

# WELLINGTON CITY DISTRICT PLAN

## *Proposed District Plan Change 25*

### **REZONING OF KIWI POINT QUARRY EXTENSION NGAURANGA GORGE, WELLINGTON.**

#### **HEARING HELD ON 12 JULY 2004.**

Helen Tobin and David Watt, Hearing Commissioners, under delegated authority pursuant to section 34 of the Resource Management Act 1991.

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#### **RECOMMENDATIONS**

As Hearing Commissioners with delegated authority to hear submissions and recommend a decision on Proposed District Plan Change 25, pursuant to clause 10 of Part 1 of the First Schedule to the Resource Management Act 1991, and amendments thereto, we gave careful consideration to all the issues and points made by the submitters and Council officers and consultants to Council, and we recommend that:

1. *Council receives this report.*
2. *Council approves District Plan Change 25 as notified, with amendments (shown in Appendix 1 to this report) which:*
  - add a specific requirement for hydroseeding of the quarry access area to more generic rehabilitation requirements thereby speeding up the recovery of the quarried areas*
  - modify provisions for alternative access, so that any access from Tyers Road is subject to notification provisions, and that any other further access is a non-complying activity*
  - identify the rehabilitation plan, which will provide for rehabilitation of the existing quarry and extension areas, to be prepared as a separate plan, rather than being a component of the quarry management plan.*
3. *Council accepts or rejects all submissions and further submissions to the extent that they accord with the above recommendation.*
4. *Council considers community consultation, with the possible establishment of a Community Liaison Group, on the development and implementation of the rehabilitation and quarry management plans.*

## **BACKGROUND**

Proposed Plan Change 25 to the Wellington City Council District Plan was publicly notified on 1st November 2003. The purpose of the plan change is to rezone an area of land in the Ngauranga Gorge lying between properties fronting onto Tyers Road and the access road to the Taylor Preston meat works, from Open Space B to Suburban Centre, and to incorporate specific plan provisions to enable a planned extension of Kiwi Point Quarry. The Plan Change provides for the extension of quarrying into a formerly-worked area in the Ngauranga Gorge to the south of the present quarry, behind the industrial buildings on Tyers Road.

The Plan Change was initiated as a result of investigations into the future of Kiwi Point Quarry as a Council business unit, in the context of the need for quarry resources in the city and the region; in recognition of the suitability of the site for the purpose; and in the context of the ability for any adverse environmental effects to be avoided, remedied and mitigated.

The present Kiwi Point Quarry is only expected to be able to quarry rock from its current area of operation for the next three to five years and would be forced to close without some extension of its existing operations.

The Plan Change when notified was accompanied by a statement of Background Information and a Section 32 analysis. An accompanying volume of some 18 reports, covering some six years of investigations on the Kiwi Point Quarry and background information to the Plan Change, was available for review at the Council, and was also made available to the Hearing Commissioners.

All owners and occupiers of properties in the vicinity of the existing Kiwi Point Quarry and its proposed extension were notified of the proposed Plan Change 25.

## **STATUTORY CONSIDERATIONS:**

The purpose of the Resource Management Act 1991 (RMA) is to promote the sustainable management of natural and physical resources. In particular, in terms of Part II of the Act, the Council has responsibilities under section 7 of the Act, which requires that it must have particular regard to:

- (aa) the ethic of stewardship*
- (b) the efficient use and development of natural and physical resources*
- (c) the maintenance and enhancement of amenity resources*
- (f) the maintenance and enhancement of the quality of the environment.*

We comment on these criteria later. We do not consider that any matters arising from Plan Change 25 are of concern with regard to the provisions of either section 6 of the RMA, Matters of National Importance or section 8 Treaty of Waitangi. Hence we do not consider these sections further.

Also, in respect of section 32, there is a 'duty to consider alternatives, assess benefits and costs' etc. The reporting Officer for Council prepared a section 32 assessment prior

to notification of the proposed Plan Change and we comment on this in a later part of this report.

## **SUBMISSIONS**

Thirteen submissions, and eight further submissions were received on Plan Change 25; ten in favour of the Plan Change and eleven opposed. Seventy five informal further submissions in support of the Plan Change were received by the Council. The Commissioners were informed that legal advice given to Council on these submissions indicates that they were not able to be accepted as the submitters had not clearly stated which original submission they were supporting, or opposing. In this respect, they differ from the further submissions identified above.

### **Submitters not present at the hearing:**

**Transit New Zealand** in its submission expressed its concern about safety and efficiency of State Highway 1 if an access other than the present access to the quarry is to be used. Transit sought provisions in the Plan Change which would ensure Transit's right to be consulted if an application was made for a future additional or alternative access to quarry operations.

**Aggregate and Quarry Association of New Zealand Inc** supported the Plan Change on the basis that the City needed quarry resources and there were difficulties in accessing alternative sources of rock and costs for transportation. This submitter argued that the existing quarry had worked well for many years.

**Truebridge Callendar Beach** supported the Plan Change and stated that the rezoning was practical in providing for the future use of land. This submitter indicated that the rules relative to permitted activity status were fair and reasonable.

**David John Tuck, Wellington**, also supported the Plan Change subject to compliance with all statutory requirements and conditions of consent.

**William Sewell, of Lower Hutt**, had no objection to the Plan Change but sought an assurance that his property at Homebush Road in Khandallah would not be affected by noise, dust or dirt from the extended quarry operations. He requested that the existing quarry area be rehabilitated.

**The Wellington City Council** in a submission to the proposed Plan Change sought to include wording to bring non-notification provisions in line with the Resource Management Act and amendments proposed to other parts of the Plan.

**Keith Goddard Palmer**, of Fraser Ave, Raroa. Mr Palmer opposed the Quarrying of the north part of the proposed extension because of the view of the harbour from his property.

**Naomi Lane**, of Beachamp St Karori, opposed the Plan Change because of visual and land value effect on a property she owned at 59 Mandalay Terrace, Khandallah.

**T&T Landfills, c/- Spencer Holmes, Wellington**, considered that the Plan Change was an inefficient allocation of resources and would have an adverse effect on the amenity of the city.

**Further submitters not present at the hearing:**

Keith David Newdick, of Aro Valley, Wellington, supported the Plan Change because the resource was needed and the south coast quarry had been closed.

**Alan Raxworthy** of Titahi Bay, **Peter Walker**, of Matatua St, Wellington and **Yvonne Mate**, of Titahi Bay, as further submitters opposed the submissions of **Horokiwi Quarries** and **Winstone Aggregates**, and supported the Plan Change.

**THE HEARING**

**Wellington City Council:**

**Ms Sylvia Allan**, Planning Consultant, acting as the Planning Officer, and **Ms Shona McCahon**, QEII National Trust, previously a Consultant for Boffa Miskell, who prepared reports on the Landscape and Visual Assessments of the Kiwi Point proposed extensions, appeared for the Wellington City Council.

