | N | | N |
| Community Centres & Halls | P/N | | | N | N | | |
| Swimming Pools | P/N | | | | N | P/N | |
| Properties & Buildings | P/N | | | N | N | P/N | N |
| Rental Housing | P/N | | | | N | | |
| Gravel Reserves | P/N | | N | N | N | P/N | N |
| Forestry | P/N | N | N | N | N | | |

*Table 17-6: Activity Natural Environment Effects*

| Activity | Potential Effects on Public Health and Safety (N – negative; P – positive) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Recreation Water Contact | Drinking Water | Effluent Disposal | Light Spill | Noise | Traffic | Dust | Odour | Litter | Vehicles | Exercise | Hazardous Substances Release | Personal Environment Safety |
| Recreation Reserves | P/N | P/N | P/N | N | N | N | N | N | N | N | P | N | P/N |
| Passive Reserves & Streetscapes | P/N | | | N | | | | | N | N | P | N | P/N |
| Cemeteries | | | | | | N | | | | | | N | P/N |
| Public Toilets | | P/N | P/N | | | | | N | | | | N | P/N |
| Community Centres & Halls | | P/N | P/N | N | N | N | | | N | | P | | P/N |
| Swimming Pools | P/N | P/N | P/N | N | N | N | | | N | | P | N | P/N |
| Properties & Buildings | | P/N | P/N | N | N | N | | | | | | | P/N |
| Rental Housing | | P/N | P/N | | N | | | | | | | | P/N |
| Gravel Reserves | | | | | N | N | N | | | | | N | |
| Forestry | | | | | N | N | N | | | | | N | |

*Table 17-7: Activity Public Health & Safety Effects*

## 17.5 Resource Consents

A schedule of current resource consents issued to Council under the Resource Management Act is provided in Annex 17B. Additional consents will be sought as required for future activities, including continuing and upgrading existing services/assets.

There are gaps in consent coverage of all services covered under this AcM plan. It is intended to develop a comprehensive set of consents relating to this activity as an improvement action.

## 17.6 Property Designations

Council's property designations, including those for Community Facilities, are issued under the Resource Management Act and are recorded in Council's District Plan. The Council may use designations to control activities in the following areas:

- Gravel Reserves (gravel extraction);
- Recreation Reserves;
- Swimming Pools;
- Cemeteries;
- Plantations;
- Halls;
- Council Buildings.

Other activities are generally controlled under applicable rules in the District Plan.

Additional designations will be sought for new activity areas and where existing uses require designation. Variations or new designations will also be required if ownership, management and use of existing areas is changed. The matter of continued use of designations or provision of zones is being considered as part of the District Plan review.

## 17.7 Management Initiatives

The following section sets out initiatives that SDC is implementing or considering to manage the Community Facilities Activity sustainably. SDC is committed to undertaking business in a more environmentally sustainable manner and the following initiatives give an indication of Council's intention.

Initiatives specific to asset groups are also listed in Chapters 7 to 16.

The Capital Investment Options process applied to renewal and new works, described in Chapter 19, Asset Management Practises, considers the sustainability of the natural environment as part of the multi-criteria analysis.

Further information on sustainable environmental practice is provided in each of the service sections (Sections 7 to 16).

### *17.7.1 Recreation Reserves and Township Reserves and Streetscapes*

Potential environmental effects related to recreation reserves include:

- Effects on groundwater from effluent disposal (public conveniences);
- Use of surface or groundwater for irrigation and drinking water;
- Use of agrichemicals for weed control and turf management;
- Use of chemicals for building maintenance;

- Traffic effects;
- Litter;
- Adverse effects from development on ecosystems and biodiversity.

Effluent disposal operations, apart from those reserves where facilities connect to the public sewerage system, are of varying quality. The condition of some septic tank effluent drainage systems is unknown. Many septic tank systems, while operating under existing use rights, do not have consents and would not meet current LWRP standards. There is a need to have a programme of investment to bring all effluent disposal operations up to LWRP compliance.

Water resources are used for irrigation on a number of reserves for summer sport operations. Approximately 10% of summer water use via community supplies is for reserves irrigation. Irrigation systems operate at varying water use efficiencies. Turf management regimes can allow for limits on irrigation.

