REPORT BY THE CHAIRPERSON OF THE HAGLEY/FERRYMEAD COMMUNITY BOARD

1 FEBRUARY 2012

PART A – MATTERS REQUIRING A COUNCIL DECISION

6. PROPOSED TREE REMOVALS IN BROMLEY PARK, LINFIELD PARK AND CUTHBERTS GREEN

General Manager responsible:	General Manager City Environment, DDI 941 8608
Officer responsible:	Unit Manager Transport and Greenspace
Author:	Rico Parkinson, SCIRT Rod Whearty, Communication Coordinator Operations, SCIRT

PURPOSE OF REPORT

1. The purpose of this report is to present the recommendation of the Hagley/Ferrymead Community Board to the Council for approval of the removal of up to 25 trees in Bromley Park, Linfield Park and Cuthberts Green in association with the construction of Pressure Main 11.

EXECUTIVE SUMMARY

2. This report, seeking approval to remove a number of trees in the above parks, has been presented to the Hagley/Ferrymead Community Board for consideration and recommendation to the Council to make the final decision in relation to the proposed tree removals.

3. The proposed tree removals are in association with the construction of Pressure Main 11. This is a high priority wastewater project being undertaken by the Stronger Christchurch Infrastructure Rebuild Team (SCIRT), in response to the Christchurch earthquakes, that involves the construction of a new 3.6 kilometre (1200 millimetre diameter) wastewater pipeline going from Pump Station 11 in Randolph Street to the Bromley Wastewater Treatment Plant (refer **Attachment 1**).

4. Pump Station 11 handles approximately 30 per cent of the city's wastewater through an existing 1200 millimetre pipeline and two 600 millimetre pipelines. The new pipeline will replace the two existing 600 millimetre pipelines that were badly damaged in the earthquakes.

5. The two existing pipelines are around 50 years of age and are currently damaged and unable to take any significant flows. This means that Pump Station 11 is currently unable to operate at its full capacity and is now totally reliant on the one remaining 1200 millimetre pipeline. Therefore this work needs to be carried out as soon as possible to provide a reliable and more resilient wastewater network to this part of the city.

6. Construction will be carried out simultaneously on at least three separate work fronts due to the significance of this project, compressed delivery timeframe and to help reduce the duration of any adverse impacts associated with the construction on the community. The first stage of the 3.6 kilometre pipeline commenced construction in Linfield Park on 16 January 2012, with further stages programmed to commence around February/March 2012.

7. Installation of the new pipeline unfortunately requires the removal of a number of trees in Bromley Park (two trees, possibly three), Linfield Park (two trees), Cuthberts Green (15-20 plantation trees and a small group near the boundary of the Bromley Treatment Plant, final numbers will be influenced on the proximity of the trench face to the tree). There will also be significant pruning on a number of other trees through the Cuthberts Green section of the pipeline to raise the canopy and provide clear work space for construction machinery. The trees will be replaced in other locations on all three parks during the next planting season (May to September 2012) to compensate for the removals.

6 Cont'd

8. Careful consideration has been given to the alignment of the new pipeline to minimise the number of trees requiring removal and reduce the level of adverse impact on the existing sport fields in Bromley and Linfield Parks. The importance of these sports fields has increased significantly following the earthquakes as they are some of the few remaining undamaged fields on this side of the city. The Hagley/Ferrymead Community Board approved an easement over a section of Bromley Park on 14 December 2011 for the current alignment. The easement for the section of pipeline that crosses Linfield Park and Cuthberts Green has already been approved by the Corporate Support Manager under delegated authority because those two parcels of land are held in Fee Simple as opposed to Bromley Park which is held under the Reserves Act.

FINANCIAL IMPLICATIONS

9. This project is part of the infrastructure rebuild activity that sits within the Infrastructure Rebuild Plan approved by Council on 1 December 2011. The Annual Plan has made provision for infrastructure rebuild activity in the 2011/12 financial year. Costs associated with the removal of these trees are simply part of the overall cost associated with the construction of Pressure Main 11.

10. While moving the pipeline alignment into Bromley Park requires the removal of two trees, it does provide a significant cost saving to the project. The alternative option is to keep the pipeline within the road corridor; however the traffic management cost alone of up to $2,000 per day would add an additional $60,000 in traffic management costs and an additional $90,000 in carriageway reinstatement.

11. The pipeline alignment through Linfield Park is also the most cost effective and causes the least amount of disruption to the recreational activities occurring on the park. Changing the alignment to avoid removing the trees and follow the line of the existing pressure pipe (currently inoperative) would add an additional 40 metres of pipe and the associated additional reinstatement costs for the playing surfaces and the irrigation system. It would also reduce the amount of available playing area over the summer sports season. The additional cost for this realignment is estimated at $80,000.

