

ATTACHMENT G:

Infrastructure assessment

REPORT

TO: District Planner

FOR: Plan Change 080002

FROM: Asset Manager Utilities

DATE: 26 March 2010

SUBJECT: **Peer Review of Infrastructure Services Assessment Related to an Application for a Plan Change 080002 (Coffey and Blake) – Rezoning of Rural (Inner Plains) to living XA deferred**

1. RECOMMENDATION

That this report is received

2. PURPOSE

- 2.1 The purpose of this report is to detail a review of an Infrastructure Services Assessment prepared by the sub division engineering firm Connell Wagner now (Aurecon). That assessment was by Coffey and Blake as part of the application to Selwyn District Council “The Council” for a Plan Change to the Selwyn District Plan. The plan change application is intended to enable subdivision and development of Coffey and Blakes land in Prebbleton. The legal description of the land is Pt Lot 4 DP 24908, Lot 105 DP 331951 and Lot 4 DP 8147.

3. BACKGROUND

- 3.1. The Asset Manager Utilities has walked over the site previously and identified likely stormwater flow paths.
- 3.2. Asset Manager Utilities has developed a 5Waters Strategy, Sustainability Principles, 5Water Activity Plans and Asset Policy, been involved in structure work for Prebbleton and environments and outline development plan work.
- 3.3. The Asset Manager Utilities is responsible for Community water, wastewater, stormwater, land drainage and all stock watterrace systems with in Selwyn District Council.

4. 5WATERS-SUSTAINABILITY OF INTEGRATED PLANNING

- 4.1. Selwyn District Council has adopted a long term integrated forward plan for district water infrastructure which includes Prebbleton. The water resources planning documents include a set of sustainability principles accepted by Council 2008 and a 5Waters strategy adopted in August 2009.
- 4.2. In 2004 Council adopted policy of not allowing additional connections to the Prebbleton Wastewater system until additional discharge capacity had been secured. This is discussed in more detail below.
- 4.3. Further strategic and specific Asset Management planning and funding processes are reported in Councils 5Waters Activity Management Plan, Long Term Community Council Plan and Annual Budgets.

- 4.4. Council Staff are currently preparing policies for potable water demand in loss control and 5Waters Infrastructure renewal prioritisation.
- 4.5. The Council is developing an Engineering Code of Practice. Compliance with that Code will be required.
- 4.6. Council has a water and wastewater network model developed and maintained for this area.
- 4.7. Potable water, wastewater and stormwater are considered in the proposal. Land drainage considerations are not discussed given Council does not have a land drainage scheme in this particular area. Down gradient of this site the Canterbury Regional Council maintains a Land Drainage scheme.
- 4.8. Waterraces are located in land near this site but not within it. A public good (Urban) rate has been set to contribute to enhancement of the Urban waterraces.

5. DISTRICT PLAN REQUIREMENTS

- 5.1. The proposed subdivision will be assessed under the Selwyn District Plan at the time of hearing any subdivision consent application. The application however generally satisfies the water-related objectives, policies and methods of the District plan, as outlined below.

| WATER OBJECTIVES | PROPOSAL | COMPLIANCE |
|---|--|---|
| <p>Objective B1.2.1</p> <p>Expansion of townships in Selwyn District maintains or enhances the quality of ground or surface water resources.</p> | <p>Reticulated water supply, wastewater and stormwater networks; water supply via secure wells; stormwater treatment by swales and wet ponds; improved riparian conditions; wastewater treatment and disposal via pipeline to upgraded Rolleston system; groundwater collection via new subsoil drains with disposal to surface water.</p> | <p>Yes</p> |
| <p>Objective B1.2.2</p> <p>Activities on land and the surface of water in Selwyn District:</p> <ul style="list-style-type: none"> – Do not adversely affect ground or surface water resources; – Do not adversely affect waahi tapu or waahi taonga; – Maintain or enhance the ecological and habitat values of water bodies and their margins; – Maintain or enhance the ecological values of sites on mahinga ki (food gathering); and – Promote public access along rivers and streams, where appropriate. <p>POLICIES AND METHODS</p> | <p>Proposal as described in B 1.2.1 above</p> <ul style="list-style-type: none"> – Minor localised effects on groundwater resources – No known Maori cultural issues – Benefits likely – Status quo or improvement – Would be achieved | <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> |
| <p>General</p> <p>Policy B1.2.3</p> <p>Ensure all activities in townships have appropriate systems for water supply, and effluent and stormwater treatment and disposal to avoid adverse effects on the quality of ground water or surface water bodies.</p> <p>Policy B1.2.2</p> <p>Ensure land rezoned to a Living or Business zone can be serviced with a water supply and effluent and stormwater disposal without adversely affecting groundwater or surface water bodies.</p> | <p>Proposal as described in B 1.2.1 above</p> <p>Would be achieved</p> <p>Surface water (flooding) yet to be demonstrated</p> | <p>Yes</p> <p>Expected, subject to demonstrating sufficient storage and sufficiently low outflow rate to avoid downstream flooding effects.</p> |
| <p>Water Supplies</p> | | |

| WATER OBJECTIVES | PROPOSAL | COMPLIANCE |
|--|-----------------|-------------------|
| <p>Policy B1.2.3</p> <p>Require the water supply to any allotment or building in any township to comply with in current New Zealand Drinking Water Standards and to be reticulated in all townships, except for sites in the existing Living 1 Zone at Doyleston</p> | As above | Yes |
| <p>Policy B1.2.5</p> <p>Require any sewage treatment and disposal to be reticulated in the townships of Castle Hill, Doyleston, Lake Coleridge Village, Leeston, Lincoln, Prebbleton, Rolleston, Southbridge, Springston, Tai Tapu and West Melton.</p> | As above | Yes |