Use of irrigation is subject to ECan requirements for a Water Supply Strategy. Council has undertaken a review of irrigation and other water uses, costs and demand management options to develop a demand management plan. A five step water demand plan has been put in place to manage water during periods of low rainfall/drought.

Water quality at reserves not connected to municipal water supplies is variable and in some cases not suitable for drinking. Department of Health "Small Community Supply" criteria generally apply. Warning signs are posted. Future upgrading is being considered on a risk basis.

High occupancy reserves (Coes Ford and Chamberlains Ford) have swimming holes where contact recreation with water is compromised by poor water quality. SDC and ECan carry out recreational quality monitoring and ECan will sign post these sites during periods when quality is likely to be lower than contact recreation requirements.

Youth facilities have been or are being planned to be added to some parks (community parks). These raise issues relating to noise, traffic, litter and safety. Elements of environmental safety design (CPTED) are to be applied. Noise levels will be managed to comply with the District Plan.

Vehicle use on reserves is managed by a combination of structural measures (e.g. bollards) and community vigilance. Additional surveillance is carried out as required at the more remote reserves. Vehicle parking at and near reserves is managed by appropriate design, by providing signs and by events scheduling. The effects of peak traffic flows will be monitored to identify any need for additional measures. Council's Parks and Reserves Bylaw includes a section on traffic management and vehicle control.

Fire risk is managed by vegetation control. Fire breaks are prepared where this is necessary depending on adjacent land uses.

Litter is managed with provision of bins and skips particularly during high use periods. Litter enforcement is carried out in accordance with Council Bylaws.

The use of agrichemicals and other chemical products used for reserve maintenance tasks is applied in accordance with industry standards. The maintenance contractor, SICON Ltd, has attained ISO 14001 (Environmental Management Systems) accreditation. This means that they have in place operating procedures and policies that take consideration of environmental impacts.

Development of land for new residential or commercial subdivision or increased human occupation can lead to the loss of existing natural features including ecosystems and indigenous plants. Council's response is to review subdivision plans and, through the resource consent process, protect natural areas that are considered to be important as esplanade strips/reserves or as land contributions for reserves. Council promotes protection and enhancement of natural features and waterways on existing sites by arranging and supporting a variety of indigenous re-planting initiatives. The development of land for recreation purposes (e.g. sports fields) can lead to mono-cultural landscapes (or landscape simplification), resulting in a loss of biodiversity and a reduction in landscape functions and services. Diversity is encouraged where possible by adopting a multifunctional approach to reserve concept planning that includes ecological processes, for example through indigenous plantings that reflect local ecosystems.

### *17.7.2 Cemeteries*

Contamination from human remains is a potential concern. This includes chemicals, radio activity (from bodies that were treated by radiotherapy) and organic load, all potentially affecting ground water, of which levels are predicted to rise in parts of the district through the Central Plains irrigation scheme. The concern is managed by maintaining adequate separation distance between the base of burial areas and the upper surface of groundwater. This is in accordance with the proposed LWRP and NRRP rules.

Extension of existing cemeteries and development of new cemeteries will require resource consents and compliance with the proposed LWRP and NRRP rules will be required.

Planting of deep rooting trees is seen as a partial solution to potential groundwater contamination, as trees tend to absorb some contaminants by root uptake.

Use of agrichemicals for weed control is a potential environmental issue for all grassed and planted areas including cemeteries. SDC contractors are required to be certified Growsafe operators and have attained ISO 14001 (Environmental Management Systems) accreditation.

### *17.7.3 Public Toilets*

Council has made considerable progress in modernising the majority of its previously aging public toilet network, including updating associated sewage treatment and disposal systems to ensure potential environmental effects are avoided. The programme has been further enhanced with funding support from Government's Tourism Infrastructure Fund.

In order to comply with the Canterbury Land and Water Regional Plan (LWRP) conditions, effluent disposal systems must maintain a one metre vertical separation distance to groundwater. In general, the effects are minor and localised, provided the effluent drainage systems have adequate treatment and separation from groundwater upper surfaces. Upgraded facilities are planned for Lincoln, Leeston and Darfield toilets, however all are able to be connected into reticulated sewer networks.