12. Changing the alignment through Cuthberts Green to avoid removing the plantation of trees completely would require purchase of all or part of an adjoining private property which would delay the project significantly and add a significant cost. No estimate has been undertaken on this option as it was not considered viable. The alignment proposed significantly reduces the number of trees requiring removal compared to a direct route through the plantation.

Do the Recommendations of this Report Align with 2009-19 LTCCP budgets?

13. Yes as above.

LEGAL CONSIDERATIONS

14. The Transport and Greenspace Manager has the following delegation with respect to trees:

    "In consultation with any other units affected and the relevant Community Board, authorise the planting or removal of trees from any reserve or other property under the Manager's control".

15. While the Transport and Greenspace Manager has the delegation to remove the trees, current practice is that in most cases requests to remove healthy and structurally sound trees are placed before the appropriate Community Board for a decision.

16. Under the delegations to Community Boards, the Board has the authority to *"plant, maintain and remove trees on reserves, parks and roads"* under the control of the Council within the policy set by the Council.

6 Cont'd

17. In response to the earthquakes, the Council has established a schedule of two meetings per month specifically to deal with decisions or issues related to the Christchurch earthquakes. The proposed tree removals will be presented to Council because the decision relates to a high priority wastewater infrastructure rebuild project which has metropolitan significance and the outcome or impact of that decision goes well beyond the local community.

18. This report is being presented to Council via a Part A report, and therefore Council will be aware of the Community Board's view on the proposed removals through their recommendation and able to take that into consideration when making the decision.

Have you considered the legal implications of the issue under consideration?

19. Yes, as per above.

ALIGNMENT WITH LTCCP AND ACTIVITY MANAGEMENT PLANS

20. The infrastructure rebuild was not anticipated by the LTCCP or Activity Management Plans, but is a response to a natural disaster.

Do the recommendations of this report support a level of service or project in the 2009-19 LTCCP?

21. Yes, the Annual Plan has made provision for the infrastructure rebuild activity in the 2011/12 financial year. Future activity will be addressed in successive Annual Plans and the 2013–22 Long Term Plan.

ALIGNMENT WITH STRATEGIES

22. The draft CERA Recovery Strategy provides for the development of a Land, Building and Infrastructure Recovery Plan. This work is in line with and part of the Infrastructure Rebuild Plan approved by Council on 1 December 2011.

Do the recommendations align with the Council's strategies?

23. Yes, as above.

CONSULTATION FULFILMENT

24. Careful consideration has been given to select an alignment that minimises the number of trees that need to be removed. The Hagley/Ferrymead Community Board recently approved an easement on Bromley Park for the current alignment. These factors, combined with the significance, timing of the project and the cost of altering the proposed alignment has meant there is limited opportunity for the community to influence the proposed tree removals.

25. SCIRT recognise the importance of advising local residents of the pending work and delivered an information leaflet to approximately 180 properties near the locations of the proposed tree removals on all three parks on 21 December 2011. The information leaflet provided a project overview to provide the necessary context and significance around the work and informed residents of the proposed tree removals including the intention to seek the Council's approval for the tree removals. Contact numbers were also provided for anyone who had concerns with the proposed removals or wanting further information on the project.

26. At the time of submitting this report, no adverse community feedback on the proposed removals had been received. A verbal update will be provided at the meeting on any community feedback that has been received prior to this report being considered.

6 Cont'd

STAFF RECOMMENDATION

It is recommended that the Council approve the request to remove up to 25 trees from Bromley Park, Linfield Park and Cuthberts Green as shown on **Attachments 2, 3** and **4** of this report.

BOARD CONSIDERATION

The Board considered a report requesting that the Board recommended that the Council approve the removal of up to 25 trees in Bromley Park, Linfield Park and Cuthberts Green in association with the construction of Pressure Main 11. The Board also received a briefing on the Pressure Main 11 Wastewater infrastructure rebuild project.

BOARD RECOMMENDATION

It was **decided** on the motion of Tim Carter, seconded by Islay McLeod, that the Board recommend to the Council that the staff recommendation be adopted.

BACKGROUND

27. This project is strategically significant because Pump Station 11 transfers approximately 30 per cent of the city's wastewater from Linwood to the Treatment Plant. Prior to the earthquake, this occurred via three pressure mains. One 1,200 millimetre diameter pipe which is around five years old, and two 600 millimetre pipes which are around 50 years old were due for replacement within the next 10 years.

28. Faults occurred on all three of these existing pressure mains during the September and February earthquakes with raw sewage spilling in a number of locations, posing a health risk to the public.

29. The 1,200 millimetre pipe currently takes all the incoming flow to the pump station. The older pipes have been determined to be too damaged for future use. Therefore, a new or refurbished main is needed to ensure the resilience and future security of this critical wastewater network for the people of Christchurch.

