

Report No:	RESC12-07-02
File No:	
Date:	4 July 2012
<i>Decision required</i>	

REPORT SUMMARY

Report to: Engineering Services Committee
Meeting Date: 19 July 2012
Report Author: Steve Elkington, Transportation Projects Engineer
Subject: **Pukekoikoi (Turners Bluff) – Road Realignment Options and Funding**

EXECUTIVE SUMMARY

This report covers the design options for realigning the road at Pukekoikoi (Turners Bluff) and recommends the option to address the issue of providing a safe and reliable route to Kaiteriteri. The report also requests additional funding for completing the project as a result of the archaeological find and issues that surround the site. The complete project will see the route secured along with an historic reserve being set up to preserve the recent find.

RECOMMENDATION

That this report is received and that resolutions are passed on the recommended road realignment route and for additional funding to purchase land.

DRAFT RESOLUTION

THAT the Engineering Services Committee receives the report, Pukekoikoi (Turners Bluff) – Road Realignment Options and Funding, RESC12-07-02; and

THAT the Engineering Services Committee approves the alignment of Riwaka-Kaiteriteri Road extending through the gully and referred to as Option 7 in the report RESC12-07-02; and

THAT the Engineering Services Committee recommends to the Full Council that additional funding of \$477,000 be approved for “Option 7” subject to a staff report outlining funding options for Council, as noted in the report RESC12-07-02.

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1. Background

- 1.1 Work is being undertaken to realign the Riwaka-Kaiteriteri Road at Pukekoikoi (commonly known as Turners Bluff) for both safety and security of route. Part of the road section being realigned is above an active slip face in Separation Point Granite which in recent times has required a temporary barrier and signage to be erected thus further narrowing the road.



Pukekoikoi (Turners Bluff) – Looking south towards the active slip on the left. Note the archaeological site is in the embankment on the right. The road carriageway is approximately five metres.

1.2 Other facts:

- (a) The road is narrow and causes a road safety issue particularly for long vehicles to keep to the left of the existing centre line;
- (b) The active slip being monitored has reduced the outside lane width;
- (c) There is a safety fence in place but this would not prevent a vehicle going over the edge;
- (d) The cliff face below the road to the beach is approximately 18 metres high.

1.3 A contract was awarded to Oldfields Ltd in October 2011 for the realignment of Riwaka-Kaiteriteri Road at a location commonly known as Turners Bluff.

1.4 Oldfields started work on site in mid-November with their earthworks sub-contractor Taylors Contracting starting topsoil stripping above the bluff.

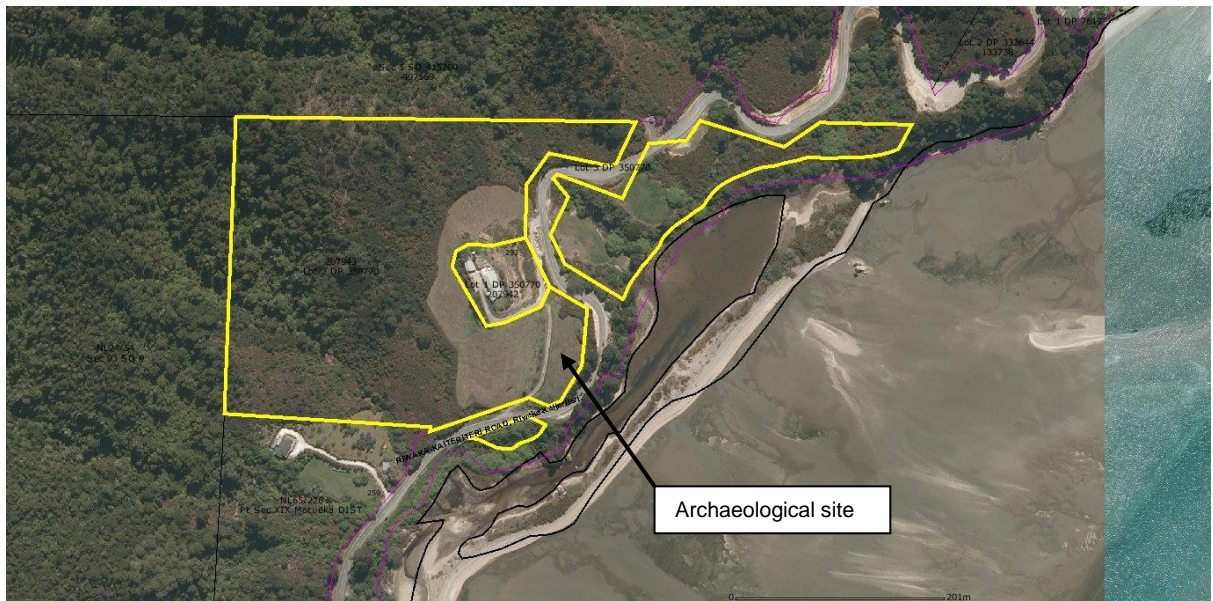
1.5 During stripping of the topsoil iwi monitors discovered dark patches of soil and an archaeologist was called in. The area was then cordoned-off and an authority application was made to the New Zealand Historic Places Trust.