**Mr Brian Bouzaid**, Quarry and Landfill Manager for Wellington City Council and **Mr George Cunningham**, PAL Quarry Consultants, also attended and spoke in answer to questions which arose from submissions and hearings the submitters which were present. Their comments are noted below.

Ms Allan, outlined the reports that had been prepared for the Council over the years preliminary to the Plan Change and the relevant planning considerations and statutory requirements for the Commissioners to take into account. She said that Transit New Zealand had indicated that it agreed with the conclusions of the Officer's report, and accepted the recommendation to modify the provisions for alternative access. Hence it did not wish to appear at the hearing.

Ms Allan took the Commissioners through the planning maps for the Plan Change, her Sec 32 report and analysis, and outlined her recommendations in terms of objectives and rule changes. She recommended a strengthening of the existing permitted activity rules for the proposed extension area and said that she did not support changing the rules so that quarrying would become a controlled activity within the Suburban Centre rules.

**Ms McCahon**, outlined the principal issues and assessments in her supplementary report to the Landscape and Visual Assessment, dated May 2004. She addressed concerns expressed by the submitters, in particular with regard to the visual effects which will be experienced from the property of **Dr Robin Dunlop and Mrs Dunlop** in Newlands, located to the east of the quarry above the Ngauranga Gorge. Ms McCahon showed the Commissioners' new visuals to indicate what the Dunlops would see from their property at the various stages of the quarry extension activities. She spoke about the proposed rehabilitation plan to be implemented throughout the predicted period of

quarry activity, with rehabilitation commencing as soon as each section of the quarry is completed.

**Submitters heard:**

**Mr Alex Gray**, of Brooklyn, appeared both as an individual submitter and as Southern Quarries Manager for **Winstone Aggregates**, based at Belmont Quarry in the Hutt Valley. Mr Gray told the Commissioners he was opposed to the Plan Change because, despite some six years of investigations into the future operations of the quarry, the application and section 32 reports prepared contained in his view significant factual errors in many areas. He cited errors relating to the presentation of information on rock quality, said that life spans of existing quarries were underestimated, and that there were errors in the analysis of demand for quarry products and in the financial analysis of the performance of the Kiwi Point Quarry.

Mr Gray told the Commissioners he was disappointed that a large number of ratepayer funded reports had been prepared by a range of consultants who had not talked to the two existing quarries (Horokiwi and Belmont) to obtain accurate information on rock quality and resource life span.

He gave the Commissioners comparative production figures for four quarries in the Wellington region, Belmont, Horokiwi, Kiwi Point and Plimmerton, (the latter has just closed), which he believed were vastly different from figures quoted in the planner's report which were drawn from information obtained from the Ministry of Economic Development.

Mr Gray told the Commissioners that Winstone Aggregates considered it still has at least 40-50 years of working life remaining at Belmont. He quoted the executive summary of the Boffa Miskell Open Space Assessment, which noted that the assessment 'for a southern extension of the Kiwi Point Quarry is based on the premise that feasible and economic alternative aggregate sources are not readily available..' and said that in his view this premise, and consequently the entire Plan Change was inconsistent with the purpose and principles of the RMA.

The decision sought by Mr Gray was that the Plan Change be declined, or alternatively, that it be withdrawn in its entirety, and the Council carry out a further section 32 analysis, taking into account all relevant information and correcting any inaccuracies in the existing information.

**Mr Ross Baker**, Manager of **Horokiwi Quarries Ltd** expressed similar arguments to Mr Gray. He argued that the information made available to the public, neighbours, industry and to the Council itself was inaccurate, inconsistent and misleading and that as such in his view did not provide for realistic consultation or evaluation based on fact. His principal concerns related to quantity of supply. He told Commissioners that Horokiwi's rock reserves were assessed using extensive survey work, in 2003, prepared by Tse Group. The figures produced gave a projected quarry life at Horokiwi in excess of 50 years at a supply level to meet 50% of the Wellington market.

Mr Baker said that if those who supported the proposed Plan Change had known that the figures quoted by the Council were inaccurate and flawed, they may well have decided to appear at the hearing wanting some explanation.

**Dr Robin Dunlop** appeared at the hearing with his Solicitor, **Ms Clare Sinnott**, of **Chapman Tripp**.

**Ms Sinnott** told the Commissioners that Dr and Mrs Dunlop had lodged a submission in opposition to the Plan Change on the basis that it failed to appropriately avoid, remedy or mitigate the visual and landscape effects of the proposed quarry extension, or maintain or enhance amenity values. She said the Plan Change did not require any remediation/mitigation of the visual and landscape effects of cut faces to be carried out until the relevant quarry faces have been quarried to finished levels.

She further stated that the proposed quarry access could have adverse visual effects on the Dunlop's property and that there was no provision for public input into, or Council approval of, any quarry management plan prepared under rule 7.1.3A of the Plan Change, which she said, in her client's view, delegated regulation of environmental effects to the quarry operator.

In their submission Dr and Mrs Dunlop had requested an amendment of proposed policy 6.2.3.3A, so as to require the maintenance and enhancement of amenity values. Further they asked that either quarrying and cleanfilling in the Kiwi Point extension area be made a controlled activity, with the Council retaining control over all the matters that were currently proposed to be addressed in either permitted activity performance standards or the quarry management plan, or that the Plan Change be amended by adding performance standards into proposed rule 7.1.3A to specify ongoing visual mitigation measures, such as hydroseeding on all cut and batter faces to be required both during and after quarry operations.

Ms Sinnott told the Commissioners that her clients requested that any quarry operator also be 'required to carry out ongoing revegetation works either annually or per every 100,000 tonnes of material'. She noted that the proposed 'Kiwi Point Quarry Progressive Rehabilitation Plan 2005-2035' was only in draft form and that the Officer's report to the hearing also recommended that the quarry operator be required to prepare and comply with a quarry management plan, which would include a rehabilitation plan, and provide a copy to the Council and review it every 5 years. She said moreover that there was no requirement to undertake any consultation when preparing or reviewing, the quarry management plan.

Ms Sinnott also said that while the Officer's report said that Belmont Quarry operated as a permitted activity, there was a rule in the Hutt City District Plan which required, among other things for no work etc to be left unfinished or allowed to deteriorate in a manner that would 'cause it to detract from the amenity values of the surrounding land'. She also outlined for the Commissioners some cases before the Environment Court dealing with new quarry operations where more stringent conditions appeared to be required than those proposed at Kiwi Point.

**Dr Dunlop** stated that the evidence was that during Stage 2 of the proposed quarry extension, the visual effects on his property would be 'moderate', and during Stage 3

they would be 'substantial'. For approximately one third of the life span of the quarry extension Dr Dunlop said they would be 'major' effects. He believed the best option in his view was for Council to amend the Plan Change to make quarrying activity a controlled activity, with Council having powers to impose conditions in respect of the avoidance, remediation and mitigation of the visual and landscaping effects.

