COUNCIL 27. 9. 2012

PLANNING COMMITTEE
5. 9. 2012

A meeting of the Planning Committee was held in the No. 1 Committee Room, Civic Offices, 53 Hereford Street on Wednesday 5 September 2012 at 9.15am.

PRESENT: Councillor Sue Wells (Chairperson)
Councillors Peter Beck, Sally Buck, Jimmy Chen, Aaron Keown, and Glenn Livingstone.

APOLOGIES: Councillor Claudia Reid

The Committee reports that:

PART A - MATTERS REQUIRING A COUNCIL DECISION

1. CONSENTING REBUILD MONTHLY REPORT

General Manager responsible:	General Manager Regulation & Democracy Services, DDI 941-8462
Officer responsible:	Unit Manager Building Operations
Author:	John Higgins, Resource Consents Manager

PURPOSE OF REPORT

1. To provide the Council with a monthly update on the consenting rebuild.

EXECUTIVE SUMMARY

2. The Council has agreed that the Chief Executive would report regularly to the Council on progress with regard to the consenting rebuild work.

3. The report **(Attachment 1)** is the regular monthly report that is provided to both the Council and the Canterbury Earthquake Recovery Authority (CERA).

4. The Council considered the information in the report at its meeting of 2 February 2012. Staff are continually seeking to improve the information provided and welcome feedback and direction from the Council.

STAFF RECOMMENDATION

That the Council receive the Consenting Rebuild Monthly Report.

COMMITTEE RECOMMENDATION

That the Council receive the Consenting Rebuild Monthly Report noting that the non-consented building works relates to commercial and not residential works.

The meeting adjourned at 10.40am and resumed at 10.50am.

CONSENTING REBUILD MONTHLY REPORT

INTRODUCTION

The purpose of this report is to provide the Committee with relevant information on the performance of the earthquake related building and resource consents as considered in the report to the Council at its 2 February 2012 meeting. This report covers activity in the month of July 2012.

PRE-APPLICATION MEETINGS

The promotion of the pre-application meetings continues to be successful with 62 building issues and 24 planning related pre-application meetings undertaken in July 2012. When meetings were first actively promoted in March and April we averaged about 9 building consent related meetings per week. Through July 2012 the meetings for building consent issues averaged 16 hours per week with peaks at 18 hours. It should also be noted that there is often follow-up queries as a result of these meetings as well as documentation preparation for customers.

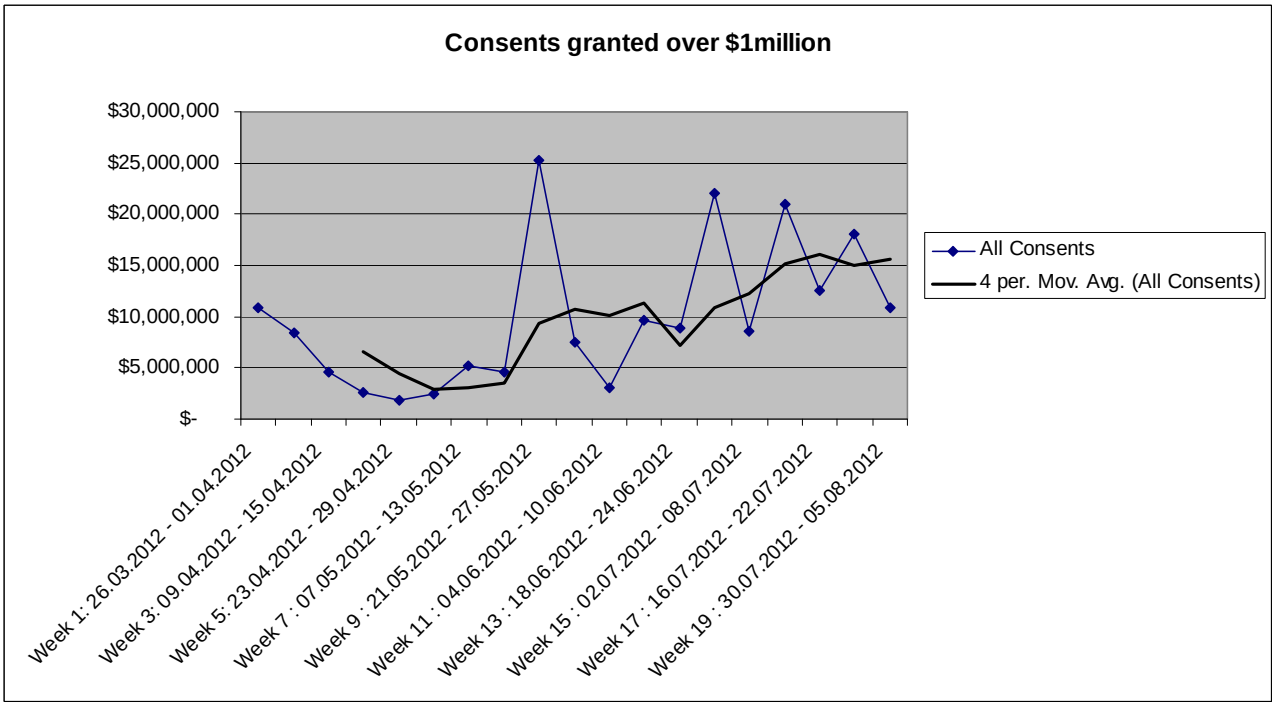
BUILDING CONSENTS

There were 22 working days in July with 697 building applications received = 31.7 per day. In June there were 20 working days with 627 received = 29.9 applications received per day.

Past reports have not adequately reflected our delivery on some of the other ancillary services required under the Building Act 2004. The Council will also recall prior discussion at its meeting of 2 February 2012 in relation to illegal and/or non-consented building works. For this report we include a section of our ongoing work in this regard.

We also include discussion of Certificates of Acceptance for 1) building work undertaken under urgency during the declared emergency period or 2) where through misinterpretation the building work was assumed to not require a building consent but in fact it did. Assessing these works in relation to the building code provides assurance for these building owners that they have done the right thing and their sites are compliant. These activity streams are being handled within the dedicated Multi-Discipline Team. This allows our 'routine processing' teams to focus on getting building consents granted as quickly as possible.

The graph below covers the granted consents where value of works in excess of $1 million. Note the contrast from smooth pattern prior to end of May and the significant saw tooth profile since then. This is a definite indicator of revival in significant building activity. The black line is the four week moving average over this period.



In the numerics, we have now added building consents granted in the TC zones as well as Requests for Information (RFI) after 20 days.

NON-CONSENTED BUILDING WORKS

Council Officers have reviewed all information held by the Council where there was an indication that building works or a change of use had occurred but there was no building consent. A single repository for this information has been compiled in order to better manage these issues and as at 31 July 2012 a total of 607 cases were identified.

Moderate to high risk cases, which are considered high profile sites in terms of risk to reputation and public safety, have been given priority for further investigation and where necessary inspection by building staff.

Investigations to date have reduced our initial concerns that there were a large number of properties in Christchurch where illegal repairs had taken place and where occupants could be exposed to danger from inadequately completed repairs. Generally, the standard of work has been good where the involvement of professionals such as qualified structural engineers have been a factor in this. Council officers did discover a number of building and planning non-compliances but few are related to the life safety aspects of buildings.

The findings from our review of the 607 cases have resulted in 241 not requiring further action. This is due to either a building application being received, no building work has taken place or the building work undertaken is exempt work under the First Schedule of the Building Act. A total of 366 cases need further review, which will likely require a Certificate of Acceptance or a building consent where additional work is still required to affect the required level of compliance. In some cases a Building Act change of use has occurred and this can also trigger the need for a building consent or a Certificate of Acceptance (COA).

Description	Volume
Cases resolved	241
Change of Use under Investigation	306
Non-consented building works – under Investigation	60
TOTAL	**607**

CERTIFICATES OF ACCEPTANCE (COA)

The Council is currently managing 92 live Certificates of Acceptance and 52 applications which were placed on suspension requiring further information. We are receiving an average of four new Certificate of Acceptance (COA) applications per week, many due to Council Officers working with property owners as part of this project.

Description	Volume
Live COA applications lodged but not issued	92
Suspended COA applications	52
TOTAL	**144**

To date, building owners that the Council has contacted in relation to works without consent have been working in a positive and cooperative manner in order to bring their buildings up to a compliant standard without the need for punitive enforcement action.

The increase in COA applications has resulted in a review of the processes for reviewing and issuing of these applications aimed at ensuring a quick and efficient turn around and also a pragmatic approach in working with property owners.

As a result of the review, the Council has streamlined the process where one officer now looks after the application from the pre-lodgement meeting through to the issuing of the COA. This in turn creates a single point of contact for the building owner, and reduces internal hand offs. A number of staff has recently been trained to facilitate this process and this will greatly assist with the reduction in backlog of works.

Council staff has been pro-actively working with Project Management Offices (PMOs) and insurance companies to provide clear guidance on the types of works requiring building consents in addition to works that may be exempt under the Building Act.

BUILDING INSPECTIONS

2,350 building inspections were completed in July 2012 with 100% of these inspections completed within three working days from being booked.

CODE COMPLIANCE

374 Code Compliance Certificates were issued in July 2012. Customer expectation is always high in this area and although there is a 20 day statutory time allowance to process a Code of Compliance application, customer needs and expectation is for a much quicker service.

CERTIFICATE OF PUBLIC USE (CPU)

33 CPUs were issued in July 2012 and this workload remains at a consistent level of between 30 and 45 CPUs per month. This is another area that requires a focused customer response as the customer need is usually associated to re-opening or relocating a business.

CUSTOMER COMMUNICATIONS

- An effective Press front page article to date was published 27 June "Value of big projects jumps by $80m' in response to media release 26 June.
- The second trade store display will be installed early August in the Mitre10 Hornby Store.
- Go Ahead billboard advertising and information on the Masters Builders website is being finalised for release early August.
- The second edition of the Go Ahead consenting stakeholder newsletter (Heads Up) is live at http://www.ccc.govt.nz/homeliving/buildingplanning/headsupnewsletter/index.aspxhttp://www.ccc.govt.nz/homeliving/buildingplanning/headsupnewsletter/index.aspx. The most popular stories are the temporary accommodation story, the new application form story and the applications numbers story, all with click rates over 29%.

RESOURCE CONSENTS

In July 2012, there has been a modest increase in the number of applications received and granted. From June 2012, the number of applications has increased from 179 to 207 received and 125 to 167 granted. As mentioned in previous reports there is an anticipated increase in numbers over time but numbers will in the short term show some volatility while the rebuild gets established.

As can be seen, a high compliance with the statutory timeframes for processing resource consent applications continues. In July 99% compliance was achieved, this is an excellent result.

Similar trends can also be seen in the RFI table where requests over 10 days have reduced.

Further work is continuing on streamlining the resource consent process to ensure that the results below are maintained and improved.

In July 2012, the Council discounted the first two applications under the RMA discount policy. While the money returned was not significant, we have identified and addressed the issues for the applications going over the statutory timeframes.

Applications in the Central City remain low and what is being received is primarily outside the core area.

NUMERICS

All Consents

Month	Building Applications Received	Building Consents Granted	Building Consent Value Granted
May	722	676	$100,301,960
June	627	655	$101,318,580
July	697	663	$118,405,251

Building Consents – Requests for Information (RFI)

Month	Build Granted	No RFI Required	RFI 5 days or less	RFI after 5 days	RFI after 20 days or more
May	676	302 45%	244 36%	140 21%	-
June	655	296 45%	192 29%	167 25%	7 1%
July	663	281 42%	190 29%	192 29%	5 0.75%

Non-Earthquake Related Building Consents

Month	Type	Building Consents Granted	Granted in ≤20 days	Granted in >20 days
May	All	350	331 95%	19 5%
	Residential	278	267 96%	11 4%
	Commercial	72	64 89%	8 11%
June	All	360	333 93%	27 7%
	Residential	268	257 96%	11 4%
	Commercial	92	76 83%	16 17%
July	All	386	370 96%	16 4%
	Residential	288	283 98%	5 2%
	Commercial	98	87 89%	11 11%

Earthquake Related Building Consents

Month	Type	Building Consents Granted	Granted in ≤20 days	Granted in >20 days
May	All	Unavailable	Unavailable	Unavailable
	Residential	Unavailable	Unavailable	Unavailable
	Commercial	Unavailable	Unavailable	Unavailable
June	All	295	280 95%	15 5%
	Residential	252	247 98%	5 2%
	Commercial	43	33 77%	10 23%
July	All	277	269 97%	8 3%
	Residential	231	229 99%	2 1%
	Commercial	46	40 87%	6 13%

Building Consents Received per TC Zone

Month	Type	TC1	TC2	TC3
May	Residential	61	266	60
	Commercial	3	17	4
June	Residential	54	188	47
	Commercial	4	15	2
July	Residential	78	266	60
	Commercial	1	21	4

Building Consents Granted per TC Zone

Month	Type	TC1	TC2	TC3
July	Residential	90	256	56
	Commercial	3	23	3

Building Consents Pre-application/Concept Stage Meetings

Month	Total Consents Received	Meetings Booked
May	722	66
June	627	63
July	697	62

All Building Inspections

Month	Inspections Booked and Achieved	EQ Inspections Booked and Achieved	Target	% Achievement
May	2113	314	3 w/days	All inspections 100% achieved within 3 days
June	1517	208	3 w/days	All inspections 100% achieved within 3 days
July	2350	218	3 w/days	All inspections 100% achieved within 3 days

Code Compliance Certificates Issued

Month	Target	CCC All Types	EQ CCC Applications Granted	EQ CCC Applications Processed within 20 working days
May	20 w/d	474	76	76
June	20 w/d	445	Unavailable	Unavailable
July	20 w/d	374	22	22

RESOURCE CONSENTS

Month	RMA applications received	RMA applications granted
May	221	156
June	179	125
July	207	167

Resource consent pre-application/concept stage meetings

Month	Total applications received	Meetings booked
May	221	34
June	179	21
July	207	24

Resource consents (all consents)

Month	Applications issued	No RFI required	RFI 0-9 working days	RFI 10 working days and after	RFI Over 20 working days	Processed within 20 working days
May	129	82	24	23	0	125 (97%)
June	103	69	21	13	0	98 (95%)
July	147	103	29	15	0	145 (99%)

Month	Type of Consent	Applications with no RFI required %	RFI 0-9 working days	RFI ≥10 working days	Total
May	Land use consents	63%	19%	18%	100%
	Subdivision consents	70%	15%	15%	100%
June	Land use consents	68%	21%	11%	100%
	Subdivision consents	61%	17%	22%	100%
July	Land use consents	71%	20%	9%	100%
	Subdivision consents	64%	20%	16%	100%

Total elapsed days (working days)							
	0-5	**6-10**	**11-20**	**21-30**	**31-50**	**51-100**	**100+**
Land use	9	15	41	29	14	5	3
Subdivision	1	6	9	5	4	2	4
Total	10	21	50	34	18	7	7
Percentage	7%	14%	34%	23%	12%	5%	5%

Temporary accommodation approvals

There were 20 temporary accommodation approvals in July.

RMA discount requirements for applications exceeding statutory timeframes

Two applications were discounted in July. A total of $116.30 was discounted. One was discounted due to an administrative error where planning did not receive the application for processing until it was already overtime. The other was due to further information being received while a planner was on annual leave and the processing clocked restarted while that person was still away. Both issues have been addressed.

Central City resource consents approved

17 out of 147 applications approved were within the Central City area.

COUNCIL 27. 9. 2012

PLANNING COMMITTEE 5. 9. 2012

2. MINOR ALTERATIONS TO PROPOSED BANKS PENINSULA DISTRICT PLAN

General Manager responsible:	General Manager Strategy and Planning, DDI 941-8281
Officer responsible:	Programme Manager District Planning
Author:	David Punselie, Statutory Administration Officer

PURPOSE OF REPORT

1. This report seeks a resolution that the Council remove a number of protected and notable buildings from the schedules in Appendices IV and V of the proposed Banks Peninsula District Plan and from the planning maps.

EXECUTIVE SUMMARY

2. The proposed Banks Peninsula District Plan contain schedules of protected and notable buildings, objects and sites. A number of the buildings listed in these schedules have been demolished either by earthquake events, or at the direction of Civil Defence during the period of the national state of emergency from 22 February 2011 to 30 April 2011, or by direction of the Canterbury Earthquake Recovery Authority using its statutory powers since 30 April 2011.

3. Clause 16(2) of Schedule 1 of the Resource Management Act 1991 provides that a Council may make an amendment to its proposed district plan for the purpose of altering any information where such alteration is of minor effect. As the buildings listed **in Attachment 1** to this report have been demolished it is recommended that they now be removed from the list of protected and notable buildings in the proposed District Plan and from the planning maps. It is noted that the listings in the District Plan for these buildings do not include the setting in which the building is situated.

Financial Implications

4. There are no known financial implications.

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

5. The recommendation will not impact on 2009-19 LTCCP budgets.

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

6. Yes. There are no known adverse legal implications.

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

7. Yes. Supports the preparation, maintenance and revision of the District Plan level of service.

Do the recommendations align with the Council's strategies?

8. Not applicable.

CONSULTATION FULFILMENT

9. Making alterations of minor effect to the proposed district plan under clause 16(2) of Schedule 1 is not a process that requires consultation.

2 Con'td

STAFF RECOMMENDATION

It is recommended that the Council make alterations to the proposed Banks Peninsula District Plan in accordance with clause 16(2) of Schedule 1 to the Resource Management Act 1991 by removing from Appendices IV and V, and from the planning maps, reference to the buildings listed in **Attachment 1** to this report.

COMMITTEE RECOMMENDATION

That the staff recommendation be adopted.

BP Listed Properties - Status post Earthquakes - DEMOLISHED

Street Number	Street Name	Place Name	Protected or Notable
6026	Christchurch Akaroa Road (Highway 75), Duvauchelle	Hotel de Pecheurs	notable
11	Sutton Quay (Cyrus Williams Quay)	Lyttelton Graving Dock & Pumphouse	protected
19	Exeter	convent	notable
1	Gladstone Quay	Lyttelton Museum	notable
40	Lighthouse Rd (Onuku Rd), Akaroa	Mt Pleasant Station Stables	protected
2	London	fmr Nokos	notable
6	London	Mazey's	notable
9	London	Empire Hotel	notable
24	London	Harbour Light Theatre	notable
36	London	Buffalo Lodge	notable
42	London	Volcano - Lava Bar	notable
44	London	Tunnel Vision Backpackers	notable
6	Norwich Quay	Canterbury Hotel	notable
7	Norwich Quay	fmr Post Office	protected
16	Norwich Quay	Norwich Chambers	notable
17 (7)	Norwich Quay	Forbes Building	protected & notable
18	Norwich Quay	Thomas Building	notable
24	Norwich Quay	Quayside Kwizine	notable
26	Norwich Quay	Lyttelton Hotel	notable
30 (34)	Norwich Quay	Royal Hotel	notable
13 (15)	Oxford	Norton's Building	notable
16	Oxford	Taylors Plumbers	notable
17	Oxford	fmr Port Gallery	notable
2	Reserve	Timeball Station	protected
26	Ripon	Old Vicarage (Anglican)	protected
1	Sumner	Library	notable
2	Sumner	fmr Library & Fire Station	protected & notable
21	Sumner	dwelling	notable
17	Winchester	Church of the Most Holy Trinity (Anglican)	protected
18	Winchester	St Joseph's Church (Catholic)	protected
44	Winchester	St Johns Church (Presbyterian)	protected
2E	Waipapa (Purau Ave), Diamond Harbour	Godley House	protected

3. MAKING THE PROPOSED BANKS PENINSULA DISTRICT PLAN OPERATIVE

General Manager responsible:	General Manager Strategy and Planning, DDI 941-8281
Officer responsible:	Programme Manager District Planning
Author:	David Punselie, Statutory Administration Officer

This item was withdrawn from the agenda and will be reported directly to the 27 September 2012 Council meeting. Refer to agenda item 10.

4. MODIFICATION TO WORKING PARTY TERMS OF REFERENCE

General Manager responsible:	General Manager, Strategy and Planning Group, DDI 941 8281
Officer responsible:	Programme Manager Strong Communities, Strategy and Planning Group
Author:	Riccarton Ilam Community Safety Joint Working Party

PURPOSE OF REPORT

1. The purpose of the report is to seek a modification to the terms of reference for the Riccarton Ilam Community Safety Joint Working Party.

EXECUTIVE SUMMARY

2. The Council resolved to establish the Riccarton Ilam Community Safety Joint Working Party (Working Party) on 26 August 2010.

3. Due to the 2010 and 2011 earthquakes the formation was delayed. At its 27 October 2011 meeting the Council again resolved to establish the Working Party.

4. The primary purpose of the Working Party is *to discuss common issues and develop an action plan to address community safety and nuisance in the Riccarton-Ilam area*.

5. Under the current terms of reference the Working Party comprises:

   - One Councillor from the Riccarton/Wigram ward
   - One Councillor from the Fendalton/Waimairi ward
   - One representative from the Riccarton/Wigram Community Board
   - One representative from the Fendalton/Waimairi Community Board
   - New Zealand Police Southern Area commander or his nominee
   - University of Canterbury Vice Chancellor or his nominee
   - University of Canterbury Students Association (UCSA) President or his/her nominee
   - Two local residents, to be selected by the Working Party.

6. At its first meeting on 4 May 2012 the Working Party discussed the process of selecting two local residents. The consensus was that the Working Party would be best served by having three community representatives, in order to better represent the broad interests of the community in the Riccarton Ilam area. At its 27 July 2012 meeting the Working Party voted unanimously to request a change in the terms of reference to allow for three rather than two community representatives. The selection of community representatives was placed on hold pending a decision on the terms of reference.

7. A draft tracked changes version of the terms of reference is attached (**Attachment 1**). The Working Party is requesting two changes:

   - A change in the number of local representatives from two to three.
   - A change in terminology from “local residents” to “community representatives”.

4 Cont'd

FINANCIAL IMPLICATIONS

8. There are no direct financial impacts to the Council as a result of the modest change to the Working Party's terms of reference. The costs associated with establishing the Working Party will be staff time, which is available from existing budgets.

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

9. Yes. Funding for staff support of the Working Party is funded from the City and Community long-Term Policy and Planning and Build Stronger Communities activities.

LEGAL CONSIDERATIONS

10. There are no legal considerations. The Working Party has no delegated powers, and has been formed for the purpose described in the terms of reference.

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

11. See above.

ALIGNMENT WITH LTCCP AND ACTIVITY MANAGEMENT PLANS

12. The establishment of the Working Party contributes to the Strengthening Communities activity of the 2009-19 LTCCP. It is relevant to Level of Service 2.2.3.2, Deliver the agreed programme of projects around the implementation of the Safer Christchurch Strategy within budget allocation.

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

13. See above.

ALIGNMENT WITH STRATEGIES

14. The establishment of the Working Party is broadly aligned with the Safer Christchurch Strategy.

Do the recommendations align with the Council's strategies?

15. See above

CONSULTATION FULFILMENT

16. Consultation is not required.

WORKING PARTY RECOMMENDATION

That the Council modify the terms of reference of the Riccarton Ilam Community Safety Joint Working Party to allow for three community representatives.

COMMITTEE RECOMMENDATION

That the Working Party recommendation be adopted.

TERMS OF REFERENCE

RICCARTON-ILAM COMMUNITY SAFETY JOINT WORKING PARTY

1. PURPOSE

1. To discuss common issues and develop an action plan to address community safety and nuisance in the Riccarton/Ilam area
2. To monitor / gather evidence relating to the issues of concern around community safety and nuisance in the Riccarton/Ilam area
3. To recommend initiatives that will address these issues to the constituent organisations of the working party
4. To work in an open and transparent manner to keep Council, stakeholders and residents informed on a regular basis
5. To agree on a communications plan which covers the public, other Councillors and any other key stakeholders

2. GOAL

To provide the ongoing oversight for monitoring / discussing issues of concern to local Ilam residents around community safety or nuisance and making recommendations of practical initiatives that address these issues to constituent organisations of the working party

3. MEMBERSHIP

The membership of the group comprises of:

1. One City Councillor from Riccarton-Wigram Ward (possible Chair)
2. One City Councillor from Fendalton-Waimairi Ward
3. One Community Board member from Riccarton-Wigram and Fendalton-Waimairi Wards
4. NZ Police Southern Area Commander or his nominee
5. University of Canterbury Vice Chancellor or his nominee
6. University of Canterbury Students Association President or his/her nominee
7. ~~Two~~ Three community representatives~~local residents~~ (to be selected by the Working Party)

4. MONITORING

To determine an effective evidence-based monitoring programme which will measure progress made on the specific community safety issues the working party recommended be addressed by the constituent organisations.

5. CONFIDENTIALITY

To maintain strict confidentiality on all commercial and/or sensitive policing issues

6. AREA FOR FOCUS

The specific boundaries within the Riccarton/Ilam area for focus will be determined by the Working Party.

COUNCIL 27. 9. 2012

PLANNING COMMITTEE 5. 9. 2012

5. DEVELOPMENT OF A LOCAL ALCOHOL POLICY FOR CHRISTCHURCH CITY

General Manager responsible:	General Manager Strategy and Planning, DDI 941-8281
Officer responsible:	Strong Communities Programme Manager, Strategy and Planning Group
Authors:	Adair Bruorton Senior Policy Analyst, Ruth Littlewood, Senior Policy Analyst

PURPOSE OF REPORT

1. This report outlines the Local Alcohol Policy (LAP) provisions of the Alcohol Reform Bill and the process to develop a LAP. It discusses issues around alcohol consumption and alcohol-related harm, noting existing Council and community support for more effective measures to address these problems. The report recommends that the Christchurch City Council develop a new LAP for Christchurch, in accordance with legislation.

EXECUTIVE SUMMARY

2. There is compelling evidence of the social, economic and health costs of alcohol-related harm in New Zealand, described by the Law Commission's 2010 report, *Alcohol in our lives: curbing the harm*. There is strong community support for significant changes to alcohol licensing and introduction of other measures to address these problems.

