
Central Plains Water

Landscape s42A Report

Report prepared by Andrew Craig – BA, Dip.LA. ANZILA (Landscape Architect)
February 2008

PETER ROUGH LANDSCAPE ARCHITECTS LTD.
St. Elmo Courts
47 Hereford Street
PO Box 3764
Christchurch
Tel. 366 3268
E mail: andrew.craig@prla.co.n

1.0 INTRODUCTION

- 1.1 The purpose of this report is to assess the 'Notice of Requirement' and 'Water Distribution Landuse Consent' applications with regard to the effects on the proposal on the landscape. This report does not set out to undertake an assessment of effects, but does scrutinise the effects assessment supplied by the applicant with particular regard to the relevant statutory documents, especially the Selwyn District Plan. Submitters concerns are also considered.
- 1.2 Submissions made in response to the Notice of Requirement and Resource Consent application are also considered. Only those parts of the submissions concerned with landscape effects are assessed.

2.0 SCOPE

- 2.1 There are two aspects addressed in this report regarding the landscape effects of the proposal.
- 2.2 The first is that the primary focus will be on whether or not the proposal meets all of the statutory requirements relating to landscape matters, with particular regard to the Proposed Selwyn District Plan (SDP). Other statutory documents (Regional Policy Statement and Proposed Waimakariri River Regional Plan) are briefly referred to, largely in response to submitters concerns.
- 2.3 The second part of this assessment considers submitters concerns for the effects of the proposal on the landscape. These will be mostly considered within the context of the relevant District Plan provisions.
- 2.4 In this appraisal, reference will be made to the landscape assessment of the Central Plains Water scheme prepared for the applicants by Mr Chris Glasson (landscape architect). It is understood that although the 'Notice of Requirement' document describes in detail the character of the receiving environment, at this stage it only offers a general description of landscape enhancement or mitigation measures. We are told by the applicant that more detailed landscaping plans will be provided as part of any forthcoming 'Outline Plan' process.
- 2.5 Finally, if necessary landscape conditions further to those offered by the applicant will be recommended for consideration by the consent authority.
- 2.6 Before considering the proposal against the District Plan landscape provisions, it is necessary to give a clear picture of what the actual and potential effects of the proposal are. These are summarised as follows.

3.0 SUMMARY OF POTENTIAL AND ACTUAL EFFECTS ON THE LANDSCAPE

- 3.1 Listed on the next page are the proposed works alongside which are indicated the actual and potential effects on the landscape. Generally all of the proposed work will involve extensive earthworks and the appearance of new structures into the

receiving environment. The greatest extent of actual and potential effects on the landscape will therefore arise from this activity.

- 3.2 Resulting from the proposal will also be some downstream effects. These will involve potential changes to the farming environment, and therefore its character and amenity. Further effects on the natural character and amenity of the river may arise from reduced water flows below the intakes.
- 3.3 The affected landscape can be broken down into three distinct units. These are the riparian environments of the Rakaia and Waimakariri Rivers affected by the intakes and sediment traps; the terrace landscape affected by canals; the plains affected by intake and distribution canals; the toe of the Harper Hills affected by a canal; and finally Waianiwaniwa valley affected by the dam and reservoir.
- 3.4 It is also important to appreciate that not all of the effects will be adverse, but in large part this will depend on each individual's point of view. Some of the landscape effects resulting from the scheme will be regarded positively. For example these may arise from visual amenity of the newly formed lake, in addition to its potential recreational and ecological advantages. Amenity areas around some of the intake canals will also have a positive effect. There will be people who regard the landscape effects of increased productivity as being visually attractive. Others may enjoy the evident engineering feat that comprises the scheme.
- 3.5 Adverse effects will principally derive from changes to environment which many people (judging from the submissions) value in its current state. Some of these changes will be dramatic such as the dam and reservoir, while others will have negligible effect, such as the tunnel option. Whatever the case, the landscape will certainly change. And it might be that, at least from the submitter's point of view, it is not change itself that is of concern, but rather the rapidity and magnitude of change.
- 3.6 Generally the District Plan contemplates a certain level of change in the rural zone. This will be discussed in more detail shortly. The important point is that a rural working landscape is never static. The District Plan recognises that the rural landscape in the affected area is primarily a business zone. And it is the nature of rural business activity to be driven by economic imperatives which can change at any time. For example, up until a couple of decades ago few people, if any, would have thought that vineyards and olive groves were to become common place in Canterbury's rural landscape. The same could be said for 'lifestyle blocks.' So the rural landscape then, is a product of certain economic drivers that ultimately give it form. The current receiving landscape is just that. To illustrate this, we only have to consider that a little over 150 years ago the Canterbury Plains comprised entirely of native vegetation with virtually no form of European derived modification. The Plains have dramatically changed since then.
- 3.7 So when we consider the effects of a proposal such as this, we not only have to assess these in the current setting, but also within the historic and present day context of those processes that drive landscape change.

3.8 The following is a summary of actual and potential effects that the proposed scheme may have on the landscape of its setting.

Proposed work	Actual Effects	Potential Effects
2 intake structures at the Rakaia & Waimakariri Rivers	<ul style="list-style-type: none"> • Earth & landform disturbance 	<ul style="list-style-type: none"> • Loss of natural river character & amenity • Unsightly scarring • Visual intrusion of structures
A headrace canal from Rakaia River to the dam	<ul style="list-style-type: none"> • Earth & landform disturbance 	<ul style="list-style-type: none"> • Ditto • Loss of rural character & amenity
The tunnel from Waimakariri River to the dam	<ul style="list-style-type: none"> • Earth & landform disturbance at tunnel portal 	<ul style="list-style-type: none"> • Ditto
The dam at Waianiwi Valley	<ul style="list-style-type: none"> • Earth & landform disturbance • Appearance of lake 	<ul style="list-style-type: none"> • Ditto • General change in landscape character
Distribution structures - Water races Pump stations Pipelines	<ul style="list-style-type: none"> • Earth & landform disturbance 	<ul style="list-style-type: none"> • Appearance of structures • Change in landscape character & amenity
Bywash / turnout canal	<ul style="list-style-type: none"> • Earth & landform disturbance 	<ul style="list-style-type: none"> • Ditto