Dr Dunlop also took issue with the submission to the Plan Change by the Council itself regarding notification of affected parties. He had made a further submission opposing the Council's submission. He told the Commissioners that he was opposed to this intent on the part of the Council. He said all affected persons should be notified of a resource consent and no one from the Council had come to the hearing to explain the Council's position on notification. He requested that, given the nature of the quarrying operations and the visual effects in particular on properties such as his own, any consent applications for quarrying and cleanfilling activities in the proposed quarry extension should be required to be served on potentially adversely affected parties.

**Mr Brian Bouzaid**, the Council's Quarry Manager, spoke in response to the submissions given by Mr Gray and Mr Baker. He stated that the figures in question had been drawn from Ministry of Economic Development and were best estimates of information that could be provided to Council. He said that it was a complex industry and there would be differences of opinion between competitors on a range of data relating to performance. Mr Bouzaid also said that the request of Dr and Mrs Dunlop that a quarry operator be required to carry out revegetation works annually or every 100,000 tonnes of material was not practicable. He stated that work of this nature could not be undertaken until quarry operations had moved off the work area, which was an important safety consideration.

**Mr. Cunningham** supported the views expressed by Mr Bouzaid. He outlined the nature of quarry operations around the country, and indicated to the Commissioners that the proposed approach to the Kiwi Point Quarry extension was based on the best information that the company had on its rock resources. He said that companies always had regard to the best methods of rehabilitation and that these methods were reviewed regularly based on information at the time.

Mr. Cunningham also said, in answer to questions from the Commissioners that the pattern of development and constraints imposed on quarrying of the extension area by Appendix 5A, to be appended to the district plan as part of the Change, was 'tight' and, in his opinion this would ensure that the operations, including rehabilitation work would be carried out generally as described to the hearing.

**Ms Allan**, in her reply told the Commissioners that Kiwi Point Quarry sought a Plan Change, with the knowledge that an extension to its operations to the south would yield a further quarry life of 20 – 40 years. Having heard the evidence, Ms Allan stated that it was still her opinion that given the range and detail of the rules that applied, that there would be no benefit in requiring consent for the operations through controlled activity provisions. She believed that the more rigorous permitted activity standards and the introduction of a quarry management plan and a rehabilitation plan would ensure that the adverse effects of the operations would be mitigated.

Ms Allan also queried relevance of the Environment Court cases referred to by Ms Sinnott, which she noted related to particular applications and were not necessarily applicable to the situation at Kiwi Point Quarry.

## **DISCUSSION OF ISSUES**

### **Planning Issues**

The hearing of submissions and comments, in particular from Mr Bouzaid, the Kiwi Point Quarry Quarry Manager, indicated to the Commissioners that quarrying was a complex business, requiring careful stewardship in the management of the physical resources and awareness of the surrounding environment.

The submissions reflected converse views that the operations at Kiwi Point Quarry had the potential for significant environmental impact from its expansion, unless dealt with adequately by measures to mitigate adverse visual effects, and in addition a comprehensive rehabilitation plan which the community could have faith in was put in place.

A key issue for the Commissioners in addressing all these considerations was to remember that the matter before the hearing was not an application for resource consent, but a proposed Plan Change seeking to maintain an existing permitted activity that has been in existence for many years. The proposed extension of activity would be in an area that has formerly been worked as a quarrying operation.

**Ms Allan's** report to the hearing reminded us that the RMA provides an enabling framework for decisions on the use, development and protection of natural and physical resources in a way and at a rate to enable people and communities to provide for their well-being, and a process for avoiding, remedying and mitigating adverse effects of activities on the environment.

We agree with Ms Allan that a prime consideration for the Commissioners is whether this proposed change is acceptable in general terms under Part II of the RMA, to promote the sustainable management of natural and physical resources, together with the development and adequacy of rehabilitation plans to mitigate adverse effects, and ultimately to ensure the life supporting capacity of the site is restored over time.

Our assessment of these matters is that they have been the subject of extensive reports which have been made available to submitters and to the Commissioners for this hearing. We are satisfied that the Council has consulted fully in terms of its responsibilities, and has taken into account the requirements of sections 7 and 8 of the RMA prior to the conduct of this hearing. It is our view that the key reports referred to provide justification for seeking to extend the life of the quarry and to manage its resources in an efficient and responsible way.

### **Need for Continued Quarrying**

**Mr Gray** and **Mr Baker** disputed statements given in the Planner's report that their business operations had limited life expectancy compared the Kiwi Point Quarry. They gave us different statistics of performance, of costs and expectancy of their operations,

contending that their analysis based on information from other sources to Kiwi Point Quarry provided some 20- 40 years of further quarrying operations. The Commissioners accept this information in good faith. Similarly, we accept the response given by Mr Bouzaid, that the Council had obtained the best information it could to support its proposed extension of the quarry operations through the Plan Change.

Mr Gray and Mr Baker further expressed the view that if some of the financial ‘inaccuracies’ and ‘flawed arguments’ had been known by submitters in support of the Plan Change, they may well have sought to appear some answers from the Council at the hearing. It is our view that in the absence of further evidence to support these contentions, and the fact that submitters had a right to cross submit on earlier submissions and chose not to do so, that these comments are pure conjecture.

Further and more substantially, it is our conclusion that an argument which could be perceived as bordering on trade competition has little relevance to the considerations that we must have regard to in this Plan Change.

### **Access from State Highway 1**

**Transit New Zealand** stated in its submission that it is responsible for the safe and efficient operation of State Highways and that the Ngauranga Gorge portion of the State Highway 1 is the second most heavily trafficked stretch of highway in the Wellington region.

It was Transit’s contention that if the alternative possibility of Tyers Road is to be used for any part of a permitted quarry operation, Transit should be involved in considering the impact additional traffic may have on that intersection. Further, the possibility of any other access being developed should be a non-complying activity. We agree, given the importance of the SH1 and access to the Gorge from the area of the quarry, that the request of Transit New Zealand for a say in the consideration of the use of Tyers Road access is reasonable, and that no other access should be anticipated.

Transit had indicated that it accepted the proposed new rule as recommended.

### **The Visual Impacts and Effects on Views**

Three submitters, **Naomi Lane, Keith Palmer and Dr and Mrs Dunlop** expressed concerns about the visual effects of the quarry operations. The Commissioners however noted that none of these submitters were opposed to the Plan Change in its entirety. We were given extensive information of assessment of these submissions in terms of the visual impacts and proposed mitigation by Ms McCahon, in her supplementary report to the Landscape and Visual Assessment.

We noted that six stages in the development of the proposed quarry extension were modelled in the 2003 assessment report. An additional model was shown to the Commissioners to illustrate the way in which quarrying was planned to excavate into the south side of the spur, while keeping the north face intact for as long as possible. The effect will be a more rounded finish of the spur, with a reduced impact in terms of the cut that will avoid the appearance of steep bench cuts if the quarry operation was initiated from the north face.