3. The Government responded to the Commission's report by developing the Alcohol Reform Bill (the Bill) which proposes to replace the liberal and centralised licensing system of the Sale of Liquor Act 1989, with a more effective and localised system. The Bill's enactment is expected within the next two months, but may be later. It provides for community input and local control through local alcohol policies (LAP) which can regulate the concentration and location of on- and off-licenses, conditions of licenses and make one-way-door restrictions. If a local authority decides to have a LAP, the local authority consults the community using the statutory process (described below), including the special consultative procedure of the Local Government Act 2002 and a right of appeal for submitters.

4. The Council's development of a LAP aligns with existing strategies and plans adopted or endorsed by the Council. A LAP will contribute to a vibrant city life, by regulating the evening and late-night hospitality and entertainment environment so that it is safe, attractive and enjoyable for all.

5. Through its submissions to the Law Commission and central government, Christchurch City Council has recognised the costs to the community of alcohol-related harm and supported the provision for LAPs under the Bill and other measures to reduce alcohol-related harm. As the Council's current local alcohol policy is not comprehensive and is of very limited effectiveness to address the alcohol-related problems in the community, it is recommended that the Council begins the process of developing a LAP as soon as the Bill is enacted.

FINANCIAL IMPLICATIONS

6. The special consultative procedure as defined in the Local Government Act 2002 will be required if the Council decides to proceed with developing a LAP, The associated costs of this include printing and distribution of the statement of proposal and summary of information, the placement of public notices and staff costs in supporting a hearings panel. These costs, including the cost of the policy's development, are budgeted for in the City and community long-term planning activity in the LTCCP.

Do the recommendations of this report align with 2009-19 LTCCP budgets?

7. As above.

5 Cont'd

LEGAL CONSIDERATIONS

8. The following discussion is about the Alcohol Reform Bill as it was reported back to Parliament from the Select Committee. However, staff note that the Minister of Justice has said that she will put forward (yet to be revealed) amendments and there is a number of members' supplementary order papers which may influence the final form of the legislation.

9. Under the Bill, territorial authorities have discretion as to whether they will make a new LAP or not. If a territorial authority decides not to have a LAP, controls on location and opening hours for licensed premises will continue to be primarily through the District Plan and resource consent conditions. The Bill sets default maximum trading hours for districts without a LAP, of 8am to 4am the next day for on-licenses, and between 7am and 11pm in any day for off-licenses.

10. Clause 75 of the Bill states that a territorial authority may[1] have a local alcohol policy and describes the scope of a policy. A policy may cover the sale, supply, or consumption of alcohol "(or to 2 or all of those matters)"; may provide differently for different areas of a district, apply only to part(s) of a district, and can include different provisions for different types of licences. There is also the ability for two or more territorial authorities to adopt a joint local alcohol policy (Clause 76). While the content of a local alcohol policy (clause 77(1)) can only relate to licensing matters[2] a LAP can include policies on any or all of the following:

- location of licensed premises by reference to broad areas
- location of licensed premises by reference to proximity to premises or facilities of particular kinds
- whether further licences (or licences of a particular kind or kinds) should be issued for premises in the district concerned, or any stated part of the district
- maximum trading hours
- the issue of licences, or licences of a particular kind or kinds, subject to discretionary conditions
- one-way door restrictions.
- (The first three bullet points above do not apply to special licences or premises for which a special licence is held or has been applied for).

11. Clause 77 states that a territorial authority that wishes to have a local alcohol policy must first produce a draft policy having regard to the following matters:

- the objectives and policies of its district plan
- the number of licences of each kind held for premises in its district, and the location and opening hours of each of the premises
- any areas in which bylaws prohibiting alcohol in public places are in force
- the demography of the district's residents
- the demography of people who visit the district as tourists or holidaymakers
- the overall health indicators of the district's residents
- the nature and severity of the alcohol-related problems arising in the district.

12. An authority must not produce a draft policy without having consulted the Police, licensing inspectors, and Medical Officer of Health, each of whom must make reasonable efforts to provide the authority any information they hold in regard to the matters above if requested to do so.

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[1] The provisions of the Act may make this a requirement rather than an option for local authorities.

[2] However, there is a Supplementary Order Paper proposing a widening of this scope (as was proposed in the first draft of the Bill).

5 Cont'd

13. Steps for making a local alcohol policy:

    (a) Preparation of a draft policy in consultation with Police, liquor licensing inspectors and Medical Officer of Health (Clause 77A)
    (b) Consultation with the public on the draft policy using the special consultative procedure (SCP) (Clause 78)
    (c) Production of a provisional policy (Clause 78)
    (d) Public notice of the provisional policy is given (Clause 80)
    (e) Appeals made to the licensing authority - only available to those who submitted on the draft policy (Clause 81)
    (f) Adoption of the local alcohol policy (Clause 86)
    (g) Public notice of adoption (Clause 87)
    (h) Enforcement of the local alcohol policy, no less than three months after adoption. (Clause 87).

14. Ministry of Justice officers have informally advised council officers that once the Bill is enacted, territorial authorities can start the process to make a LAP and complete steps one to three including the SCP and production of a provisional policy, before the Act comes into force which is a year after the enactment. Their advice may reflect knowledge of proposed changes to the legislation which haven't yet been made public. Council's Legal Services Unit staff have a somewhat different view; they consider that based on the current provisions, the Bill does not permit a territorial authority to progress beyond step one (preparing a draft policy) before the Act comes into force. Staff will provide further advice on this matter once they know the final form of the legislation.

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

15. As above.

ALIGNMENT WITH LTCCP AND ACTIVITY MANAGEMENT PLANS

16. This report is broadly aligned to the City and Community Long-Term Planning Activity through the provision of advice on key issues that affect the social, cultural, environmental and economic wellbeing of the city.

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

17. As above.

ALIGNMENT WITH STRATEGIES

18. The Council has no strategies that relate specifically to alcohol. However, the Safer Christchurch strategy[3], adopted by Council in 2005 and implemented by an interagency group, has four goals that all address matters that can reduce alcohol-related harm. The Central City alcohol accord is one of the key initiatives of the strategy's implementation.

19. The Council is a champion of the Healthy Christchurch[4] alliance of over 200 signatories. The champions have made a public statement of their commitment to reducing alcohol-related harm and it is one of their top priorities for action.[5]

[3] Christchurch City Council (2005). Safer Christchurch Strategy. Christchurch City Council and Safer Christchurch. Available at: http://resources.ccc.govt.nz/files/SaferChristchurchStrategy-docs.pdf
[4] Healthy Christchurch: http://www.healthychristchurch.org.nz/
[5] Healthy Christchurch (2008). Champions' statement of intent on alcohol. Available at: http://www.healthychristchurch.org.nz/media/7546/statementofintent081006.pdf

5 Cont'd

20. The development of a LAP aligns with relevant objectives and policies of the district plan e.g. Christchurch City Plan, Objective 12.2, Role of the Central City and Policy 12.2.2 –to create a vibrant and active place for residents, workers and visitors while managing adverse effects6. Similarly, a LAP would contribute towards achieving the goals of Council's *Central City Plan for Recovery* (2011). Through the Share an Idea phase of the plan's development, the community asked for a city full of people, a destination with exciting things to do and places to visit. The plan encourages a central city that attracts people to living in Christchurch, stimulates a mix of entertainment and other activities and fosters vibrant central city living. It recognises the importance that tourism plays in the region's business prosperity and employment and the need to quickly re-establish hospitality venues and an entertainment precinct to support this.[7]

21. The government's *Christchurch Central Recovery Plan*, recognises the community's aspirations for a prosperous city, with "a vibrant centre that combines retail businesses, professional services, tourism and hospitality." The plan affirms the use of crime prevention through environmental design principles in the design of public spaces, greater night-time safety by increased lighting and changes some aspects of noise provisions in the City Plan[8] – all of which will contribute to creating environments that can reduce alcohol-related harm.

22. The Canterbury Earthquake Recovery Authority's (CERA) *Recovery Strategy for Greater Christchurch* includes high-level economic and social goals. Economic goals include a well-functioning Christchurch central city. One of the strategy's foundations of economic recovery is an attractive environment and social and cultural community. The overall social recovery goal refers to enhancing the quality of life for residents and visitors and encouraging community-empowered processes.[9] An LAP that takes into account community views and enables a safe, vibrant entertainment and hospitality sector will be part of the strategy's success.

23. The *Christchurch Economic Development Strategy* (2010) sets a goal for the city to have the highest quality of life in New Zealand and envisages it as a great place to live, work, visit and do business.[10] *The Christchurch Visitor Strategy (*2007-2017)[11] which sets out the goals and actions for tourism has similar aims; Objective 1.1 of the visitor strategy is the creation of a unique and exciting Central City and an identified action is that "we will improve the safety of visitors in the City".

24. Overall, the Council's development of a LAP aligns with the goals and objectives of the above-mentioned strategies and plans. It will contribute to a vibrant city life, by regulating the evening and late-night hospitality and entertainment environment so that it is safe, attractive and enjoyable for all.

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[6] Christchurch City Plan found at http://www.cityplan.ccc.govt.nz/NXT/gateway.dll?f=templates&fn=default.htm

[7] Christchurch City Council (2011). Central City Recovery Plan. Christchurch City Council. Available at: http://resources.ccc.govt.nz/files/CentralCityDecember2011/FinalDraftPlan/FinaldraftCentralCityPlan.pdf

[8] Christchurch Earthquake Recovery Authority (CERA) (2012). Christchurch Central Recovery Plan. Christchurch Central Development Unit, CERA. Available at: http://ccdu.govt.nz/the-plan

[9] Christchurch Earthquake Recovery Authority (CERA) (2012). Recovery Strategy for Greater Christchurch. Available at: http://cera.govt.nz/recovery-strategy/overview/read-the-recovery-strategy

[10] Canterbury Development Corporation (2010). Christchurch Economic Development strategy. Canterbury Development Corporation and endorsed by Christchurch City Council. Available at: http://resources.ccc.govt.nz/files/ChristchurchEconomicDevelopmentStrategy.pdf

[11] Christchurch City Council (2007). Christchurch Visitor Strategy. Christchurch City Council. Available at: http://resources.ccc.govt.nz/files/ChristchurchVisitorStrategy2007-2017-docs.pdf

5 Cont'd

Do the recommendations align with the Council's strategies?

25. Yes. The Safer Christchurch strategy aims to see rates of injury and crime decline, for people to feel safe at all times in Christchurch City and for the city to have excellent safety networks, support people and services. A LAP could contribute to achieving these goals by reducing the opening hours for off-licenses and setting one-way door restrictions. These measures contribute to a reduced level of excessive drinking, unacceptable behaviours and vandalism associated with excessive drinking in public places. A LAP would also align with Goal 7 of the Strengthening Communities strategy, of "Enhancing the safety of communities and neighbourhoods".[12] The Council, through its submission on the Alcohol Reform Bill has publicly supported the LAP as providing more appropriate local control over licensing.

CONSULTATION FULFILMENT

26. The Bill specifically requires local authorities to consult with the Medical Officer of Health, liquor licensing inspectors and the Police during development of a LAP. It also requires that the SCP is followed, to ensure that the views of the wider community are considered in relation to the draft policy. Based on the wide community interest in alcohol-related matters, as reflected in local and national media, it is anticipated that there will be considerable interest in the development of a LAP, therefore it is desirable to undertake broad stakeholder and community engagement to inform its approach. Preliminary engagement with key stakeholders – the Police, Canterbury District Health Board and Hospitality New Zealand – confirm their strong interest in the Council developing a LAP and a willing commitment to be involved with its preparation.

STAFF RECOMMENDATION

That the Council:

(a) Commence preliminary work to develop a Local Alcohol Policy, including a review of the Council's Alcohol Policy (2004), following enactment of the Alcohol Reform Bill and in accordance with the provisions of the new Act.

(b) Engage with stakeholders and the community, as part of this process, to ascertain their views on alcohol-related issues in the community with a view to developing a strategic approach to supporting the reduction of alcohol-related harm in the community.

COMMITTEE RECOMMENDATION

That the Council:

(a) Commence preliminary work to develop a Local Alcohol Policy, including a review of the Council's Alcohol Policy (2004), following enactment of the Alcohol Reform Bill and in accordance with the provisions of the new Act noting that the final timetable for the preparation of the policy will be determined by the Council.

(b) Engage with stakeholders and the community, as part of this process, to ascertain their views on alcohol-related issues in the community with a view to developing a strategic approach to supporting the reduction of alcohol-related harm in the community.

(c) Note that staff will be gathering relevant background information in advance of the enactment of the legislation.

[12] Safer Christchurch Strategy, *op. cit.*

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BACKGROUND (THE ISSUES)

27. The 1989 Sale of Liquor Act liberalised New Zealand's liquor licensing laws and has affected the last two decades of the nation's alcohol consumption and drinking habits. Since 1989 the number of licensed premises in Christchurch has increased threefold[13] (a pattern found throughout New Zealand). People can buy alcohol for extended hours each day from a range of outlets including convenience stores and supermarkets, and the price of a drink, when adjusted for inflation, is significantly lower than in 1989. In addition the purchase age has been reduced from 20 to 18 years of age and extended Sunday trading of alcohol has changed the social environments in which alcohol is sold and enjoyed.

28. There has been a number of reasons for increasingly harmful patterns of drinking; the rapid growth in popularity of ready-to-drink alcoholic products has led to changed drinking habits in young adults, particularly when combined with the exponential increase in social media networking which facilitates large-scale house parties and a pre- and side-loading culture. (The latter is where people purchase cheaper-priced alcohol at off-licenses and drink it in private homes or in vehicles/locations near to licensed premises prior to visiting them: they arrive at licensed premises and entertainment precincts having already consumed on average 10 standard drinks each.)[14]

29. Changed drinking patterns, increasing affordability and easier accessibility have brought greater alcohol-related harm, both in terms of public safety and health care. Nationally, the Police estimate that one third of all Police apprehensions involve alcohol and half of serious violent crimes are related to alcohol.[15] Nationally, the conservative cost of providing alcohol-related treatments has grown from an estimated $126 million in 2006 to $222 million in 2011.[16]

30. In recognition of the escalating alcohol-related harm in our communities, the Law Commission carried out a comprehensive investigation of the sale and supply of alcohol, culminating in the issues paper, *Alcohol in our lives*[17], published in July 2009 and a final report in 2010, *Alcohol in our lives: curbing the harm*.[18] Subsequently, alcohol reform legislation was introduced into the House of Parliament. The legislation includes changes to the powers that territorial local authorities have in licensing on- and off-licensed premises.

31. The Council made submissions to the Law Commission following the publication of *Alcohol in our lives* issues paper and to the Justice and Electoral Select Committee with regard to the Alcohol Reform Bill. In its submissions, the Council has consistently supported the introduction of local alcohol policies that would enable local authorities to address licensing issues in locally appropriate ways.

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[13] In 1990 there were 387 liquor licenses in Christchurch. By 2011 (immediately post-quake) there were 1,120 licenses (Source: Christchurch City Council. Liquor Licensing and Enforcement Team, July 2012)

[14] Christchurch City Council (2009). Survey of patrons drinking before arrival at Sol Square, Saturday 29th August 2009.

[15] New Zealand Police. Advice note prepared for Christchurch City Council, July 2012: Post-earthquake alcohol policing context.

[16] Nana, Ganesh (2012). Hospital costs of alcohol-related harm. Ganesh Nana for BERL (Business and Economic Research Ltd). Data presented at Christchurch alcohol symposium, 5 July 2012.

[17] Law Commission (2009). Alcohol in our lives: an issues paper on the reform of New Zealand's liquor laws. Law Commission. Wellington, New Zealand. Available at: http://www.lawcom.govt.nz/sites/default/files/publications/2009/07/Publication_154_437_Alcohol%20in%20our%20lives%20-%20Issues%20Paper%2015.pdf

[18] Law Commission (2010). Alcohol in our lives: curbing the harm: a report on the review of the regulatory framework for the sale and supply of liquor. Law Commission, Wellington, New Zealand. Available at: http://www.lawcom.govt.nz/project/review-regulatory-framework-sale-and-supply-liquor/publication/report/2010/alcohol-our-lives

5 Cont'd

32. The Council submitted to the Law Commission on the *Alcohol in our lives* issues paper its support for greater community involvement in decision-making on liquor licensing. It noted that the development of local alcohol policies would provide an avenue for the community to provide input.19 This position was endorsed in separate submissions made by the Shirley Papanui Community Board and the Riccarton Wigram Community Board, both of whom commented that, "the community, as a matter of principle, should be able to exercise some control over the shape of their communities."[20]

33. Similarly, in its submission on the draft Alcohol Reform Bill the Council supported measures that will "strengthen the Council's ability to manage or prevent alcohol-related problems arising from licensed premises. Alcohol-related problems have been a big issue for the city for a number of years." It also supported "greater community involvement in managing alcohol in the district" and expressed particular support for the Bill's allowance for local alcohol policies to provide differently for different parts of its district."[21] The submission supported many other key measures of the Bill beyond licensing provisions.

34. In July 2012 the Canterbury District Health Board, along with other South Island district health boards endorsed a joint position statement on alcohol. It advocates for five evidence-based measures to reduce alcohol-related harm: raise alcohol prices, raise the alcohol purchase age, reduce alcohol accessibility, reduce marketing and advertising of alcohol, and reduce legal blood-alcohol limits for drivers. The position statement notes that the Board will support and assist territorial authorities to develop local alcohol plans that seek to reduce alcohol-related harm.[22]

35. International evidence consistently shows that the most effective ways to reduce alcohol-related harm are measures that affect the price, availability (e.g. minimum age of purchase, hours of availability, number and location of outlets) and promotion of alcohol (e.g. advertising and sponsorship).

36. The provisions included in a LAP include some of these key measures: enabling local control over the licensing provisions for on- and off-licensed premises' hours of availability (including one-way door restrictions) and number and concentration of outlets. In conjunction with other key interventions, a LAP can be a significant contributor to reducing alcohol-related harm.

37. Currently the Council has two alcohol-related policies and one bylaw. The Council's Alcohol Policy (2004)[23] is enforced by the Council's Licensing Team. It addresses the following matters:

    (a) Conditions for granting special licenses
    (b) Conditions for granting licenses to new licensees and premises' operating hours
    (c) Use of liquor (alcohol) ban bylaws
    (d) Support for the Alcohol-related harm at public events policy (2001)
    (e) Limitations on the trading hours of off-license premises that are stand-alone bottle stores.

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[19] Christchurch City Council (2009) Submission by the Christchurch City Council to the Law Commission on the Alcohol in our lives: issues paper. Available at: http://www1.ccc.govt.nz/Council/proceedings/2009/October/CnclCover22nd/Clause12attachment.pdf

[20] Christchurch City Council. Community Boards (2009). Submission by the Riccarton Wigram Community Board to the Law Commission. Submission by the Shirley Papanui Community Board to the Law Commission.

[21] Christchurch City Council (2009). Submission on the Alcohol Reform Bill to the Committee Secretariat, Justice and Electoral Select Committee. 15 February 2011. Available at:
http://www1.ccc.govt.nz/Council/proceedings/2009/October/CnclCover22nd/Clause12attachment.pdf.

[22] Canterbury District Health Board (2012). Canterbury District Health Board's
Position statement on alcohol. Adopted at the Canterbury District Health Board's meeting on 19 July 2012. Available at:
http://www.cdhb.govt.nz/corpbrd/DHBMeetings/2012/06July19/Item%209%20SI%20Alcohol%20Position%20Statement%20Combined%20PDf.pdf

[23] Christchurch City Council (2004). Alcohol Policy. Available at:
http://www.ccc.govt.nz/thecouncil/policiesreportsstrategies/policies/groups/alcohol/alcoholpolicy.aspx

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38. The Alcohol-related Harm at Public Events Policy (2001)[24] addresses conditions relating to outdoor events (that are either provided by the Council, are on Council-controlled land, or are Council funded) where alcohol will be sold or where the time/setting/theme of the event creates the risk of alcohol-related harm.

39. The Alcohol Restrictions in Public Places Bylaw (2009)[25], incorporating three amendments to date (Riccarton/Ilam (2011), Okains Bay (2011) Merivale and Papanui (2012)), prohibits the consumption of alcohol in some public places and restricts, or otherwise regulates or controls, the possession and carrying of alcohol in some public places identified as alcohol ban areas. The purpose of the bylaw is to reduce alcohol-related harm, damage, disorder and crime and to improve community safety by putting alcohol restrictions in some public places. This bylaw has proved a successful tool for reducing the number of alcohol-related problems in Alcohol Ban areas. The Bylaw is enforced by the Police.

40. The 2010 and 2011 earthquakes have caused changes to the location of many licensed premises in Christchurch. 45 per cent of central city licensed premises are closed either because of damage, demolition or because they are still within the red-zoned cordon. In suburban areas, 25 per cent of premises have closed due to damage or demolition. Throughout the city approximately 100 premises are holding off renewal of their licences, pending building-condition decisions, settling insurance or awaiting further information. The displacement of some premises to other commercial hubs and suburban locations has shifted existing alcohol-related issues in public places to alternative areas that are not necessarily designed to cater for large numbers of people enjoying evening and late-night entertainment.

41. Parliament is acting to restrict rather than to relax the liquor laws in recognition of the costs of and increases in alcohol-related harm that have arisen since the alcohol licensing system was liberalised over 20 years ago. The provision for a LAP represents an approach that aims to support the safe and responsible sale, supply, and consumption of alcohol. LAPs will increase community input into local alcohol licensing decisions and should improve the operation of the alcohol licensing system.

THE OBJECTIVES

42. The Alcohol Reform Bill has five policy objectives (below). The Council has supported these objectives in its submissions on the alcohol issues and proposed legislation and they align with the Council's strategies and the Community Outcomes. Providing a LAP for Christchurch City would assist in achieving the objectives, in particular, (a) to (e).

    (a) to reduce excessive drinking by adults and young people
    (b) to reduce the harm caused by alcohol use, including crime, disorder, public nuisance, and negative public health outcomes
    (c) to support the safe and responsible sale, supply and consumption of alcohol
    (d) to improve community input into local alcohol licensing decisions
    (e) to improve the operation of the alcohol licensing system.

THE OPTIONS

43. There are three options:

    Option 1 - Resolve to develop a LAP as provided for by the alcohol reform legislation, once the Bill is enacted.

[24] Christchurch City Council (2001). Alcohol-related harm at public events policy. Available at: http://www.ccc.govt.nz/thecouncil/policiesreportsstrategies/policies/groups/alcohol/alcoholrelated.aspx
[25] Christchurch City Council (2009). Alcohol restrictions in public places bylaw. Available at: http://resources.ccc.govt.nz/files/alcoholrestrictioninpublicplacesbylaw2009-bylaws.pdf

5 Cont'd

Option 2 - 'Status quo'. With this option, Council would not proceed with the preliminary investigations to develop a new LAP. The current Alcohol Policy would be retained and the default provisions of the legislation (once enacted) would apply throughout Christchurch. This option is not preferred because it represents a lost opportunity for better local community control. The current Alcohol Policy was developed under the old legislation. It is limited in scope and is considered ineffective in comparison with a LAP proposed under the Bill. It will not have any official status as a LAP under the new Act. There is a need for local solutions to local problems, such as one-way door restrictions, and there is a desire within the community for more involvement and more effective local control over licensing. Retaining the current policy would not provide for better community input or more effective local control of the alcohol licensing system.

Option 3 - Resolve to revoke the current Alcohol Policy and rely on the default provisions of the legislation. This option, while recognising the inadequacies of the current Alcohol Policy, has the same disadvantages as option two and is not recommended.

THE PREFERRED OPTION

44. The preferred option is Option 1. It is supported by the evidence and preliminary consultation with key stakeholders. As noted in the background section of this report there is considerable police and community support for developing a new LAP.

The Preferred Option

45. Option 1 – Creation of a new LAP:

	Benefits (current and future)	**Costs (current and future)**
Social	• potential to reduce alcohol-related harm • contributes to a safer city	• restricts freedoms
Cultural	• may reduce negative drinking culture • reduce the culture of fear/negative perceptions of safety	• not applicable
Environmental	• Potential to decrease the amount of broken glass and other alcohol-related litter	• not applicable
Economic	Potential to: • increase perceptions of safety and to increase business activity • reduce damage, vandalism, etc. • positively impact on tourism	• may affect on- and off-licences' sales and trading profitability

Extent to which community outcomes are achieved:

A Safe City: We live free from crime, violence, abuse and injury. Rates of crime and injury decline.

A Prosperous City: We have a strong economy that is based on a range of successful and innovative businesses. Christchurch has a strong, healthy economy.

A Healthy City: We live long, healthy and happy lives. Our city environment supports the health of the community.

An Attractive and Well Designed City: Christchurch has a vibrant centre, attractive neighbourhoods and well-designed transport networks. Christchurch is attractive and well maintained.

5 Cont'd

Option 1 would contribute to these four community outcomes. The provisions of a LAP have the potential to contribute to perceptions of safety and have the potential to reduce alcohol-related harm. While a LAP is not a complete solution to alcohol-related issues, it can form part of a wider, multi-faceted approach to managing or reducing alcohol-related harm.

Impact on the Council's capacity and responsibilities:

The Act empowers the Council to develop a LAP.

There will be some additional costs for Council to undertake an SCP.

Effects on Maori:
Research shows that Māori are less likely to be drinkers than non-Māori, and of those who do drink, they do so less frequently than non-Māori. However, those Māori who do drink are more likely to drink large volumes (40% more) compared to non-Māori. It is also noted that Māori drinking habits are changing, catching up with non-Māori consumption patterns.[26]

There is no local data available to indicate that Māori will be affected differently to any other groups in the community by a decision by Council to proceed with developing a LAP.

Consistency with existing Council policies:
This option is consistent with the Safer Christchurch Strategy.
Views and preferences of persons affected or likely to have an interest:
Key stakeholders, the Police, Canterbury District Health Board and Hospitality New Zealand have all indicated strong support for the Council developing a LAP as a means of supporting recovery of a vibrant entertainment and hospitality sector in Christchurch, improving public safety and reducing alcohol-related harm.