4.0 THE PROPOSED SELWYN DISTRICT PLAN

- 4.1 The entire project is located in the Rural Outer Plains and Rural Malvern Hills Area zone for which there are a number of objectives and policies that are relevant to landscape outcomes. Further there are rules that set out to achieve these, and in this case the relevant ones apply to earthworks and utilities, including associated buildings and structures.
- 4.2 Although the proposal has discretionary activity status there are no discretionary matters in the Plan requiring consideration of effects on the landscape. Consequently assessment focuses on whether or not the proposal implements and achieves the objectives and policies that are relevant to landscape matters.
- 4.3 Listed below are those objectives and policies. Also identified and discussed are the relevant 'environmental results' and 'reasons for rules.' Most of these have been addressed in the application, although some that are relevant to landscape outcomes have not. In the following discussion the objectives will not be discussed in any detail – rather the focus will be on the policies that implement them, and these are considered next.

4.4 Natural resources - Water¹

Objective 2: *To protect and enhance the vegetation, habitat values, ecosystem processes and amenity values of waterbodies and their riparian margins, their role in maintaining water quality and their significant landscape values.*

Objective 3: *Protect and enhance the amenity values along waterbodies*

Objective 4: *Land use activities involving structures or provisions for the storage of or reticulation of rural water supplies are to maintain and mitigate adverse effects on the amenity and environmental qualities of the rural area.*

Objective 6: *Land use activities, and particularly earthworks, forestry, vegetation clearance and modification, and agricultural activities are managed within catchments and riparian areas to protect water quantity and quality, aquatic habitat, and natural character*

- 4.5 The four objectives cited above essentially place considerable emphasis on the protection, maintenance and enhancement of the natural character and amenity of waterbodies and their margins. In doing this it is also evident that they do not rule out development of the kind proposed, which is particularly clear in Objective 4. The main thing is that at the conclusion of any such development the natural character and amenity of water bodies and their margins are protected, maintained and enhanced.
- 4.6 A significant characteristic of the proposal is that a substantial new water body will be created, namely the Waianiwaniwa Reservoir. It can only be assumed that the

¹ SDP Volume 2 Rural Areas Section 1

above objectives and policies will apply to this waterbody as well, as there is no contrary indication in the District Plan.

4.7 The following policies provide specific methods that enable the above objectives to be achieved.

4.8 **Policy 5:** *Retain vegetation, in particular indigenous vegetation, along the riparian margins of the coast, rivers, lakes and wetlands. Where large quantities of indigenous vegetation are removed, ensure they are replaced with the same or similar species.*

In his landscape assessment report, Mr Glasson identifies that some ‘...mixed scrub and hardwoods can be found along the riverbanks and terrace edges of Rakaia, Selwyn and Waimakariri Rivers. Plants here include kowhai, kohuhu, cabbage trees, coprosma and ribbonwood.’ The listed species are all native. Mr Glasson also notes the presence of exotic plant species such as gorse, broom and pine around the intake sites.

4.9 Of relevance to the location and extent of native vegetation, the Applicant points out² that, in conjunction with the Selwyn District Council, ‘The plan will identify significant indigenous vegetation (if any) in the designated areas and determine methods of protection or mitigation’.

4.10 It is not clear from the application how much of this existing native vegetation will be removed to make way for the project. The policy does acknowledge however, that where large quantities of indigenous vegetation are removed, it will be replaced. Mr Glasson gives an undertaking that this will happen.³ While detailed landscape restoration plans do not accompany the application documents a memorandum⁴ has since been issued by the applicant where assurances are given that these will be provided when the Outline Plans are lodged. So in the absence of these plans, it is not possible at this stage to assess in detail the extent and nature of vegetative loss and restoration work. Consequently it is not yet possible to conclude whether or not the above policy will be implemented and achieved; suffice to say that the applicants have stated that it is their clear intention to undertake restoration and enhancement of all affected areas.

4.11 **Policy 6:** *Encourage large scale earthworks, structures or tree planting to be setback from lakes or rivers, unless the activity must be located in the riparian margin.*

Policy 8: *Ensure any earthworks, flood protection works, structures or trees that must be located in riparian margins, or access by stock to riparian margins: - mitigate any adverse effects on the natural character of the waterbody.*

These two policies are closely allied, and therefore merit discussion in unison.

4.12 The proposal will entail earthworks and the presence of structures within the river setback. These will involve the intakes, sediment ponds and to some extent the

² Notice of Requirement Section 8.1.2

³ Glasson 7.1, 7.2, 7.3 & 7.7

⁴ McCracken, K. Memorandum to Mr Nick Boyes, October 24 2006.

canals, including the point where they cross the Selwyn and Hororata rivers. The 'Explanation and reasons' state that one aim of this policy is '*To maintain the natural character of the waterbody where it exists, or the opportunity to enhance natural character in the future.*'

4.13 Of relevance to this policy and its explanation, Mr Glasson observes that '*It is important that any development have regard for the naturalness and simplicity of the river landscape especially at the gorges, where there is a sequence of grassed terrace flats and bush clad cliff faces. These structures must be integrated into the environment so as to minimise the impact on the natural dominance of the landscape.*' In his visibility assessment he then notes that the Rakaia Intake '*is [will be] a very visible structure on the northern side of the river at the toe of the embankment....*' Both Waimakariri intakes will be much less visible if for no other reason that they are not generally seen from key public vantage points. They are also hidden from view by intervening terraces.

4.14 It is important to note that a high degree of visibility can equate with a corresponding loss of natural character. But variables also come into play, which have the potential to affect this, such as size, height, materials, colour and setting (landform backdrop verse skyline intrusion for example). Nonetheless, the effect on the river's naturalness certainly needs to be avoided, remedied or mitigated in favour of the landscape outcomes contemplated by the relevant objectives. To this end Mr Glasson has outlined some enhancement measures that include natural weathering of the concrete structures, the painting of other structures (buildings) in natural, low reflectivity colours, and revegetation of earthworks. Details in this regard have yet to be furnished.