With respect to the submission of **Mr Palmer**, we understand and accept the information given by both Ms Allan and Ms McCahon that while the quarry site is prominent in the Palmers's view, the visual north face will remain almost intact through stages 1 to 3, but during stage 4 the quarry face will be seen as a steepened profile of bare rock on the outer edge of the landform as the spur is lowered and excavated back from the motorway. We note that it is intended to integrate the finished face with adjacent hill sides as proposed rehabilitation is implemented. The resulting end profile also will allow a greater area of harbour view from this property.

With regard to the submission of **Mrs Naomi Lane**, we accept from the visual effects shown to us at the hearing by Ms McCahon, that the visual effects on this property will be during stages 2 and 3 and by the end of Stage 3 only a small profile of the finished face will be visible and its rehabilitation is scheduled during stage 4.

Ms McCahon said that her supplementary report provided additional information to her 2003 assessment. She also said that the proposed 2005- 2035 Kiwi Point Quarry Progressive Rehabilitation Plan, which had been prepared to a draft form, will be implemented throughout the predicted period of quarrying activity, with intended rehabilitation commencing as soon as each section is completed.

This point is central to the contention of **Dr Dunlop and Mrs Dunlop** that the visual effects of the quarry extension, during stage 3 in particular would be substantial' and that for almost one third of the life of the quarrying operation of this area, the effects would be 'major'. We acknowledge that the proposed stages of the extended quarry operations will have significant degrees of impact, and in particular will impact on the Dunlop property.

This property is located across the Ngauranga Gorge from the area of quarry extension, and whatever mitigation measures are applied, development of this area, especially quarrying will impact on the panorama views from the property. Dr Dunlop was particularly concerned as his initial understanding was that the result of quarrying would be a major expanse of un-rehabilitated quarry face visible during most stages of the operations. He was also concerned that the September 2003 report did not take account of views from the property.

However we are confident that the effects will not be as drastic as anticipated by Dr Dunlop, although there will be an impact, as noted above. We consider that the proposed method of quarrying, starting at the south and keeping the north face initially intact, together with the effects of proposed rehabilitation, described by Ms McCahon will go along way to mitigate visual impacts from the Dunlop land.

### **Rehabilitation Plan**

The Commissioners consider that the rehabilitation plan should be identified as a 'stand-alone' document, independent of the quarry management plan. Hence we have recommended that it be drawn up separately and have included a list of criteria which are to be taken into account in its preparation. These are by and large adapted from the criteria suggested by Ms Sinnott in her submission, which were based on criteria as to matters that should be taken into account set out in the draft Progressive Rehabilitation

Plan by Ms McCahon. We have added reference to the importance of integrating rehabilitation with Council policy for Open Space in the Ngaruranga area, and also provision for a complaints procedure, along lines of the quarry management plan. We believe that this identification will create a greater awareness and give more force to the rehabilitation plan.

We note that there was some confusion at the hearing as to the status of the proposed Kiwi Point Quarry Progressive Rehabilitation Plan 2005-2035. This was referred to by Ms McCahon as the document which will be implemented throughout the predicted period of quarry activity. Ms Sinnott questioned the status of this report, noting it was not attached to the Officer's report and only available in draft. In our opinion this draft would form a suitable base for the rehabilitation plan which will be required by the rules once the Plan Change is finally approved. In the meantime however it has no statutory status – i.e. it is not part of the District Plan.

### **Permitted or Controlled Activity**

Generally the Suburban Centre provisions of the District Plan are drawn up to provide for industrial areas located in suburban parts of the city, and are framed so that the industries then operate as permitted activities. Performance standards imposed by the rules are set 'to avoid, remedy or mitigate the impact of development on Residential Areas', and cover effects such as noise, dust, lighting, radiation, and screening. The existing Kiwi Point Quarry is already established under this regime. Special rules are included in the zone and have to date provided for quarry activities.

New rules have been drawn particularly to provide for the extension area. The outline of future operations shown on plan 5A, and the evidence was that this was 'tight' and would constrain the future quarry development to what was described to us. We consider that the Plan Change is best left as proposed, with the quarry extension provided for as a permitted activity which will be developed under the existing, and new rules of the Suburban Centre area. We consider these rules, with amendments, will be adequate to provide for the future expansion of Kiwi Point Quarry in a way that will ensure both the efficient utilisation of the resource, and safeguard the amenity of adjacent properties and community.

In this context we also accept the submissions of Ms Allan that detailed conditions as typified by cases presented to us by Ms Sinnott are not always practicable in practice. This is substantiated by the situation where the quarry operator said it was not practicable to require carrying out of revegetation works either annually or every 100,000 tonnes of material removed, because of safety. Further we do not consider that the type of rule quoted by Ms Sinnott from the Hutt City Plan is appropriate as it is imprecise and would be difficult to enforce. We also note that Dr Dunlop's concerns have been met to some extent in the additional rule re hydroseeding which has been accepted, is clear and can be monitored.

### **Community Liaison**

Having said that, the Commissioners however also note the concerns, in particular as expressed by Dr Dunlop, as to the lack of opportunity for public involvement in management plans. Management plans are not statutory in the sense of the district plan,

nevertheless they are public documents and it is anticipated would be available in the event of any concern in the future, say as to whether the quarry was being operated in accordance with the plan provisions. The question for the Commissioners is the degree of input that is appropriate, in this case that the community might have in the development and implementation of a management plan and a rehabilitation plan for quarry operations. We believe that this is a significant issue given the responsibility on the part of the quarry operators to ensure the visual and other effects of the operations are mitigated as far as possible.

We recommend that in the interests of good environmental policy and practice, and given the Council's overall objective of making the Ngauranga Gorge area an eventual 'green corridor', that Council looks closely at its consultative strategies to give affected property owners and the community an opportunity for input into their development, in particular for the rehabilitation of the proposed quarry extension area. We have made a recommendation to Council separate to our decision on the Plan Change in this regard. It is possible that a Community Liaison Group, similar to those established for liaison purposes in areas of major work construction, such as the Moa Point sewage scheme, would be an applicable model for this situation.

### **Notification Provisions**

**Dr Dunlop** opposed the submission of the Council seeking to standardise notification provisions throughout the District Plan, in the light of recent changes to the RMA. Dr Dunlop considered that all affected persons should be notified of a consent application. The intention of Council as we understand it is to seek a change to existing notification rules through Plan Change 28 and 'consistently apply this throughout the Plan'. However the Council officer did not offer further rationale to its submission in the officer's report.

The Commissioners are aware of the changes to the RMA with respect to notification procedures and that Council has now had a hearing on Plan Change 28, to give effect to these changes, through the District Plan. However, we further note that the recommendations to the Council on this Plan Change are only going before the Council at the same time as those on Plan Changes 25 and 26. Until the decision is agreed and Plan Change 28 is effectively operative, we are reluctant to anticipate the outcome of that process. Hence, we are rejecting the submission of the Wellington City Council on this matter in this decision.