6. WATER SUPPLY

- 6.1. Development is expected to include interconnection with the existing network.
- 6.2. Council is aware that it does not have consent to take water at a rate and volume which will meet the predicted needs of this development. It is currently preparing an application to the Canterbury Regional Council to address this.
- 6.3. The applicant will be responsible for undertaking and meeting the costs of any works required to provide water within the proposed development, to Councils standards.
- 6.4. Updating Councils water supply network model will be at the applicants expense.

7. WASTEWATER

- 7.1 Currently there is no additional capacity in Councils Prebbleton wastewater scheme.
- 7.2 Council is progressing with a significant body of consent related work to manage this. Physical works would follow, which should allow for this development to access wastewater services with the necessary capital/performance criteria met. Under Councils current timeline access is expected to be available to the development in February 2012.

8. STORMWATER AND GROUNDWATER

- 8.1. The applicant will be required to obtain a Resource Consent to treat and discharge stormwater.
- 8.2. Asset Delivery staff have stated previously that the first two years operation is the responsibility of the applicant.
- 8.3. Stormwater Management shall as a priority take advantage of ground disposal.
- 8.4. A number of specific assessments and analysis will be required to be undertaken at the time of subdivision once a specific scheme layout has been confirmed, should the requests be formalised. These include, but are not limited to, the following:
 - a) Possible insect nuisance & hazards;
 - b) The ability and costs for Council to monitor systems and observe them. It does not support consents which require property owners to meet certain conditions;
 - c) Clear benefit/cost analysis, including Life Cycle costs to all contributing rate payers compare to other alternatives; and
 - d) System effectiveness in major storms when their capacity may have been used before the most intensive rainfall occurs.
- 8.5. I consider that the applicant be asked at the subdivision stage to confirm:
 - (a) That the capacity of the proposed stormwater system is sufficient to treat and dispose of stormwater from upstream catchments contributing to this area;
 - (b) The proposed land to be developed itself; and
 - (c) That the proposed discharge rate will be constrained to avoid any increase in flooding down stream up to and including the following: (i) At least fifty year arrows returned interval storm; (ii) Critical duration to include downstream affects as far as the Canterbury Regional Council Land Drainage Catchment; and (iii) Utilising intensity/duration data to include full climate change to at least 2090 as provided in Selwyn District Councils 2009 Rainfall rates review.

- 8.6. The applicant should be asked to provide a development and maintenance plan for Council for review before each subdivision consent stage. More information should include how the proposed stormwater ponds or treatment arrears are to be laid, planted and managed in the short, medium and long term. Issues to cover include avoiding or mitigating infestation by nuisance or noxious weeds in bird species including ducks and geese. Confirmation of ease and safety of ongoing truck access for maintenance including sediment and excess plant matter removal will be required. Confirmation of design, operation and maintenance of the proposed first flush infiltration system should also be provided.
- 8.7. The layout of plantings, walkways etc to allow ecological continuity with nearby catchments should also be detailed.

9. SUBMISSIONS

- 9.1. No submissions have been noted

10. CONCLUSIONS AND RECOMMENDATIONS

- 10.1. The applicants proposal for water supply, wastewater and stormwater systems is sufficiently developed at the proposed plan change stage to confirm that there are no fundamental reasons relating to the systems for the plan change not to proceed however it is noted
- i. Further information on water supply is to be provided at the time of any subdivision consent application to allow for the expected substantial leaving time for consenting of additional water take. That information should include:
 - Confirming the capacity of Councils current and proposed network to provide some for peak summer and fire flow demands to the proposal
 - Defining any requirements brought about by the proposal for additional water take together with information on expected capital, operating and monitoring costs. Updating of Councils water supply network model at the applicants expenses is expected to be required.
- 10.2. The proposed stormwater system should be presented noting the issues raised in s8 (above).
- 10.3. No wastewater system is available to meet the proposed demands of this plan change area at present. Council expects to have additional capacity available to service the entire development by February 2012 based on its current planning horizon.
- 10.4. The applicant is to provide a development and maintenance plan for Council to review at each subdivision consent stage with respect to stormwater. The information should include how the proposed stormwater ponds are to be laid out planted and managed in the short medium and long term. This should include methods to avoid or mitigate infestation by nuisance noxious weeds and bird species including ducks and geese. Confirmation of ease and safety of ongoing truck access for maintenance including sediment and excess plant matter removal will be required. Confirmation of design, operation and maintenance of the proposed first flush infiltration system should also be provided.