4.15 There are a number of characteristics of the scheme that favour the maintenance of natural character, and others that detract from it. These are listed with reference to each riparian structure as follows.

4.16 Upper Waimakariri Intake

The photographic visual impressions show that the arrow straight intake diversion channel cuts more or less perpendicular to the natural braids of the riverbed, and therefore detracts from its natural character. Mr Glasson refers to the braided system as being '*...a unique feature of the New Zealand landscape.*' Judging from the presence of establishing vegetation it however appears that the affected area is currently not part of the active river system. This circumstance would therefore mitigate in its favour. Nonetheless, if it were technically feasible (apart from cost considerations) to realign the diversion channel so that it resembles a 'S' shaped curve (see attached aerial photograph), then this would better achieve the maintenance of the river's natural character.

4.17 The sediment trap beyond the intake gate more or less follows the river's alignment, and therefore maintains its natural character. There would be no need to mitigate this particular feature of the scheme. The same would apply to the upper intake and tunnel portal, which is essentially submerged with very little of its structure visible.

4.18 A significant natural feature potentially affected by Waimakariri intake and canal infrastructure is the Kowhai River. The headrace canal passes underneath the Kowhai River via a siphon structure. The siphon will ensure that the natural character of the Kowhai River will be maintained. A photograph supplied by the applicant shows an example of such a siphon, in this case of the Rangitata Diversion race siphon under the North Hinds River. As yet no detailed plans are available of the Kowhai River siphon.

4.19 Rakaia Intake

There are no images supplied by the applicant showing the actual diversion channel from the Rakaia River to the intake gate, and so it is not possible to assess the effects of this on the landscape of the riverbed. There is however an aerial photograph that shows an impression of the sediment trap, intake gate and headrace. These features appear to more or less follow the natural contour of the riverbank and terraces. The canal headrace will however result in a straight line profile, but this is not too far out of keeping with the generally flat and level lines of the prevailing natural river terraces in the area.

4.20 The same can be said for the significant cut indicated in the artist's impressions, but not shown in the Rakaia intake aerial photograph looking north. Cliffs of gravels exposed by river erosion are a common feature of the Rakaia River environment, and even though the cut will be visually dominant until the establishment of vegetation, it will not be entirely foreign to its setting. Nonetheless further detail regarding this and the diversion channel are needed in order to fully assess the effects. Cross sections of the cut terrace would also be very useful.

4.21 Other Rivers & Streams

There are three significant rivers that the headrace canals will cross, and therefore potentially affect their natural character. These are the Kowhai, Selwyn and Hororata rivers. The Hawkins was another, but with the preferred tunnel option this will now be unaffected. All of these rivers will have the canal pass under them via siphons. Consequently their natural character will appear to be maintained, depending on the proximity of the siphons to the river or streambed. But again, detailed plans of these are needed before any definitive conclusions can be reached.

4.22 The applicant also identifies a further 21 minor streams that the canal will have to pass. Many of these are unnamed and are ephemeral. It is proposed to culvert these streams over which the canal will pass. The culverts will detract from the natural character of these, but in essence they will not be all that different from the many road crossings of these streams in the area.

4.23 Summary of Policies 6 & 8

To reiterate the first aim of Policy 6 is to keep structures away from waterbodies with a view to maintaining their natural character. The policy also seeks to protect the opportunity for enhancement of the waterbody. Nonetheless, it also recognises that some structures can only be located within waterbody margins, as is the case here. In such circumstances the mitigative requirements of Policy 8 come into

play. At best then, in order to achieve the policy, the aim is to minimise the loss of natural character caused by the effects of proposed structures.

- 4.24 There are a number of mitigating factors and measures that favour the applicant in this regard. One is that the intake structures themselves have modest dimensions in relation to the substantial scale of their landscape setting. In particular the height of these is not particularly great with no structures appearing to exceed 3 metres above the surrounding ground and water levels. The permitted maximum height for utility structures in the rural zone is 25 metres.⁵
- 4.25 The greater impact will arise from the associated earthworks resulting in the intake and distribution canals. Even though these works are extensive, as mentioned they are not entirely dissimilar to the landforms of their setting, although this will depend on the extent and height of elevated embankments. The applicant has indicated that cuttings and indeed all earthworks will be re-vegetated. Photographs accompany the application which show the before and after effects of mitigation on some of these. In general, it is evident that in time the cuttings will come to resemble the landscape character of their setting, particularly if their landform has a natural contour.
- 4.26 A further mitigating factor is that the alignment of the intake canals is more or less parallel to the rivers, and that these appear to 'hug' the riverbanks. This is desirable as it is sympathetic to the general patterning or 'grain' of the river corridor, which is especially important in maintaining the alignment of braids.
- 4.27 The final mitigating factor is that the receiving environment is by no means a pristine natural landscape. The river corridor has been modified largely as a result of farming practices, and the presence of other infrastructure. While the river bed itself displays high natural character, the riparian margins carry all of the paraphernalia of pastoral farming, such as fences, shelterbelts, exotic woodlots, paddocks, access roads and the occasional accessory building. Pylons also cross the river, particularly in the vicinity of the Rakaia intake. In the same vicinity also, is a disused lime quarry and on the west bank more or less opposite the intake is Highbank Power station. The nearby gorge bridges on both rivers also contribute to its modification.
- 4.28 Overall, while the proposal will incur some significant changes to the river environment, most of these are confined to the riverbanks rather than the braided channels. The diversion channels have the greatest potential to affect the natural braids of the rivers, which is why it is important that these appear similar. Further the mitigating factors and proposed measures discussed above are likely to be sufficient to render any adverse effects on natural character, within the context of Policies 6 and 8, to be less than minor, but to reiterate, this is subject to the provision of more detailed restoration plans.

4.29 **Policy 9:** *Encourage initiatives by landholders and communities and work co-operatively with them to enhance the natural character of riparian margins and wetlands.*

⁵ SDP Rural Utilities Rule 5.3.1

4.30 It is evident from the application that there has been consultation⁶ with all known affected parties and those with an interest in the scheme proposal. The application includes a table that identifies key issues of most concern. Notably absent from the list of key issues is concern for general landscape character and visual amenity. The only party to express any concern in this regard appears to have been the Department of Conservation. The submissions however, indicate that landscape effects are of concern to many people.