### *17.7.4 Community Centres and Halls*

Many of the existing community centres and halls located within rural areas are old, dating back to the 1950's and earlier. Many have non-reticulated waste water systems that give rise to similar concerns to those discussed above for public toilets. Funding of sewerage and other improvements against utilisation of these facilities is a specific concern being considered by Council.

The use and disposal of cleaning chemicals as well as paint stripping and disposal of old paint (because of potential concerns from lead based paints) are given specific attention in cleaning and painting contracts.

### *17.7.5 Swimming Pools*

Environmental effects related to pools include taking of water, either via municipal systems or specific groundwater bores, or surface water takes. The effects also include discharge of filter backwash water into municipal sewer systems or into onsite disposal systems. These effects are understood to be generally minor and localised.

Pool heating is being reviewed, not only for possible longer operating periods and compliance, but also for more environmentally sustainable heating methods including greater use of solar heating or other alternative methods as opposed to direct burning of fossil fuels or the use of electrically driven systems that consume high levels of power.

Pools make use of hazardous chemicals, in particular sodium hypochlorite for disinfection. Hazardous chemical safety management programmes and training are in place at each of the pools.

Integration of sustainability principles into designs for swimming pool facilities and assets is considered as part of the design process. Specialist advice is sought to ensure the most suitable heating system is installed to meet energy efficiency, performance and operating requirements.

Decisions on incorporation of sustainable or green building principles are guided by economics, real benefits and practicality. Selection of design options also considers the length of the payback period through operational savings/efficiencies from capital investment.

### *17.7.6 Properties and Buildings*

This activity group includes equipment and machinery depots. Current and old depots are typically contaminated sites. Contaminants include hydrocarbons (spilt fuel and oil and waste oil). Agricultural chemicals and road construction and maintenance chemicals, including bitumen and other additives, are also likely to be present on these sites.

Council maintains an active programme of site containment including stormwater management systems to minimise potential contamination of surface or ground water.

Any proposal to dispose of or change the use of land that has previously been a depot is expected to include a contaminated site assessment and report including remedial measures if required.

Service buildings such as Council Offices and Libraries/Service Centres consume energy to operate and utilise water resources. Where new buildings are being constructed or as part of refits or refurbishment Council will consider "green" building technologies. Generally "green" building elements will be considered where they are supported by cost-benefit analysis.

### *17.7.7 Rental Housing*

Council's existing housing stock is old and in the main, subject to a disposal programme. The remaining rental housing stock is, in most cases, located on reserve land and cannot be readily sold. Should the Council decide to extend or rebuild houses in the future, sustainable design principles (eco housing) will be used where this is practicable. Council also has a duty to ensure all rental houses comply with the standards introduced in respect to insulation, via the Residential Tenancies (Smoke Alarms and Insulation) Regulations 2016, by 2019.

### *17.7.8 Gravel Reserves*

Council owns over 220 sites that have been used for gravel prospecting and extraction mainly for road building and maintenance. Most sites are designated. Some of the resulting shallow pits have been used for hard fill disposal. A smaller number of those may contain some contaminated material.

Council is investigating possible disposal of approximately 60 of the old gravel pits subject to approval from the Department of Conservation.

Co-management and redevelopment of some of the old gravel pit areas is expected to result in development of passive reserves for recreation or biodiversity purposes (e.g. Cemetery Pit at Leeston).

On the 24th September 2014 Council resolved to implement its current gravel resources through the recommendations of the *Gravel Management Strategy for Selwyn District* (September 2014). The key shift for Council as a result of adopting this Strategy is to work towards eventual withdrawal from direct Council involvement in management and supply of gravel by 30th June 2016, this being subject to several criteria discussed in the Gravel Management Strategy – Report to Council (9th September 2014).

In parallel, Council has offered existing suitable gravel pits for lease for gravel extraction and/or clean filling. Consent to operate is the responsibility of the operators with the expectation that upon conclusion of each lease, the sites are returned to Council in a fully restored condition to enable future recreation use or disposal as is appropriate.