1.6 After the authority was granted an archaeological dig or investigation was undertaken in February this year and a pre-European Maori Kia Pa site was discovered with earth remains of ramparts, palisade structures, kumara pits, post holes belonging to raised structures and a fire pit with possible remains of tools. Approximately 500 artefacts were found.

1.7 An agreement was signed with the adjacent landowner before the work proceeded in 2011. The agreement allowed for some road to be stopped and amalgamated with the adjacent land whilst the new road aligned over part of the private land at the bluff. The land agreement was based on a straight swap as the areas involved were similar. Further to this it was agreed to underground the overhead power and share this cost.

1.8 The land on which the archaeological site is located is currently in private ownership.

1.9 The landowner currently owns both blocks of land shown below with their house being situated on the smaller parcel of land of approximately 0.5 hectare with its own separate title. The other block of land of approximately 15.6 hectares has separate title surrounding the house; this is also the block of land where the archaeological discovery is sited. The land is currently zoned Rural 2 Deferred Rural Residential. The “deferral” was due to requiring the road to be upgraded. The landowner is planning to undertake a subdivision some time in the future once the deferral is lifted.



Note Lot 2 DP 350770 is in three parcels

2. Archaeological Site – Historical Reserve

- 2.1 The archaeological site is now protected under the Historic Places Act 1993 and other legislation even though it is located on private property.
- 2.2 The archaeological site occupies approximately 2725 m² of private property.
- 2.3 Iwi through Tiakina te Taiao have requested the site be preserved and that the Council purchase the land in which the archaeological site is located for a historical reserve. The landowners have also requested that the Council own and manage the site. The archaeological site is included in the landowners offer to exchange the land for both road and historical reserve.
- 2.4 The stance taken by iwi as to why this significant archaeological site is so important to them is due to the destruction that has taken place of other Maori archaeological pa sites in the local area through development.
- 2.5 Gazetting of the site as a Historical Reserve is apparently reasonably straight forward once the land is in council ownership. Council's Parks & Reserves Department has agreed to take it over if a reserve is created.
- 2.6 The archaeological site has recently been re-covered with topsoil and will be resown in grass this spring.

3. Road Realignment Options

- 3.1 The initial proposed realignment on which the contract with Oldfields Ltd was based involved moving the road away from the cliff edge and some land recontouring which led into the encroachment of the bluff. With the location of the archaeological discovery, this initial proposal is no longer viable and a new alignment is necessary.
- 3.2 A total of six realignment concepts have been considered with only one being feasible in terms of practical and economical. The concept options that were considered are:
- a) The current option before the archaeological discovery;
 - b) Do nothing incorporating either signs and/or permanent or temporary traffic lights for a one lane section;
 - c) Compromise option based on the initial proposed realignment with the outer seaward side margin of the archaeological site being lost. This option has already been declined by iwi due to desecration of the archaeological site albeit minor;
 - d) Existing alignment or status quo with use of high retaining walls to retain the seaward cliff face;
 - e) An alignment that is further towards the coast with the road being cut down to achieve a wider formation and more stable base;
 - f) Realign the road around the uphill side of the existing house;
 - g) Realign through the gully on the private land (recommended alignment).