4.31 From this it appears that initiatives by landholders and communities to enhance the natural character of riparian margins have not yet materialised, but this may yet happen. Irrespective of community and landholder involvement, the applicant has nonetheless given an undertaking to avoid, remedy and mitigate any adverse effects on the landscape arising from the proposal. Doubtless conditions will be imposed to ensure that these are implemented and maintained, possibly with assistance from landholders and communities.

4.32 **Policy 14:** *Ensure any structure or mooring which is located on or passes over or across the surface of a waterbody is:*

- Any adverse effects on wildlife, waahi tapu or mahinga kai sites; aesthetic, heritage or recreational values; or public access to the waterbody; are avoided, remedied or mitigated;

This policy is similar to the concerns raised in Policies 6 & 8 discussed above. Regarding landscape matters, this policy flags the adverse effects of structures on aesthetic values of the receiving environment. These have been covered in the discussion regarding Policies 6 & 8.

4.33 **Environmental results**

3. Increase in indigenous vegetation planted in riparian margins.

As mentioned, no landscape plans have yet been included in the application showing in detail the extent of proposed riparian planting. However, Mr Glasson has outlined what the nature of vegetation restoration⁷ will be for each of the scheme's structures. Most earthworks will be immediately grassed, followed by the planting of mostly indigenous vegetation, especially in the natural environment around the river intakes. Exotic trees will also feature, especially around publicly accessible amenity areas such as Waianiwaniwa Reservoir.

4.34 7. *The natural character of waterbodies is maintained in some areas restored [sic].*

It is apparent that in the context of the receiving environment, apropos current levels of modification, that the generic natural character of the waterbodies (the rivers and streams) will be maintained, although there will be cumulative effects. There will be a change in specific character, where the elements that combine to make the landscape unique are altered. That is, the infrastructure of the proposed

⁶ Notice of Requirement Section 7

⁷ Notice of Requirement Section 5.5.3

scheme will be added to existing elements, which will mean that the latter will be altered to varying degrees depending on how each water body is affected. The overall generic open space character of landscape will remain intact, although localised natural character will diminish, but not significantly so. This is because for the most part the intake structures will be confined to the riverbanks rather than the more natural and essentially unmodified riverbed. And as mentioned, the structures are essentially flat, with very little height profile, which means that they will not be vertically prominent in the same way that pylons are.

4.35 Viewpoints will also affect appearance. Low vantage points such as within the river bed will mean that views will be foreshortened, making the intake structures less discernable, even from close quarters, compared to more distant elevated viewpoints. While the riverbeds are publicly accessible, they are not high profile vantage points subject to high visitor numbers.

4.35 The environmental result also makes reference to restoration, and as discussed, the applicant has given an undertaking that this will occur, even though the details are not yet available.

4.36 **Natural Resources: - Indigenous Vegetation & Wilding Tree spread⁸**

Objective 3: Protect, and where practicable enhance indigenous vegetation along riparian margins and wetlands generally

Policy 5: Encourage the retention of existing indigenous vegetation on the margins of lakes, rivers, wetlands and streams and the enhancement of these areas through management practices, which allow for the re-establishment of vegetation of the margins of lakes, rivers, wetlands and streams in areas where it has been depleted.

4.37 This has been discussed above, although this objective and policy does signal what the most appropriate treatment alongside the newly formed Lake Waianiwaniwa might be. Mr Glasson has indicated in his landscape report that exotic trees are to be planted along with native plants around the lake margins and in other publicly accessible waterbodies alongside the canal. In this regard, Mr Glasson recommends '*Significant areas of exotic tree planting to relate to the existing situation.*' Again, as there is no detailed planting plans as yet, it is not possible to assess the extent and proportions of native and exotic planting. Nonetheless, it would be desirable to favour native planting at least on the lake shoreline, with exotic amenity planting set back from it. The reason for doing this is that the lake edge is the one place where it is most conducive to the establishment of indigenous shoreline ecosystems. This would be particularly important where natural drainage channels feed into the lake. Photographs are provided in Mr Glasson's landscape report, which show examples of how a lake edge might be treated, and such outcomes would be desirable.

4.38 So while exotic planting would not be out of keeping around the lake, largely due to the current plant regimes, it would in the light of implementing Policy 5 be desirable to favour indigenous planting. The same would apply to the Waimakariri

⁸ SDP Volume 2 Rural Areas Section 1.2

and Rakaia intake settings, but is less important alongside the canal where it crosses the plains.

4.39 **Physical Resources: – Utilities**⁹

Objective 2: *The provision of utilities where any adverse effects on the environment and on people’s health, safety and wellbeing is managed having regard to the scale, appearance, location and operational requirements of utilities*

Of landscape relevance in this objective is the need to manage the scale, appearance and location of utilities. The following policies give guidance as to how these aspects are managed.

4.40 **Policy 6 (a)** *Avoid siting utility structures or buildings on hilltops in the margins of lakes or rivers or in areas identified as outstanding natural features and landscapes, sites with special cultural values (Silent File Areas, Wahi Taonga Sites and Management Areas or Mahinga Kai Sites) or Heritage Sites in the Plan, unless operational necessity makes this impractical.*

4.41 **Policy 6 (b)** *Where not practical mitigate any adverse effects of the utility, and of any access road or ancillary features, on the landscape values of the area.*

With regard to this policy it is clearly an operational necessity to site major components of the proposed scheme within the margins of rivers. In that event, Policy 6(b) on the other hand requires that the adverse effects of any structures within the river margin be mitigated.

4.42 Aside from vegetative mitigation, the applicant is proposing other measures to reduce adverse visual effects. These principally include controls on colour and its reflectivity. The ‘*Grading off excess excavated material and grading the batter slopes*’ is also offered as an enhancement measure¹⁰, and although it is not clear what is meant by this, it could be interpreted as involving the natural contouring of cut and fill areas. If this were to happen it would certainly result in the maintenance of natural landform within the rural area.