Research into selected New Zealand communities' attitudes towards alcohol and local government alcohol policies reveal majority agreement that local government has a role in insuring health and wellbeing and promoting healthy lifestyles, with a small majority also agreeing that local government is responsible for making sure alcohol does not become a problem in their community. The research reveals strong support for local governments to restrict hours of operation of on-licensed premises, to use liquor bans to control drinking in public places and for stronger enforcement of drinking laws.[27]

Given this strength of opinion, revocation of the current Alcohol Policy without replacement by alternative local regulatory means to control licensing would not satisfy community expectations.

[26] Law Commission (2009). *Op cit.*
[27] Maclennan, Brett, Kypros, Kypri, Langley, John and Room, Robin (2012). Public sentiment towards alcohol and local government alcohol policies in New Zealand. Published in International journal of drug policy, 23 (2012), pp 45-53. Available at: http://www.ijdp.org/article/S0955-3959(11)00101-0/fulltext.

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Maintain the Status Quo

46. Option 2- status quo. Retain the Alcohol Policy (2004) and not develop a LAP:

	Benefits (current and future)	**Costs (current and future)**
Social	• No restriction on freedoms	• Potential to maintain/ increase level of alcohol-related harm
Cultural	• Not applicable	• Potential to maintain/increase negative drinking culture
Environmental	• Not applicable	• Potential to increase the amount of glass bottles, broken glass and litter on our streets and in our parks
Economic	• Potential to increase on- and off-licence sales	Potential to: • Maintain /increase current culture of fear/negative perceptions of safety leading to decrease in business activity • increase damage, vandalism, etc. • impact on tourism

Extent to which community outcomes are achieved:
Community outcomes will have less chance of being achieved (a Safe City, a Prosperous City, a Healthy City).

Impact on the Council's capacity and responsibilities:
Although the Alcohol Policy could remain on the Council's Policy Register, it would not have any legal standing under the provisions in the proposed Act. The proposed Act's provisions are more detailed regarding matters that the licensing committee must take into account in deciding whether to grant a special licence and the conditions that may apply to the special licence. Therefore, whilst the Policy could continue to exist, it would become irrelevant in this regard.
Compared with the preferred option there will be a saving in costs to Council as there would be no requirement to undertake a SCP.

Effects on Māori:
Research shows that Māori are less likely to be drinkers than non- Māori, and of those who do drink, they do so less frequently than non-Māori. However, those Māori who do drink are more likely to drink large volumes (40% more) compared to non-Māori. It is also noted that Māori drinking habits are changing, catching up with non-Māori consumption patterns.[28]

There is no local data available to indicate that Māori will be affected differently to any other groups in the community by a decision by Council not to proceed with developing a LAP.

Consistency with existing Council policies:
Assessed as less likely to achieve community outcomes - as above.

Views and preferences of persons affected or likely to have an interest:
The Police and Canterbury District Health Board have indicated a preference for a LAP.

[28] Law Commission (2009). *Op cit.*

5 Cont'd

Other Option

47. Option 3 – Revoke the current Alcohol Policy and not proceed with a new LAP:

	Benefits (current and future)	**Costs (current and future)**
Social	N/A	. • Potential to maintain/ increase level of alcohol-related harm • Deprives community of right to challenge or amend the alcohol licensing decisions compared to a new LAP
Cultural	N/A	• Potential to maintain/increase negative drinking culture • Loss of opportunity to reduce the culture of fear/negative perceptions of safety
Environmental	N/A	• Loss of potential to reduce the amount of glass bottles, broken glass and litter on our streets and in our parks
Economic	Reduced on/off-license sales	Loss of Potential to: • increase perceptions of safety and to increase business activity • reduce damage, vandalism, etc. • positively impact on tourism

Impact on the Council's capacity and responsibilities:
Compared to developing a LAP there will be a loss of capability to address alcohol-related harm through the licensing system.

Extent to which community outcomes are <u>not</u> achieved:
A Well Governed City: Our people participate in decision making and enjoy the rights and responsibilities of living in a democracy.
The identified priorities under the 'Well Governed City' community outcome include "improve consultation and participation" and for Council to "consider community views at each stage of decision making" under the Local Government Act 2002. This option would not be consistent with this outcome or the identified priority action.

Extent to which community outcomes are achieved:
Community outcomes will have less chance of being achieved (a Safe City, a Prosperous City, a Healthy City).

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Impact on the Council's capacity and responsibilities:
Revocation of the Alcohol Policy, without adoption of a LAP, would not affect the responsibilities of the Council to grant licenses. Direction of the Council's licensing decisions would renege to the default provisions in the new Act.

Effects on Māori:
Research shows that Māori are less likely to be drinkers than non- Māori, and of those who do drink, they do so less frequently than non- Māori. However, those Māori who do drink are more likely to drink large volumes (40% more) compared to non-Māori. It is also noted that Māori drinking habits are changing, catching up with non-Māori consumption patterns.[29]

There is no local data available to indicate that Māori will be affected differently to any other groups in the community by a decision by Council not to proceed with developing a LAP.

Consistency with existing Council policies:
As above.

Views and preferences of persons affected or likely to have an interest:
The Police and Canterbury District Health Board would not be in favour of the Council revoking its current Alcohol Policy without developing a LAP. They are both intent on reducing alcohol-related harm and are unlikely to see Council resorting to the default provisions of the alcohol reform legislation as being a pro-active or effective way of contributing to achieving this goal.

[29] Law Commission (2009). *Op cit.*

6. PROPOSED PLAN CHANGE 52 – RUAPUNA MOTORSPORTS PARK

General Manager responsible:	General Manager - Strategy and Planning, Ph: 941-8281
Officer responsible:	Programme Manager - District Planning
Author:	Andrew Long, Senior Planner

PURPOSE OF REPORT

1. This report seeks a Council decision on whether or not to proceed in notifying the Council's proposed Plan Change 52 ('PC52') – Ruapuna Motorsport Park. The recommendation is for the Council to notify the proposed plan change, and its supporting Section 32 Assessment (both at **Attachment 1**).

EXECUTIVE SUMMARY

2. Ruapuna Motorsport Park ('Ruapuna') is located at 107 Hasketts Road, in the rural environment between Templeton and the western edge of Christchurch. Ruapuna includes a racetrack, speedway, and radio control car track. It is located below the southern approach path for the international airport, near State Highways 1 and 73, the main trunk rail line, and substantial quarrying activity on Pound Road.

3. Ruapuna is zoned Open Space 3 (Metropolitan Facilities). Apart from the Templeton Golf Course, to the east, which is zoned Open Space 2 (District Recreation and Open Space), the land around Ruapuna is zoned for rural purposes, including Rural 2 (Templeton-Halswell), Rural 5 (Airport Influence), and Rural Quarry zones. The Department of Corrections owns a large amount of the surrounding Rural 2 and 5 land north and west of Ruapuna (containing the men's prison) which is designated for Prison purposes.

4. The Council has been working to address noise issues arising from Ruapuna in response to an increase in complaints from local residents regarding the operation of both the racetrack and the speedway. A working party was established in April 2008 to consider the issues and options for addressing the complaints. This resulted in the resolutions made by the Council at its meeting of 25 June 2009, which included a resolution to initiate this plan change.

5. The resolution directed staff to prepare a plan change to address three aspects of noise management. Firstly, to cap track use and noise emission at current levels. The current City Plan provisions include a noise emission rule specific to Ruapuna, but the rule is very permissive and has allowed significant noise impacts to occur.

6. Secondly, to amend the development setback for new residential units currently set at 400 metres from the Open Space 3 (OS3) zone boundary. The purpose of the setback is to prevent residences being subject to unreasonable noise. Marshall Day Acoustics (MDA) advise that noise is unreasonable above 60dBA, and an inner noise boundary has been modelled for Ruapuna based on this premise. The inner noise boundary extends beyond the 400m setback and the rule needs to be amended to take this into account.

7. Thirdly, to require acoustic treatment for new residences within the proposed outer noise boundary to avoid noise annoyance for residents and to avoid reverse sensitivity for Ruapuna. Noise levels are not considered unreasonable between the proposed inner and outer noise boundaries, but noise nuisance is likely to occur.

8. The proposed plan change incorporates these aspects and the Section 32 assessment concludes that these methods are the most appropriate and PC52 proposes to include new or amended policies and rules in the City Plan in this regard. Officers are therefore satisfied that the proposed change, together with other 'non regulatory methods, will assist in achieving a better environmental outcome while enabling the facility to continue to function as a regionally important motorsport facility.

6 Cont'd

9. Plan Change 52 does not introduce any new objective(s) into the City Plan, or amend the wording of any existing objective. One new policy is proposed to directly address motorsport and how it relates to residential activity, and one policy is proposed to be amended to manage the effect of incremental increases in recreational activity.

10. The current rules are proposed to be significantly amended because they do not achieve the outcomes sought by the objectives and policies. This is evidenced by the history of noise complaints and the advice from MDA that noise is unreasonable in some areas.

FINANCIAL IMPLICATIONS

11. Should the Council resolve to proceed with notifying the plan change there are legal processes which must be followed in accordance with the First Schedule of the Resource Management Act (RMA) 1991. This is a standard process that all plan changes must follow and there are no particular issues or risks that would be incurred if the processes are correctly followed. There would be costs arising at various stages of the plan change process relating to the preparation of officer reports and a hearing in response to submissions. The scale of costs would depend on the level and complexity of the submissions received. There is the potential for costs associated with responding to any Environment Court appeals received. Funding is provided from existing budget as part of the District Planning work programme agreed by Council.

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

12. The recommendations and costs incurred align with the relevant budgets and work programme as provided for under the 2009-2019 LTCCP budget.

LEGAL CONSIDERATIONS

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

13. There is a legal process which must be followed for plan changes in accordance with the First Schedule of the RMA. The legal process to be followed in accordance with the First Schedule of the RMA is familiar to the Council through both the private plan change process and in respect of Council initiated plan changes. Proceeding in accordance with these procedures should create no particular risks.

ALIGNMENT WITH LTCCP AND ACTIVITY MANAGEMENT PLANS

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

14. The process of Council initiated plan changes is provided for under the LTCCP and Activity Management Plans. This proposed plan change is specifically identified as a project within the Council's District Planning Work Programme.

15. The LTCCP identifies an ongoing programme of maintaining and reviewing the City Plan improvements in respect of enhancements to ensure an attractive built environment and to minimise adverse effects on the environment. The proposed plan change is specifically identified as a project within the Council's District Planning work programme.

6 Cont'd

ALIGNMENT WITH STRATEGIES

Do the recommendations align with the Council's strategies?

16. The plan change is not inconsistent with any of the Council's strategies. The Physical Recreation and Sport Strategy is founded on the belief that there are a number of key individual and community benefits that accrue from people taking part in physical recreation and sport activities. PC52 is also consistent with strategies the Council is party to such as the Greater Christchurch Urban Development Strategy (UDS), as well as the Regional Policy Statement (RPS).

17. The Recovery Strategy for Greater Christchurch prepared by CERA became operative on 1 June 2012. It is a statutory document that must be "read together with, and forms part of" other relevant legislation within the greater Christchurch area, including the City Plan. The City Plan must not be interpreted or applied in a way that is inconsistent with the Recovery Strategy. PC52 is considered to be consistent with the Recovery Strategy.

CONSULTATION FULFILMENT

18. Consultation was carried out both by the working party in terms of assessing options for progressing this matter, and specific to this plan change. This included consulting with the Canterbury Car Club, Christchurch Speedway Association, Templeton Residents Association the Quieter Please action group, the Department of Corrections and Fulton Hogan.

19. During the preparation of this proposed plan change a seminar was given to the Riccarton Wigram Community Board, and the Planning Committee. Should the plan change be notified, the submissions and hearings process will follow thereby enabling interested and affected parties to comment formally on the proposal.

STAFF RECOMMENDATION

That the Council:

(a) Adopt the attached proposed plan change and assessment under Section 32 of the Resource Management Act.

(b) Proceed to publicly notify proposed Plan Change 52 to the City Plan pursuant to the provisions of the First Schedule of the Resource Management Act 1991.

COMMITTEE RECOMMENDATION

That the staff recommendation be adopted.

BACKGROUND

20. Ruapuna is located at 107 Hasketts Road, in the rural environment between Templeton and the western edge of Christchurch. Ruapuna includes a racetrack, speedway, and remote control car track. It is located below the southern approach path for the international airport, near State Highways 1 and 73, the main trunk rail line, and substantial quarrying activity around Hasketts / Pound Roads. The use of Ruapuna for motorsport activities began when the speedway was established in April 1962 and the racetrack in November 1963.

6 Cont'd

21. Ruapuna is Crown Reserve administered by the Christchurch City Council. The racetrack is leased to and operated by the Canterbury Car Club for a variety of motorised and non-motorised activities. The lease is due to expire on 30 December 2016. Sub-lessees are the Canterbury Motor Racing School Limited (until 28 March 2017) and Aristotle Enterprises Limited (until 28 December 2016). The Council agreed to the subleases in 2002 and 2004 respectively. The racetrack is the larger of the two tracks and is located at the east of the site.

22. The speedway track, the smaller oval track at the west of the site, is leased by the Christchurch Speedway Association until 2020, with a right of renewal until 2053 (the original lessor was the Paparua County Council in 1987). The Speedway Association sublease part of the land to the Canterbury Radio Control Car Club until 1 December 2012. This Council agreed to the sublease in 2003. The speedway also includes a skid pad.

23. The activities that occur at Ruapuna provide a number of social and economic benefits to the City; both in terms of the recreational activities they provide for participants and spectators, and also economic benefits for motorsport related industries (and the hospitality industry). Ruapuna hosts a number of national events and also some events which attract international competitors. Events are generally in the weekend, although some events include Fridays also. In addition, the racetrack is available during the week for training, practice and open hire days. The speedway has full night-time operation facilities but the racetrack does not.

24. Ruapuna is zoned Open Space 3 (Metropolitan Facilities). The Templeton Golf Course to the east is zoned Open Space 2 (District Recreation and Open Space), but otherwise the land around Ruapuna is zoned for rural purposes, including Rural 2 (Templeton-Halswell), Rural 5 (Airport Influence), and Rural Quarry zones. Rural Quarry land, generally owned by Fulton Hogan, adjoins to the east and north. Rural 2 land adjoins Ruapuna to the northwest and includes part of the land owned by the Department of Corrections and containing the men's prison. The prison land has an existing designation and the zoning would only be relevant if designation was uplifted. The remainder of the Corrections land and other land surrounding Ruapuna is zoned Rural 5.

25. Around Ruapuna, the predominant uses include quarrying, corrections, residential, and small scale farming uses. Residential activity near Ruapuna exists in a variety of forms, including rural dwellings, rural-residential dwellings and the Christchurch Men's Prison. Further afield, suburban residential activity occurs at Templeton, Yaldhurst and Hornby.

26. PC52 has been drafted in response to noise management issues arising from the operation of the Ruapuna (specifically the Racetrack and Speedway). The Council formed a working party in April 2008 to investigate noise issues arising from Ruapuna in response to an increase in complaints from local residents regarding the operation of both the racetrack and the speedway. The working party made a number of recommendations which were adopted in the resolutions made by the Council at its meeting of 25 June 2009. This included a resolution to initiate this plan change. Other resolutions are discussed later in this report.

27. The resolution directed staff to prepare a Section 32 assessment under the Resource Management Act and a plan change in relation to the following matters:

    (a) Restrict the noise levels and frequency of events and track usage to limit the use of Ruapuna to the current levels;
    (b) Widen the development setback from 400 metres to correspond with the inner noise boundary as identified by MDA; and
    (c) Investigate placing restrictions on rural-residential development between the inner and outer noise boundaries through the City Plan.

6 Cont'd

Monitoring

28. A significant amount of monitoring was undertaken in 2005/06 by the Council, leading to the 2007 report by Marshal Day Associates (MDA) and the aforementioned Council resolution. Further monitoring was considered necessary to obtain a fuller picture of activities at Ruapuna and was undertaken in the 2010/11 season. A further report was complied by MDA following analysis of the 2010/11 monitoring data.

29. In general, the monitoring data collected in 2010/11 confirmed previous monitoring, and compliance with the City Plan rules. The data, however, identified potential issues at the northwest boundary of the site as follows:

- Formula 5000 races were monitored on two days in 2010/11 and exceeded the L10 noise limit of 80dBA on both days. These races also exceeded 95dBA Lmax, triggering the existing '5 day exception' which provides for 5 days with no Lmax limit; and
- Drag racing was monitored on one day in 2010/11 and recorded an Lmax over 95dBA, triggering the existing '5 day exception'.

30. There are about six Formula 5000 practice / race days and nine drag racing events per season. If the Lmax noise levels measured for these events were taken to be representative of all Formula 5000 and drag racing events, the five-day exception would be breached. The Council will need to closely monitor these events during the 2012/13 season to confirm compliance.

31. The manner in which PC52 proposes to address this issue is discussed later in this report, and in greater depth in the attached s32 report.

THE PLAN CHANGE

32. Plan Change 52 does not introduce any new objective(s) into the City Plan, or amend the wording of any existing objective. One new policy is proposed to directly address motorsport and how it relates to residential activity, and one policy is proposed to be amended to manage the effect of incremental increases in recreational activity.

33. The current rules are proposed to be significantly amended because they do not achieve the outcomes sought by the objectives and policies. This is evidenced by the history of noise complaints and the advice from MDA that noise is unreasonable in some areas.

34. The proposed amendments to the City Plan are at **Attachment 1** to this report. This section summarises the key amendments.

Volume 2 Part 14 14.4.1 Policy - Adverse Effects

35. Policy 14.4.1 is proposed to be amended to assist in managing the impact of incremental increases in scale and intensity of an activity. At Ruapuna, the activity has generally been compliant with the City Plan rules since the rules became operative, but the increase in the number of days the track is used has resulted in noise becoming a significant resource management issue in the area. The amendment provides direction for noise rules in general, and specific to Ruapuna (Volume 3 Part 11 1.3.4).

Volume 2 Part 14 Policy 14.4.6 - Motorsport

36. The proposed policy seeks to strengthen the policy framework in relation to the conflict between motorsport and noise sensitive activities. The policy would support the rules below, particularly where a resource consent application may be lodged for a residential activity in close proximity to Ruapuna or where consent is sought for a motorsport activity outside what is permitted by the rules. The proposed policy also requires that motorsport noise be appropriately managed and supports the relevant amended rule (Volume 3 Part 11 1.3.4).

6 Cont'd

Volume 3 Part 4 Rule 2.5.3 Separation from special purpose areas (Rural 1, 2, 3, 4 and 5 zones)

37. Rule 2.5.3 currently imposes a 400m setback from the OS3 boundary at Ruapuna within which residential activity is a non-complying activity. The rule seeks to preclude residences establishing where noise levels are unreasonable. MDA have created an inner noise boundary which describes the extent to which noise is considered unreasonable. The boundary includes land outside the 400m setback, necessitating a change to the existing rule.

Volume 3 Part 4 Rule 2.5.11 Residential units – Ruapuna noise boundaries

38. While the noise environment has not been found to be 'unreasonable' between the proposed inner and outer noise boundaries, it is sufficient to result in noise annoyance. Council staff acting on advice from MDA consider it important to manage residential activities within the contours to minimise noise impact for new residences or new additions.

39. PC52 proposes to require acoustic attenuation for new residences between the inner and outer noise boundaries to prevent or reduce noise annoyance. There are currently no restrictions on development specific to noise from Ruapuna in relation to this area of land. MDA considers that acoustic insulation specifically designed to address motorsport noise would result in significantly better living spaces in new houses (or additions) built in this area.

40. The rule also requires acoustic treatment within the inner noise boundary should a new residence or addition be granted resource consent.

Volume 3 Part 11 Rule 1.3.4 Special exceptions to these rules

41. The existing rule provides a range of exceptions to the standard noise provisions contained in Volume 2 Part 11 of the Plan. The rule, as it relates to Ruapuna, allows a significant amount of noise, including on every day of the year, for long hours, and for each of the racetrack, speedway, and radio controlled car track. Current activity levels, while significant, are still much less than the maximum allowable under the rule.

42. The proposed rule redefines the exceptions for Ruapuna in order to prevent an increase in activity and consequent adverse effects. The proposed rule groups activities into three groups, based on Open Space 3 zone noise levels limits, and the 'any day' and '200 day' noise level limits in the existing rule. The existing 'five day exception' is retained in an amended form, as discussed below. Each grouping includes criteria, such as hours of operation, days of operation, and control over amplified sound.

43. In relation to the issues raised above with Formula 5000 and drag racing events, the plan change proposes to allow these events to continue in a manner similar to the existing five day exception. The proposed rule would restrict these particular activities to a set number of hours where the general noise limits can be exceeded (34 hours), where the five day exception allows any noisy activity to occur on five full days per year (i.e. 9am to midnight - 75 hours).

44. The extent to which the Council may amend the plan is restricted by section 10 of the RMA, which deals with existing use rights. Legal advice on this issue confirms that the activity level at Ruapuna cannot be reduced below current (lawful) levels through the plan change process.

RELATED PROJECTS

45. The changes to the City Plan as proposed by PC52 are intended to work in conjunction with two other Council projects to address Ruapuna noise issues. These projects arose out of the Council's resolutions to address Ruapuna noise issues on 25 June 2009.

6 Cont'd

Property Purchase

46. The Council accepted advice from MDA that seven properties (each containing a dwelling) on Hasketts Road to the south of Ruapuna were subject to unreasonable levels of noise from the existing level of operation at Ruapuna. The Council resolved to purchase these properties, based on fair market value and there being a willing seller.

47. Six of the seven properties have been purchased by the Council. The remaining property is owned by Housing New Zealand who do not currently wish to sell.

Re-negotiation of the leases of the Car Club and Speedway

48. The Council also resolved to engage the Car Club and Speedway Association in formal discussions in an attempt to vary the current leases to reduce the maximum allowable noise limits. This could potentially include imposing restrictions on the operating hours, introducing noise free days, and placing limits on future expansion of the track.

49. It should be recognised that the lessees are not currently compelled to engage in lease discussions with the Council. The lease with the Canterbury Car Club expires on 30 December 2016, and the lease with the Christchurch Speedway Association has a right of renewal until 2053.

PROCESSING OF COUNCIL INITIATED PLAN CHANGES

50. This is a Council initiated plan change and is subject to the provisions of the First Schedule of the RMA. If the Council decides to notify the plan change then it would be notified in accordance with the provisions of this Schedule. The proposed plan change and Section 32 would be made available for submissions and further submissions. Submitters would then have the right to present their submission at a public hearing. Whether or not a hearing is held the Council would need to notify its decision. A right of appeal to the Environment Court would be available, for any person who made a submission on the proposed plan change.

SUMMARY

51. The stimulus for the preparation of the plan change has been the significant level of concern raised in recent years about the emission of noise from Ruapuna. The proposed plan change

    has been prepared following a Council resolution in 2009, and has involved significant technical advice from MDA and widespread consultation. The proposed amendments provide the basis for achieving improved outcomes for surrounding residences while not impacting on current or anticipated activity at Ruapuna. Overall, the proposed change is considered to be the most appropriate in terms of efficiency and effectiveness in achieving the Plan's objectives in terms of Section 32 of the Act. Sufficient consideration has been given to various options for pursuing the change.

Christchurch City Council	Resource Management Act 1991 Christchurch City Plan Proposed Plan Change	52

Note 1: The proposed rules in this Plan Change will **have no legal effect** under Section 9 and Clause 10(5) of Schedule 1 of the Resource Management Act until the Council gives public notice of its decision on the plan change and matter raised in submissions.

Note 2: All other provisions of this Proposed Plan Change have legal effect under Section 9 of the Resource Management Act from the date of notification but may be subject to submissions and will not have full legal effect until they are beyond the point of challenge.

Ruapuna – Management of Noise

Explanation

Plan Change 52 has been drafted in response to noise management issues arising from the operation of the Ruapuna Motorsport Park, located on Hasketts Road near Templeton.

The Council received a significant increase in complaints from local residents regarding the operation of Ruapuna in 2005. In response, the Council established a working party to investigate options for addressing these concerns and this resulted in the resolutions made by the Council at its meeting of 25 June 2009. The resolution reflects a three pronged approach recommended by the working party - to initiate a plan change, to purchase seven residential properties affected by "unreasonable" levels of noise, and to engage with the Car Club and Speedway Association to vary their current leases so as to introduce measures to control noise.

The resolution directed staff to prepare a plan change which considered the following:

1. *Initiate a plan change to restrict the noise levels and frequency of events and track usage to limit the use of Ruapuna Reserve to the current levels;*

2. *Widen the development setback from 400 metres to correspond with the 60dBA contour line as identified by MDA;*

3. *Investigate a plan change or other measures for placing restrictions on rural-residential development between the 55 and 60dBA noise contour lines through the City Plan.*

Plan Change 52 is constrained by Section 10 of the Resource Management Act 1991, which provides that a lawfully established activity may continue at the scale and intensity if a rule is included in the plan which would otherwise restrict or prevent that activity. For Plan Change 52, this means that the proposed rule would cap motor-racing activity rather than reduce it.

Plan Change 52 does not require staff time or assets in a manner which impacts on the rebuild programme and is consistent with the Recovery Strategy for Greater Christchurch.

Date Publicly Notified:	**Date Operative:**
Plan Details: Planning Maps 29B, 35B, 36B, 42B, 43B	**File No:** PL/CPO/3/52

City Plan Amendments

Note: For the purposes of this plan change, any text amended as a result of other decisions is shown as "normal text". Any text proposed to be added by the plan change is shown as **bold underlined** and text to be deleted as ~~**bold strikethrough**~~.

Amend the City Plan as follows:

Volume 2 Section 14 Recreation and Open Space

14.4.1 Policy : Adverse effects
To ensure that activities associated with open space and recreational facilities do not have the effect of giving rise to adverse effects (noise, glare, visual detraction), including through incremental increases in scale and intensity, without separation or mitigation measures.

