

17. REGAIN FOREST LICENCE LAND FOR BIOSOLIDS DEMONSTRATION AREA/ SOIL FILTER

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The purpose of this report is to advise the Community Board of the intention to seek Council approval to give notice to the Selwyn Plantation Board of the Council's intention to regain approximately 2.61 hectares of the Forest Licence area at Bottle Lake Forest for the purposes of a Biosolids to Forests Demonstration Area and an odour control soil filter. This report will be referred to the Parks Gardens and Waterways Committee for recommendation to the Council.

The proposal to regain the land is in accordance with the requirements of Section 3 of the Forestry Licence between the Christchurch City Council, being the lessor, and the Selwyn Plantation Board and Selwyn Plantation Limited, being the licensee. The area proposed to be removed from the lease area is in two parts, the larger of 2.56 hectares for the establishment of a Biosolids to Forests Demonstration Area and the smaller area of 0.05 hectares (500m²) to construct an odour control soil filter on the end of the sewer pressure main from Spencerville.

BACKGROUND

For some time consideration has been given to the development of a "Biosolids Demonstration" area in an operating forest environment to enable public education about biosolids recycling and to be able to demonstrate both biosolids application and the types of scientific studies that are being undertaken as part of the wider New Zealand biosolids recycling in forests. Such a demonstration site will enable wider public education of biosolids recycling and enable interested groups to experience at close quarters the issues and impacts of biosolids application to operating forests. The area required for this site is 2.56 hectares and the proposed site is near the Bottle Lake Forest Park headquarters.

A second much smaller area is also required to construct an odour control soil biofilter in Bottle Lake Forest Park at the end of the sewer pressure main at the point where this sewer discharges into the gravity section of piping. The existing soil filter near this site at the unformed part of Rothesay Road near Willoughby Drive has proved insufficient in size to perform the required task and further area is required.

Both of the proposed sites are in areas of the license agreement where the forest crop rotation is at the stage where young trees have just been planted so the costs of the return of these areas to the Council are minimal.

WHAT ARE BIOSOLIDS?

Biosolids are the solids recovered from the wastewater treatment processes that are treated to be suitable for reuse in the environment. Christchurch has always beneficially reused the biosolids produced at the wastewater treatment plant, initially on the Council farmland as a soil conditioner and fertiliser, and also on parks and for landfill rehabilitation. The Council now has consent to apply biosolids to 1,500 hectares of forests in Canterbury including Chaney's forest and forest areas in Selwyn District. Most towns and cities in New Zealand bury their biosolids in landfills.

The New Zealand Waste Strategy aims to remove 95% of the biosolids currently put into landfills and have the material beneficially reused by December 2007. There is a growing need to promote public acceptance of biosolids reuse and to educate and inform the public of the issues and benefits of biosolids recycling.

BIOSOLIDS DEMONSTRATION AREA SITE

Discussions have been held with Selwyn Plantation Board staff over a number of possible sites to set up and operate such a demonstration area. A number of more remote sites have been considered, however none of these other sites offer the unique educational opportunities, security and synergies that the proposed site near the Bottle Lake Forest Park headquarters has to offer. The demonstration of biosolids recycling in forests would complement the very successful educational experiences already offered at Bottle Lake Forest.

There is strong support for the establishment of the demonstration area with the scientific community and in particular with the Crown Research Institute - Forest Research. The site would be used to demonstrate the types and range of scientific studies that are carried out as part of production forestry and of the application of biosolids to forests. This will enable people to see what biosolids look like when applied to the forest floor and to see the benefits derived from biosolids recycling. The details of the demonstration site have not been worked through. However, such a project would lend itself to experimental plots of trees other than *pinus radiata*, and to show their response to biosolids application and potentially to the demonstration of grey water reuse.

The operation of such a demonstration site is not considered core business for the Selwyn Plantation Board and therefore that Board requires that the area to be used for the demonstration be fully under Council control and not part of the lease area.

It is anticipated that the area will need to be fenced off to restrict public access while still allowing guided walks through the areas where biosolids is applied. This is in line with the recently developed New Zealand Guidelines for Biosolids Application to Land. These guidelines are endorsed by the Ministry of Health, the Ministry for the Environment and the Ministry of Agriculture and Forestry.