4. Evaluation of the Options

Option	Action	Comments	Pros	Cons
1	Initial Design (Pre-archaeological find)	<ul style="list-style-type: none"> This was the road alignment that was approved for construction prior to awarding the contract to Oldfields. This option is no longer viable as it would desecrate virtually the entire archaeological site This option had a value of \$989,500 which was funded from a number of different budgets. Around \$517,000 has been spent on the project since 2010. 		
2	Do nothing	<ul style="list-style-type: none"> Basically the road remains in its current status with the cliff edge continuing to be monitored and warning signage of the narrow roadway ahead being maintained. The cliff edge continues to slip and when the road is no longer wide enough to permit two oncoming vehicles (other than opposing large vehicles which cannot pass now) to safely pass then a single lane is created and most likely controlled by traffic signals. The traffic signals are necessary due to the lack of forward sightline to ascertain the way is clear. The cost of hiring a set of traffic lights including regular monitoring and insurance is in the region of \$25,000 per annum. This option assumes the remaining road isn't going to slip away and is a stop-gap solution. 	<ul style="list-style-type: none"> Relatively low cost 	<ul style="list-style-type: none"> The cost of ongoing maintenance; The safety issue of hidden queues; Traffic delays particularly during the summer peak; Route security for the general residential area and local area tourism particularly for Kaiteriteri should the cliff slip causing the road to be closed; The impact on the Riwaka-Sandy Bay and Kaiteriteri-Sandy Bay Roads with increased daily use particularly by large vehicles including combinations involving the towage of boats and caravans; School bus access; Possible injury due to

Option	Action	Comments	Pros	Cons
				<p>sudden road failure;</p> <ul style="list-style-type: none"> • Increased risk of crashes and social cost; • No provision for cyclists; • Does not deal with the long term security of the route.
3	Compromise (Loss of several artefacts)	<ul style="list-style-type: none"> • This option involves moving the road away from the cliff face but narrowing the road carriageway and tightening the alignment thereby reducing forward safe stopping sight distances. The cost of this option is very similar to the original design at approximately \$1 million and allows for additional land or mitigation measures to reduce the land area required. • The archaeological site would see some minor destruction along the seaward side thereby losing a number of important artefacts. Iwi have indicated this option is not acceptable to them; • The cliff above the road would be cut with a steep batter to accommodate the road and minimise the damage to the archaeological site; • Due to the road being constructed below the existing road level this would increase the height of the cliff separating the archaeological site and the road. 	<ul style="list-style-type: none"> • The road will be realigned in a similar location as that initially planned; • The cost was estimated to be similar to the initial project; • Provides for an increase in route security and safety. 	<ul style="list-style-type: none"> • The archaeological site will be partly destroyed; • The compromised alignment isn't as safe as the initial design due to reduced forward safe stopping sight distances; • There is no provision for cyclists; • The road is within approximately 5 metres of the current slip face.
4	Existing Alignment using High Retaining Walls	<p>This option uses the existing road alignment but where the slips have occurred building a retaining walls up from below to secure the road edge.</p> <ul style="list-style-type: none"> • The existing road is still narrow and requires widening to enable oncoming large vehicles to remain on the left • The archaeological site is directly in the bluff face above the road so any widening would have to occur on the seaward side; 	<ul style="list-style-type: none"> • Pros and Cons for this option have not been assessed due to the points outlined above making this an unrealistic option. 	

Option	Action	Comments	Pros	Cons
		<ul style="list-style-type: none"> • Due to the road being so close to the cliff edge any retaining structures would need to extend far enough to both retain other sections where potential slippage could occur and key into the existing ground profile. Equally the structure would need to extend far enough below the road to be founded on a good base; • The cost of constructing a retaining wall of required length and height has had no detailed ground investigation however it is expected to be in the order of \$500,000 to \$1 million. The wall would not improve the road alignment. This option would require resource consents which may possibly extend the timeline for the project. • A structure of this magnitude would look aesthetically unpleasant within the surrounding environment. • There are other historic sites noted in the TRMP on the outside of this road alignment that could be destroyed. 		
5	Existing Alignment at a lower elevation	<p>This alignment would extend around the edge of the bluff face but below the existing road at a lower level nearer the cliff base. The construction cost of this option is around \$2 million. It should be noted that no land costs have been added as they are subject to agreements with the landowner. It is likely land costs could add at least a further \$500,000 to the price tag. Also resource consents are likely to be complicated due to the marine environment and near other known archaeological sites. This process is likely to be time-consuming.</p> <ul style="list-style-type: none"> • This option would involve cutting the existing road down nearer to the base of the cliff thereby providing a wide base on which to found the road. The new road would be approximately seven metres lower than the existing road in places around the bluff; • The material in the lower section of the cliff is less weathered and hence more stable; 	<ul style="list-style-type: none"> • Pros and cons for this option have not been assessed due to the points outlined above making this an unrealistic option. 	