Explanation and reasons
It is important that activities associated with open space and recreational facilities do not adversely effect the surrounding community. Many recreational areas and open spaces, have high levels of public use, particularly on weekends and some evenings, and increasingly small numbers of active sports involve night-time use necessitating outdoor lighting. The potential for impacting on surrounding activities may only be intermittent as some activities occur at regular times and during limited seasons, whereas others may operate on a more frequent and informal basis. The Plan provides measures for assessing and controlling effects of activities related to open space and recreational facilities, including controls on noise and separation from neighbours, recognising their particular function and the nature of the surrounding environment. ~~**At Wigram, the particular effects of aircraft noise are reflected in rules requiring the management of aircraft operations.**~~

Open spaces and recreational facilities generally have, and are perceived to have, a positive impact on the amenities of the areas in which they are situated. However, in certain circumstances the undertaking of related activity can conflict with activity in surrounding areas, particularly where located in living areas. Standards in the Plan have been incorporated to the extent necessary to enable an assessment of effects and represent a recognition by the Council as an owner of significant areas of open space that its own activities will be subject to equal consideration.

Ensuring adjoining land uses are not adversely affected also reduces pressure on the activity related to the open space or recreational facility to be reduced, or cease operating in the locality.

14.4.6 Policy : Motorsport
(a) To ensure that motorsport activities operate in a manner which do not result in unreasonable level of noise being received by activities which are noise sensitive; and
(b) To manage noise sensitive activities where they would be affected by noise from motorsport activities.

Explanation and reasons

Motorsport activities generate significant levels of noise and can adversely affect peoples health and wellbeing if not properly managed. At Ruapuna Motorsport Park, activities now take place on an almost daily basis. The Plan therefore

places controls on activities at Ruapuna, and also manages noise sensitive activities on surrounding land. The controls take three forms:

- **Restrictions on when motorsport can occur and the allowable noise level;**
- **Restrictions on noise sensitive activities (residential, educational, healthcare, or travellers accommodation) within an Inner Noise Boundary as shown on planning maps to protect the users from the adverse impacts of noise on their health and amenity values; and**
- **acoustic attenuation measures are required for noise sensitive activities located within the Outer Noise Boundary to minimise adverse noise effects from motorsport on these activities.**

In relation to Ruapuna, the Council considers that noise sensitive activities should not receive noise above 60dBA. Noise at or above this level has been described as unreasonable. The area which could be subject to unreasonable noise has been modelled and is shown on planning maps as the Inner Noise Boundary. Noise sensitive activities are tightly controlled within this area.

The plan also includes controls in relation to the Carrs Road Kart Club including restrictions on when motorsport can occur and the allowable noise level.

Volume 3 Part 1 Definitions

Noise Sensitive Activities
means:

- **Residential activities other than those in conjunction with rural activities that comply with the rules in the relevant district plan as at 23 August 2008;**
- **Education activities including pre-school places or premises, but not including flight training, trade training or other industry related training facilities located within the Special Purpose (Airport) Zone in the Christchurch District Plan or on other land used or available for business activities;**
- **Travellers accommodation except that which is designed, constructed and operated to a standard that mitigates the effects of noise on occupants;**
- **Hospitals, healthcare facilities and any elderly persons housing or complex.**

Volume 3 Part 4 Rural Zones
Critical Standards

2.5.3 Separation from special purpose areas (Rural 1, 2, 3, 4 and 5 Zones)

(1) Any residential unit shall not be erected within:

(a) 400 metres of the Special Purpose (Landfill) Zone boundary;

(b) 250 metres of the boundary of scheduled sewage treatment plants at Belfast and Templeton;

~~(c) **400 metres of the Ruapuna Raceway (Open Space 3 Zone boundary);**~~

(**~~d~~c**) 250 metres of the Carrs Road Speedway (Open Space 3 Zone boundary);

(**~~e~~e**) 200m of a Rural Quarry Zone boundary.

(2) Any new noise sensitive activity shall not be located within the Inner Noise Boundary surrounding Ruapuna Motorsport Park as shown on the relevant planning maps;

2.5.15 Noise Sensitive Activities – Ruapuna Noise Boundary
In any Rural zone other than Rural Quarry, any new noise sensitive activity (including additions in areas specified at (i) - (iii) below) proposed within the Inner or Outer Noise Boundary relating to Ruapuna Motorsport Park as shown on the relevant planning maps shall be designed to ensure the following indoor sound levels are not exceeded (with windows and doors closed):

- **(i) Sleeping areas: 45dBA L_{Amax};**
- **(ii) Other habitable areas: 55dBA L_{Amax}; and**
- **(iii) For education facilities - teaching, assembly or study areas: 55dBA L_{Amax}.**

For residential units, compliance with these limits shall be achieved using either the residential design solutions at Volume 3 Part 4 Appendix 7 (Residential Construction Standards – Ruapuna Motorsport Park). Otherwise the building design shall be supported by a report (including calculations) from a suitably qualified acoustic consultant, and submitted with application for building consent.

For the purpose of sound insulation calculations, the external noise levels for a site shall be based on the design noise spectrum below and deemed noise levels of 75dBA L_{Amax} at the Outer Noise Boundary and 80dBA_{LAmax} at the Inner Noise Boundary.

Octave Centre Frequency (Hz)							
	63	125	250	500	1000	2000	4000
Correction to L_{Amax}	-6	-1	-1	-1	-6	-8	-11

Reasons for Rules

5.1.23 Ruapuna noise exposure
Rules have been established so as to avoid or mitigate the effects of motorsport noise on noise sensitive activities in the vicinity of Ruapuna Motorsport Park.

At Ruapuna, the noise effects of motor racing are addressed by limiting motorsport activities, and managing the location and design of noise sensitive activities, within the noise boundaries as shown on the relevant planning maps. The noise boundaries are the outcome of modelling work based on data collected at Ruapuna in 2005/06 and 2010/11.

Within the Inner Noise Boundary, the establishment of new noise sensitive activities (any residential unit, education facility, healthcare facility, or travellers accommodation) should be discouraged reflecting the likelihood that activities that establish in this area would be subject to unreasonable noise from motorsport activities. Within the Outer Noise Boundary, the establishment of new noise sensitive activities should be discouraged unless the dwelling can meet acoustic insulation requirements, Noise from Ruapuna will be clearly audible in this area and needs to be managed.

The rule provides that noise sensitive activities be either in accordance with the construction standards at Appendix 7 (Volume 3 Part 4) or a report be provided as part of the building consent process, and would include design information sufficient to determine that the prescribed indoor sound levels would be met. In

the event these levels could or would not be met, resource consent for a non-complying activity would be necessary. The building consent process ensures proposals for new residential units appropriately take into consideration noise generated by activities at Ruapuna. This has the twofold effect of ensuring that new residences provide the best living environment possible for that location and minimising complaints about activities at Ruapuna from occupants of new residences while allowing motorsports to continue to give enjoyment to a sector of the community and visitors to Christchurch.

Volume 3 Part 11 Health and Safety

1.2.1 Measurement, calculation and application of sound levels

For the purposes of the application of these rules, and except where otherwise stated, measurement and calculation of the levels of sound emission from any activity shall be as follows:

(i) method of sound level measurement and descriptions and definitions used shall be in accordance with NZS 6801:1991 "Measurement of Sound";

(ii) in relation to rule 1.3.5 (ii) (Volume 3 Part 11), method of sound level measurement and definitions used shall be in accordance with NZS6801:2008 (Acoustics - Measurement of Environmental Sound) and NZS6802:2008 (Acoustics - Environmental Sound) except that provisions in NZS6802 referring to Special Audible Characteristics and Duration shall not be applied.

(ii**i**) when calculations are necessary for the prediction of sound level emissions from an activity for the purposes of design or assessment of the activity, then the calculations shall be applied at the boundaries of the site which contains the activity, except as provided for under Clause 1.3.1(b).

For the purpose of applying these rules, the noise level standards shall apply at any point on and beyond the boundary of the site containing an activity generating noise, except as provided under Clauses 1.3.1 and 1.3.4.

Except where otherwise defined in these rules, "boundaries" means the boundaries of a "site" as defined in this Plan; or the boundaries of any lease or other agreement with the land owner; and the vertical extension of these boundaries. Where these rules refer to any location on or beyond the boundaries, this shall be deemed to include any one or more locations on a boundary, or beyond a boundary.

1.3.5 Special exceptions ~~to these rules~~

(a) Open Space 3 Zone (Ruapuna **~~Raceway~~** **Motorsport Park** and Carrs Road Raceway).

Notwithstanding the provisions of Clause 1.3.3 and Table 1 the following exception shall apply:

~~Community standards~~
~~Any activity which exceeds the standard specified below, shall be a discretionary activity.~~

(i) Carrs Road Raceway
(…)
~~(ii) Ruapuna Raceway~~

~~Operational noise levels of 90dBA L_{max} and 65dBA L_{10} (1 hour) to apply between the hours of 0900 and 2200 hours on any day of the calendar year, except that:~~

- ~~for up to 200 days in any calendar year, the permitted levels shall be 95dBA L_{max} and 80dBA L_{10} (1 hour), between the hours of 0900 and 2300;~~
- ~~for up to 15 of those 200 days, these activities shall be permitted up to 2400 hours;~~
- ~~on up to 5 of those 200 days, no L_{max} level shall be applied.~~

~~All levels are to be applied at the boundaries of the Park. At all other times, the levels of the Open Space 3 Zone shall apply.~~

(ii) Ruapuna Motorsport Park

Activity at Ruapuna Motorsport Park shall occur in accordance with the following:

1. Non-motorised activities shall be permitted where they meet all of the following criteria:

- **noise levels at the boundary shall not exceed 75dBA L_{Amax} or 50dBA L_{Aeq};**
- **hours of operation shall be between the hours of 9am – 10pm;**
- **use of a public address system or other amplified sound shall not occur for more than 30 minutes per day.**

2. Motorised activities shall be permitted:

- **on any weekday at the racetrack;**
- **for not more than 20 days per year at the speedway; and**
- **on any day at the radio control car track for practice and racing of electric vehicles only, and on not more than 50 days for any racing event at the radio control car track including vehicles with internal combustion engines;**

where they meet all of the following criteria:

- **noise levels at the boundary do not exceed 90dBA L_{Amax} or 65dBA L_{Aeq};**
- **hours of operation shall be between the hours of 9am – 6pm;**
- **use of a public address system or other amplified sound shall occur only during a racing activity.**

3. Motorised activities shall be permitted

- **at the racetrack: on any Saturday or Sunday plus a further 50 days per year;**
- **at the speedway: for not more than 20 days per year;**

where they meet all of the following criteria:

- **noise levels at the boundary shall not exceed 95dBA L_{Amax} or 80dBA L_{Aeq};**
- **hours of operation shall be between 9am – 6pm at the racetrack except that racing may continue until 8pm on the days specified at (c)(5); and 12pm – 10pm at the speedway, except that the speedway may operate until 11pm on 10 days per year;**
- **use of a public address system or other amplified sound shall occur only during a racing activity at the speedway or as specified at for the racetrack in this clause;**

- **racing at the racetrack shall only occur on Saturdays, Sundays and up to five Fridays per year;**
- **Formula 5000s: noise levels at the boundary shall not exceed 105dBA L_{Amax} or 90dBA $L_{Aeq.}$ Activity involving F5000 vehicles shall not occur on more than four race days and two practice / testing days per year and there shall not be more than 90 minutes racing per day;**
- **Drag racing: noise levels at the boundary shall not exceed 105dBA L_{Amax} or 80dBA L_{Aeq}. Drag racing shall not occur on more than 10 days per year.**

4. (a) motorised activities at the racetrack and radio controlled car club are a non-complying activity on the following public holidays:

- **Good Friday and Easter Monday;**
- **ANZAC Day prior to 1pm;**
- **Christmas Day and Boxing Day; and**
- **New Years Day.**

(b) motorised activities at the speedway are a non-complying activity on the following public holidays:

- **Good Friday**
- **ANZAC Day**
- **Christmas Day and Boxing Day; and**
- **New Years Day.**

For the purposes of this rule:

- **Noise from Ruapuna Motorsport Park shall be measured in accordance with New Zealand Standard NZS 6801:2008 *Acoustics – Measurement of environmental sound*, and assessed in accordance with NZS 6802:2008 *Acoustics - Environmental noise*, except that any penalty for special audible characteristics and/or duration (paragraphs 6.3 and 6.4) shall not apply.**
- **Boundary shall mean the boundary of any site not within the OS3 (Ruapuna Raceway) zone.**
- **The lessees of the Ruapuna Motorsport Park shall maintain a log of racing, training, practicing, testing, and all other events. The log is to be made available to the Council upon request and should include as a minimum: the type of activity, event name if applicable, and start/finish times.**
- **Data from any permanent logger at Ruapuna Motorsport Park may be deemed sufficient to determine compliance. The location of the logger will be selected by the Council.**
- **'Racing' shall mean a contest of speed or time involving any motorised vehicle, between two or more vehicles competing either consecutively or concurrently. Racing shall specifically exclude testing, training, and practice sessions.**
- **'Motorised activities' shall mean any use or activity involving the operation of a vehicle powered by any type of engine. This includes, but is not limited to, racing, practising, testing, and driver training.**

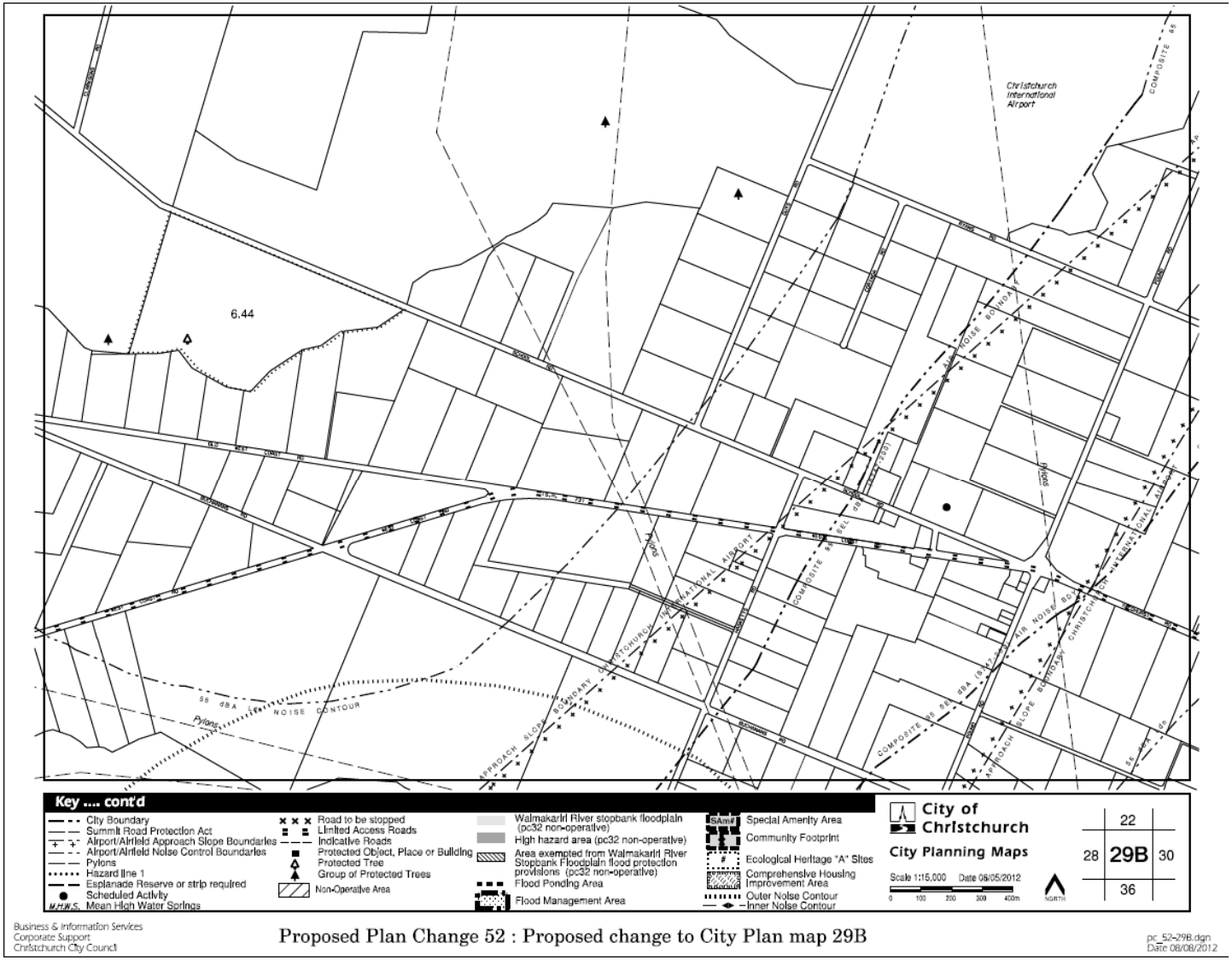
Volume 3 Part 4 Rural Zones

Appendix 7 – Residential Construction Standards for dwellings within the Inner Noise Boundary– Ruapuna Motorsport Park

	Acceptable Solution 1	Acceptable Solution 2
Floors (all spaces)	Concrete slab at ground level No limitations for upper storeys	n/a
Bedrooms		
Roof/Ceiling	0.55 mm thick pitched profiled metal roofing, with horizontal ceiling consisting of 2 layers 13 mm thick Noiseline Gib, plus thermal insulation. No recessed lights.	Concrete tiles (min 45 kg/m^2), with horizontal ceiling consisting of 1 layer 10 mm thick standard gypsum board, plus thermal insulation. Recessed lights permitted.
Walls	Brick veneer (minimum 70 mm thick) over ex 100 mm timber frame, lined internally with 1 layer 10 mm thick standard gypsum board, plus thermal insulation.	Weatherboards (16 mm thick), on ex 100 mm timber frame, plus steel channels on resilient sound isolation clips (RSIC) or equivalent. Internal lining of 2 layers 13 mm thick Noiseline Gib. Thermal insulation.
Windows	4/12/4 thermal double glazing to outer face of building. Secondary pane of laminated glass minimum 7 mm thick, not less than 100 mm inside double glazing. Total area of windows must not exceed 20% of total external wall area of bedroom. All windows to be in aluminium frames with full perimeter seals to all opening panes.	{no alternative}
External Doors	Not permitted	Not permitted
Other habitable areas		
Roof/Ceiling	0.55 mm thick pitched profiled metal roofing, with horizontal ceiling consisting of 1 layer 10 mm thick Noiseline Gib, plus thermal insulation. Recessed lights permitted.	Concrete tiles (min 45 kg/m^2), with horizontal ceiling consisting of 1 layer 10 mm thick standard gypsum board, plus thermal insulation. Recessed lights permitted.
Walls	Brick veneer (minimum 70 mm thick) over ex 100 mm timber frame, lined internally with 1 layer 10 mm thick standard gypsum board, plus thermal insulation.	Weatherboards (16 mm thick), on ex 100 mm timber frame lined internally with 1 layer 10 mm thick standard gypsum board, plus thermal insulation.

	Acceptable Solution 1	Acceptable Solution 2
Windows	4/12/4 thermal double glazing to outer face of building. Secondary pane of glass minimum 4 mm thick not less than 100 mm inside double glazing. Total area of all external doors and windows combined must not exceed 40% of total external wall area of the room.	10.38 mm thick laminated glass. Total area of all external doors and windows combined must not exceed 40% of total external wall area of the room.
External Doors	10.38 mm thick laminated glass in aluminium frame with full perimeter seals. Total area of all external doors and windows combined must not exceed 40% of total external wall area of the room.	Solid timber door, not less than 45 mm thick in aluminium frame with full perimeter seals. Total area of all external doors and windows combined must not exceed 40% of total external wall area of the room.

Planning Maps
29B, 35B, 36B, 42B, 43B


Christchurch International Airport
6.44
Pylons
55 dBA L dn NOISE CONTOUR
Key .... cont'd
City Boundary
Summit Road Protection Act
Airport/Airfield Approach Slope Boundaries
Airport/Airfield Noise Control Boundaries
Pylons
Hazard line 1
Esplanade Reserve or strip required
Scheduled Activity
M.H.W.S. Mean High Water Springs
Road to be stopped
Limited Access Roads
Indicative Roads
Protected Object, Place or Building
Protected Tree
Group of Protected Trees
Non-Operative Area
Waimakariri River stopbank floodplain (pc32 non-operative)
High hazard area (pc32 non-operative)
Area exempted from Waimakariri River Stopbank Floodplain flood protection provisions (pc32 non-operative)
Flood Ponding Area
Flood Management Area
Special Amenity Area
Community Footprint
Ecological Heritage "A" Sites
Comprehensive Housing Improvement Area
Outer Noise Contour
Inner Noise Contour
City of Christchurch
City Planning Maps
Scale 1:15,000 Date 06/05/2012
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NORTH
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Corporate Support
Christchurch City Council
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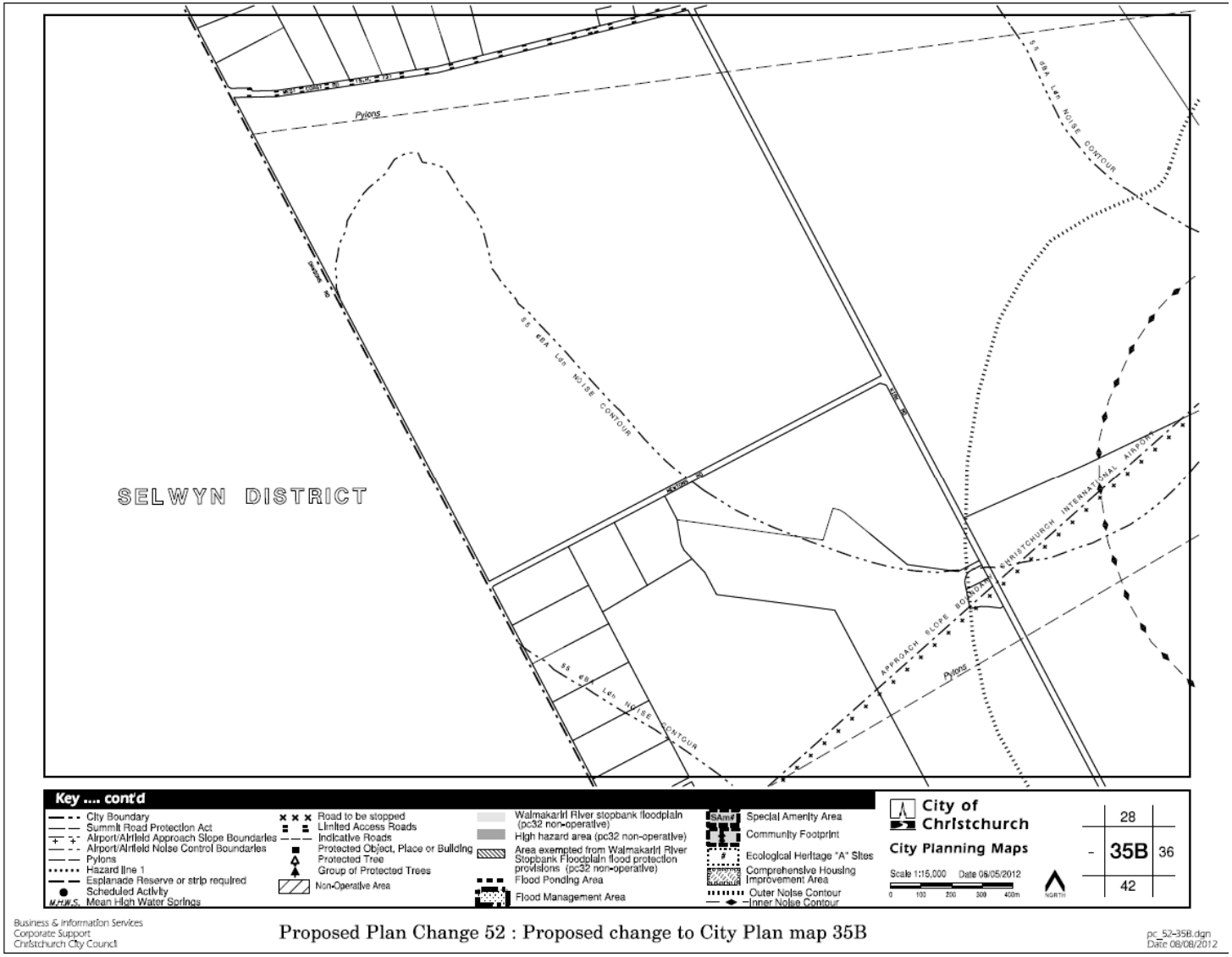
Date 08/08/2012



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Corporate Support
Christchurch City Council