We also note that in this case the non-notification option is applied only in a few situations, and notwithstanding the change requested by the submission, the overall option of notification will be retained. We consider this is appropriate and in accordance with the RMA.

### **SECTION 32 MATTERS**

Section 32 of the Resource Management Act 1991 requires that the Council, before adopting a plan change to its District Plan, shall have regard to:

- its **necessity** in achieving the purpose of the Act;

- **other means** that may be used to achieve the purpose of the Act, including taking no action;
- the likely **costs and benefits** of the change compared with the principal alternative means, including the effectiveness, and implementation and compliance costs.

The Planning Officer prepared a full analysis for this Plan Change. The Commissioners have reviewed this analysis, and we accept both its methodology and its findings. We believe the alternatives, as investigated are inappropriate and not sustainable as options.

We are satisfied that the Plan Change is necessary in achieving the purpose of the RMA, that it is in accordance with Part II of the Act and is the most appropriate means of exercising its function having regard to its efficiency and effectiveness relative to other means. We generally accept the reasons set out in Officers report, as follows

1. We are satisfied the proposed Plan Change 25 is a culmination of many years of consideration on the future of the Kiwi Point Quarry, and all the advantages and disadvantages of enabling it to continue to operate by extending into the proposed extension area of operations for further available rock resource is backed up in numerous reports that we have had available to us, and also to the submitters.
2. The evaluation in our view has taken into account environmental, social and economic impacts in terms of the city and region, and as stated above in this regard also been the subject of numerous independent investigations and reports and consultative processes throughout.
3. Alternative zoning of the land is inappropriate because as indicated to us it is most unlikely that any quarrying activity would obtain consent within an Open Space area and developing a new type of activity area to apply to the proposed extension area would be, as stated in the report to the hearing inconsistent with the Plan approach which is based on a small number of general activity areas, rather than special purpose zones.
4. There is a benefit to the community having conditions and development plans as indicated through Appendix 5A available for public scrutiny in the District Plan, rather than go through a consent process, and also more flexibility for operators of the quarry.
5. The proposed extension of the quarry operation limits other activities through a non-complying status while the long term future of the area can be considered. We agree there is a benefit in this approach to sustainable management, that it is an efficient and effective means of restraining alternative development until the future of the area can be better considered and once the effects of rehabilitation of the land become apparent.

## CONCLUSION

We consider that the proposed Plan Change 25, to provide for the extension, and rezoning of that extension area of Kiwi Point Quarry from Open Space B to Suburban Centre is an appropriate means of promoting the sustainable management of the natural and physical resources, of the wider district, through the utilisation of the resource represented by the quarry.

Quarrying as we were told on a number of occasions during the hearing is the utilisation of a finite resource. The Plan Change will provide an alternative source of rock, and will prolong the life of this quarry for the benefit of the city and region. The RMA places a responsibility on us to be satisfied that this proposed Plan Change would be in accordance with Part II of the RMA and that it would further accord with other relevant requirements of this legislation. We believe it does, having regard to the need to ensure the effects of such an operation, quarrying, can be mitigated and remedied to reduce adverse impacts.

We accepted the view put to the Commissioners that the proposed extension operations would be conducted in a way that would reduce as far as possible the overall visual impacts. However, there can be no way of entirely removing these effects. Excavating first from the south in the extension area will reduce the visual impacts till later stages in the quarry operations. We believe this will assist considerably in reducing the adverse effects.

A critical issue for the Commissioners was to whether to accept submissions and recommend a controlled activity status for the quarry operation. Dr Dunlop and Ms Sinnott argued for a controlled activity imposing stricter conditions on the quarry operations. They contended that the proposed management plan and a rehabilitation plan would not have statutory weight and that property owners would not be able to rely on these documents being able to meet their concerns. It is our view however that the further operations of the Kiwi Point Quarry can best be effected through strengthened objectives, policies and rules and continue as a permitted activity within the Suburban Centre chapter of the District Plan.

The Kiwi Point Quarry has operated as a permitted activity. The intention of the Plan Change is to strengthen where appropriate existing rules governing the activities of the quarry operation. In addition and in order to maintain best practice for the industry, there will be a management plan and a rehabilitation plan. We believe that a combination of all three factors will mitigate as far as reasonable the overall community impacts of the extended quarry operations.

We recommend that the rehabilitation plan be prepared as a separate document to the quarry management plan. It will be implemented throughout the life of the extended operations of the quarry and it is important both in the mitigation of visual impact and also in terms of the longer term use of the land, which may be able to be integrated with the Open Space plans for this area. We also recommend that Council consider community consultation, with the possible establishment of a Community Liaison Group, on the development and implementation of these plans. As previously stated, we have made a recommendation to that effect separate to our recommendations on the Plan Change.

The Commissioners conclude that Plan Change 25 is justifiable and sustainable in terms of the statutory requirements, objectives, policies and rules of the District Plan. We recommend that Plan Change 25 be adopted as notified, with amendments as described and recommended in this report. The recommended amendments to the proposed plan change are identified in the attached appendix (Appendix 1).

Helen Tobin  
Chairman and Hearing Commissioner

David Watt  
Hearing Commissioner.

**APPENDIX 1 – Proposed Plan Change 25 (Kiwi Point Quarry Extension, Ngauranga Gorge), with amendments.**

## **APPENDIX 1 – PROPOSED DISTRICT PLAN CHANGE 25 (KIWI POINT QUARRY EXTENSION, NGAURANGA GORGE), AS AMENDED.**

*(Please note that amendments to the original text as notified arising from the decision on Plan Change 25 have been shown below as either ~~strikethrough~~ or underline).*

The Wellington City District Plan is proposed to be amended as follows:

### **Planning Maps – Planning Map Changes (Map 22)**

Rezone the area shown on the attached plan from Open Space B to Suburban Centre.

## **Chapter 6 – Suburban Centres Objectives & Policies**

### **6.1 Suburban Centres – Introduction**

Add a new paragraph at the end of present wording, as follows:

“Kiwi Point Quarry and the Kiwi Point Quarry Extension area are also included within Suburban Centres. Both areas are subject to specific rules as well as to other relevant rules applying elsewhere in Suburban Centres to mitigate adverse effects. This provision recognises both the existing quarry and its economic importance to the City and wider region, and the future importance of the extension area, which will be commenced within the life of this District Plan. As the long term future of the Kiwi Point Extension area following completion of quarrying has not yet been determined, the provisions of this Plan require that any use of this area other than quarrying will require consent as a non-complying activity. It is expected that the long term future of this area will be addressed during a subsequent plan review or by a Plan Change in association with the City’s open space strategy at that time.”