Option	Action	Comments	Pros	Cons
		<ul style="list-style-type: none"> • The bluff on which the archaeological site is located would be approximately 18 metres at the highest point above the roadway. However the existing roadway in this location would create a bench separating the bluff from the new roadway alignment below; • The northern alignment of the road would extend through the prime private developable land that includes prized seafront sections which would be unacceptable to the landowner unless suitably compensated; • The cost of this option has been estimated in excess of \$2 million excluding land acquisition; <p>This option includes costly retaining walls that would be required below the new road at several locations. One of these walls whilst not high at approximately three metres, is at least sixty metres long.</p>		
6	Extend the road up around the Landowner's House	<p>This option involves realigning the road around the uphill side of the landowner's house.</p> <ul style="list-style-type: none"> • This option would involve major earthworks and steep grades as well as purchasing a substantial area of land from the adjacent landowner; • It is likely that some retaining of both slopes above and below the road may be necessary; • The archaeological site would remain and most likely need to be negotiated into an overall land compensation package with the adjacent landowner; • This road alignment option would have a significant impact on the landowner to subdivide their 15 hectare lot; • The cost of this option is considered to be well in excess of that option recommended. 	Pros and cons for this option have not been assessed due to the points outlined above it unrealistic.	

Option	Action	Comments	Pros	Cons
7	Realign Road through Turners Gully (Recommended Option)	<p>This option provides an appropriate horizontal alignment and is on the inland side of the archaeological site which separates it from the bluff. Whilst the vertical alignment provides some constraints the outcome provides for a logical solution whilst enabling the archaeological site to be preserved.</p> <p>This option has an estimated price tag of \$1,462,000 and includes the cost of the land and consents.</p> <ul style="list-style-type: none"> (i) The adjacent land owner has offered this revised alignment enabling the preservation of the archaeological site whilst taking the road away from the bluff; (ii) The land owner naturally wants compensation for the land based on loss of potential. They have also requested Council to make the archaeological site a historic reserve which iwi has also requested to ensure the significant cultural values of this site are preserved; (iii) The alignment provides the best solution for route security being clear of the slip face; (iv) This option is considered to provide the best long term economic solution whilst meeting the constraints set by iwi and the environment; (v) Consultation has been carried out with iwi and New Zealand Historic Places Trust on this option as well as design detail discussion with the land owner. 		

Further work is still required with iwi to address their issues relating to the preferred option. The New Zealand Historic Places Trust is prepared to provide an authority to proceed with this option.

5. Affected Parties

- 5.1 The affected parties in this project are
- (i) Iwi who have a historical and cultural interest in the archaeological discovery. Iwi's concern is that so many of the local Maori sites have been destroyed due to land development;
 - (ii) The New Zealand Historic Places Trust which has an interest in the archaeological find in terms of delegated responsibility under legislation to protect the site;
 - (iii) Local residents and businesses in terms of ongoing safe and secure access. This is one of the Government's Policy Statement or Transportation goals and likewise one of Council's Regional Land Transport Plan outcomes not to mention the cultural values;
 - (iv) The landowners themselves who wish to move on with their plans and want closure;
 - (v) Council's Parks & Reserves Department as future manager of the Historical Reserve. Council's Reserves Manager has said that she is comfortable with taking over the land for reserve providing the maintenance requirements are not too onerous. Planting is expected to be grass and low height shrubs;
 - (vi) Road users who expect a safe and efficient route.

6. Funding – Recommended Option

- 6.1 The recommended option to realign the road through the adjacent gully has an estimated value of \$1,462,000. The cost allows for acquiring the land for both the road and historic reserve, satisfying the deliverable portions of the existing agreement with the adjacent landowner, construction of the new road and legalisation costs. This estimate however does not include any ongoing maintenance costs for the road or reserve.
- 6.2 Additional funding requests for securing the archaeological site as reserve have also been made to Government and whilst Lotto funding is unlikely there may be some funding available from the Ministry of Arts, Culture and Heritage. However at the time of writing there is no progress on this funding.
- 6.3 The funding of the estimated cost has been broken down as shown in the table below with additional funding required being indicated as "Funding Shortfall". The adjacent landowner has offered to accept credits for Development Contributions and Reserve contributions for their future subdivision consent limited to 14 sections on their 15 hectare site. This is to offset the compensation they want for the land required for road and the new historic reserve. Therefore

the value of these credits based on the recently approved Long Term Plan would not become a liability to the Council until the 224 Certificate for the subdivision is issued. In effect this would defer any loan requirement if required, until the subdivision is completed.