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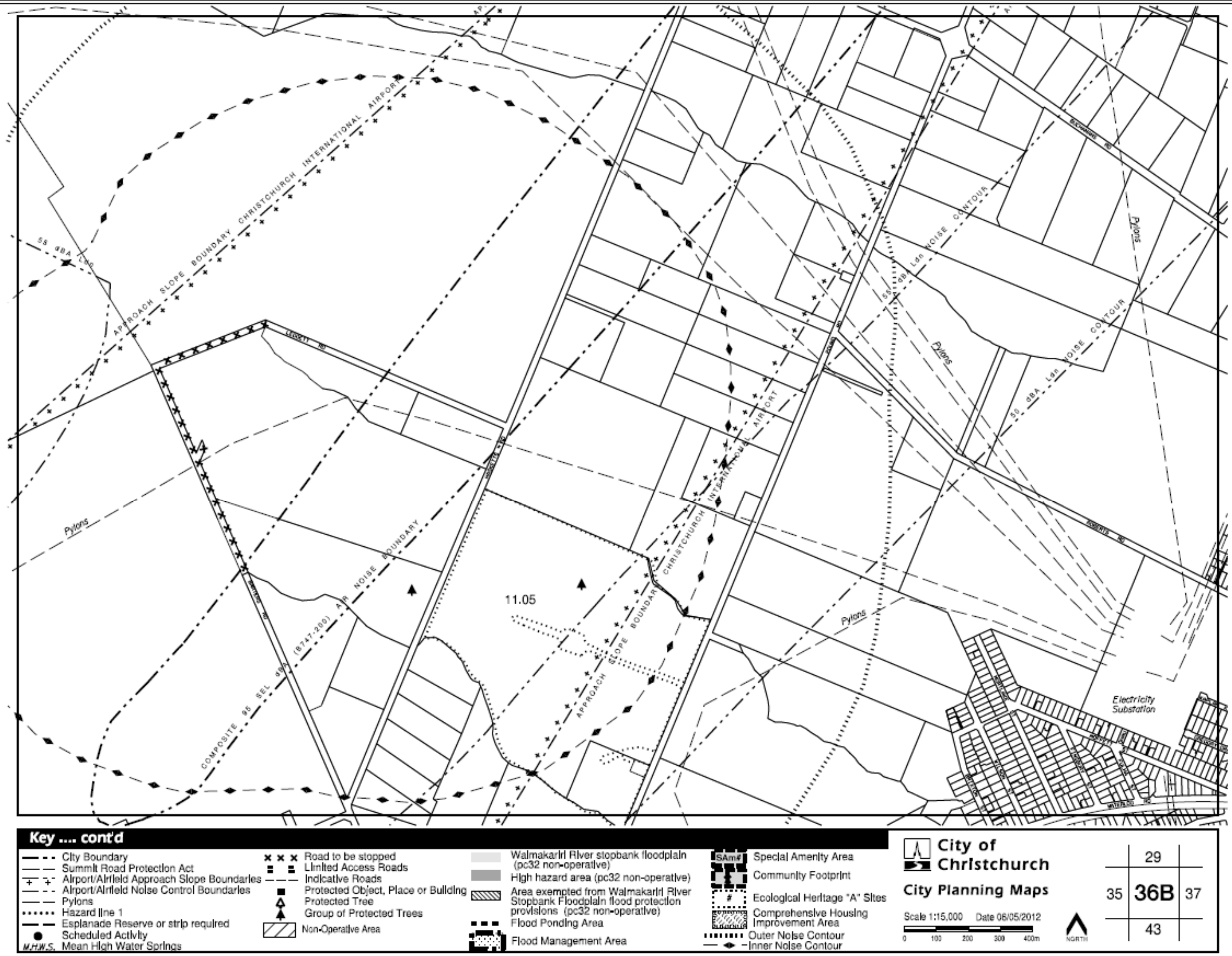

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Christchurch City Council

Proposed Plan Change 52 : Proposed change to City Plan map 36B

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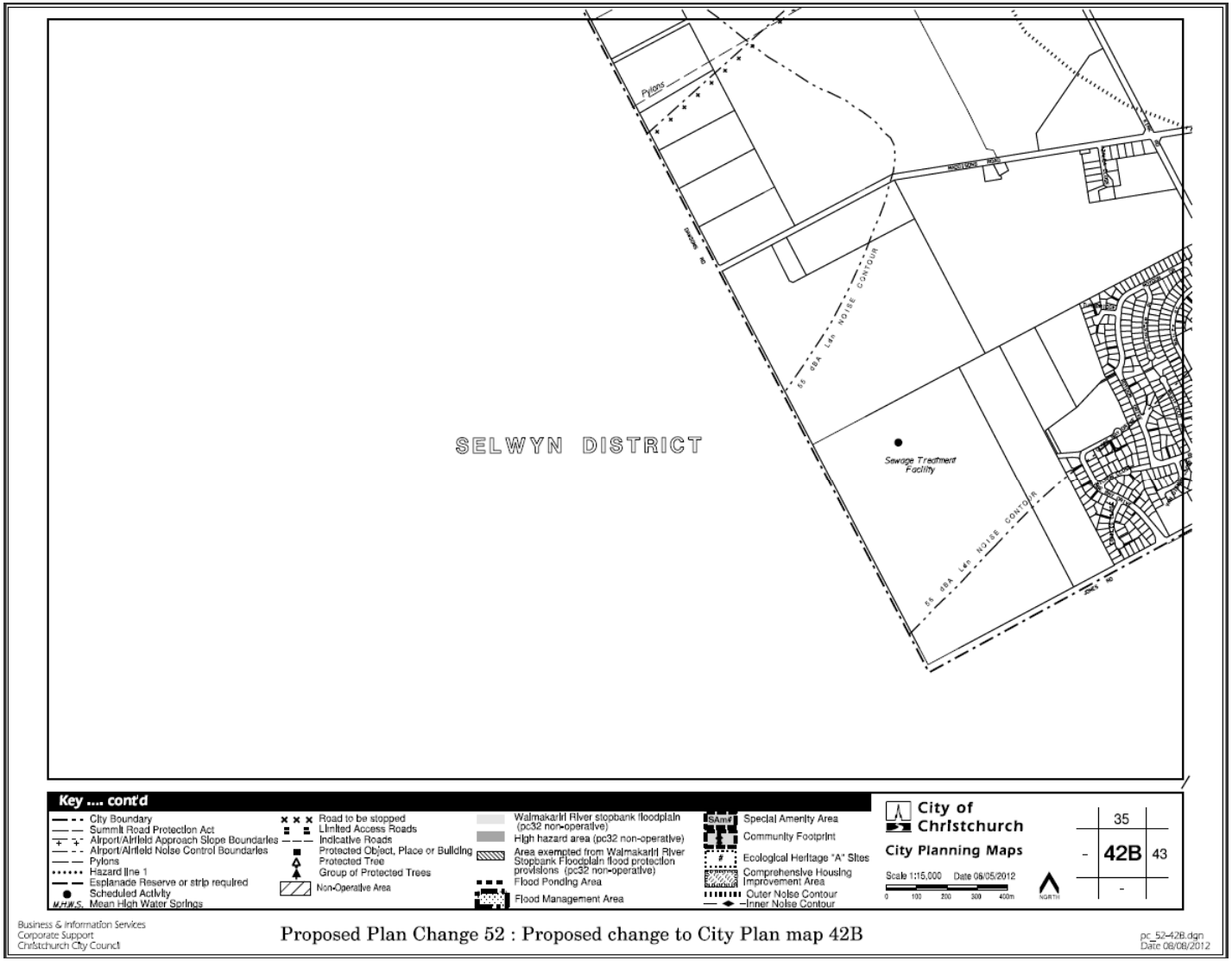
Date 08/08/2012


Pylons
SELWYN DISTRICT
Sewage Treatment Facility
65 dBA Ldn NOISE CONTOUR
55 dBA Ldn NOISE CONTOUR
Key .... cont'd
City Boundary
Summit Road Protection Act
Airport/Airfield Approach Slope Boundaries
Airport/Airfield Noise Control Boundaries
Pylons
Hazard line 1
Esplanade Reserve or strip required
Scheduled Activity
M.H.W.S. Mean High Water Springs
Road to be stopped
Limited Access Roads
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Outer Noise Contour
Inner Noise Contour
City of Christchurch
City Planning Maps
Scale 1:15,000 Date 08/05/2012
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42B
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Business & Information Services
Corporate Support
Christchurch City Council
Proposed Plan Change 52 : Proposed change to City Plan map 42B
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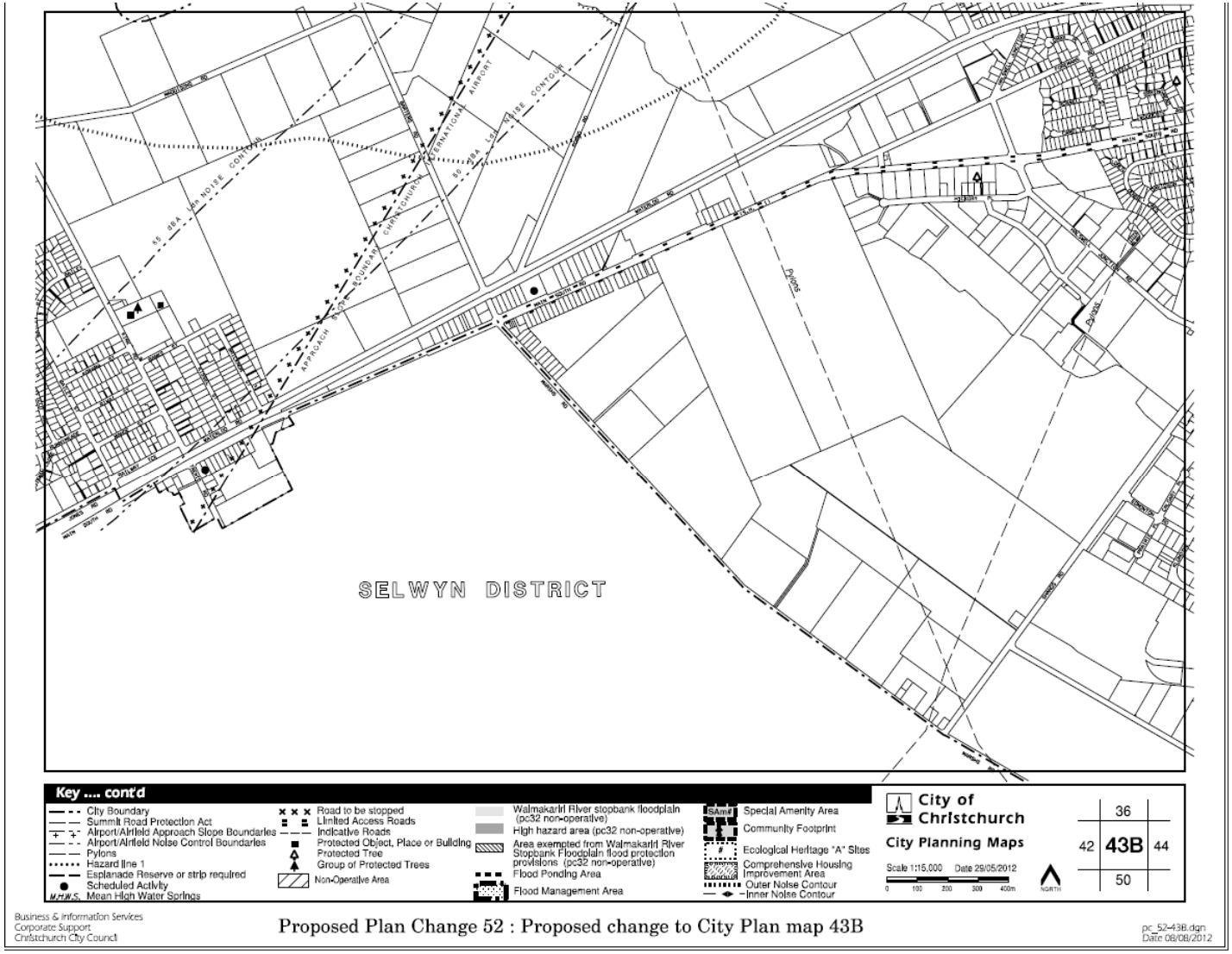
Date 08/08/2012


SELWYN DISTRICT
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Summit Road Protection Act
Airport/Airfield Approach Slope Boundaries
Airport/Airfield Noise Control Boundaries
Pylons
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Outer Noise Contour
Inner Noise Contour
City of Christchurch
City Planning Maps
Scale 1:15,000 Date 29/05/2012
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NORTH
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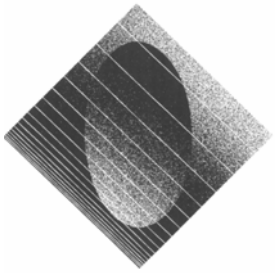
42 43B 44
50
Business & Information Services
Corporate Support
Christchurch City Council
Proposed Plan Change 52 : Proposed change to City Plan map 43B
pc_52-43B.dgn
Date 08/08/2012

MARSHALL DAY
ACOUSTICS



Marshall Day Acoustics Limited
Level 3, 69 Cambridge Terrace
PO Box 4071
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New Zealand
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PREPARED FOR: **Christchurch City Council**
Civic Offices
PO Box 237
Christchurch

Attention: Marie Lopez

DATE: 12th October 2007

PROJECT: **Ruapuna Park and Christchurch Kart Club Noise Assessment**

REPORT NO.: **002 2007217/218C**

PREPARED BY: Peter Ibbotson

REVIEWED BY: Stuart Camp

Version	Date
Draft	30/05/07
Version 1 – For Council Comment	28/06/07
Version 2 – Additional Information as requested	25/07/07
Version 3 – Final	10/08/07
Version 4 – Final with Amendments	12/10/07

1.0 EXECUTIVE SUMMARY

Christchurch City Council (CCC) is investigating the future options for motor sport activities in the peri-urban environment. This report examines the existing noise environment of the areas surrounding Ruapuna Park Motorsport Complex and the Christchurch Kart Club, and the noise environment of Ruapuna Park should the facility operate at its maximum capacity. Further, the report examines the noise environments for three possible relocation scenarios and the potential impact on residents and noise sensitive areas surrounding a possible relocation site.

A comprehensive review of local and international noise standards has been performed. The existing noise environment in the area surrounding Ruapuna Park has been measured, both during race and non-race day activity. Aircraft, traffic and quarry noise are significant sources of noise in the area. The existing noise environment in the area surrounding the Christchurch Kart Club has also been measured, and a report on the assessment of noise effects from the club has been reviewed,

Sophisticated computer software has been used to model noise levels from Rupuna Park as well as a possible relocation site for the Christchurch Kart Club and the Ruapuna Park in the nearby Pound Road Quarry at 8m below ground level. Detailed noise contours are given for several scenarios.

We have proposed criteria for assessing the "reasonableness" of noise when applied to the existing Ruapuna Park operation. Daytime noise levels are generally considered to be reasonable, however seven houses are exposed to raceway noise levels that are marginally above our reasonableness criteria. Three houses are exposed to speedway noise levels that are marginally above the reasonableness criterion during the daytime. This is consistent with the small number of complainants. Night operations at the speedway are currently considered unreasonable at twenty-one dwellings based on our criteria.

If Ruapuna Park was operating to maximum permitted capacity (with 200 large events per year), we would consider noise effects unreasonable.

The noise effects on residents in the surrounding area for the various possible relocation scenarios have been assessed. We consider that the current location of Ruapuna currently represents the best practicable option in terms of noise effects on existing dwellings. Relocation of the Kart Club and/or Ruapuna Park to the Pound Road Quarry will, in general, increase the adverse effects of noise from motorsport in the area. Mitigation to reduce these noise effects is not considered effective. On the basis of noise effects, we do not recommend relocation of either the Kart Club or Ruapuna Park to the Pound Road Quarry.

Contents

2.0 INTRODUCTION

2.1 Overview of Ruapuna Park Motorsport Complex and Kart Club Noise Assessment

The high demand for lifestyle blocks and residential land in Christchurch City is causing residential development to encroach on existing motorsport activities. This has caused some conflicts between the existing motorsport activities and the nearby residential land use. Christchurch Kart Club and Ruapuna Park Motorsport Complex are two facilities that have generated complaints regarding noise levels from adjacent residents.

Christchurch City Council (CCC) is investigating the effects of and future options for motor sport activities in the peri-urban environment. Christchurch City Council has requested that a noise assessment of the areas surrounding Ruapuna Park Motorsport Complex (hereafter "Ruapuna Park") is undertaken to establish the "reasonableness" of the noise for surrounding residents, a prediction of the noise environment should Ruapuna Park operate within the maximum permitted capacity as defined in the Christchurch City Plan, and a discussion of possible noise attenuation measures for the best acoustic outcomes in the area.

Additionally, the Christchurch City Council has requested an assessment of the noise environment surrounding the Christchurch Kart Club (hereafter "Kart Club") and an assessment of a number of possible relocation scenario options, including:

- Relocating the Kart Club to a possible site in the Pound Road Quarry while Ruapuna Park remains in its current location
- Relocating Ruapuna Park to the Pound Road Quarry site. In this scenario the Kart Club is not relocated to the Pound Road Quarry
- Relocating both the Kart Club and Ruapuna Park to the Pound Road Quarry Site

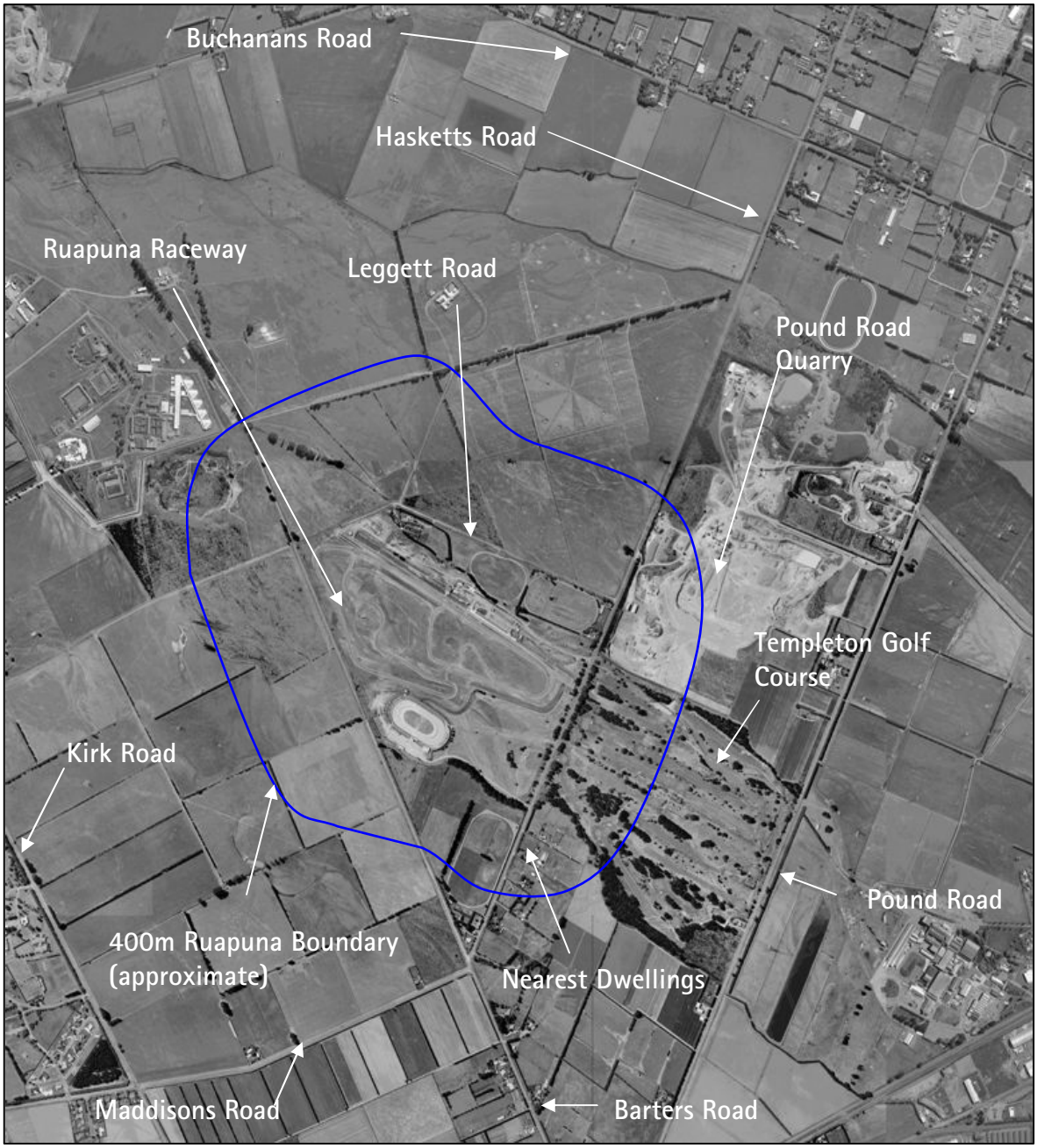
Photo 1 shows the location of the possible Pound Road quarry site in relation to Ruapuna Park.

This report examines the existing noise environment of the areas concerned, the noise levels likely to be generated by the various scenarios considered, and the potential impact on residents and noise sensitive areas surrounding the possible relocation site. The study considers possible mitigation measures around the existing Ruapuna Park and the relocation site. Construction noise and the change in traffic noise on nearby roads has not been considered.

The purpose of this report is to provide Christchurch City Council with information regarding the noise effects of all options, to facilitate discussion regarding the future of both clubs.

Drag racing at Ruapuna Park has not been incorporated in the noise assessment. This is because there were no drag racing events held during this study. Limited noise measurements previously undertaken by Council were insufficient for modelling purposes. From our review of this data we do not consider that inclusion of drag racing activities in this study would significantly affect the conclusions of this report.

Photo 1: Aerial View of Ruapuna Park (copyright Terralink International)



3.0 BACKGROUND

3.1 Christchurch Kart Club

Christchurch City Council has been exploring options for the future of the Christchurch Kart Club. Although Council officers have investigated a number of possible sites for relocating the Kart Club, only the Pound Road Quarry site has been identified as a viable option at this stage. Only this possible relocation site has been considered in this study.

Refer to Photo 1 for details of the Pound Road Site and surrounding area. A concept plan for the Kart Club has been prepared with the following specification and is shown in Appendix 3:

- A minimum track length of 800 metres;
- Possible Kart numbers of 75 – 100 during race meetings with a possible track limit of 30-32 karts at one time;
- Up to 500 spectators per club day; and
- Hours of operation – 7 days per week for training/testing. Racing during the weekend. Daylight operation only.

A second stage of expansion could extend the track by a further 400 metres and include permanent pit shelters, covered pit facilities, and permanent public address facilities. The types of karts that will operate on the track include the following:

- 125cc Rotax
- 100cc Yamaha
- 80cc Cadet

During race meetings, we understand from our discussions with the Kart Club that a range of different types of races can occur – from 5 minute races to enduro races lasting around 2 hours. At the existing Carrs Road track we understand that during race days there is generally very little time between races. There is a track limit of 26 karts at one time. The track is used for racing approximately 70% of the time. The possible new track will operate in a similar manner and will have a track limit of possibly 30-32 karts at one time.

3.2 Ruapuna Site

The Christchurch City Plan includes specific rules to control noise generated from Ruapuna Raceway. Compliance with these noise standards have been assessed on a number of occasions and have been found to be compliant. Nonetheless, issues still remain around the long term operation of this facility and its compatibility with existing and future potential surrounding land uses. The reasonableness of the noise environment and noise mitigation options are, therefore key considerations for the

Council that need to be addressed. Consideration is being given to a possible option for relocating Ruapuna Park to within the existing Pound Road Quarry.

Ruapuna is used for a variety of different events. On a day with no organised races, the track could be used for driver training or race car testing. Organised events range from kart events all the way up to NZV8 series days which involve many different types of cars racing throughout the day. There is also a drag strip and a speedway on the site. The entire site is permitted to operate up until 2400 hours on up to 15 days per year and up to 2300 hours on 200 days per year (refer to Section 4.1.1).

We understand that in 2006 there were 43 "large events" in the racing calendar at the raceway and 14 "large events" at the speedway. Most large events at both the raceway and speedway fall on weekends; however on weekdays the track is regularly open for hire days, vehicle testing and other such activities. Although the raceway and speedway are likely to emit the highest levels of noise during large weekend events, given the relatively consistent weekday operation, noise during this time period must also be assessed.

As will be discussed in the following sections, the area surrounding Ruapuna Park currently receives significant noise from aircraft, quarries and road traffic.

Because a concept plan for the relocated raceway has not been prepared, we have assumed that the raceway would be similar in layout to the existing track. We have used the existing track design when assessing noise levels from inside the quarry.

4.0 LITERATURE REVIEW AND SUMMARY

The following literature review illustrates New Zealand and International guidelines on motorsport noise. The following section is comprehensive and serves to illustrate how the existing noise limits imposed on Ruapuna Park and the Christchurch Kart Club compare to other established guidelines.

4.1 Legislative Requirements

4.1.1 District Plan Noise Rules

Ruapuna Park, the possible Pound Road Quarry relocation site and the existing Kart Club site at Carrs Road lies within Christchurch City Council's jurisdiction. Under Volume 3, Part 11, Section 1.3.4 of the City Plan, the Kart Club and Ruapuna Park are provided with specific noise rules associated with their operation.

Our interpretation of the District Plan noise rules is that the rules are intended as a compromise between "ideal" noise levels and what can reasonably be achieved from the Park. The noise rules are not intended to represent a limit that will ensure zero noise effects; indeed it is unlikely that any noise limit could achieve this.

They can be summarised as follows:

1.3.4 Special exceptions to these rules

(a) Open Space 3 Zone (Ruapuna Raceway and Carrs Road Raceway)
Notwithstanding the provisions of Clause 1.3.3 and Table 1 the following exception shall apply:

Community standards
Any activity which exceeds the standard specified below shall be a ***discretionary activity***

(i) Carrs Road Raceway

1. *On not more than 120 days in any one calendar year, excluding Christmas Day and Boxing Day, operational noise levels shall not exceed 85dBA L_{max} and 65 dBA L_{10} (1 hour) between 0900 and 1700 hours except that these noise limits shall apply between 0900 and 1800 hours for official kart racing events that are fixed in the published annual calendar of the Christchurch Kart Club.*

2. *Operational noise levels of 85dBA L_{max} and 65 dBA L_{10} (1 hour) shall apply between the hours of 1300 and 1700 on one weekday in each week that is fixed in the published annual calendar of the Christchurch Kart Club.*

   For the purpose of this rule

   - *All noise levels are to be applied at the notional boundary of a residential unit, where "notional boundary" is defined in NZS6801:1991 "Measurement of Sound" as . . . "a line 20 metres from the facade of any rural dwelling or the legal boundary where this is closer to the dwelling."*
   - *Any reference to weekday shall mean between Monday and Friday excluding public holidays.*
   - *"Official kart racing events" shall mean those that comply as a KartSport New Zealand race meeting with a status of Group A to Group G event. Such events are identified, sanctioned and conducted in accordance with the KartSport New Zealand rules.*

(ii) Ruapuna Raceway

Operational noise levels of 90dBA L_{max} and 65dBA L_{10} (1 hour) to apply between the hours of 0900 and 2200 hours on any day of the calendar year, except that:

- *for up to 200 days in any calendar year, the permitted levels shall be 95dBA L_{max} and 80dBA L_{10} (1 hour), between the hours of 0900 and 2300;*

- *for up to 15 of those 200 days, these activities shall be permitted up to 2400 hours;*
- *on up to 5 of those 200 days, no L_{max} level shall be applied.*

All levels are to be applied at the boundaries of the Park. At all other times, the levels of the Open Space 3 Zone shall apply.