4.43 **Policy 7:** *Require utility structures to be made of low reflective materials.*

The explanation and reasons to this policy summarise the outcome it seeks where it states that, ‘*Finishing utility structures in materials with low reflectivity helps them to blend into the landscape and reduce the prominence of structures.*’ As mentioned above, the applicant intends to paint most structures in colours with low reflectivity. Concrete structures will be left to weather naturally. It is not stated in the application what the reflectivity level will be, but a maximum level of 37% is recommended in accordance with the reflectivity rules for utilities in outstanding landscape areas.¹¹ Low reflectivity has the effect of reducing reflected glare from sunlight and darker colours cause structures to recede into their landscape setting. The reverse is true for lighter colours with high reflectivity.

⁹ Ditto Section 2.2

¹⁰ Notice of Requirement p. 79

¹¹ SDP Rural volume -Utilities Rules 5.5.5.3 & 5.6.1

4.44 Colour is not specified either, although the applicant will undertake to use recessive hues. In addition to low reflectivity it is also important to use natural colours, these being essentially shades of green, grey and brown.¹² Bright colours such as red, yellow and orange should be avoided, even where they have low reflectivity ratings.

4.45 **Policy 8:** *Encourage the co-siting of utilities, where practical.*

The aim of this policy, along with Policy 7 above, is as their explanation and reasons state, 'to reduce the visual prominence of utility structures in the rural area....' This is achieved by encouraging the co-location of structures so that they are not scattered throughout the environment, resulting in widespread adverse effects.

4.46 Currently there are no similar structures of the scale proposed in the affected area, although the presence of Highbank power station opposite the Rakaia intake gate is perhaps an exception, along with the some pylons. In this sense, the Rakaia intake may be considered to be co-located, but this is likely to be a product of coincidence rather than intent. The location of the proposed scheme components is very much dictated by operational requirements, largely dictated by the differentiation in levels between the intakes and the Waianiwaniwa lake surface. Unlike communication masts for example, there appear to be no available alternatives in siting the scheme that would favour co-location. And as mentioned, there are in any case no similar structures to co-locate with.

4.47 **Environmental results**

2. *Utilities are less visually prominent in the future, particularly along ridge tops and waterbodies, and in other areas with high landscape values*

4.48 3. *More utilities are finished in low reflective materials and co- located*

It seems that in general terms at least, the applicant's stated intent is to ensure the scheme appears to fit into its landscape setting. There is clearly an undertaking to implement mitigation measures in order to achieve such an outcome. It is apparent in the 'Notice of Requirement' and 'Water Distribution Network' consent application documents that mitigation will primarily rely on landscaping, contouring, colour and reflectivity controls.

4.49 It is also evident that there will be mitigating factors at play. These include the 'ground hugging' nature of the proposed development. In other words, excepting the dam, there is very little in the way of significant vertical structures. Other factors include, relative to the full extent of the scheme, very little in the way of ancillary structures such as intake gates, pumping stations and bridges. The largest structures, which include the dam, canal and the invisible tunnel essentially, comprise the reshaping of natural elements – namely earth and water.

4.50 Regarding the largest structure, (35m high by 2000m long), the proposed dam will for all intents and purposes, basically appear to resemble a hillside. That is, it will

¹² Ditto Rule 5.4.1

have a sloping face that will be grassed. It will still read as being of artificial origin, because of the even gradients involved and level apex, which is not characteristic of the surrounding hills. However, because the dam in effect conjoins the hills that contain it, it is therefore of a similar scale to them. There will of course be a major change to the specific landscape character of the area, where the existing Waianiwaniwa Valley system will disappear from view. Also, the dam will significantly change the backdrop of Coalgate, where it will form a new skyline. But it is important to appreciate too that the generic natural character of the area will not be significantly diminished. This is especially true of the proposed lake that will most definitely display a high level of natural character, with the exception of where it meets the dam. And as alluded to, the dam structure itself will not be totally devoid of natural character, especially when compared to other utility structures in the area such as pylons and telco masts.

4.51 So with regard to the utility policies discussed above, it appears that the proposal will achieve them, given that they seek to strike a balance between the provision of utilities and mitigation of their effects.

4.52 Amenity values, Quality of the Environment and Reverse Sensitivity
Effects¹³

Objective 1 *The District's rural area is a pleasant place to live and work in.*

Objective 2 *A variety of activities are provided for in the rural area, while maintaining rural character and avoiding reverse sensitivity effects.*

Policy 1 *Recognise the Rural Zone as an area where a variety of activities occur and maintain environmental standards that allows for primary production and other business activities to operate.*

4.53 In the explanation and reasons to Policy 1 it is recognised '*...that the Rural Zone is principally a business area. Farms, forests and other rural activities are businesses and they need to be able to operate efficiently and with as few restrictions as practical.*' What this means is that rural business activity will manifest itself as the landscape. That is, the rural landscape, especially within the Canterbury Plains, will appear first and foremost as a business environment, albeit one characterised by abundant open space and greenery. As a consequence, the policy anticipates that the rural landscape will be diverse in character. Elements in the rural landscape will also appear pragmatic, reflecting the underlying economic imperatives of the rural sector. Out of this is a public expectation that the rural landscape will display the devices of rural business activity. Nonetheless, as the parent objectives indicate, rural character and amenity must also be maintained. It is important to, that in the light of the preceding discussion that rural character and amenity do not necessarily equate with the natural. So it has to be accepted that an apparent trait of rural landscape character will be the 'machinery' of primary production.

4.54 In general, the proposed scheme will certainly display the characteristics of a rural utility as an inextricable part of the prevailing primary production environment it serves. In this sense, the proposal cannot be considered an incongruous element

¹³ SDP Volume 2 Rural Areas Section 3.4

in the rural landscape, even though it will bring about significant change. On this basis it will appear to achieve Policy 1.

4.55 **Policy 3** *Mitigate significant adverse effects of activities on the amenity values of the rural area.*

This has been largely discussed with regard to the policies previously referred to. However, consideration of this policy does trigger the question of what is meant by rural amenity. The District Plan in its 'Issues' statement¹⁴ describes rural amenity as being derived from its character, and that this comprises the following.