This programmed shift in focus for Council in relation to the 'Gravel Reserves' activity has resulted in a number of new measures and initiative that ensure this new direction is implemented.

Quarry Management Plans will continue to be developed to manage site requirements whilst quarries are in operation and reduce environmental effects such as dust, noise from crushing plant and heavy traffic use.

Development, extraction, processing, end use and monitoring of existing extraction sites are governed by the provisions of the proposed LWRP and the NRRP. End use as passive or recreation reserves or as clean fill sites will be managed by conditions on designations or consents. Conditions are expected to include progressive post – extraction site design, construction, planting and management regimes.

### *17.7.9 Forestry*

Council's forestry holdings are typically small blocks and are managed under a consultancy agreement with Ashburton District Council. Potential environmental issues include post-harvest dust generation (until sites are either replanted or remediated), and visual effects.

During harvest operations contractors are required to have a traffic management plans in place to reduce effects of heavy traffic on local communities.

Plant and animal pest control is undertaken on regular cycles to ensure adequate control. Herbicides are used at planting and during maintenance and thinning operations. These are applied by Grosafe-certified operators and in accordance with industry standards.

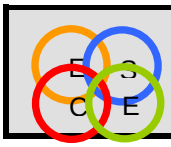
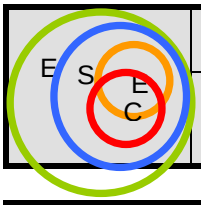
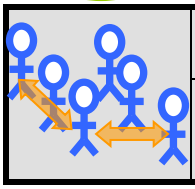
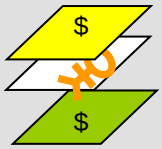
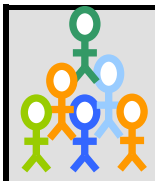
Council's forestry blocks are small, are generally in rural surrounds and operations on them are infrequent. Environmental effects are minor.

Following the substantial loss of forests as a result of wind events in 2013 Council has now decided to reduce involvement in this activity over time. As forests are harvested they will not be replanted in forest stock and alternatives land uses will be considered including return to pasture for grazing lease, redevelopment for passive recreation or biodiversity, or disposal.

# Annex 17A

SDC Sustainability Principles and 4 Wellbeing's Definitions

In order to move towards sustainability, SDC should act according to the following principles:

| | |
|---|---|
|   | Principle 1: Make decisions based on the four aspects of well-being<br>Integrate environmental, economic, social and cultural considerations within Council decision making. Consider both the short-term and long-term effects of the decision. |
|   | Principle 2: Observe the Precautionary Principle to provide contingency and enable adaptability of our community<br>Err on the side of caution in the face of scientific uncertainty and a risk of serious or irreversible environmental damage. |
|  | Principle 3: Seek "intra-generational" and "inter-generational" equity<br>Improve quality of life and create opportunity for all of the current generation, without compromising the quality of life and opportunity of future generations. |
|   | Principle 4: Internalise environmental and social costs<br>Develop and adopt a system that recognises the true costs and benefits of protecting and restoring environmental/ecological, human, social and cultural resources affected as a result of the services that Council provides. |
|  | Principle 5: Foster community welfare<br>Support and encourage the region to prosper socially and culturally. Our assets are not just our built assets but our people, their skills and the connections between them. |
|  | Principle 6: Act to halt the decline of our indigenous biodiversity and maintain and restore remaining ecosystems<br>Conserve, and sustainably use and manage, the district's biodiversity, recognising the various services that ecosystems provide to humans as well as the environment's intrinsic value. |
|  | Principle 7: Consider, and promote the sustainability of our neighbouring communities and work with governing bodies for sustainable outcomes<br>Recognise that we are part of a whole globe system whether we can physically see the impacts of our actions or not. |