30. The project is a major priority for SCIRT, with Council requesting the project to be completed by the ambitious target of Winter 2012. The project is significant and will require around eight months to complete. For this reason, work is beginning as early as possible in 2012 to maximise the likelihood of meeting the target completion date. This will provide the additional benefit of being a significant recovery milestone for the people of Christchurch.

31. A number of options were considered, including repairing the existing pipes, replacing the existing pipes and upgrading the two 600 millimetre pipes to a single 1,200 millimetre pipe. Through a robust options analysis it was determined that a single, larger replacement pipe would provide the best value for money and the greatest security to the network including capacity for the future development of the city within the pump station's catchment. Council, as the asset owner, has endorsed this option.

32. SCIRT is also building resilience into the Pressure Main 11 project by carefully considering the materials and alignment for the 1,200 millimetre pipe. The pipe is a glass reinforced pipe, selected for its flexible nature. The existing 1,200 millimetre pipe is reinforced concrete which is a rigid pipe and the additional (more flexible) pipe will provide more resilience in this network for any future earthquake event. If a future earthquake event caused small changes in horizontal and vertical land positions, the flexibility of glass reinforced pipe would be subject to a lower risk of failure than the more rigid existing pressure main.

6 Cont'd

33. The alignment of this new pipeline has the following advantages:

    (a) Following the alignment of the existing 600 millimetre pressure main along Aldwins and Buckleys Roads has meant that there is a corridor for the new pressure main to go down, and minimises the amount of services that will have to be diverted, thus ensuring it is a cheaper and less disruptive route. It also ensures that the existing pressure main will be removed when possible and reduce the risk of further damage to the roads if the old pipe were to collapse.

    (b) The proposed route also avoids passing through private properties and minimises reduction of sports grounds by staying in the road reserve as much as possible, to reduce the impact of the installation and possible future maintenance of the pipe.

    (c) It achieves the greatest separation of the two pressure mains. Two distinct pipes in different locations provide more security of service. If one pipe failed due to land movement, it is less likely the other would be impacted if it was located a reasonable distance from the other.

    (d) It is the preferred route that minimises the impact on Bromley Park and Linfield Park sports fields which are now in high demand and two of the few that are currently available for recreational activities due to significant damage to other sports fields in this part of the city, providing an approximate cost saving of $300 per metre, providing good value for money.

    (e) It enables the project to be completed in the shortest possible time.

    (f) The initial route of the pipeline where it leaves Pump Station 11 will follow the existing alignment in Randolph Street, then onto Aldwins Road via Marcroft Street. This route has been selected because the alternative route experienced significant liquefaction.

OPTIONS

34. The project alignment unfortunately requires the removal of a number of trees in three areas: Cuthbert's Green, Linfield Park and Bromley Park. The project team is conscious of the value placed on trees by the people of Christchurch and has carefully considered the alignment. The aim is to provide a balance between the need for maintaining a green city, the need to complete the project in a timely fashion, the need to preserve the use of the sporting fields, the possible traffic implications and the costs associated with alternate routes. A detailed description of these sites where trees are flagged for removal and justification for the removal of trees is outlined below.

35. It should be noted that the chosen route minimises the number of trees requiring removal. Any trees that are removed will be replaced with new trees in slightly different locations as trees should not be planted on above pressure mains as they may cause failures in the future.

Bromley Park (two, possibly three trees to be removed)

36. The alignment at Bromley Park (as shown in **Attachment 2**) has been chosen to avoid any impact on the traffic lanes on Buckleys Road, and to avoid any impact on the playing fields. The trees at the northern end of the park overhang the road and clash with our proposed alignment, and therefore are required to be removed. The reasons for this alignment are:

    (a) Buckleys Road is a major arterial road. The impact of placing the alignment in the live traffic lanes would be a cost of around $2,000 per day for traffic management in addition

6 Cont'd

to the major inconvenience associated with having to reduce this section of road to one lane. There would be an additional $60,000 in traffic management cost and $90,000 in carriageway reinstatement if the pressure main was to stay within the road corridor running past Bromley Park. There would also be costs associated with additional bends and power to run the pressure mains.

(b) The two or three trees that are flagged for removal currently overhang the road and footpath and present a risk to traffic and pedestrians if branches break.

(c) Trees consist of:

(i) one Elm approximately 15 years old and 10 metres in height
(ii) one Sycamore approximately 15 years old and eight metres in height
(iii) one Sycamore approximately 15 years old and eight metres in height (may not have to be removed; depends on how close the trench face comes to the tree).