- *Predominance of vegetation cover.*
- *Dominant land uses (but not all land uses) are associated with primary production: agriculture, horticulture, forestry, and pastoralism.*
- *Views of mountains, basins and river valleys which are not modified by structures.*
- *Being able to see, hear and smell animals and birds.*

4.56 The Plan then adds, subject to differing perceptions among people, that other values will include '*...a sense of open space, panoramic views and their perception of rural outlook.* Furthermore, the Plan also recognises that rural business operators (farmers, horticulturalists etc) '*...expect to be able to carry out existing activities; adopt new technology and practices; and to diversify activities as markets change.*' The latter point has been discussed with regard to how rural business activity is expressed in the landscape, and the new technology referred to will comprise the proposed scheme.

4.57 To reiterate the above points, firstly the scheme will appear to maintain the predominance of vegetation cover, except for the area inundated by the proposed reservoir. While it is true that vegetation will be removed to make way for structures, this will be countered by the primary mitigation measure of revegetation of affected areas. And a further point is that because the proposal does not entail any significant vertical structures apart from the grassed dam, views of existing vegetation will not be obscured.

4.58 Secondly the dominant, generic land uses associated with primary production will be maintained. Indeed, the *raison d'être* for the scheme is to do just that. Nonetheless, it is likely that specific land uses will proportionally change, with likely increases in dairy, and possibly horticultural enterprises.

4.59 Thirdly, concerning the need to not modify views of mountains, basins and river valleys, the proposal will have an effect, particularly with regard to river valleys. Clearly the intake structures will add to current levels of modification in the river valleys from which the water is abstracted. The effect of this has been discussed earlier. To reiterate though, the context of the river valley setting is an important consideration when it comes to assessing effects. Principle contextual points to

¹⁴ Ditto

consider include current levels of modification, which in turn determine the degree of naturalness. On that count, it is noted that the affected river intake areas are not considered outstanding natural features or landscapes in the District Plan. Nor are they identified in the plan as being subject to section 6(a) matters concerning the preservation of the natural character of, among other things, rivers. The final contextual point concerns the location of key public vantage points. These vantage points are identified in Mr Glasson's assessment. As mentioned, he concludes that the Rakaia intake structures will be '*...very visible*' from the key vantage points of the gorge bridge and northern bank lookout point just off the Rakaia Gorge road (State Highway 72). For the Waimakariri intake structure he notes that although it will be visible from some minor nearby roads, the area is out of sight from major highways. It would also appear to be not visible from the nearby West Coast railway due to the screening effect of various river terraces.

4.60 **Policy 5** *Recognise the surrounding Malvern Hills area as a backdrop to the Areas of Outstanding Landscape and maintain the rural character of that area by:*

(ii) *Encouraging new buildings and structures to be constructed from material with low reflectance values.*

A significant part of the proposed scheme, namely the dam and reservoir, lies within the Malvern Hills Rural Zone and is therefore subject to Policy 5. The proposed dam will be constructed of earth materials (gravels & clay) and will therefore have a low reflectance value. The exposed face of the dam will be grassed, which will strongly reinforce this effect.

4.61 There will however, be some structures appended to the dam or located in proximity to it. These will comprise an outlet tower, a spillway and pump house. There is no information supplied by the applicant regarding the nature of the outlet tower. It is therefore not possible to assess the effect of this at this stage.

4.62 **Policy 7:** *Avoid high rise buildings or highly reflective utility structures*

The aim of this policy is to manage, as it is stated in the explanation and reasons, '*...the reflectivity of other utility structures, so that they blend in rather than protrude from background or general views, in the rural area.*' The explanation then refers to rule¹⁵ where reflectivity is controlled in outstanding landscape areas and the Malvern Hills where the maximum is 37%. It is recommended that this be the maximum reflectance value.

4.63 **Environmental results**

- *Variation in activities in the rural area on the Plains*
- *Buildings are low rise (1 or 2 storey) and surrounded by vegetation cover rather than hard standing*
- *Utilities are made of low reflective materials*

¹⁵ SDP Rural volume -Utilities Rules 5.5.5.3 & 5.6.1

5.0 SUBMISSIONS

- 5.1 Many of the submissions make reference to potential effects on the landscape arising from the proposal. Some of the references are detailed, but most are single line comments, such as '*will be visually unacceptable*' or '*will adversely affect unique Canterbury landscape.*' While these are valid concerns, they do not explain how the landscape effects will come about. As stated, there are other submissions where more detail is provided, which provides a clearer picture of how the landscape is affected.
- 5.2 A very large majority of submissions believed that the proposed scheme would adversely affect the landscape. A recurrent theme in the submissions concerned the lack of information, making it difficult to ascertain effects on the landscape. Some submitters cautiously advised that they might revise their conclusions in the light of more detail.
- 5.3 Regarding landscape effects, it is evident that certain thematic concerns emerged from the submissions. In no particular order, these are summarised as follows.
- That there is insufficient information to assess effects on the landscape.
 - That the scheme would adversely affect the district's tourist appeal.
 - That the physical components of the scheme (dam, siphons, culverts, intakes etc) would detract from the natural character of the area.
 - That there would be an unacceptable loss of established shelterbelts and 'heritage' trees that contribute significantly to the identity and amenity of the area.
 - That the proposed structures would detract from the natural character of the braided river systems, including the terrace systems that contain it.
 - That the dam would visually dominate the township of Coalgate.
 - That the form of the dam is unnatural.
 - That the ensuing landuse would visibly change from sheep and crop to dairy.
 - That all relevant RMA Section 6 matters have been ignored - Waimakariri and Rakaia Rivers identified as regionally outstanding landscapes in the 1993 Landscape Study.¹⁶
 - That the proposal will result in the loss of indigenous vegetation.
 - That canal network will be an 'eyesore' and detract from the character of the area.

¹⁶ Boffa Miskell & Di Lucas

- That the stream crossings by canals via siphons and aqueducts will detract from their natural character.
- That enclosed landscape will be lost with removal of shelterbelts.
- That the scale of canals will be out of character with that elsewhere in Canterbury.