The Christchurch City Plan provides for a 400m exclusion zone around the Ruapuna Park boundary that makes the construction of a dwelling within this zone a non-complying activity. The Christchurch Kart Club has a 250m exclusion zone around the park boundary.

The areas surrounding Ruapuna Park are zoned Rural and Open Space 2. The Group One noise limits would be applicable to these areas outside of the scheduled exemptions discussed above. These noise limits are summarised in Table 1.

Table 1: Christchurch City Plan Noise Standards

	Development Standards				Critical Standards			
		Daytime	Night-time	L_{dn}		Daytime	Night-time	L_{dn}
Group 1 Zones Rural and Open Space 2	L_{10}	49 dBA	42 dBA	50 dBA	L_{10}	60 dBA	48 dBA	59 dBA
	L_{eq}	50 dBA	41 dBA		L_{eq}	57 dBA	49 dBA	
	L_{max}	75 dBA	65 dBA		L_{max}	85 dBA	75 dBA	
Group 2 Zones Open Space 3 Zones					L_{10}	60 dBA	48 dBA	59 dBA
					L_{eq}	57 dBA	49 dBA	
					L_{max}	85 dBA	75 dBA	

4.2 New Zealand Environmental Noise Standards

NZS 6802:1991 *"Assessment of Environmental Sound"*

The primary document used in New Zealand for assessing Environmental Noise is NZS 6802:1991 *Acoustics - Assessment of Environmental Sound*. This standard gives the guidelines for the protection of health and amenity in residential areas. The Standard provides for the assessment of environmental sound from steady and time-varying sources including industrial, commercial, residential and entertainment activities. While motor-sport activities are not specifically identified in the standard, it is considered that they fall within the broad definition of entertainment activities.

The standard gives the following guidance on desirable upper limits of exposure to environmental noise for the reasonable protection of community health and amenity:

- daytime intrusive noise levels should be no greater than 55 dBA (L_{10}).
- night-time intrusive noise levels should be no greater than 45 dBA (L_{10}).
- the intrusive noise (L_{10}) should not exceed the background sound level (L_{95}) by 10 dB or more (unless background sound levels are very low or very high).

The standard imposes a 5 dBA penalty on noises which are deemed to contain "special audible characteristics" such as tonal or impulsive qualities. The current standard is currently undergoing review. The current values of 55 dBA daytime and 45 dBA night-time are likely to be retained but expressed as L_{eq} and not L_{10}. This change is consistent with the World Health Organisation's guideline values for the avoidance of adverse health effects, which are discussed in Section 4.3 of this report.

NZS 6805:1992 *"Airport noise management and land use planning"*

Although this standard is only directly applicable to airport noise we have considered it because we believe that the overall philosophy of the standard may be applicable to motorsport noise.

The philosophy behind NZS6805 is to provide an *Airnoise Boundary* and an *Outer Control Boundary*, each relating to a "sound exposure" limit and each with their own associated land use planning controls.

- Airnoise boundary > 65dBA L_{dn} — Noise sensitive uses prohibited and existing should be provided with appropriate sound insulation.
- Outer Control boundary >55dBA L_{dn} — New noise sensitive properties should be designed with an appropriate level of sound insulation.

The parameter L_{dn} is essentially a measure of sound exposure over a 24 hour period. With this parameter, night-time noise sources are penalised by 10dBA in order to reflect the increased potential for sleep disturbance. This standard suggests that noise levels above 65 dBA L_{dn} can cause considerable disturbance to people and that noise levels between 55 and 65 dBA L_{dn} will also be disturbing.

It should be noted that the area surrounding Ruapuna Park is exposed to noise levels of greater than 55 dBA L_{dn} from aircraft noise at CIAL.

If this standard was applied to sources other than aircraft, the specific limits would have to be carefully considered, as the aircraft noise limits may not be relevant to motorsport noise.

We note that Pukekohe Park Raceway has adopted a system similar to the NZS6805 system, where new dwellings inside a 65 dBA L_{dn} contour are prohibited and new dwellings inside the 55 dBA L_{dn} contour are required to treat their facades acoustically (Refer to Section 4.4.1).

4.3 Other Standards

As previously discussed in Section 4.0, the following section has been prepared to illustrate how the existing noise limits imposed on Ruapuna Park and the Christchurch Kart Club compare to other established guidelines.

4.3.1 *World Health Organisation Guidelines*

The World Health Organisation *Guidelines for Community Noise* (WHO, 1999) recommends guideline values for noise. In the context of noise emissions from the Kart Club and Ruapuna Park, the following values in Table 2 are considered to be relevant to the exposed residential community:

Table 2
WHO Guideline Values for the critical health effects of community or environmental noise (WHO 1999)

Specific Environment	Critical health effect(s)	L_{Aeq} dBA	Time base (hours)	L_{Amax} dBA
Outdoor living area	Serious annoyance, daytime & evening	55	16	-
	Moderate annoyance, daytime & evening	50	16	-
Outside bedrooms	Sleep disturbance, window open (outdoor values) night-time	45	8	60
Dwellings, indoors Inside bedrooms	Speech Intelligibility and moderate annoyance, daytime & evening	35	16	45
	Sleep disturbance, night-time	30	8	-

The noise levels shown in Table 2 indicate safe exposure levels for people who are exposed to the given level of noise every day. It seems to be the expectation in these guidelines that these limits apply to sources which occur every day. We can infer from this that if the noise exposure only occurs on one day out of ten on average, the L_{Aeq} noise exposure could be 10dBA higher. Under such conditions, the guideline value for daytime and evening noise could be 65dBA $L_{Aeq,16hr}$.

Also, the duration of the noise exposure from motor sport on this site would generally be less than the 16 hour value. For motor sports noise, the noise exposure from large events will generally be around 8 hours or less

The L_{Amax} guideline values relate to protection of sleep quality. For motor sport, this form of noise impact is best managed by having no events during the night-time period (10:00pm-7:00am).

4.4 Noise Limits on Other Racetracks

We have researched noise limits imposed on other raceways and kart tracks around New Zealand and Australia. The following is a summary of these noise limits.

4.4.1 Pukekohe Park Raceway

Pukekohe raceway is notable for being a racetrack of similar usage to Ruapuna. The raceway has held the Auckland V8 Championship event for a number of years. The Franklin District Plan sections 20.2 and 21.2 addresses the issue of motor racing noise from this track.

Franklin District Council has developed noise contours around Pukekohe Park Raceway. These are not part of the District Plan; the Council use them to comment on proposed subdivisions. The contours are shown as 55 dBA and 65 dBA lines. We understand these relate to an L_{dn} noise level, however the event the contours relate to is unknown. Council prohibits subdivision inside the 65 dBA contour and require all dwellings to be acoustically treated inside the 55 dBA contour. This is a similar approach to the NZS6805 standard for aircraft noise.

The 65 dBA contour is approximately 200 - 400 metres from the track and the 55 dBA contour is shown approximately 1000 – 1600 metres from the track. We note from our inspection of photos of the area surrounding Pukekohe that there appear to be dwellings located within 400 metres of the track and some dwellings are as close as 200 metres from the track. These dwellings would be expected to receive noise levels of greater than 65 dBA $L_{dn.}$

The plan does not impose any other noise limits or other specific restrictions on the use of the track for motor racing. The Council's policies in relation to the use of the track for motor racing are summarised as follows:

- Provision of summer racing programme before the start of the season.
- Parties to seek to agree on acceptable frequency of racing.
- Track managers required to publicly notify agreed racing programme.
- Noise levels and any complaints be monitored.
- Requirement for Council to be advised of any breach of compliance with the noise level standards set by the racing industry.
- Council to initiate enforcement action in the event of motor racing noise being unreasonable due to any departure from agreed programme, complaints or other circumstances causing serious concern.

We understand that noise issues with Pukekohe Park have generally been addressed through the above measures. We also understand that the noise enforcement work that the Franklin District Council have performed has generally reduced complaints in the area such that they now seldom occur.

The majority of people who live around Pukekohe Park are involved in horse breeding or racing to some extent. Pukekohe Park has historically been used for both motorsport and horse related activities and the two activities have depended upon each other somewhat for their mutual economic survival. This may mean that residents in the area surrounding Pukekohe are more tolerant to motorsport noise than they otherwise would be, as they have a "vested interest" in the park.

4.4.2 *Western Springs Speedway*

Western Springs Speedway was the subject of an independent commissioner's enquiry into the "reasonableness" of noise from the track in 2006. In the commissioners report it is noted that the experts agreed that a noise level of 65 dBA L_{eq} from the speedway would be considered an "acceptable" level of noise. However other limits of 75 dBA L_{eq} (for 10 races per year) were also suggested. It was noted by the commissioner that the current noise emissions are much higher than this and that these noise limits would not be achievable. It is likely that 65 dBA L_{eq} was considered an acceptable level of noise at least in part because it would represent a significant reduction in noise level over the existing situation.

The noise limit imposed on the speedway by the commissioner was initially 87 dBA L_{eq} for 60 percent of the total races in one night and 84 dBA L_{eq} for the remaining 40 percent. The noise limit is being progressively reduced to 80 dBA L_{eq}. This noise level applies at the site boundary.

The commissioner imposed strict limits on the number of events that could occur at the site, presumably because the noise limits are much higher than that considered "acceptable". The number of events at the speedway has been limited to 12 per year with two practice days. All events must finish before 10pm and two events must finish before 6pm. There must be at least 12 race-free days between events.

4.4.3 *Auckland Kart Club Incorporated*

This Kart Club was the focus of Environment Court action in 1992. Residents approximately 400 metres from the track claimed the noise level was unreasonable. Noise levels from the track varied significantly with wind direction, however it was found that the noise level from the track was generally below 60 dBA L_{10} under conditions of still or light winds. The noise level measured was up to 67 dBA L_{10} under downwind conditions. Background noise levels in the area ranged between 41 – 50 dBA L_{95} and 46 – 56 dBA L_{10}

The decision of the Court found that a noise limit of 60 dBA L_{10} was *"reasonable" within the meaning of section 16 and section 322(1) of the [Resource Management] act".* However the decision notes that the limit is at times unfavourable to both the Kart Club and the nearby residents.

4.4.4 *Environment Protection Policy – Australian Capital Territory (ACT)*

The ACT EPA has published an Environment Protection Policy that relates specifically to noise from motorsport. The guideline opens with the following statement:

Noise is intrinsic to motorsport. While a number of steps, such as use of more effective mufflers and, in favourable topographic situations, the erection of sound barriers can be taken to reduce the adverse impact of noise from motor sports, noise in excess of the ***zone standard*** *is inevitable at existing ACT facilities.*

The policy applies to only existing racetracks in the ACT. The existing facilities include the Fairbairn Park Cluster, a number of facilities including Fairbairn Park, Sutton Park, the National Capital Motor Sports Facility and Kowen Forest.

The policy states that the following factors contribute to the degree of adverse impact on residential areas from noise from motor sport events:

- The level of the noise;
- The number of events each year;
- The time at which the event takes place;
- The spread of events during the year; and
- The amount of warning ('prior notification') provided to residents about upcoming events.

The standard works by allocating **credits** to each event. The number of credits used depends on the amount of exceedence of the zone noise standard at the compliance location. The number of credits allocated to racetracks varies between 27 credits for a "cluster" of racetracks at Fairbain Park to 7 credits for two tracks at Stromlo Forest/Pipeline. The following table summarises this:

Table 3
Event Credits Require to Stage Event

Maximum noise permitted above zone noise standard at the compliance location	Number of credits required to stage each event
2.5 dBA	0.5
5 dBA	1
7.5 dBA	1.5
10 dBA	2
12.5 dBA	2.5
15 dBA	3
17.5 dBA	3.5
20 dBA	4

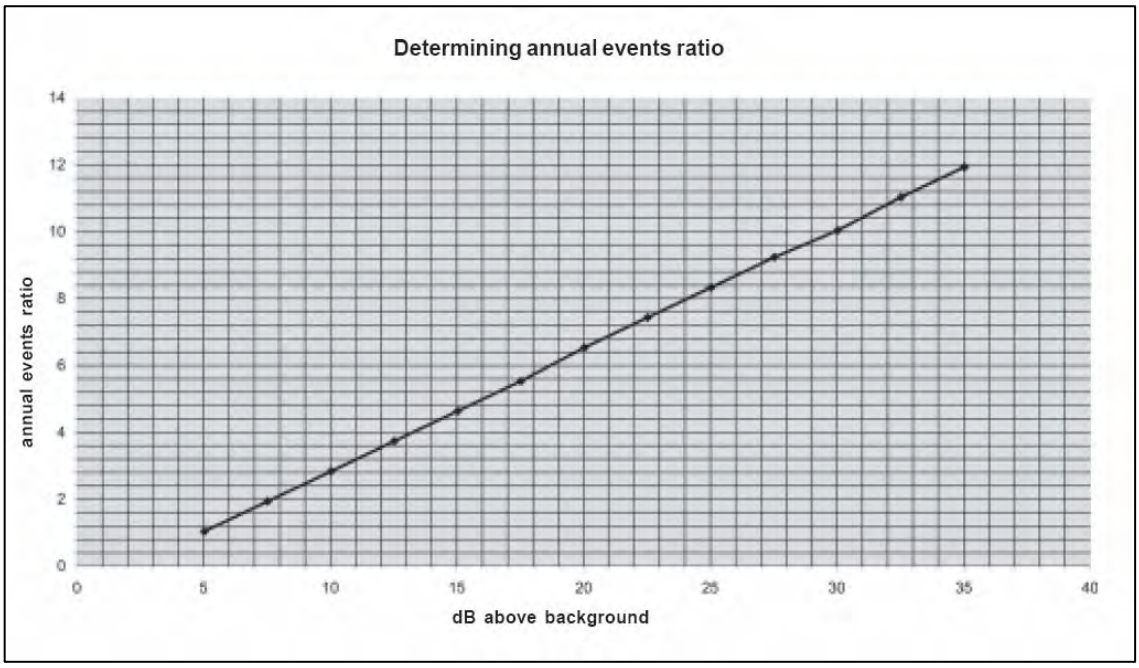
The maximum permitted noise level that can be obtained using event credits is 65 dBA L_{eq}. At facilities where the compliance location has a zone noise standard of 45 dBA up to 4 event credits can be used for any one event. Using the above credits, events can be held in the daytime (9pm – 5pm) or evening (5pm – 10pm). Where a single event occurs across both of these time periods, it is treated as two separate events and twice the number of credits are deducted. Events may not be held on more than 2 consecutive days, more than 2 consecutive weekends or more than 2 weekends in any month.

4.4.5 *New South Wales*

The most relevant document in New South Wales with regard to motorsport noise is the *Noise Guide for Local Government*, an advisory document intended for use by Council offices.

This document offers a specific case study which describes a noise management plan included as a development condition that allowed Council to regulate the noise emissions from one particular site. To prepare this noise management plan an event schedule was developed in an attempt to achieve a balance between how loud each motor racing event was and how often they occur. In the example given, Council decided that 50 events with a noise level of "background plus 5dB" would be permitted in any 12 month period. Where events were likely to be noisier than this, the number of events would reduce in accordance with Graph 1 below which is taken from the Guide. An event that exceeds the background noise level by 8dBA would count as two events. An excess of 30dBA is deemed to have a noise exposure equivalent to 10 events.

Graph 1
Annual Events Ratio Vs. Noise Level



The case study also notes that the community is generally more sensitive to noise from new facilities than from existing facilities which affected the number of events allowed by Council for the new facility.

4.4.6 *Western Australia*

As part of the planning process for Kwinana International Motorplex, the Western Australian EPA published a series of recommendations and reviews. The complex involves drag racing, dirt track speedway, and motocross.

The report found the following that when the expected $L_{Aeq, (4\ hour)}$ noise levels in surrounding areas were compared with dose-response curves (Miedema, 1998) the percentage of people highly annoyed would be as shown in Table 4. The report suggested that the intermittency of the noise events (two hours per event, two events per week for 25 weeks of the year) could result in even higher annoyance figures than in the table below. It should be noted that the dose-response curves used related to people's response to aircraft, traffic and rail noise, rather than specifically to motorsport noise and we believe some caution should be taken before placing too much reliance on these figures, especially for drag racing noise which is relatively short term.

Table 4

Annoyance Figures for Various Noise Levels

Race/Vehicle Type	Predicted Noise Level L_{Aeq} dB(A) (PER p 5.12)	% of people highly annoyed (PER fig 5.23)
Medina		
Drag racing	48	8%
Speedway	43	7%
Hope Valley		
Drag racing	72	55%
Speedway	66	34%
Wattleup		
Drag racing	54	12%
Speedway	51	9%

The report makes reference to the NSW EPA guidelines for new speedways and the following noise limits that would be applied (Refer to Section 4.4.5):

Table 5
EPA Noise Limits

Noise level restriction at residential boundary	Number of events per year
Background + 5dB(A)	50
Background + 10dB(A)	20
Background + 15dB(A)	10
Background + 30dB(A)	5

The background noise levels (L_{95}) in the area surrounding the complex are 35 – 40 dBA L_{95}. Even if the complex was limited to 5 events per year, the Motorplex was predicted not to meet the EPA criteria.

The EPA concluded that noise from the facility would be a significant social issue. It is understood that an exemption from the Environmental Protection Regulations was sought by the proponent and a noise management plan developed which included a series of proposed noise limits and a percentage of the time that these limits could be exceeded. It would appear that these limits are based on the specific noise studies for the proposed development and measurements at existing facilities. These limits relate to drag racing, speedway and the public address system.

The noise management plan includes:

- Proposed noise mitigation measures
- Noise criteria at specified external locations
- Noise monitoring and complaints procedures
- Limitations on the days and times of motor sports events.

The noise criteria are expressed in terms of the noise limits as specified in the WA *Environmental Protection (Noise) Regulations 1997*. These limits are allowed to be exceeded for up to 8.1% of any four-hour period. In addition, the $L_{A,slow}$ noise level cannot exceed 75dBA for more than 1.1% of any four-hour period or 99dBA at any time at the worst affected dwellings. For drag racing, the $L_{A,slow}$ noise level during a race would be slightly less than the L_{Amax}.

4.4.7 Victoria

Sporting activities are specifically exempt from *State Environment Protection Policy (Control of Noise from Commerce, Industry and Trade) No. N-1* (SEPP N-1). There are currently no Victorian guidelines for the control of noise from motor sport. It is common practice in Victoria to refer to Chapter 152 of the NSW *Environmental Noise Control Guidelines.*

Precedents in Victoria

An opinion was prepared by the Victorian EPA for a planning matter regarding Winton Raceway near Wangaratta in central Victoria. This raceway would be considered similar in use to Ruapuna Park. Although it is not an official EPA guideline, it does provide some guidance on noise limits that would be acceptable to the Victorian EPA. In particular it states that "*the maximum acceptable noise level for daytime circuit racing should be approximately 65dBA outdoors.*" The document indicates that as the number of events per year increases, lower noise limits would be required. The document refers to a minimum noise limit of 50dBA which would, presumably, apply at venues where there are more frequent events.

4.4.8 *Case study: Calder Park Raceway, Victoria*

The following case study looks at the Calder Park raceway in Victoria. The situation with this racetrack is very similar to Ruapuna, in that it is an existing racetrack in a formerly rural area that is being encroached upon by residential development. It is an example of how noise from a well-established existing venue can be managed.

The Calder Park Raceway began as a single circuit in 1962, developing into what is now a complex of motor sport tracks, including a dragway. It is located in the city of Brimbank, north-west of Melbourne. Ambient noise levels are quite high, as the raceway is next to the Calder Highway, a busy rural highway and is sometimes affected by aircraft noise.

The nearest suburb currently affected by noise from Calder Park is to the south at a distance of approximately 500m.

The nearest affected residential property is the Whittle residence, located on land zoned for rural use adjacent to the Calder Freeway at a distance of approximately 100m from the Calder Park Raceway property boundary and approximately 200m from the National Circuit race track.

The Organ Pipes National Park Visitor Centre is located approximately 600m north-east of Calder Park. The Organ Pipes are a set of basalt columns located in a national park.

The Calder Park motor sports complex operates up to seven days per week and hosts a variety of events including drag racing, circuit racing, speedway, racing practice, various car club meetings and concerts.

Noise barriers in the form of spectator stands, earth mounds, concrete retaining walls and combinations of all three shield most of the adjacent area from noise. These barriers are up to 20m in height. This would appear to be the most significant difference between this site and Ruapuna Park; bunding surrounding Ruapuna is only a few metres in height.

In order to manage development of the Calder Park site, including noise emissions, Brimbank City Council issued an amended planning permit in July 2004. This permit states that:

- All events must be of no more than one day's duration, except for one three-day race event and one three-day concert
- There must be no more than three major events during any calendar month between 15 October and 15 April (the racing season) with a maximum of 18 events
- There must be no more than two major events during any calendar month between 15 October and 15 April involving jet-powered vehicles, nitro-burning vehicles or formula one vehicles
- There must be no more than one major event during any calendar month between 16 April and 14 October
- There must be no more than 24 major events in any calendar year, of which no more than 6 can be concerts and no more than 12 can be events involving jet-powered vehicles, nitro-burning vehicles or formula one vehicles
- Motor sport events can only take place between 9:00am and 7:00pm except on Friday, Saturday and one Sunday per calendar month, when racing can be extended to 11:00pm. However, racing can only be extended on one night per month during the non-racing season.

Major events mean any competitive motor racing event (testing, practice, qualifying or racing) in which Group 1 drag cars and motorcycles, touring cars and single seaters, super speedway cars (AUSCAR, NASCAR) or competition motorcycles operate. Music concerts and sprint horse racing events are also defined as major events. Major meetings do not relate to state, club or multi-club competitions.

Noise limits for residential land are specified for motor sport events. These are reproduced in Table 6.

Table 6
Noise limits for motor sport events at Calder Park Raceway

	Day (9.00am to 6.00 pm)	Evening (6.00pm to 11.00pm)
In a no wind situation at the boundary of any residentially zoned land	65dBA L_{eq}	60dBA L_{eq}
In a situation where the wind is blowing from the direction of the raceway towards the residentially zoned land at the boundary of such residentially zoned land	75dBA L_{eq}	70dBA L_{eq}

These criteria are the same as in an earlier planning permit, dated 1984. Events involving jet-powered vehicles, nitro-burning vehicles or formula one vehicles are exempted from these criteria.

Noise limits are not specified for other noise-sensitive premises, such as residences built on land zoned rural (eg, the Whittle property).

The permit conditions specify that compliance measurements must be undertaken within three months of the permit taking effect, and then in response to complaints.

Comment

The permit conditions provide an example of how noise emission from a major motor sports complex might be managed. The lack of restrictions on minor events and the exclusion of nearby rural properties from the noise criteria indicate that the permit is intended to simply "put a cap" on the existing noise exposure. However the 65dBA daytime criterion does have merit if it can be achieved.

The noise limits are interesting in that they take into account the effect of wind on the noise level emitted from the racetrack and allow for a 10 dB increase under these conditions. The predominant wind direction around Calder Park is a northerly wind and most of the affected dwellings are to the south. This indicates that the "downwind" criterion would be frequently invoked.

We believe this is a realistic approach to a situation where the motor sports venue has been in place for many years and where all reasonable noise control measures have been implemented.

4.5 Other Published Studies

We have undertaken a detailed literature search as part of this project. In general, there is little detailed literature on the subject of raceway noise levels and effects. Many papers look at noise levels emitted from racetracks but most fail to correlate the measured noise levels with an assessment of effects or annoyance. The following is a summary of papers we have reviewed for this study:

4.5.1 Hellweg and Nechvatal (1978) reviewed 13 oval racing tracks, 3 dragstrips, 1 sports car track and 1 motorcycle racing facility in Illinois that had generated complaints. They concluded noise levels from the racetracks were generating an adverse impact, although insufficient information on noise levels is provided. They concluded that it was a cost effective option to introduce a requirement to install effective mufflers on all classes of vehicle. In some cases noise reductions of up to 16 dB were required and achieved simply by fitting mufflers. The study notes that a nationwide survey on racetracks showed that out of 32 oval tracks where mufflers were required, 6 reported an attendance drop, 2 a temporary attendance drop 15 no effect on attendance and 9 an increase in attendance. Note this is an old study that has looked at only American manufactured cars.

4.5.2 In a separate paper, as part of the above study, Ciecka (1978) suggests that tracks would shut down if vehicle noise reductions of 36 decibels were achieved, although the starting noise level is not given. It is suggested that attendance at tracks would fall by 1% if noise reductions of 10 dB were achieved and 10% if 20 dB noise reductions were achieved (Reference given: Daniel and Wood 1971). The paper also suggests that 50% of people would be highly annoyed at noise exposures of 70 dBA (no parameter given). This annoyance level was calculated using a function developed in 1977 by the Committee on Hearing which is now likely to be outdated.

4.5.3 Close (1976) looked at the history of a stock car racing track that was being encroached on by residential dwellings, the closest of which was 400 metres away. The paper suggests "peak" noise levels of 85 dBA were measured at nearby residences (parameters are not given but it is inferred that these are either L_{max} measurements or short term L_{10} measurements, not L_{peak}). The effectiveness of two types of barriers were analysed and found to reduce noise levels only marginally, although insufficient measurements appear to have been performed. Noise limits were imposed on the track at residential dwellings by local government which varied depending on the time frame measured. The limits range between 70 dBA (no parameter given) measured over 12 seconds reducing down to 62 dBA (no parameter given) over 60 minutes. These limits were to be achieved using effective mufflers. These noise levels were achieved and found to be acceptable. The paper suggests that noise reductions of approximately 16 dB could be achieved for these cars using mufflers, however further reductions were not feasible as engine noise started to predominate.