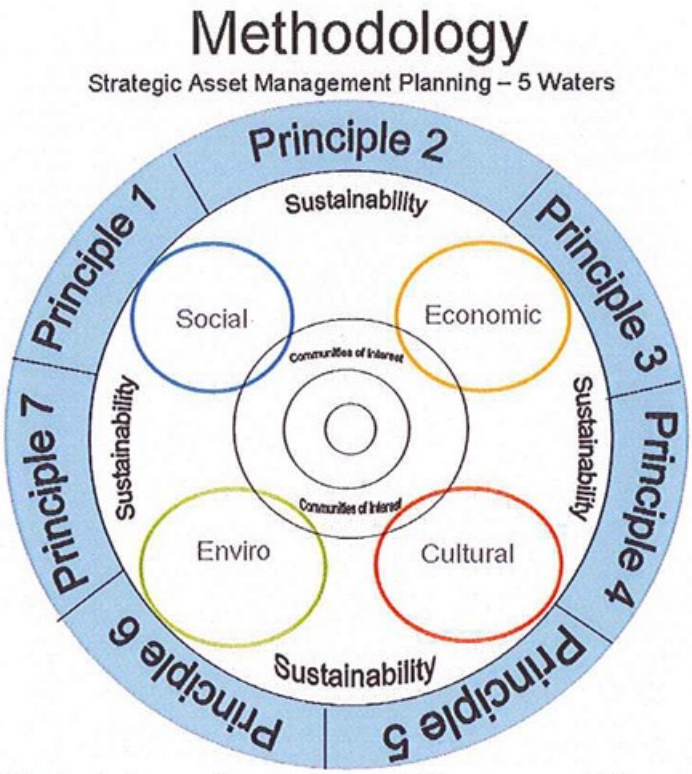



**Diagram 1 Methodology – Strategic Asset Management Planning 5 Waters**

**Social well-being:**
Enjoyment experienced by the people from being part of a diverse and co-operative community where they feel there is a fair balance between meeting individual and community needs, while working towards achieving their education, health, security and recreation goals.

**Economic well-being:**
A state of economic health and capacity which enables people and communities to achieve a standard of living which can meet the costs associated with the achievement of their social, environmental and cultural needs, now and in the future.

**Environmental well-being:**
Soil water and air, together with associated ecosystems and landscape identity, are sustained in a healthy state, while supporting the reasonable needs of the district and its communities.

**Cultural well-being**
A satisfying sense of connectedness to the district and community, past and present, through appreciation and free expression of religious, spiritual, cultural and family values, in such a way that respects the differences and richness of our diverse communities.

# Annex 17B

Summary of Current (as at October 2017) Resource Consents and Future Requirements