5.4 There are a number of concerns raised in the submissions that merit further discussion. Others have been addressed above. It is clear from the submissions that one of the most persistent issues focussed on the lack of information regarding all aspects of the proposal, including some of relevance to landscape matters. It is appreciated that the following information is likely to be included in the forthcoming 'Outline Plan.' Nonetheless, it is worth summarising information that submitters considered lacking, which is listed as follows:

- The location and extent of indigenous vegetation affected by the proposal, particularly in the vicinity of the intakes.
- The location of protected trees affected (lost) by the proposal.
- The location and extent of affected shelter belts.
- A plan, elevations and impressions of the outlet tower and spillway on the dam and in its vicinity.
- Detailed landscape restoration plans.

5.5 A further issue raised by some submitters concerns the landscape status of the Waimakariri and Rakaia Rivers, particularly in relation to RMA Section 6 matters. Submitters cited the 1993 Landscape Study where these rivers are identified as having 'regionally outstanding' significance. While the upper parts of these rivers were duly protected in the District Plan, the lower parts affected by the proposal are excluded. On the Rakaia River Section 6 (b) protection extends downstream to a point opposite 'Terrace Downs,' which is upstream of the Rakaia Gorge Bridge. On the Waimakariri River the protected area extends down to a point just north of the Broken river confluence (that is, to the bottom of Planning Map 32, but not extending into adjoining Planning Map 35).

5.6 It should also be noted that the Regional Policy Statement does not identify areas of outstanding landscape, but instead gives policy guidance on how they should be recognised.¹⁷

5.7 The same applies to the Proposed Waimakariri Regional Plan, although it does seek to achieve RMA Section 6(a) matters. The latter plan divides the Waimakariri River into two distinct areas - above and below the gorge terminus at Woodstock. Above Woodstock the river landscape and its wider setting is considered to have very high natural values. Below, the river is still recognised as having natural

¹⁷ RPS Chapter 8.2 and Chapter 20.4

values, particularly with regard to the braided gravel riverbed, but it is also recognised that it entertains wider levels of modification. It is this area that is affected by the proposal. Nonetheless, proposed Policy 7.1 seeks to control activities in the riverbed so that *'the braided character of the Waimakariri River where it exists is sustained'* and that *'the natural patterns, colours and textures of the riverbed areas are maintained'* and that *'below Woodstock...the present natural character of river beds is at least maintained.'*¹⁸

- 5.8 Overall in terms of the Section 6 matters raised by some submitters, the affected riverbed is not considered an outstanding landscape or feature. However, the planning documents are mindful of at least maintaining the natural character of the riverbed, and recognise that its braided form is an important landscape feature.
- 5.9 A further issue raised by submitters concerns the effects of the proposal on 'heritage' trees. It does appear that a group of heritage or protected trees¹⁹ will be lost to the dam and reservoir. All of these trees are exotics located on Homebush Station, and among them is the largest *Pinus radiata* (common pine) in Canterbury. To remove these trees the applicant would need to apply for (non-notified) resource consent subject to discretionary activity status.²⁰
- 5.10 Allied to the issue of heritage trees, a number of submitters expressed concern at the loss of established shelterbelts and other tree groups. There is no information identifying which of these would be affected, and so it is not possible at this stage to draw conclusions regarding the extent of effects. Doubtless, mature trees and shelterbelts, either in part or whole, will be lost to the scheme. Submitters noted that not only would this result from infrastructure, but also from the downstream effects of land use changes in favour of large scale farming practices. While the removal of established mature trees will have an adverse effect on character and amenity, particularly if it is extensive, there are no mechanisms in the District Plan to prevent this from happening unless the trees are otherwise protected. The Plan anticipates that tree removal, and planting, is part and parcel of everyday rural business activity.
- 5.11 The final matter raised by submitters not otherwise discussed above, concerns the downstream effects of irrigation on the landscape. Essentially the landscape would change, from the tawny coloured landscape of dry land sheep and cropping to the verdant green associated most commonly with dairy farming. The District Plan places limited controls on rural activity²¹ and so land use changes are therefore contemplated. Or to put it another way, the District Plan entertains specific changes to the rural landscape so long as its generic character is maintained, this being largely an abundance of open space and greenery in relation to built form. So while the proposed scheme will bring about considerable specific change, the generic character of the rural plains will be maintained as anticipated by the outcomes sought by the Plan.
- 5.12 In summary regarding submissions, it is clear that there are shortfalls of information enabling a full understanding of the proposal's effects on the

¹⁸ Proposed Waimakariri River Regional Plan Policy 7.1 (a) to (f) (v), (vi), (viii).

¹⁹ Selwyn District Plan – Planning Map 39 T48 -53 & 60/61

²⁰ Ditto Section 2 Rule II, Part 3.2.11

²¹ Also see SDP Variation 28 which seeks to control industrial activity in the Rural Zone.

landscape, in addition to other matters. Otherwise the relevant District Plan provisions as discussed earlier, address many of the concerns raised by submitters in respect of adverse landscape effects.

6.0 CONCLUSION

- 6.1 It is characteristic of the rural environment to contain utility structures such as pylons, telco towers, transmission masts, sewerage treatment, landfill and irrigation facilities. Some of these currently feature in the affected area and predate the current District Plan that In the present planning environment it is clear that utilities have the potential to adversely affect landscape values. In the Plan's statement of issues, the visual effects of utilities are considered to be '*...the most obvious...*' compared to health and nuisance effects. To counter this potential the District Plan stresses the need to ensure that new utilities appear to at least sit harmoniously in their landscape setting. By the same token, the Plan also recognises that utilities are a very necessary component of the District's social and economic environment. And because of that the Plan accepts the effects of their presence in the landscape, subject to the relevant policy provisions.
- 6.2 Further, the District Plan adopts a contextual approach to the effects of utility structures. Landscapes within the rural zone are classified in accordance with degrees of naturalness. Where they have high natural value and are accorded 'outstanding natural landscapes and features' status, correspondingly high levels of protection are afforded them. Generally the more modified a landscape is, the less protection it is given enabling greater levels of permissiveness.
- 6.3 The proposed scheme straddles two rural zones – the Outer Plains and Malvern Hills. Due to its greater level of naturalness and prominence, the latter has higher levels of protection than the former. The rural Outer Plains are generally regarded by the District Plan as a primary production business zone, rather than a natural landscape. It therefore expects that primary production will be the pre-eminent visible activity within the zone. The proposed scheme, as are all irrigation works, is inextricably linked to its principle purpose of facilitating rural business activity. So while it will herald considerable change to the receiving environment, it will not be incongruous.
- 6.4 Notwithstanding that, the District Plan still makes it clear that a balancing exercise is needed where utilities need to fit into their setting without unreasonably compromising their operation. It is evident from the application that this is the general intent of the applicant, although it remains to be seen in detail how proposed restoration measures will be implemented. To that end the following conditions are recommended.