#### **6.2.1.2 Policy to “encourage a wide range of activities...”**

Add a new explanatory paragraph before the last paragraph as follows:

“Specific rules apply to Kiwi Point Quarry and the Kiwi Point Quarry Extension area. These rules allow for quarrying and related activities, which are not otherwise provided for in the City, subject to specific rules. For the Kiwi Point Quarry Extension area, the rules restrict alternative future uses. As the area has a long life as a quarry, future uses will be evaluated at a later date as part of a plan review or by a Plan Change.”

#### ***New Policy after 6.2.3.3***

*Add a new policy as follows:*

***“6.2.3.3A Provide for the development and site rehabilitation of Kiwi Point Quarry and Kiwi Point Quarry Extension to the extent specified in the Plan in a way that avoids, mitigates or remedies adverse effects.***

## **METHODS**

- *Rules (including Appendices showing the extent of quarry areas and, for the Extension area, a quarry management plan, ~~including~~ and a rehabilitation plan).*

Kiwi Point Quarry is an established quarry where extraction activities will be largely completed to the extent provided for in the Plan by 2006. As the continuing availability of aggregate and other quarry materials is economically important for the City and wider region, the Plan also makes specific provision for the Kiwi Point Quarry Extension area. For both of these areas, specific rules and a development plan are incorporated. These provisions provide for the avoidance or mitigation of adverse effects from the quarry activity and the long-term mitigation of effects on landscape and landform following quarrying. For the Extension area it is the Council's intention that cut faces should be designed to yield a relatively natural landform in the long term and that rehabilitation of cut faces should begin as early as practicable. The staging of quarry development, and the day to day management of quarry activities are further detailed and controlled through the application of a quarry management plan, ~~including~~ and a rehabilitation plan.

Prior to establishment of the quarrying activity in the Extension area, the quarry operator will prepare a quarry management plan which sets out:

- intended staging of the excavation and cleanfilling activities
- the means of management of surface and groundwater
- management of on-site traffic
- provision for any onsite processing and temporary storage of quarry material
- any specific provisions relating to onsite management of noise, dust, vibration, visual impact, water quality
- ~~a rehabilitation plan for the site indicating areas and types of vegetation, methods of establishment, and a monitoring programme~~
- a procedure for addressing any complaints

The quarry management plan will complement the other rules applying to the quarry activity and will provide additional management details. It will be reviewed at least every five years and any necessary adjustments will be made.

Prior to establishment of the quarrying activities in the Extension area, the quarry operator will prepare a rehabilitation plan to provide for the rehabilitation of the Kiwi Point Quarry and Kiwi Point Quarry Extension areas during, and at the termination of, the life of the quarry. The plan shall include provision for

- a timetable for the rehabilitation of prominent quarry faces
- measures to create soil conditions which will support plant growth

- measures to create a variety of site conditions to support a range of species
- means of controlling run-off to avoid erosion
- list of plant selections, being proven species
- means of control of plants and animal pests
- measures to reduce fire risk
- provision for inspections of rehabilitation sites, times to be agreed with the Council
- means to assist native vegetation to regenerate on grazing land
- rehabilitation which is compatible with Open Space strategy for adjacent areas of land
- a procedure for addressing any complaints.

As progressive rehabilitation of the area is an important aspect of quarry management, the quarry management plan will include a requirement that regular monitoring is undertaken and regular progress reports will be completed and submitted to the Council. This requirement is included because successful rehabilitation of any disturbed area requires constant monitoring as site conditions vary considerably and evolve over time. Regular observation and recording of results is an essential part of managing the process.

It is important also that rehabilitation of quarry area should recognise and in the longer term be able to be integrated as appropriate with Open Space strategy developed by the Council for adjacent areas of land. Current Council policy is for creation of further Green Belt area on the steep hill sides of the Ngauranga Gorge and, for instance, it may be possible to allow continuation or linking of proposed walkways.

Overall, the environmental result will be the availability of quarry materials for the City and wider region in the short and medium term, and long-term achievement of well-vegetated quarry faces with the appearance of a natural landform and which will be integrated with Council development of Open Space areas in this vicinity.”

## **Chapter 7 Suburban Centre Rules**

### ***Guide to Rules***

*This is not part of the District Plan but provides a summary listing of rules. Modifications will be made to this table to incorporate the new rules in accordance with the Plan Change once it is finalised through the statutory process.*

### ***Schedule of Appendices***

*Add a new line to this table; 5A Kiwi Point Quarry Extension Area (Ngauranga Gorge).*

#### ***7.1.1 Existing Permitted Activity Rule***

*Modify the third to last bullet point in this rule by adding at the end of the existing wording “, except as provided for in rule 7.1.3A in part of the Kiwi Point Extension area in Ngauranga Gorge”.*

*Modify the wording under the final bullet-point in this rule to read: “quarrying, other than that provided for in Ngauranga Gorge under rules 7.1.3 and 7.1.3A”*

*Add a new bullet-point “any activity in the area defined as the Kiwi Point Quarry Extension area in Ngauranga Gorge, other than that provided for in rule 7.1.3A.”*

#### ***7.1.3 Existing rule providing for Kiwi Point Quarry***

*Add subsection numbers to existing conditions under 7.1.3.2, 7.1.3.5 and 7.1.3.6.*

*Add the following explanation for this rule:*

*“Kiwi Point Quarry is an established quarry activity which is being developed in accordance with the plan in Appendix 5. Rock extraction will be completed in this area during the life of this Plan, but other activities associated with the quarry and the Kiwi Point Extension, such as processing and aggregate storage, and restoration of the cut faces will continue. The specific rules that apply to the quarry area limit the effects of quarrying”*

#### ***7.1.3A New Rule for Kiwi Point Quarry Extension***

***“7.1.3A Quarrying and clean filling on part of Lot 5 and Lot 6 DP 72996, Pt Sec 8 (SO 11031), part of Lot 1 DP 70870 and part of Lot 1, Lot 2 and Lot 3, DP 81732, Ngauranga Gorge (Kiwi Point Quarry Extension) is a Permitted Activity provided that it complies with the following conditions:***

***7.1.3A.1 Any relevant provisions of rules 7.1.1 and 7.1.2, except that rule 7.1.1.6.2 does not apply to the temporary stockpiling or storage of quarried rock material.***