| Consents held from Environment Canterbury (Ecan) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Unique:** | **Granted:** | **Expires:** | **For:** | **Permit:** | **Site Description:** | **Location:** | **Conditions:** |
| CRC000818.1 | 19/11/01 | 19/11/34 | To erect, reconstruct and use a structure across the LII River, for the purpose of capturing cut weed | | LII River, Lincoln | Lii River, Lake Ellesmere | 9 Conditions |
| CRC010757 | 24/11/00 | 24/11/35 | Discharge contaminants into land | Sewerage | Arthurs Pass Community Centre | School Terrace Road | 9 Conditions |
| CRC021084 | 23/4/07 | 19/4/42 | Use land - excavation/deposition | | Cemetery Pit | Leeston- Southbridge Road | 18 Conditions |
| CRC031429 | 19/3/03 | 14/3/38 | to discharge treated sewage effluent to ground | Sewerage | Grainshed Reserve Toilet | North Terrace, Darfield | 7 Conditions |
| CRC054151 | 22/8/05 | 12/8/40 | Discharge contaminants into land | Sewerage | Arthurs Pass Public Toilets | Arthurs Pass Village - Southern entrance | 12 Conditions |
| CRC060903 | 2/11/05 | 1/11/40 | Discharge contaminants into land | | Glentunnel Hall | Homebush Rd, Glentunnel | 12 Conditions |
| CRC064061 | 21/9/06 | 21/9/41 | Disturb river bed | Water | Coes Ford Public Toilets | Coes Ford, Leeston | 15 Conditions |
| CRC064355 | 2/11/06 | 2/11/41 | Discharge contaminants into land | Sewerage | Rolleston HQ | Rolleston Drive, Rolleston | 33 Conditions |
| CRC064399.1 | 24/2/12 | 19/4/42 | Discharge contaminants into land | | Cemetery Pit | Southbridge Leeston Road | 20 Conditions |
| CRC070522 | 2/11/06 | 2/11/41 | Discharge contaminants into air (Diesel generator) | | Rolleston HQ | Rolleston Drive, Rolleston | 10 Conditions |
| CRC080003 | 30/10/07 | 25/10/42 | Discharge stormwater to land x roof etc | | Arthurs Pass Public Toilets | SH 73 Arthurs Pass | 13 Conditions |
| CRC084966.1 | 21/6/11 | 28/4/20 | To discharge contaminants onto land in circumstances where they may enter surface water (e.g Herbicides). | | Global Consent | Global Consent - Selwyn District Council | 29 Conditions |
| CRC090427 | 14/5/08 | 12/8/39 | Take ground water | | Lincoln Event Centre | North Belt, Lincoln | 8 Condtions |
| CRC092331 | | | Realignment of water race. | | Foster Dog Park | Goulds Road, Rolleston | 0 Condtions |
| CRC101443.1 | 7/7/10 | 11/2/45 | Discharge contaminants into land | | Chamberlains Ford Public Toilets | Chamberlains Ford, Leeston | 21 Conditions |
| CRC101444 | 1/2/10 | 1/2/45 | To undertake earthworks and to install structures within the bed and banks of the Selwyn River | | Chamberlains Ford Public Toilets | Chamberlains Ford, Leeston | 22 Conditions |
| CRC101775.1 | 24/2/10 | 22/12/44 | To undertake works in a river (Replace Footbridges) | | Liffey Creek | Liffey Domain, Lincoln | 23 Conditions |
| CRC102907 | 9/6/10 | 8/6/45 | Discharge of contaminants to surface water | | Lincoln Event Centre | 154 North Belt, Lincoln | 51 Conditions |
| CRC102940 | 22/6/10 | 22/6/45 | Discharge contaminants into land | | Kirwee Recreation Reserve | High St, Kirwee | 15 Conditions |
| CRC111066 | 28/1/11 | Expired | To install two bores for recreational use. | | Cemetery Pit | Southbridge Leeston Road, Southbridge | 12 Conditions |
| CRC120443 | 2/9/11 | | To install a bridge over an artificial water course, between Meijer Dr and Lincoln High School | | Lincoln Event Ctr | Meijer Dr, Lincoln | 0 Condtions |
| CRC136795 | 1/6/07 | 21/9/41 | Discharge contaminants into land | Sewerage | Coes Ford Public Toilets | Coes Ford, Leeston | 16 Conditions |
| CRC140812 | 27/9/13 | Expired | To excavate and deposit material in the bed of a river, to place structures in the bed of a river | | Coes Ford Public Toilet | Coes Ford Reserve, The Lake Road, Leeston | 23 Conditions |
| CRC140813 | 27/9/13 | 27/9/48 | To divert surface water around a structure. | | Coes Ford Public Toilets | Coes Ford Reserve, The Lake Road, Leeston | 6 Conditions |
| CRC142595 | 20/11/13 | 20/11/28 | To discharge contaminants to land | Sewerage | Springfield Public Toilet | 21-23 West Coast Road, Springfield | 19 Conditions |
| CRC144155 | 13/2/14 | 13/2/49 | To erect a structure over the bed of a river, earthworks and vegetation disturbance within the riparian margin | | Halswell River | Rhodes Park Taitapu | 20 Conditions |