It is also anticipated that a public consultation process will be developed in conjunction with the Community Board to address any concerns members of the public and in particular any local residents may have about the proposal. Vehicle access to the site will be from the landfill access road. The City Water and Waste Unit will be responsible for the trees on the site.

SOIL FILTER SITE

The wastewater from Kainga, Brooklands and Spencerville is piped through Bottle Lake forest. The pipelines generally follow the forest roads. The gravity sewer main at the end of the pumping main from Spencerville has recently been renewed. This main required early renewal due to attack on the concrete gravity pipes by hydrogen sulphide which is generated in long pressure mains and released on discharge into gravity pipes. These pipes have been replaced with PVC pipes to eliminate the corrosion potential. However, to prevent further corrosion potential on the concrete pipes downstream in Parklands, an additional soil filter is proposed at the discharge point from the pressure main. This will allow additional hydrogen sulphide to be removed and will also reduce the pressure on the existing soil filter near the residents at Willoughby Drive which has given off odours from time to time.

The Council has 16 soil filters at various locations on the sewer reticulation system to reduce the impacts of odours from the sewers on local residents. Soil filters are the most common, simple and effective methods of odour treatment. They consist of a small area of perforated pipes buried in a dispersing layer of gravel, overlain by a bark/soil mixture. The foul air is allowed to pass through the bark/soil layer and the odourous compounds are absorbed onto the soil and consumed by soil bacteria. The soil filter area will be fenced off to eliminate compaction of the bark/soil layer from pedestrian or vehicle traffic.

PARKS AND WATERWAYS UNIT COMMENTS

The Parks and Waterways Unit supports the proposal for a Biosolids Demonstration Area. It complies with the goals for Bottle Lake Forest Park in that it provides for education compatible with the forest environment and does not detract from the forest experience. Forestry will continue on the site but the ownership and management of that forestry will transfer from the Selwyn Plantation Board to the Christchurch City Council.

The management goal for Bottle Lake Forest Park is:

“To provide for the harmonious management of timber production, special purpose activities, the development of diverse recreation and education experiences and the protection of scenic, ecological and scientific values.” (Bottle Lake Forest Park Management Plan, 1999, page 9).

The Biosolids Demonstration area will be of environmental education value. Specific reference is made to education and promotion in the Bottle Lake Forest Park Management Plan and the relevant policies are reproduced here:

1. Educational use of the Forest Park by the public shall be encouraged. Special emphasis will be placed on youth organisations to use the Park for training purposes such as bushcraft and ecological studies.

2. Education programmes and literature will be designed to foster a fundamental understanding of the Forest Park environment including fire prevention and forest silviculture with the opportunity to gain hands on experience. Minimum impact resource use practices will be promoted which are consistent with the Park environment.
3. Park outdoor education services will be developed in close cooperation with education agencies.
4. Interpretative programmes will be developed to facilitate the understanding and appreciation of the Park in addition to rangers and others specialist knowledge having contact with the public. (Bottle Lake Forest Park Management Plan, 1999, page 60).

The demonstration area fits well with the landscape proposal plan as shown in the Management Plan (page 42). The site is at the edge of the Park Headquarters Development area and is indicated as pine forest with an interpretive and experiential walk.

ISSUES THAT NEED TO BE ADDRESSED

Currently the Blue Track passes through the proposed Biosolids Demonstration Area site. It will need to be re-routed or incorporated into the design of the demonstration area.

Refer to the attached plan.

SUMMARY

The establishment of the Biosolids Demonstration Area is considered a necessary step in developing public awareness and acceptance of biosolids recycling and the Bottle Lake Forest Park site provides the synergies with existing successful educational facilities. The odour control soil filter site is a necessary addition to the wastewater infrastructure to reduce the impacts of odour release from the reticulation system and to protect existing assets from further accelerated deterioration.

Recommendation: That the information be received.

Chairperson's

- Recommendations:**
1. That the information be received.
 2. That the Board recommend to the Parks, Gardens and Waterways Committee that 2.56 hectares of land (part of RS 2343) be removed from the area leased by the Selwyn Plantation Board in Bottle Lake Forest for establishing a Biosolids to Forests Demonstration Area, subject to consultation.
 3. That the Board recommend to the Parks, Gardens and Waterways Committee that 0.05 hectares of land (part of RS 22055) be removed from the area leased by the Selwyn Plantation Board in Bottle Lake Forest for constructing an odour control soil filter, subject to consultation.