#### ***7.1.3A.2 Quarry activities***

- 7.1.3A.2.1 *Quarry activities shall be undertaken in accordance with the plan included as Appendix 5A and may continue until the levels shown on the plan are reached.*
- 7.1.3A.2.2 *Some blasting may be carried out as part of the normal quarrying operations. Blasting of faces for crushed rock production must take place between 11.30 and 11.40am Monday to Friday only. Other minor blasting and small shots fired for training purposes may be carried out at any time between 9am and 4pm Monday to Friday inclusive.*
- 7.1.3A.2.3 *Quarry activities shall be conducted in accordance with a management plan for the whole of the Extension area, prepared by the quarry operator and provided to the Council, which shall set out:*
- *practices and methods that will be adopted to ensure that all permitted activity conditions applying to the activities will be met*
  - *staging of the excavation and cleanfilling activities*
  - *management of surface and groundwater*
  - *management of on-site traffic*
  - *management of any on-site processing and temporary storage of quarry materials*
  - *any specific provisions relating to on-site management of noise, dust, vibration, visual impact and water quality*
  - ~~- *a rehabilitation plan, indicating areas and types of vegetation, methods of establishment, and a monitoring programme*~~
  - *a complaints procedure*
- 7.1.3A.2.4 *The quarry management plan shall incorporate best industry operational practice and any relevant New Zealand standards and codes of practice.*
- 7.1.3A.2.5 *The quarry management plan shall be reviewed at least every five years from the date of commencement of the quarry operation, and shall be updated more frequently to address any change in best industry operational practice or changes in relevant standards or codes of practice. Details of reviews and any updates shall be provided to the Council.*
- 7.1.3A.2.6 *Rehabilitation of the area and at the termination of quarry operations for both Kiwi Point Quarry and the Kiwi Point Quarry Extension shall be carried out in accordance with a rehabilitation plan, prepared by the quarry operator and provided to the Council, which shall include provision for:*
- *a timetable for the rehabilitation of prominent quarry faces*
  - *measures to create soil conditions which will support plant growth*
  - *measures to create a variety of site conditions to support a range of species*
  - *means of controlling run-off to avoid erosion*
  - *list of plant selections being proven species*

- means of control of plant and animal pests
- measures to reduce fire risk
- provision for inspections of rehabilitated sites, times to be agreed with the Council
- means to assist native vegetation to regenerate on grazing land
- recognition of Open Space strategy for adjacent areas of land
- a complaints procedure.

7.1.3A.2.67A progress report on rehabilitation shall be completed and provided to the Council annually for the first five years following commencement of rehabilitation work in accordance with the management plan, and bi-annually thereafter while the quarry is operational. Each progress report will review rehabilitation measures taken up to that time and will specify the programme of rehabilitation work to be undertaken prior to the next progress report.

### **7.1.3A.3 Cleanfill activities**

7.1.3A.3.1 Cleanfill activities shall be restricted to the area shown on the plan included as Appendix 5A and shall continue until the finished levels shown on the plan are reached.

7.1.3A.3.2 The cleanfill shall comply with the definition of cleanfill in Section 3 (Definitions) of this District Plan.

### **7.1.3A.4 Processing plant and buildings**

Any processing plant or buildings shall be relocatable.

### **7.1.3A.5 Traffic movement**

Access shall be only via Crossing Place 22 from State Highway 1 (the access point to Kiwi Point Quarry).

### **7.1.3A.6 Rehabilitation and Treatment of stripped areas**

7.1.3A.6.1 Quarried areas shall be progressively rehabilitated once quarried to finished levels. Any planting will take place as soon as practicable following the completion of the quarry activity. Planting will be undertaken using indigenous species from local sources, except where exotic species are required to provide erosion control and/or temporary nurse cover for revegetation with indigenous species.

7.1.3A.6.2 When the stripping of vegetation and overburden is undertaken to expose rock, dust control measures such as spraying or hosing shall be undertaken to avoid creating a dust nuisance outside quarry boundaries.

7.1.3A.6.3 Cut faces and batters associated with the development or modification of the access road to the quarry working area shall be hydroseeded as soon as practicable after their construction.

### **7.1.3A.7 Buffer zone**

*7.1.3A.7.1 A buffer zone with a minimum width of 25 metres shall be maintained on the uphill boundary of the site as shown on Appendix 5A. This area will be allowed to revegetate naturally except where the rehabilitation plan identifies the need for additional planting.*

*7.1.3A.7.2 Prior to commencement of operations the quarry operator must install and maintain a security fence along the outer edge of the buffer zone.*

*7.1.3A.7.3 No quarry activities shall be undertaken within the buffer zone.*

These provisions allow for the extension of the Kiwi Point Quarry into an additional area of hard rock resource in Ngauranga Gorge to the extent shown in Appendix 5A. As the potential visual and landscape effects of a quarry in this area have been in part mitigated by reducing the extent of hillside to be removed but allowing the quarry to excavate to below the level of the road, cleanfilling of part of the excavated area, and site rehabilitation is also provided for.

As the long term future of the Kiwi Point Quarry Extension area has not been determined, any other type of activity in this area is given the status of a non-complying activity (see rule 7.1.1). At present the Council's open space strategy in Capital Spaces indicates that open space is a vital component of the future of the Ngauranga Gorge. It is important that any possible policy issues as to future uses of the quarry Kiwi Point Quarry Extension area once quarrying is completed are resolved by the Council and the community. Because of the long duration of the quarry activity, the plan leaves any decision on the future of the land to a plan review or future plan change."

### **7.3 New Restricted Discretionary Activity Rule for Quarry Activities where specified conditions are not met in Appendix 5 and 5A**

*Modify the reference to rule 7.3.6 in line four of the introduction to "rule 7.3.9".*

***"7.3.9 Quarrying activities in Ngauranga Gorge (Kiwi Point Quarry and Kiwi Point Quarry Extension) that do not comply with one or more of the following conditions for Permitted Activities:***

***7.3.9.1 Matters in rules 7.1.3.1 and 7.1.3A.1.***

***7.3.9.2 Quarry activities in rules 7.1.3.2.2 and 7.1.3A.2.2 (blasting) and rule 7.1.3.2.3 (notice of blasting).***

***7.3.9.3 Processing Permanent plant and buildings in rule 7.1.3A.4.***

***7.3.9.4 Traffic movement in rule 7.1.3A.5, where access is from the existing formed intersection of State Highway 1 and Tyers Road.***

*are Discretionary Activities (Restricted) in respect of the condition(s) not met.*

#### **Non-notification**

*The written approval of affected persons will not be necessary in respect of:*

- *rule 7.3.9.1, when the non-notification provisions of rule 7.3.1 and rule 7.3.2 apply.*
- *rules 7.1.3.2.2 and 7.1.3A.2.2 (blasting), and 7.1.3.2.3 (notice of blasting).*
- *rule 7.3.9.3 (processing plant and buildings).*

~~*Notice of applications need not be served on affected persons and applications need not be notified.*~~

#### **Standards and Terms**

*The standards and terms which apply in rules 7.3.1 and 7.3.2 shall apply to all applications under 7.3.9.1.*

*The duration of a consent granted for processing plant or buildings under rule 7.3.9.3 shall not exceed 10 years.*

#### **Assessment Criteria**

*In determining whether to grant consent and what conditions, if any, to impose, Council will have regard to the following criteria:*

#### **7.3.9.5 All matters under 7.3.9.1**

*7.3.9.5.1 Any relevant assessment criteria set out in rules 7.1.3.1 and 7.1.3.2*