- 6.4 If the subdivision consent did not proceed then a settlement on the land would be based on the current assessed value of these credits.
- 6.5 The table below sets out the different budgets that will be used to fund the completion of the project.

Account Name	Budget Allocation \$	Subsidy Rate NZTA	Cumulative Total \$
Minor Improvements (Subsidised roading)	250,000	59%	250,000
Preventative Maintenance (Subsidised roading)	300,000	49%	550,000
Drainage Renewals (Subsidised roading)	30,000	49%	580,000
Traffic Services Renewals (Subsidised roading)	5,000	49%	585,000
Turners Bluff Realignment (Non subsidised roading) Carry forward from 2011/2012	140,000	nil	725,000
New Kerb and Channel (Non subsidised roading)	20,000	nil	745,000
Professional Fees (Non subsidised roading)	40,000	nil	785,000
Road Legalisation & Land Purchase (Non subsidised roading) Carry forward from 2011/2012	200,000	nil	985,000
Total Funding Allocation			985,000
Less Estimate			1,462,000
Funding Shortfall			477,000

Note: The estimate for the physical road works has a contingency of \$96,000 which has been included in the figures above.

- 6.6 More work around the final agreement is still required along with the cost implications relating to DCs and Reserve credits
- 6.7 A follow up report needs to be provided by staff outlining any possible funding options for Council.

7. Oldfields Ltd Nelson – Contract 807 Turners Bluff Realignment

- 7.1 The contract for Riwaka Kaiteriteri Road realignment at Pukekoikoi is still current even though the work has not been able to be progressed.
- 7.2 Should the new road alignment be able to be constructed this year then it is intended to save money by extending the present contract. This will save having to re-tender the contract involving further consultant/administration fees

and paying a new contractor for site establishment and putting in place measures for erosion and sediment control.

7.3 The current contract has all of the relevant work components appropriate with the new road alignment and the rates for undertaking the work were contested in the market at the time of tender and hence highly competitive.

7.4 The contractor has indicated they would like to continue to undertake the work based on the current contract rates albeit with some provision for cost escalations as provided under NZS3910.

8. Resource Consent

8.1 New resource consents will be required due to the proposed new road alignment. The detail required for these new consents will be similar to that in the previous consents so these should be able to be produced quickly predominantly using in-house/staff resources.

9. Programme

9.1 The programme is to work towards having the new road constructed and in service before Christmas 2012. However this is subject to the Council giving approval for the project to proceed.

10. Significance

10.1 The decisions required to be made in respect to the recommendations set out in this report do not trigger the significance policy

11. Recommendations

11.1 There are three recommendations:

- THAT the committee receives this report; and
- THAT the committee approves the proposed road realignment of Riwaka Kaiteriteri Road extending through the gully as described as “Option 7” in this report; and
- THAT the committee recommends to the full Council that additional funding to be set aside for “Option 7” in case this is required, and subject to a staff report outlining funding options for Council.

12. Draft Resolution

- 12.1 THAT the Engineering Services Committee receives the report, Pukekoikoi (Turners Bluff) – Road Realignment Options and Funding, RESC12-07-02; and**
- 12.2 THAT the Engineering Services Committee approves the alignment of Riwaka Kaiteriteri Road extending through the gully and referred to as Option 7 in the report RESC12-07-02; and**
- 12.3 THAT the Engineering Services Committee recommends to the Full Council that additional funding of \$477,000 be approved for “Option 7” subject to a staff report outlining funding options for Council, as noted in the report RESC12-07-02.**

Appendices:

- Appendix 1 – Option 1 – Initial Design
- Appendix 2 – Option 3 – Compromise
- Appendix 3 – Option 5 – Existing Alignment at a lower elevation
- Appendix 4 – Option 7 – Through Gully