7.0 RECOMMENDED CONDITIONS

1. That a plan is provided showing the location and extent of indigenous vegetation within the affected part of the Waimakariri and Rakaia River corridors.

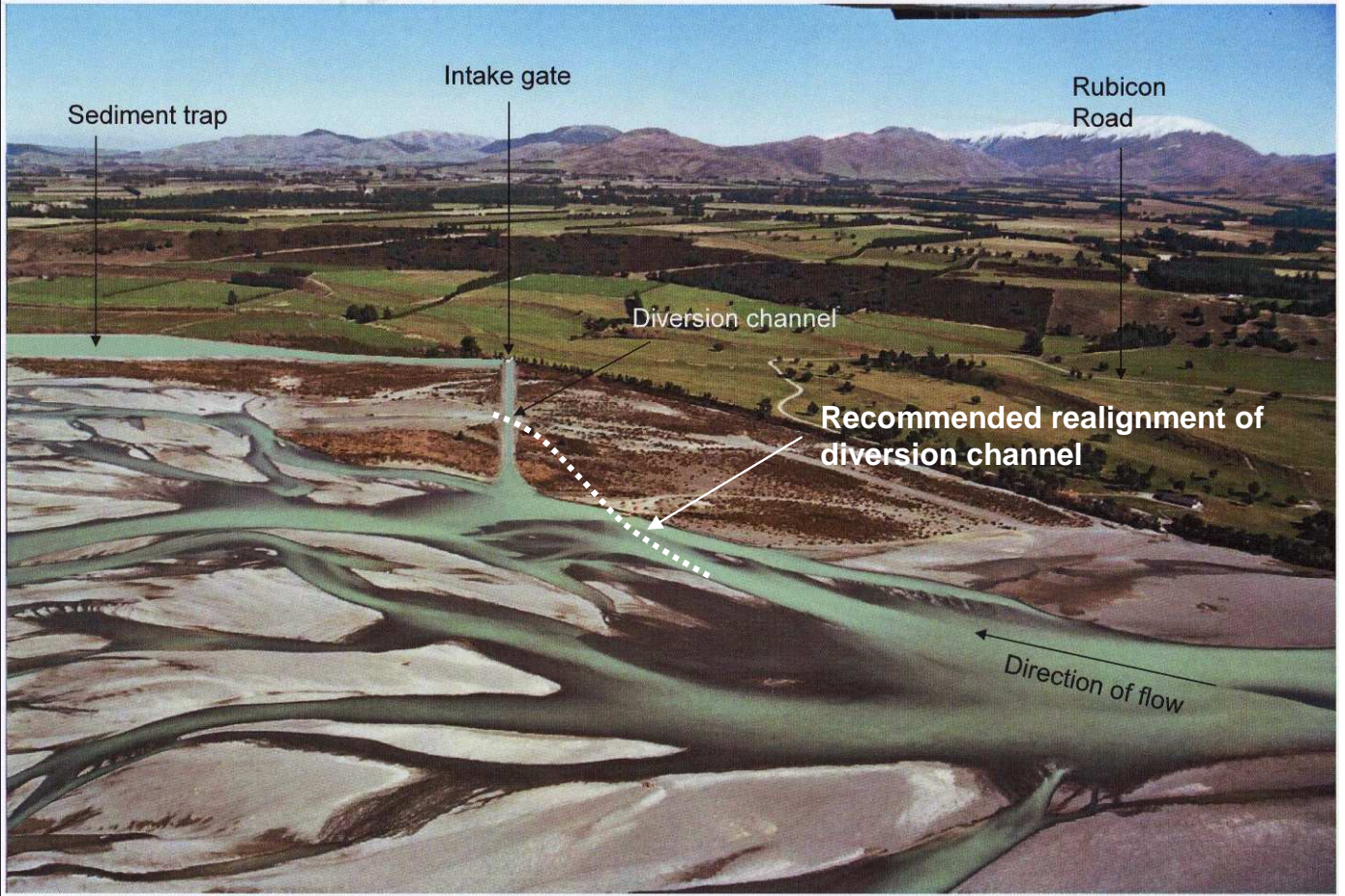
2. That detailed landscape restoration plans for the affected parts of Waimakariri and Rakaia river corridors are provided showing the location, extent and plant species make up, and finished landform.
3. That a detailed landscape plan is provided showing the extent and location of planting around the shores of the Waianiwaniwa Reservoir and including the dam and its immediate surrounds.
4. That a colour scheme for each painted structure is provided showing proposed colours, being natural hues of either green, brown or grey with a reflectivity rating not exceeding 37% as required by the District Plan.
5. That the Waimakariri diversion canal is realigned in accordance with the attached photograph.

Andrew Craig
Landscape Architect
February 2008

References

- Glasson, C Central Canterbury Plains – Water Enhancement
Scheme Landscape Assessment October 2005
Chris Glasson Landscape Architects Ltd.
- Selwyn District Council Proposed Selwyn District Plan
- McCracken, K et al Notice of Requirement – Central Plains Water
Limited June 2006
- Application for Land Use Consent – Central Plains
Water Trust – Water Distribution Network, Central
June 2006. Urbis Planning Ltd.

Upper Waimakariri Intake – Aerial photograph looking south-west



Aerial photograph showing recommended alignment of diversion channel