*7.3.9.5.2 The extent to which the proposed will result in adverse visual, amenity or safety and efficiency effects, including effects on those using the State Highway and on occupants of nearby dwellings.*

#### **7.3.9.6 Quarry Activities**

*7.3.9.6.1 The extent to which the blasting activities will depart from normal practice in terms of timing or duration, and any likely effects on nearby residents or road users.*

#### **7.3.9.7 Processing plant or buildings**

*7.3.9.7.1 The visual impact of the building or structure.*

*7.3.9.7.2 How the structure will effectively assist the operation of the quarrying activity, and whether its presence will restrict, inhibit or facilitate successful site rehabilitation.*

### **7.3.9.8 Traffic Movement**

7.3.9.8.1 *Whether the alternative access facilities affect the operation and management of the quarry (or, for the Extension area, the cleanfill) activity.*

7.3.9.8.2 *Whether the use of Tyers Road as an access will affect the safe and efficient operation of the State Highway or Tyers Road.*

7.3.9.8.3 *The extent of adverse effects of the alternative access on nearby existing activities.*

## **Chapter 7 – Appendices**

### **Appendix 5**

*Amend the quarry boundary in the diagram Appendix 5 to reflect the proposed amended zone boundary between Suburban Centres and Open Space B. To this effect, the area east of the reservoir and west of the access track (including the paper road) will be removed from the quarry boundary.*

### **Appendix 5A**

*Include as Appendix 5A, the attached diagram - “Appendix 5A. Kiwi Point Quarry Extension.”*

## **ATTACHMENTS**

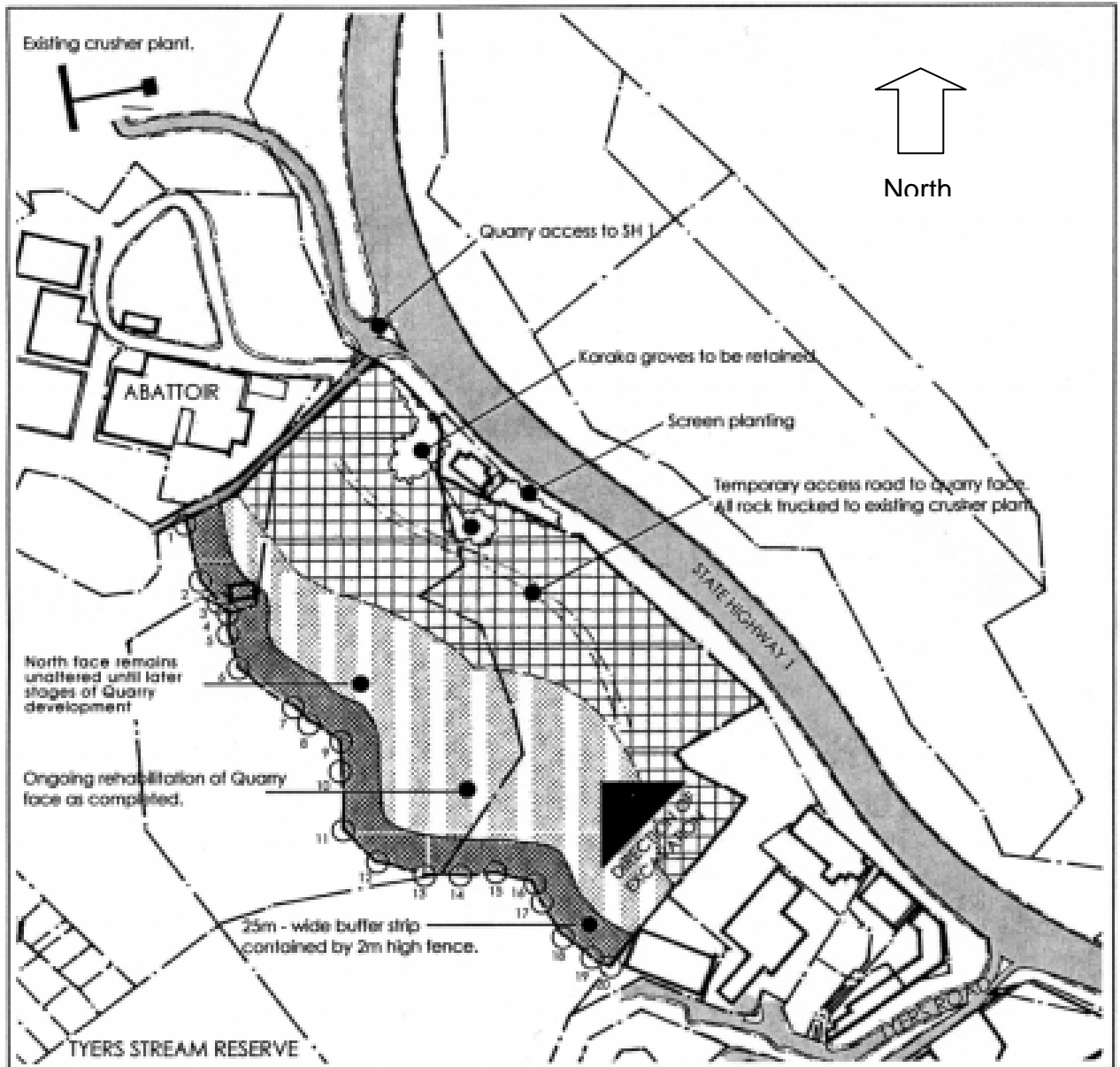
1. *Plan showing Planning Map Changes (Map 22).*
2. *Diagram showing Appendix 5A. Kiwi Point Quarry Extension.*

**Planning Map Changes (Map 22)**

Rezone the area shown on the attached plan from Open Space B to Suburban Centre.



*Insert the following diagram as Appendix 5A to Chapter 7:*  
**Appendix 5A. Kiwi Point Quarry Extension**



SCALE 0 25 50 100 150 200m

**KEY**

-  Cadastral Boundaries
-  Existing Buildings
-  Existing Roads
-  Quarry Boundary
-  Cut face at completion from 158m asl to meet with platform
-  Excavation to maximum of 30m asl, cleaned to a final platform sloping from 64-44 m asl (north - south)

**Boundary co - ordinates**

1	2661184.26	5994790.43
2	2661193.89	5994793.45
3	2661207.85	5994793.55
4	2661214.15	5994729.40
5	2661213.10	5994716.60
6	2661219.80	5994693.30
7	2661258.35	5994666.75
8	2661269.95	5994655.36
9	2661285.53	5994647.85
10	2661290.16	5994632.62
11	2661291.20	5994622.25
12	2661310.47	5994562.98
13	2661338.60	5994554.55
14	2661369.30	5994553.55
15	2661389.57	5994554.93
16	2661415.60	5994551.27
17	2661420.80	5994537.63
18	2661436.90	5994514.40
19	2661458.27	5994493.60
20	2661470.13	5994490.74