| CRC146012 | 1/9/11 | 16/10/43 | To plant trees within 24 feet of a watercourse | | Halswell River | Taitapu | 12 Conditions |
| CRC152110 | 7/10/14 | 7/10/29 | To discharge contaminants to land | Sewerage | Westview Reserve Public Toilet | South Terrace, Darfield | 19 Conditions |
| CRC152641 | 29/10/14 | 29/10/17 | To use land to install a bore | | Foster Recreation Park | 1092 Goulds Road, cnr Dynes Road, Rolleston | 12 Conditions |
| CRC154454 | 21/10/15 | 21/10/30 | To take and use water | Water | Foster Recreation Park | 1092 Goulds road, cnr Dynes Road, Rolleston | 15 Conditions |
| CRC174954 | (lodged) | | Land Use Consent, to use land for excavation activities (car park) | | Foster Recreation Park | 1092 Goulds Road, Rolleston | 15 Conditions |
| CRC157520 | 5/6/15 | 5/06/2018 | To install a bore (monitoring) | | Springston Cemetery | 57 Weedons Rd | 12 Conditions |
| CRC171022 | 5/9/2016 | 5/9/51 | To discharge contaminants to land | Stormwater | West Melton Recreation Ctr | 1163-1167 West Coast Road, West Melton | 26 Conditions |
| CRC172368 | 26/10/2016 | 26/10/2031 | To discharge contaminants to land | Wastewater | Dunsandel Recreation Centre | 1456 Tramway Road, Dunsandel | 21 Conditions |
| CRC950636 | 23/12/94 | 20/12/29 | To discharge septic tank effluent into land via a disposal system | Sewerage | Rakaia Huts Campground | Jollies Road, Rakaia Huts | 6 conditions |
| CRC980739 | 7/1/98 | 23/12/32 | Take groundwater x irrigation-6 hectares | Water | West Melton Domain | Rolleston Rd, West Melton | 5 Conditions |
| CRC053162 | 17/6/98 | | To discharge contaminants to land - Human Effluent | Sewerage | Dunsandel Public Toilet | Corner Browns Road & Main South Road (SH1), DUNSANDEL | 9 Conditions |
| CRC940971.1 | 4/8/96 | 6/4/29 | To discharge contaminants to land - Human Effluent | Sewerage | Halkett Pool (Old School site) | Halkett Road, Halkett | 4 Conditions |
| CRC941128.1 | 23/5/96 | 13/4/29 | To take groundwater | Water | Halkett Pool (Old School site) | Halkett Road, Halkett | 4 Conditions |
| CRC011512 | 23/3/01 | | To take groundwater from a bore for domestic supply of the picnic area | Certificate of Compliance. Water | Coes Ford Recreation Reserve | The Lake Rd, Springston South | 0 Conditions |
| CRC011513 | 23/3/01 | | To take water for domestic supply purposes at the Lakeside Domain | Certificate of Compliance. Water | Lakeside Recreation Reserve | Timber Yard Road, Lakeside Domain | 0 Conditions |
| CRC020288 | 37239 | | To discharge water to ground | Certificate of Compliance. Water | Darfield Pool | Cnr Ross And Cardale Streets, Darfield | 0 Conditions |
| CRC180362 | 21/08/2017 | 21/08/2022 | To use land to install a footbridge over the Liffey Stream | | Liffey Stream, Lincoln | Liffey Stream by Former Lincoln Country Club building | 18 Conditions |

| Future Resource Consent Requirements from ECan | | |
|---|---|---|
| **Location/ Description** | **Project** | **Consent required** |
| Glentunnel Holiday Park | Effluent system upgrade | Discharge contaminants to land |
| Springfield Toilets | Effluent system upgrade | Discharge contaminants to land |
| Prebbleton Community Centre | New building - SW disposal | Discharge contaminants to land |
| Tai Tapu Community Centre | New building - SW disposal | Discharge contaminants to land |
| Lakeside Community Centre | New building - Holding Tank - Water take for potable supply | Water take, Discharge contaminants to land |
| Rolleston Town Square & Reserve Development | SW disposal | Discharge contaminants to land |
| Foster Park - Further Development | New buildings / carparking - SW disposal | Discharge contaminants to land |
| Cemetery Pit | Develop recreation facilities | Use land - excavation/deposition |
| Reids Pit | Develop recreation facilities | Use land - excavation/deposition |
| Gravel Pits (General) | Additional clean fill disposal areas | Use land - excavation/deposition |
| Leeston Park | Develop recreation facilities | Use land |
| Springston Cemetery | Develop extension | Cemetery activities |
| District Park (Rolleston) | Develop recreation facilities | Use land - excavation/deposition |