4.5.4 Cops and Myncke (1977) suggest that differences of +/- 17 dB can be observed around a racetrack under different ground and wind conditions. The paper suggests that noise levels from cross-country races are not normally "inconvenient" to residents if less than 50 dBA L_{eq}.

4.5.5 Garinther and Klab (1995) prepared a study of a proposed raceway using the Auditory Detection Model. The study used annoyance criterion proposed by Lyon (1973) to determine annoyance. This criterion is shown below:

- Slight annoyance which will occur between a just audible level and 0 dB above background (awareness of intruding noise)
- Moderate annoyance which will occur between 0 to 10 dB above background (concern about the intruding noise)
- Excessive annoyance which will occur between 10 to 20 dB above background (organized reactions can be expected against the intruding noise)
- Severe annoyance which will occur at greater than 20 dB above background (major organised reactions and possible lawsuits can be expected against the intruding noise)

Background noise levels in the areas surrounding the racetrack were 45 – 52 dBA (no parameter given). Noise levels of 65 dBA L_{eq} were predicted under no-wind situations at a distance of one kilometre. Noise barriers were found to be less effective for the racetrack than they would be for interstate traffic noise. Distances within which noise levels would cause annoyance were predicted to be 5 times greater during downwind conditions as opposed to no-wind conditions. During downwind conditions residents in a city three kilometres away would experience moderate annoyance from raceway noise.

4.5.6 Stevenson (1999) measured noise from a speedway near Christchurch and found noise levels of 70 dBA L_{eq} at an unspecified distance. This data was used as evidence to a planning tribunal who were considering a new speedway in Blenheim. The existing night-time background noise levels of 30 dBA (no parameter given, we assume L_{95}) was used as justification for denying resource consent to the proposed Blenheim speedway. The study notes that the PA system was potentially more annoying at similar levels to the racecars. This appears to be a subjective impression based on a discussion with one resident.

4.5.7 Roberts (1999) assessed noise over a period of 19 years from a range of motorsport tracks in Australia. The study found that at distances of approximately 250 metres from an international go-kart track, noise levels of 65 dBA L_{eq} were possible. Similar noise levels were found from motorbike tracks. Car racing generated noise levels of approximately 75 dBA at similar distances. The study suggests that minimum buffer distances of 3000m should be maintained between residential areas and motor racing vehicles where downwind conditions are likely.

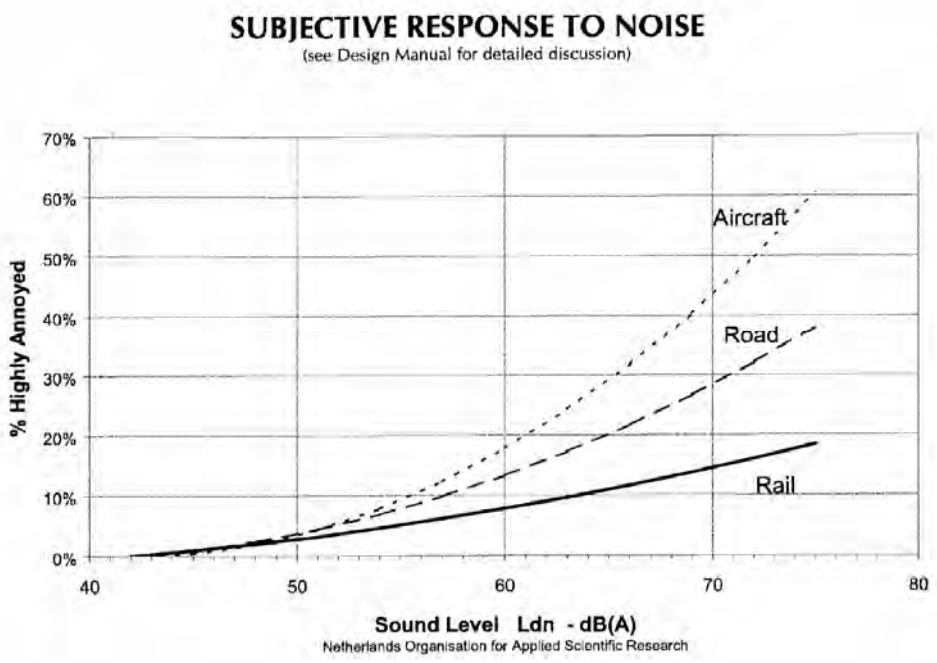
4.5.8 Maziul, Job and Vogt analysed complaint data as a measurement of annoyance in a community. The study found that generally only a small percentage of annoyed or highly annoyed people will actually lodge a complaint about noise. It is stated that when a new source of aircraft noise is introduced into a formerly quiet area, resident's complaints are often more vocal and that the expectation of a change in noise levels will affect annoyance without an objective change in level. The study claims that those who do complain tend to be of higher socio-economic status than those who don't. Serial complainers are found to often skew the number of complaints and the study cites cases of where a very small minority of individuals have been the source of the majority of complaints. A study by Luz, Raspe and Schomer also showed that "…complaints are generated by unusual rather than typical noise levels…". As a result, they concluded that "…complaints do not appear to be a good measure of the community response…".

4.5.9 Stansfeld and Matheson (2003) discuss the non-auditory effects on health. They found that habituation generally occurs to noise, however in some studies habituation does not occur. The study states that noise exposure decreases task-based performance and can increase heart rate and blood pressure. Some studies reviewed showed that noise was a minor risk factor in cardiovascular disease. Exposure to high intensity noise has been linked to raised levels of noradrenaline and adrenaline. High frequency noise was found to be more annoying than low frequency noise and loudness or perceived intensity was found to be the primary characteristics

that affected annoyance. Dr. Alice Suter, (1991), discussing long held beliefs regarding habituation to noise says "The evidence is fairly clear that so long as the stimulus remains the same, noise annoyance does not subside over time". She cites a study showing no habituation for highway noise 4 months to 2 years after the opening of new routes, and another which found that annoyance in a previously surveyed community increased by 10 percent with no change in noise levels.

4.5.10 A large number of international studies have been conducted to correlate people's response to noise with a measured noise level. Several studies have been performed on annoyance. One of the most commonly referred to is the analysis by Schultz (1978). Since this study, further data has become available and most available data has been analysed by Miedema and Vos (1998) to produce revised response curves as shown below. Note that these response curves have been used in the WA EPA assessment of annoyance around the Kwinana Motorplex. As the Midema and Vos annoyance criterion are expressed in the form of L_{dn}, using this criterion in the assessment of a short activity such as drag racing may not be valid.

Graph 2
Annoyance Vs. Noise Level (L_{dn})



4.5.11 Joncour et al (2000) found that when the combined effects of more than one noise source (traffic and rail) were studied to determine the synergistic effects of both sources that a dose response curve for the one source would adequately take into account the effect of the other source. We assume this relates to the annoyance curve for the loudest or most annoying curve.

4.6 Proposed Noise Annoyance Criteria

A summary of the criteria reviewed during our literature search is shown below. The criteria has been used to establish annoyance criteria for Ruapuna Park and the Christchurch Kart Club (Refer to Section 4.6.2 and 4.6.3)

In the following table it is very important to note the distinction between noise limits applied at the **site boundary** and noise limits applied at the **notional boundary** of nearby dwellings. For Ruapuna Park, the noise limits are applied at the **Park boundary,** and hence the noise limits may appear relatively high when compared to noise limits applied to the Kart Club which are applied at the **notional boundary** of nearby dwellings. For Ruapuna Park, when compliance with the noise limit (80 dBA L_{10}) is just achieved at the **Park boundary**, noise levels would be approximately 15 dB less at the closest nearby **notional boundary** (65 dBA L_{10}). The City Plan noise limits for Ruapuna can therefore not be directly compared with limits set at notional boundaries of dwellings.

Table 7
Noise Criteria for Various Motorsport Activities

Reference	Noise Level	Discussion
City Plan Noise Limits	Ruapuna Noise Provisions – Up to **80 dBA $L_{10\ (1\ hour)}$** **95 dBA L_{max}** for 200 days per year at **park boundaries**. For 15 of those 200 days, activities are permitted until midnight. For 5 of those 200 days, no L_{max} level shall be applied	Compliance with the 200 day limit at the Ruapuna Park boundary could result in different noise levels at the nearest dwelling, depending on the type of event generating the noise. For Ruapuna Park, noise levels of approximately **65 dBA $L_{eq.}$** are expected at notional boundaries of residential units when compliance with the 200 day noise provision at park boundary is just achieved.
	Carrs Road Kart Track – Up to **65 dBA $L_{10\ (1\ hour)}$** **85 dBA L_{max}** For official Kart Racing days at **notional boundaries** of nearby dwellings.	The 15 day noise limit allow for some events to occur further into the night period. The 5 day limit places no restrictions on single loud impulsive noise levels. Compliance with the City Plan provisions for the Carrs Road Kart Club have generally been shown to be achieved.
	Rural 2, Rural 5 and Open Space 2 zones surrounding Ruapuna Park **57 dBA L_{eq} day (critical standard)** **49 dBA L_{eq} night (critical standard)** SP Awatea/Rural 2 zones adjacent Kart Club **50 dBA L_{eq} day (development standard)** **41 dBA L_{eq} night (development standard)** **57 dBA L_{eq} day (critical standard)** **49 dBA L_{eq} night (critical Standard)**	
NZS6802	**55 dBA L_{10} day** **45 dBA L_{10} night**	Commensurate with Open Space 3 zone rules.

Reference	Noise Level	Discussion
NZS6802 (Cont.)	**"Background (L_{95}) + 10 dBA"** Acceptable limits for Ruapuna (applied at the nearest dwelling notional boundary) would be **50 – 55 dBA L_{eq}** day **40 – 50 dBA L_{eq}** night Acceptable daytime limit for Carrs Road Kart Club (applied at the nearest dwelling notional boundary) would be around: **50 dBA L_{eq}** day	Refer to Section 4.2
NZS6805	**<65 dBA L_{dn}** less than **55 dBA L_{dn}** without façade treatment	Limit applicable to aircraft noise but concept is considered to have relevance to this project.
World Health Organisation Guidelines	**50 – 55 dBA L_{eq} day** **45 dBA L_{eq} night**	Commensurate with NZS 6802 noise limits
ACT EPA Limits	Approximately **65 dBA L_{eq}** for up to 7 events per year; or **55 dBA L_{eq}** for up to 20 events per year; or **50 dBA L_{eq}** for up to 50 events per year. (on the basis of a 45 dBA Leq background)	Limits assume that the tracks are assigned 27 credits as per the Fairbairn park cluster. The limits shown are not absolute, for instance the racetracks could have approximately 5 events at 65 dBA L_{eq} and 10 events at 50 dBA (refer to Section 4.5.4)
NSW limits	**75 dBA L_{eq}** for up to 5 events per year; or **55 dBA L_{eq}** for up to 10 events per year; or **50 dBA L_{eq}** for up to 20 events per year; or **45 dBA L_{eq}** for up to 50 events per year	As above the noise limits are not absolute, the racetracks could have 5 events at 75 - 80 dBA L_{eq} and 7 events at 45 – 50 dBA L_{eq} (refer to Section 4.5.5)
Auckland Kart Club Limit	**60 dBA L_{10}** (daytime) under no/light wind conditions	Noise limit stated by commissioner as "unfavourable to nearby residents"
Pukekohe Park Noise Limits	Motorsport Rules (**95 dBA** at 30 metres) Dwellings constructed between **55 dBA L_{dn}** and **65 dBA L_{dn}** contour required to acoustically treat facades	Having no limit on noise level would be unlikely to cause an increase in noise emission from Ruapuna.
Western Springs Speedway	**65 dBA L_{eq}** suggested as "acceptable" level **80 dBA L_{eq}** for 12 events finishing before 10:00pm Note: site and notional boundaries are at the same location in this case.	65 dBA L_{eq} may represent an acceptable level for more events at Western Springs, whereas 80 dBA L_{eq} represents what can be achieved for the 12 events allowed.
Victoria – Calder Park Raceway	**65 dBA L_{eq}** no wind (9:00am – 6:00pm) **75 dBA L_{eq}** downwind (9:00am – 6:00pm) **60 dBA L_{eq}** no wind (6:00pm - 11:00pm) **70 dBA L_{eq}** downwind (6:00pm - 11:00pm)	Relevant noise limits as Calder Park situation is very similar to Ruapuna situation. The limits apply to a maximum of 24 major events per year at the Park.
Close (1978)	**62 dBA $L_{eq\ (1\ hour)}$** (parameter assumed)	Suggested as an acceptable level
Cops and Myncke (1977)	**50 dBA L_{eq}**	Level considered "not inconvenient"
Garithner and Klab (1995)	**40 – 45 dBA L_{eq} –** Slight annoyance **40 – 50 dBA L_{eq}** – Moderate annoyance **50 – 60 dBA L_{eq}** – Excessive annoyance **<60 dBA L_{eq}** – Severe annoyance	These noise limits are based on the measured background noise level in the area adjacent to Ruapuna Park
Miedema and Vos (1998)	**60 dBA L_{dn}** – approximately 5 – 20% of people highly annoyed	L_{dn} will allow higher noise levels during the day if no noise is present at night

The above table shows that the noise limits imposed on Ruapuna Park and the Christchurch Kart Club are higher than most other guidelines reviewed. Calder Park Raceway is most directly comparable to Ruapuna Park, and has more permissive noise limits than Ruapuna, however large events at this raceway are limited to 24 per year. This is fewer than would be permitted at Ruapuna.

4.6.1 *Note on Noise Descriptors Used in this Study*

The above table gives noise limits generally in the form of L_{eq} noise level, however some noise limits are also in the form of L_{max} and L_{10}. The descriptor L_{95} is used to describe the background noise level in an area and should not be used to form a noise limit for a noise source that is cyclic or fluctuating; it should only be used to describe the ambient background noise level in an area.

In this study, we have predicted noise levels in terms of the L_{eq} and L_{max} parameters. No noise predictions from motorsport noise have been made using the L_{95} parameter. Where an L_{95} noise level is mentioned, it is only to provide a description of the existing noise environment.

4.6.2 *Ruapuna Park*

We have considered the following factors when determining noise levels that would be considered to have adverse effects on Ruapuna Park:

- **The number of events that currently occur at the site**

  As has been demonstrated in the review of Australian motor racing noise policy, events which cause high noise levels at a receiver location are considered acceptable if they occur very seldom. Conversely, noise events that exceed the ambient background noise level at a dwelling only marginally are considered acceptable even if they occur regularly.

- **The permanence of the site**

  Ruapuna is a permanent motor racing complex. Noise limits which may be accepted for temporary noisy events may not be applicable to this site.

- **The history of the site**

  Ruapuna is an existing motor racing complex that has been on the site for many years. Most residents in close proximity to the complex will have moved into the area surrounding the racetrack, rather than the racetrack moving into a well established area. As noted in the above table, Calder Park Raceway in Victoria is an example of a similar situation in which local government responded by "placing a cap" on existing noise emissions.

- **The existing level of noise in the surrounding area**

  The area surrounding Ruapuna Park already receives considerable noise from aircraft operations at Christchurch International Airport Limited (CIAL) and the Fulton Hogan Quarries on Pound Road and Leggett Road. The area surrounding Ruapuna Park is located inside the 55 dBA L_{dn} CIAL noise contour with some land located inside the 65 dBA L_{dn} contour. These areas also receive noise from traffic on nearby local roads. Dwellings further afield may receive noise from State Highways and locomotives on the main trunk line. This suggests that the noise effects from the park may not be as significant as if it was located in an area with low background noise levels.

After a careful analysis of the noise limits contained in the preceding section and consideration of the above factors, we conclude that noise levels from Ruapuna Park are likely to have the following associated effects if measured at the notional boundary of surrounding dwellings during major events under the **predominant wind conditions** (northeast and southwest winds):

Table 8
Noise Effects Vs. Noise Level – Ruapuna Current Operation

Noise Level L_{eq} dBA at the notional boundary of nearby dwellings		Effect
Daytime (7am – 10pm)	Night-time (10pm – 7am)	
55	45	No more than minor effects
60	50	Moderate noise effects
65	55	Significant noise effects
70	60	Severe noise effects

The above noise levels relate to the noise level at the notional boundary of nearby dwellings. Whilst the exact relationship between the noise level at the **Park boundary** and nearby dwelling notional boundary will vary, in general the 80 dBA L_{10} noise limit at the **Park boundary** would correlate to a noise level of around 62-65 dBA L_{eq} at the nearest dwelling notional boundary location.

The above noise levels are based on the number of events currently being held at the Park. The Park is entitled to hold up to 200 events per year at noise levels not exceeding 80 dBA L_{10} at the site boundary and for 5 of those 200 days the Park may operate with no L_{max} noise control. If the Park was operating to its permitted capacity (Refer to Section 7.2), we predict the following noise effects:

Table 9
Noise Effects Vs. Noise Level – Ruapuna Limit of Operation

Noise Level L_{eq} dBA at the notional boundary of nearby dwellings		Effect
Daytime (7am – 10pm)	Night-time (10pm – 7am)	
50	40	No more than minor effects
55	45	Moderate noise effects
60	50	Significant noise effects
65	55	Severe noise effects

It is important to realise that the above are only given as guidance on the potential mean level of response to noise; the actual effects of the noise on each individual will vary.

4.6.3 *Carrs Road Kart Club*

Having reviewed the noise criteria in Table 7 and considered the number of events currently held per year and the existing background noise levels, we have come to the conclusion that the kart track is likely to produce the following noise effects for the following noise levels during the predominant wind conditions (northeast and southwest winds):

Table 10
Noise Effects Vs. Noise Level – Carrs Road Track

Noise Level L_{eq} dBA at the notional boundary of nearby dwellings		Effect
Daytime (7am – 10pm)	Night-time (10pm – 7am)	
55	45	No more than minor effects
60	50	Moderate noise effects
65	55	Significant noise effects
70	60	Severe noise effects

4.6.4 *What is Reasonable?*

In order to assess the level of noise from the Kart Club and Ruapuna Park it is necessary to determine what is "reasonable" under Section 16 of the Resource Management Act.

In our review of relevant literature on motorsport noise we have noted one Environment Court decision that deals with the issue of "what is a reasonable level of noise?". This was the decision on the Auckland Kart Club in 1992 (refer to Section 4.4.3), in which the presiding Judge determined that a noise level of 60 dBA L_{10} under zero meteorological conditions was "reasonable". It is important to note that this limit was set for an existing operation on every third weekend with two practice days per week. This level of usage is significantly less than what would be proposed for the Kart Club or what currently exists at Ruapuna. This level of operation also represented a significant reduction on previous levels of usage.

In coming to its decision, the Court stated that "*what is reasonable in terms of section 16(1) of [the resource management act] is clearly what is most reasonable to the receiver, set in the context of what the kart club can achieve as the best practicable option*"

If this definition is to be applied to the area surrounding Ruapuna Park, then what is reasonable to the receiver is to expect that the level of motorsport noise does not increase, whilst the current levels of noise are reduced as far as is practicable. What would be reasonable to Ruapuna Park is that they continue to be allowed to operate as they always have, whilst complying with their obligation under sections 16 and 17 of the RMA to avoid unreasonable noise and to reduce noise as far as is practicable. Furthermore, as the raceway has been in operation before the current residents were located around the site, it would be unreasonable for residents to expect that they would receive only minor effects from noise; however it would be reasonable for them to expect that noise effects were not significant. It would also be reasonable for residents to expect that Ruapuna Park comply with their obligation under Sections 16 and 17 of the RMA to avoid unreasonable noise and to reduce noise as far as is practicable. Moderate noise effects from the existing site (around 60 dBA $L_{eq\ (1\ hour)}$ for normal operation during normal wind conditions) are therefore not considered unreasonable. Accordingly we have proposed an annoyance criteria whereby it is reasonable that residents expect moderate amounts of noise (refer to Section 4.6.2 and 4.6.3).

We note that whilst the area surrounding Ruapuna Park does experience high levels of ambient noise from aircraft and quarry noise, residents surrounding the quarry could reasonably expect that once the quarries in the area are exhausted that they will be rehabilitated and the subsequent land use activity will comply with the City Plan noise standards. If Ruapuna Park and/or the Christchurch Kart Club are relocated to these quarries, it is unlikely that these activities could comply with these noise limits and would require exemptions, similar to the exemptions they currently have in the City Plan. Therefore what is "reasonable" in this case is that any **increase** in the level and effects of motorsport noise on residents is not significant.

5.0 EXISTING NOISE ENVIRONMENT

5.1 Around Ruapuna Park – Ambient Noise

The Ruapuna Park site falls just outside of the 65 dBA L_{dn} CIAL noise contour but just inside the 95 dBA SEL noise contour. Areas within 2 kilometres to the east, south and west fall inside the 55 dBA L_{dn} contour. The populated area of Templeton to the south west of the site is bisected by the 55 dBA L_{dn} contour. The site is also located close to the Fulton Hogan quarries on Pound Road and Leggett Road, which are audible in the surrounding area. The area surrounding the site also receives a noise both from local roads and from the busy State Highway 1 through Templeton. Some dwellings will also receive noise from the main trunk line that runs just north of Templeton.

We have undertaken a noise survey to gain an understanding of the existing noise environment around the site. This has involved noise measurements at representative locations throughout, to establish typical daytime noise levels around the site.

In spite of the relatively high L_{eq} noise levels in the area from the airport, quarries and surrounding roads, the background (L_{95}) noise levels are not especially high. Transient noise events from planes and traffic will set the L_{eq} noise level at most receivers, however in between these events there will be periods of relatively low ambient noise where noise from Ruapuna Park could be intrusive.

The results of our noise monitoring are summarised in Table 11 and the locations are illustrated in Photo 2. Detailed monitoring results are given in Appendix 4:

Table 11
Measured Ambient Noise Levels around Ruapuna

Site	Description	Measured Existing Noise Levels (dBA re 2 x 10^{-5}Pa) Daytime[1] L_{eq}[2]	Daytime[1] L_{95}[2]	Night-time[1] L_{eq}	Night-time[1] L_{95}
RP1	200m south of Main South Road on Marshs Road. 7m from near carriageway.	67	41	-	-
RP2	Corner of Maddisons Road and Hasketts Road. 7m from near lane	63	45	-	-
RP3	Residential area corner of Maddisons Road and Kirk Road	56	42	52	25
RP4	Residence on western side of Barters Road 350 metres south of Maddisons Road. Approximately 40 metres from near carriageway.	52	40	49	41
RP5	Council noise logging location at Templeton Golf Club near Fulton Hogan Quarry	56 week	46 week	51 week	37 week
		57 weekend	42 weekend	48 weekend	32 weekend

Note: 1. Typical measured levels within 7am – 10pm (daytime) and 10pm – 12am (night-time) periods. These periods are commensurate with the permitted operating hours of Ruapuna
2. See Appendix 2 for an explanation of acoustic terminology.

Our measurements show that;

- During the day, background noise levels (L_{95}) are generally 40 - 45 dBA, with typical average (L_{eq}) noise levels around 52 - 57 dBA at distances from roads representative of façade locations. The significant difference between the background noise level L_{95} and the average intrusive noise level L_{eq} at attended measurement locations is generally due to traffic passbys at close distance. These L_{eq} noise levels would be representative only of dwellings with facades close to road carriageways.
- At locations close to the Fulton Hogan quarry, background noise levels are around 46 dBA L_{95}, which is appreciably higher than other measurement locations.
- During the night period (10pm – 12am) the background noise level at the residential area on the corner of Maddisons Road and Kirk Road is very low (25 dBA L_{95}) however the noise level at the location of Barters Road is very high (41 dBA L_{95}). The background noise levels at Templeton Golf Course are around 32 to 37 dBA L_{95}. The cause of this variation is unknown, although it serves to illustrate that background noise levels in the area can vary considerably.

5.2 Ruapuna – Measured noise emissions

Christchurch City Council have undertaken a very significant and comprehensive project involving over 176 hours of attended noise monitoring of events at Ruapuna Raceway, Speedway and Drag Strip. This project has been peer reviewed by Marshall Day Acoustics.

The report concludes that there were no occasions in which the "up to 5 days no L_{max} limit" (refer to Section 4.1.1) exception rule was invoked. There were only 15 occasions when the "200 day" exception rule was invoked at the raceway and 2 occasions at the speedway. On all other occasions the base limits were complied with. Ruapuna Park is therefore deemed to be in compliance with the Christchurch City Plan Rules.

On some occasions during this study, Council performed noise measurements at locations near the south-eastern boundary of Ruapuna Park, and also at the location of the nearest dwelling (Lot 1 DP 23834 – Refer Photo 1) on occasion. Where a measurement was performed on the Ruapuna Park site, an estimate can be made of the corresponding noise level at the nearest dwelling.

A summary of these measurements and corresponding estimates at the nearest dwelling are shown in the following table.

Table 12
Ruapuna Noise Emissions at Nearest Dwelling (Lot 1 DP 23834)

Source	Description	Duration (minutes)	Noise Level L_{eq} dBA
Raceway	V8 Event	35	57
	V8 Event	60	56 – 63
	Circuit Sprint	60	54
	Club Day	60	55
	Motorcycling Champs	60	54 – 56
	Lady Wigram Trophy	60	55 - 66
	Skope Classic	60	56 – 59
	BEARS	60	59 – 61
	Street Car Pursuit*	1.5	61
Speedway	Sprint Cars	15	53
	Midgets and Sprints	60	58
	Midgets, TQ's and Sprints	60	59
	Midgets, ¾ midgets	60	57
	Sprint Cars, Solos	60	57 – 64
	U21 Solos	60	56 – 58

The above table shows that noise levels at the nearest dwellings are generally around 55 – 63 dBA $L_{eq\ (1\ hour)}$. However, noise levels of up to 66 dBA $L_{eq\ (1hour)}$ are possible at the dwelling (this was during a strong north-westerly). The noise levels from the raceway were all recorded during the day period. Noise levels from the speedway were all recorded during the late evening to night period.