Linfield Park (two trees to be removed)

37. The chosen alignment is depicted in **Attachment 3**. The alignment at Linfield Park follows the southern boundary of the park. There are two trees that are required to be removed at the south western corner on the Kearney's Road frontage of the park. The reasons for this alignment are:

(a) Linfield Park (Cuthbert's South) is one of the most utilised playing fields in the east of the city and was one of only two parks still operational and undamaged after the earthquakes. The route along the southern side of the park was chosen as it minimises the disruption to the existing playing fields.

(b) If the alignment was moved north to avoid all trees, two playing fields would need to be dug up (both less than three years old). This would mean less available playing area over the summer, and alternative locations would need to be found to play softball and touch rugby.

(c) Moving the alignment north through the park would mean sharper bends would be required along Kearneys Road, which would add cost to the running of the pressure main.

(d) One of the two trees is also overhanging power lines, and its roots are believed to be within the area of two buried 11 kilo-voltage power cables. Removing the tree will reduce the risk of damage to these cables.

(e) Trees consist of:

(i) one Eucalyptus approximately 30 years old and nine metres in height
(ii) one Eucalyptus approximately 30 years old and 15 metres in height.

Cuthbert's Green (approximately 20 trees to be removed)

38. The chosen alignment (as shown in **Attachment 4**) runs from Kearneys Road along the southern boundary of Linfield Park to just past the first playing field and then cuts across the second playing area through to an old embankment in the small pine plantation. It then follows the embankment to Cuthbert's Green where the route follows the existing pressure main into the treatment plant. The reasons for this alignment are:

(a) It ensures there are not sharp bends in the pipe which would increase the cost to run the pressure main, as more power would be required for the pumps to transfer the wastewater.

6 Cont'd

(b) The route through the plantation follows a raised embankment which is relatively clear of trees, Around 15 trees have been identified through the plantation section of Cuthberts Green and up to five trees outside of the plantation area and adjacent to the boundary of the Bromley Treatment Plant. The raised embankment reduces the risk of encountering groundwater which has the potential to add up to $2,000 per metre to project costs for dewatering.

(c) It provides the advantage of ensuring no other trees would be subjected to damaging wind due to being exposed by the removal of the other trees.

(d) The route through Cuthbert's Green follows the existing alignment of the old pressure main which will enable the old pipe to be removed as part of the project. There is not enough room to move the pipe north due to other pressure mains from different parts of the city. Moving the pipe south of all the trees will mean the alignment will be parallel and closer to the other 1,200 millimetre pressure main from pump station 11.

(e) Trees consist of:

(i) up to 15 Pinus radiata approximately 20 years old and 12–15 metres in height, through the "plantation" section of Cuthberts Green
(ii) three Pinus radiata approximately 40 years old and 25 metres in height near the boundary of the Wastewater Treatment Plant.

Attachment 1 - Pressure Main 11





Attachment 2 - PM11 - Bromley Park

TREE REMOVAL- BUCKLEYS RD

Christchurch City Council

Stronger Christchurch Infrastructure Rebuild

DISCLAIMER: This map is for informational purposes and has not been prepared for, nor is it suitable for legal, surveying, or engineering purposes.
Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.
There is no warranty or guarantee as to the content, accuracy, timeliness, or completeness of any of the data provided, and assumes no legal responsibility for the information contained hereon. Copyright Reserved - Christchurch City Council, Crown, Orion, Transpower, Telecom, Contact, Telstra, Ecan, Enable, Liquigas

Printed: 13/12/2011 09:46

© Copyright 2011. All rights reserved.



Attachment 3 - PM11 - Linfield Park

TREE REMOVAL- KEARNEYS RD

Christchurch City Council

Stronger Christchurch Infrastructure Rebuild

DISCLAIMER: This map is for informational purposes and has not been prepared for, nor is it suitable for legal, surveying, or engineering purposes.
Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.
There is no warranty or guarantee as to the content, accuracy, timeliness, or completeness of any of the data provided, and assumes no legal responsibility for the information contained hereon. Copyright Reserved - Christchurch City Council, Crown, Orion, Transpower, Telecom, Contact, Telstra, Ecan, Enable, Liquigas

Printed: 13/12/2011 09:55

© Copyright 2011. All rights reserved.



Attachment 4 - PM11 - Cuthberts Green

Plantation area and boundary with Bromley Treatment Plant

Christchurch City Council

Stronger Christchurch Infrastructure Rebuild

DISCLAIMER: This map is for informational purposes and has not been prepared for, nor is it suitable for legal, surveying, or engineering purposes.
Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.
There is no warranty or guarantee as to the content, accuracy, timeliness, or completeness of any of the data provided, and assumes no legal responsibility for the information contained hereon. Copyright Reserved - Christchurch City Council, Crown, Orion, Transpower, Telecom, Contact, Telstra, Ecan, Enable, Liquigas

Printed: 13/12/2011 10:01

© Copyright 2011. All rights reserved.