5.3 Around the Carrs Road Site

The background noise level in the area surrounding the Carrs Road raceway is predominantly due to traffic noise on Halswell Junction Road. We have performed attended monitoring in the suburban area to the southeast of the kart track (Westlake). This monitoring was performed during a weekend during a time period when the Kart track could be operating (but was not). A summary of our results follows:

Table 13
Ambient Noise Measurements near Carrs Road Track

Measured Existing Noise Levels (dBA re 2 x 10^{-5}Pa)			
Site	Description	Daytime	
		L_{eq}	L_{95}
CR1	Westlake Suburb, Corner of The Stables Cul-De-Sac	53	40
CR2	Westlake Suburb, Westlake Reserve	43	37

The results indicates the background noise level in the area is around 37 – 40 dBA L_{95}.

5.4 Kart Track at Carrs Road – Measured Noise Emissions

Christchurch City Council have performed environmental noise monitoring of Kart Club Racing at the existing Carrs Road racetrack. We have reviewed the noise data that has been made available to us. This data is summarised as follows.

Table 14
CCC Noise Measurements of Carrs Road Track

Representative of:	Event Description	Duration (minutes)	Noise Level L_{eq} dBA
Notional boundary of Lot 2 DP 20875	Unknown number of Karts	60	54
	Unknown number of Karts	60	51 – 55
	Club Day	60	58
Notional boundary of Lot 1 DP 23622 Industrial area	Unknown number of Karts	60	52
	Enduro Racing – Various Classes	1 – 36	54 – 57
Notional Boundary of Lot 3 DP 20264	Garden City Championships	60	55 – 56
	Meeting Various Classes	Unknown	57 – 59

The above table shows that noise levels are generally up to around 60 dBA L_{eq} at all nearby dwelling locations. The Christchurch City Plan noise limit of 65 dBA L_{10} would be complied with in all cases.

6.0 NOISE MODELLING

In order to predict noise levels from the Christchurch Kart Club and Ruapuna Park at all surrounding dwellings we have modelled the existing racetracks using measured data and SoundPLAN computer software. In modelling the noise level from the racetrack, we have considered the following:

6.1 General Noise Propagation

6.1.1 *Meteorology*

Weather conditions play an important part in noise propagation, particularly over distances above about 300 metres. The two most important effects are;

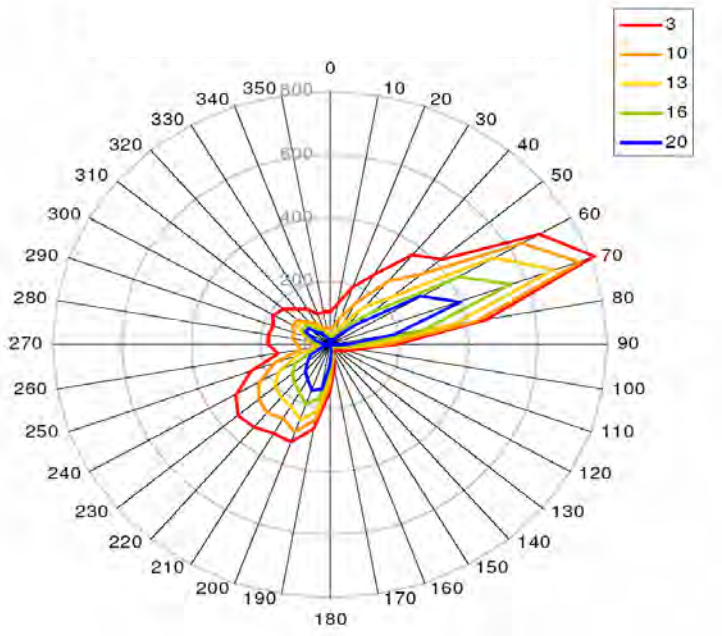
Wind

Sound travelling downwind gets "bent" downwards in much the same way as a temperature inversion. Conversely, sound travelling upwind is "bent" upwards. Hence, noise levels tend to be higher downwind and lower upwind than would be expected in calm conditions (Beranek, Ver, 1992). Wind effects are normally only noticeable in light to moderate wind conditions, as during times of strong winds, noise in trees and general wind related noise tends to mask out intrusive noise to some degree. Wind noise will significantly reduce the effect of acoustic barriers or screening where receivers are a large distance from the source (see Section 6.1.2).

Data provided by CCC[1] from long-term wind monitoring at the site shows that a north-easterly wind is by far the most common wind direction. The wind rose for the site is shown in Graph 3. The data has been procured from the nearby Christchurch International Airport and is considered a good representation of wind conditions at Ruapuna Park.

[1] Data originally gathered by NIWA

Graph 3
Wind Rose for North-West Christchurch



The predominance of north-easterly winds is well known in Christchurch; however we understand that most complaints regarding noise from the Park occur during north-westerly conditions. This is most likely due to the location of the closest neighbours and other residential areas to the south-east of the Park. Noise monitoring data has shown that noise levels are highest at this location during north-westerly winds.

Research shows (Beranek, Ver, 1992) that wind effects on noise are relatively constant within a ± 45° angle of the actual wind direction.

Temperature Inversion

During periods of strong temperature inversions, the influence of a distant noise source will be more noticeable because the warm air above the ground "bends" sound waves downward. Temperature inversions when combined with downwind effects typically result in increases in noise of about 3 dBA, even when an intervening noise barrier is in place (Beranek, Ver, 1992). Without a noise barrier, the increase in noise level due to temperature inversions will depend on the distance from the source; the further from the source the greater the increase in noise level will be.

Christchurch experiences a number of temperature inversions, particularly during winter months. These inversions generally occur during the night period, but may also persist into the day.

Given that winter is outside the main racing season for Ruapuna Park, and that inversions generally occur during the night, noisy activities are less likely to occur

frequently during temperature inversion conditions. Our calculations therefore do not consider conditions where temperature inversions are likely. In any event, temperature inversions do not normally occur when there is wind and hence it would be overly conservative to assume both downwind propagation and temperature inversion effects occurring at the same time. The downwind effects are considered an adequate representation of the effects of temperature inversions, should these persist into the daytime when there is racing.

6.1.2 *Noise Barriers*

A barrier is any large object that blocks the line-of-sight between any source and receiver, including the ground or terrain if it protrudes upward through the line of sight. The effectiveness of a barrier is a function of its height and location in relation to the noise source; taller barriers will generally perform better than shorter barriers and barriers close to the source perform better than barriers midway between source and receiver. A common misconception is that trees produce a barrier effect. Trees can only appreciably reduce noise levels if sound passes through a large expanse of heavily wooded area; a thin line of trees along a boundary will have a negligible effect on noise.

The barrier effect can be significantly reduced by wind. This is especially true for barriers located midway between source and receiver. The effectiveness of a barrier can also be significantly reduced if a parallel barrier is located on the far side of the sound source. In this situation multiple sound reflections between the two barriers can produce reverberation and the reverberation will reduce the effectiveness of the barrier. This situation is worst when the receiver can see the far side barrier over the top of the near barrier. This situation has relevance for Ruapuna Park in the possible relocation site of the Pound Road quarry; reverberation or reflection off quarry walls may significantly reduce the effectiveness of the quarry walls as noise barriers. Given the width of the quarry, it would not be possible to locate the racetracks in an area such that reflection and/or reverberation did not occur. Nor would it be possible to treat the quarry walls such that reflections were significantly reduced.

As a guide to the effectiveness of the quarry walls as noise barriers, we have assessed the noise reduction that would be achieved for various receiver conditions around the quarry. We have compared two conditions;

a) When a racetrack is on the quarry floor (at 8m below ground level); and

b) At an equivalent distance, when a racetrack is located at existing ground level (not on the quarry floor).

The results show that where a racetrack is located very close to the near wall of the quarry that noise reductions of between 8 to 10 dB are likely at receivers located greater than 500 metres from the quarry. However where the track, or parts of the track, are not located very close to the pit wall (as would be the case for Ruapuna Park if relocated into the middle of the quarry) or there are reflecting surfaces behind the track (such as the far wall of the quarry) the attenuation provided by the pit walls has

been found to be significantly reduced. In this situation, noise reductions of only 1 – 2 dB are expected. As will be shown later in the report, this is commensurate with our findings for noise barriers beside Ruapuna Park and the Christchurch Kart Club.

6.2 Track Operational Noise

6.2.1 *Kart Noise Levels*

We have performed detailed measurements of one Rotax Kart in operation at the track. Other measurements have been performed for other classes of karts by Council. A summary of the measured sound pressure levels for each class of Kart is contained in the following table:

Table 15
Kart Measurement Summary

Kart Type	Number of Karts	Distance from track	L_{eq} dBA	L_{max} dBA
100cc Junior Stock Yamaha	20 (approx)	15m (inside)	85 - 88	97
125cc Rotax	20 (approx)	15m (inside)	84	95
	1	13m braking into corner	74	80
	1	16m tight corner	75	80
	1	9 m acceleration out of corner	82	90
	1	22m wide sweeping corner	75	81
	1	30m wide sweeping corner	81	87
	1	27m accelerating out of tight bend	71	75
		10m tight bend	85	94
	1	7m straight	79	88
	1	26m tight bend	67	74
	1	13m bend at end of long straight	84	89
	1	19 m small straight between 2 bends	82	89
	1	22m tight bend	83	89
	1	11m start of straight	93	93
	1	6m middle of straight	93	97
	1	3m end of straight	85	100
	1	5m middle of short straight	-	94
	1	11m tight bend	-	84
80cc Cadet	20 (approx)	15m (inside)	82	93
100cc Senior A and C	20 (approx)	15m (inside)	87	98
100cc Junior Restricted	20 (approx)	15m (inside)	82 - 83	93
125cc Rotax Masters	20 (approx)	15m (inside)	81 - 82	93
100cc Yamaha Masters	20 (approx)	15m (inside)	83 – 84	97

Generally the loudest class of Kart is the 100cc Yamaha. The quietest class of Kart is the 80cc Cadet class, however noise level from all of the classes of Karts are generally within 5 dB of each other.

6.2.2 *Ruapuna Car Club Noise Levels*

We have performed detailed measurements of two types of race car in operation at Ruapuna Park. A summary of the measured sound pressure levels for each class of car is contained in the following table:

Table 16
Race Car Measurement Summary

Car Type	Number of Cars	Distance from track (metres)	L_{eq} dBA	L_{max} dBA
V6 Holden Commodore	1	32m from fast bend	76	79
		60m from start of short straight	71	76
		20m braking into corner	77	83
		66m accelerating out of corner	72	76
		40m braking into corner	75	83
		40m accelerating out of corner	78	85
		20m braking into corner	74	92
		53m start of straight	74	81
		8m middle of long straight	92	102
		6m start of straight	92	103
		20m end of long straight	82	83
		46 braking into corner	64	67
RX7	1-2	32m from fast bend	78	81
		20m braking into corner	75	88
		40m braking into corner	83	90
		50m hairpin corner	75	94
		8m middle of long straight	93	100
		20m braking into corner	94	92

In addition to the above data we have also performed detailed monitoring of racing car noise at Pukekohe Racetrack. This data is summarised in the following tables. Note the data in the following table is expressed as Sound Power Level (L_{max}), not Sound Pressure Level as shown in the above table.

Table 17
Race Car Sound Power Level Summary

			Octave Band Sound Power Level dB L_{max} re 10-12 Watts							
		Average L_w, max (dBA)	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
V8 Supercars	Straight	141	129	135	135	143	134	129	124	117
	Braking	132	130	133	128	125	122	117	115	118
NZ V8	Straight	137	122	125	133	141	130	124	117	109
	Braking	128	123	123	125	123	117	112	108	110
Super GTs	Straight	145	133	137	143	144	138	137	131	128
	Braking	136	134	135	135	126	126	125	122	129
Porsche GT3s	Straight	141	129	142	141	140	137	133	124	117
	Braking	132	130	140	133	122	125	120	116	118
F5000s	Straight	136	126	137	140	139	135	135	132	130
	Braking	127	127	135	132	121	122	123	123	131
Formula Ford	Straight	135	125	140	138	134	129	121	116	107
	Braking	126	126	138	130	116	116	109	107	108

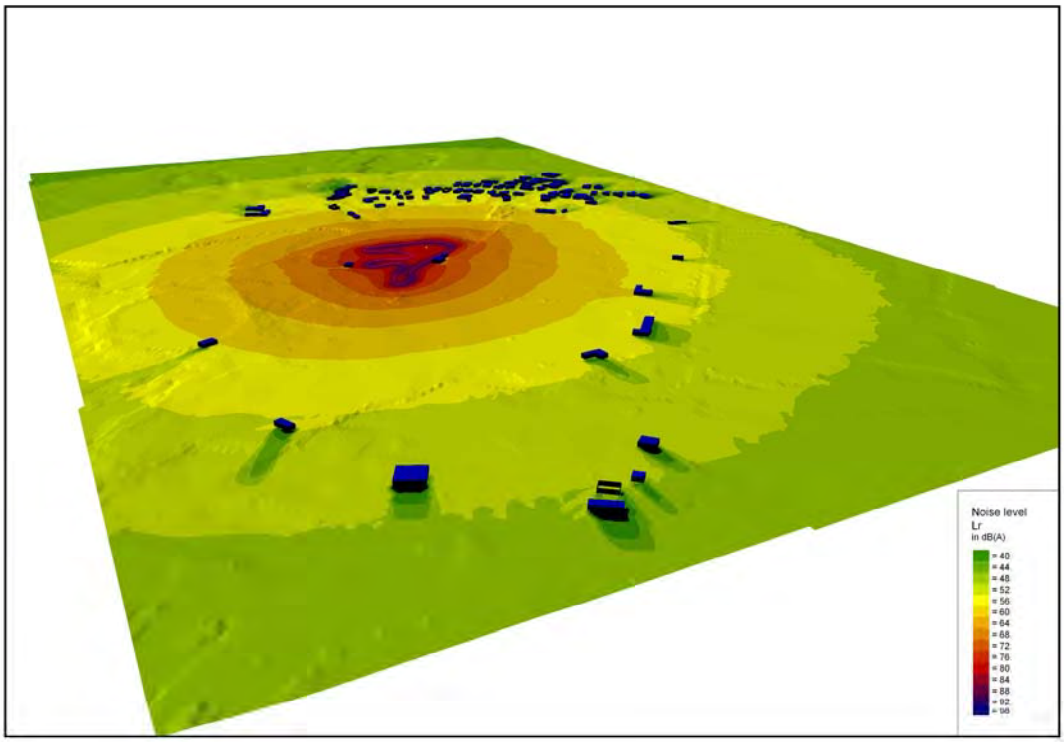
6.3 SoundPLAN

MDA have used a sophisticated proprietary noise calculation programme called *SoundPLAN* to predict noise levels from the racetrack operational activities associated with this project. This programme requires a detailed input of the surrounding topography, buildings, roads, and noise source locations. Overall noise contours around any part of the site can then be calculated, with *SoundPLAN* taking into account a large range of factors affecting the propagation of sound, including:

- the magnitude of each noise source. In most cases, this has been calculated from our measurements either at the existing racetracks or from data gathered at other racetracks around New Zealand. Our company has extensive measurements performed at Pukekohe Raceway during numerous different types of races (Refer to Section 6.2.2).
- the distance between the source and receiver
- the presence of obstacles such as screens or barriers in the propagation path.
- the presence of reflecting surfaces – including surrounding cliffs and large buildings.
- the "acoustical hardness" of the ground between the source and receiver.
- attenuation due to atmospheric absorption.
- meteorological effects such as wind gradient, temperature gradient and humidity (these have significant impact at distances greater than approximately 400m) as discussed in Section 6.1.1).

Our experience on other large projects suggests that the accuracy of a *SoundPLAN* model is about ±2 dBA. Whilst this is very good, we acknowledge that it is still only a prediction, and therefore must be treated with a certain amount of caution.

Graph 4: SoundPLAN calculation Example



6.4 Calculation Method

Because noise from Ruapuna Park received at surrounding dwellings is highly dependent on meteorological effects, it is necessary to use a noise prediction standard that deals explicitly with these factors. Given that the scope of our study is to determine the effect of two raceways in operation at different locations, it is necessary to use a standard that considers wind direction when determining sound propagation.

The most commonly used algorithm in New Zealand for environmental noise modelling is *ISO9613-2:1996 "Acoustics – Attenuation of Sound during Propagation Outdoors "*. This standard produces reliable results in many applications, however it considers all receivers are downwind from all sources at all times; the effect of wind strength and direction is not considered. If this algorithm was used in the Ruapuna Study it may give misleading results, as the Pound Road Quarry and existing Ruapuna Park are in quite different locations and could not ever physically be both upwind from many dwellings.

The *Concawe (CONCAWE, 1981)* method of sound calculation is the most widely used algorithm dealing explicitly with the influence of wind and the stability of the atmosphere. The *Concawe* method is widely used throughout the world on all types of

noise prediction projects. While we accept that this algorithm may have limitations in certain situations we believe the advantages in using it on this project outweigh any potential disadvantages.

6.5 Terrain

The terrain data used for the computer model has been taken from the GIS database held by Christchurch City Council. This database contains detailed topographical information procured using LIDAR (Light Detection and Ranging). We have used 0.5 metre contours in our SoundPLAN model

Given the majority of the site surrounding the existing and possible racetracks is grassed or vegetative we have assumed soft ground propagation in our model over all of the surrounding area.

In order to determine the barrier effect of the Pound Road Quarry Pit walls on the racetracks, it has been necessary to alter the ground topography around the quarry in our model. This is because the quarry is currently deeper, and the quarry walls are steeper, than the quarry would be if the racetracks are relocated into it. For our modelling of scenarios in the quarry, we have raised the quarry floor to a height of 8 metres below the surrounding existing ground level and assumed that the quarry walls will be battered with a 1:3 slope.

6.6 SoundPLAN Calculation Methodology

To ensure a high level of accuracy in our models we have constructed and tested them in the following manner:

Testing of racetracks has been performed at both the existing Kart Club track at Carrs Road Reserve and at Ruapuna Raceway. On both testing days, a specific race car or kart was used to do multiple laps of the racetrack and the noise emission during passby of the vehicle measured at specific locations. Noise emissions were also measured at distances further from the track. This noise level was used to construct a noise model of the existing racetrack.

The L_{max} octave band sound power level was calculated from the measured sound pressure levels of each race car or kart on every segment of racetrack (Refer to Section 6.2.2). This sound power level was then corrected for the percentage of each segment of track in terms of the overall length of the racetrack. The sound power level was also corrected to reflect the number of vehicles operating on the track.

The noise model was then used to predict noise levels at measurement locations further from the track and the predicted result compared with the measured noise level.

The noise level from the track was then adjusted to account for a number of vehicles using the racetrack simultaneously. Predictions were then performed to locations around the track where measurements had been performed during race days. The

predicted level of noise was compared with the measured and the accuracy of the model assessed.

A summary of our predicted noise levels and a comparison with measured noise levels follows:

6.6.1 *Christchurch Kart Club SoundPLAN Calibration*

The following is a summary of our SoundPLAN computer predictions in comparison to measured noise levels:

Table 18
SoundPLAN Calibrations Summary

Description of Event	SoundPLAN predictions	Measured Noise Level	Comments
15 metres from main straight inside track	81 dBA L_{eq}	84 dBA L_{eq}	-
100cc Senior A and C Class Karts @ 50m to South of Track	73 dBA L_{eq}	69 dBA L_{eq}	-
100cc Senior A and C Class Karts @ 100m to South of Track	68 dBA L_{eq}	66 dBA L_{eq}	-
100cc Senior A and C Class Karts @ 200m to South of Track	61 dBA L_{eq}	61 dBA L_{eq}	-
Kart Event – 5 minute races over half an hour (some pauses between races)	60 dBA L_{eq}	56 dBA L_{eq}	Prediction for continuous racing and downwind conditions Measurement not of continuous racing. Measurement Kart Class unknown
Kart Event – monitoring at approximately 220 metres from track	56 dBA L_{eq}	58 dBA L_{eq}	Measurement kart class unknown some wind direction unknown

It can be seen that a good correlation between measured and predicted noise levels is achieved. The Concawe algorithm is not recommended for accurate predictions within 100 metres of the noise source. It is expected that a significant difference between measured and predicted noise levels at distances of less than 100 metres. From the above table it can be seen that measured noise levels correlate better with predictions at reasonably large distances from the track.

6.6.2 *Ruapuna Raceway SoundPLAN calibration*

The following is a summary of our SoundPLAN computer predictions in comparison to measured noise levels:

Table 19
SoundPLAN Calibration Summary

Description of Event	SoundPLAN predictions	Measured Noise Level	Comments
Single V6 Race car	55 dBA L_{eq}	54 dBA L_{eq}	Measured noise level during track testing (at positions north and south of track)
	60 dBA L_{eq}	60 dBA L_{eq}	
V8 Race	66 dBA L_{eq}	61 - 68 dBA L_{eq}	1 hour measured noise levels from a variety of V8 races (at positions north and south of track)
	74 dBA L_{eq}	64 - 73 dBA L_{eq}	

It can be seen that a good correlation between measured and predicted noise levels is achieved.

7.0 ASSESSMENT OF NOISE LEVELS

We have considered the noise effects from the following situations:

1. The existing level of noise from Ruapuna Park;
2. The potential noise from Ruapuna Park when operating at the maximum permitted capacity defined by the City Plan provisions
3. The existing level of noise from the Kart Club;
4. Relocating the Kart Club to a possible site in the Pound Road Quarry while Ruapuna Park remains in the current location;
5. Relocating Ruapuna Park to the possible site in the Pound Road quarry. The Kart Club is not relocated to the Pound Road Quarry;
6. Relocating both the Kart Club and Ruapuna Park to the Pound Road Quarry Site; and
7. Leaving Ruapuna Park in current position and considering noise mitigation strategies that could be used.

In considering the effects of situations 4 - 6, we have considered the decrease or increase in noise levels that will occur at dwellings close to the existing and possible racetracks. In order to do this, we have considered the change in noise level that will occur when the above scenarios are compared against the existing situations under various wind conditions.

It is important to realise that the results relate only to the change in the existing level of Ruapuna raceway noise. Hence, for a receiver that currently receives only low levels of raceway noise, a moderate increase in noise levels may not necessarily correlate to moderate noise effects. Furthermore the change in noise level relates only to when both the raceway and kart track are operating. We have considered the overall level of noise from the scenarios separately.

We have considered the following situations:

Table 20: Change in noise levels considered

SCENARIO	Wind Direction NE	Wind Direction NW	Wind Direction SW
EXISTING			
Ruapuna typical weekday operation	✓	✓	✓
Ruapuna Race	✓	✓	✓
As above but at maximum permitted capacity	✓	✓	✓
KART IN QUARRY & RUAPUNA EXISTING – WEEKDAY			
Ruapuna & Kart typical weekday operation	✓	✓	✓
KART IN QUARRY AND RUAPUNA EXISTING – WEEKEND			
Ruapuna Race & Kart Race	✓	✓	✓
KART AND RUAPUNA IN QUARRY - WEEKDAY			
Ruapuna & Kart typical weekday operation	✓	✓	✓
KART AND RUAPUNA IN QUARRY - WEEKEND			
Ruapuna Race & Kart Race	✓	✓	✓

A comparison has been made between each possible situation and the corresponding existing situation. For instance, the situation with the Kart track and Ruapuna raceway located in the Pound Road Quarry has been compared with noise levels that would be experienced around Ruapuna raceway in its existing location. This allows the effectiveness of relocation as a noise control measure to be considered.

We have presented our results in tabulated form as well as in graphical form.
The scenarios have been considered using the following assumptions:

- **Typical kart operation during weekdays and possible weekends:** 4 go-karts operating on the track at any one time;
- **Weekend kart events**: races of up to 32 karts;
- **Typical Ruapuna raceway operation during weekdays and possible weekends:** 2 V8 race cars practicing on the track;
- **Weekend Ruapuna raceway operation during weekends:** Full NZV8 event day.
- **Speedway:** International Sprint cars

We have assumed the following in our modelling:

- The kart track will be as shown in Appendix 3. One metre high crash barriers will be located around the track.
- Ruapuna Raceway will have the same track design as the existing track, if relocated to the quarry floor.
- "Slight breeze" (2m/s) wind conditions for southwest (230°), northeast (70°) and northwest (300°) conditions.
- The quarry floor will be 8 metres below existing ground level. We have assumed the quarry walls will have a 1:3 grading as shown in the kart concept plan.

Because of the number of existing dwellings around the Raceway and Quarry, it is not practical to list the change in noise level at each dwelling. We have therefore assigned a receiver location to groups of dwellings. In general, these receiver positions represent four dwellings; however some locations represent slightly fewer or greater numbers of dwellings. A summary of the receiver locations and the property descriptions of the dwellings they represent are summarised in Appendix 6. The approximate locations of these receivers are illustrated in the following photo:

Photo 2: Receiver Locations

7.1 Noise from Existing Ruapuna Park

In order to assess the "reasonableness" of noise from Ruapuna Park it is necessary to consider the following:

- The level of noise emitted during "normal" weekday operation at the Raceway;
- The level of noise emitted during racing at the Raceway; and
- The level of noise emitted during speedway racing.

Given that the track is used for a large variety of activities on any given weekday, from race driver training to manufacturer test days, it is not possible in the scope of this study to predict the level of noise for every given scenario of racing at the track. We have assumed the following best describe the scenarios given above:

Raceway – Normal Weekday

We have defined a typical day using two V8 racing cars operating 75% of the time between 0900 – 1700 hours. Whilst this will not reflect all possible scenarios from the track it gives an indication of baseline noise emissions during a relatively noisy "practice" day. The output from this scenario could also be considered a good representation of practice involving Rotary RX7s, F5000s or Formula Fords.

Raceway – Race

We have reviewed noise monitoring from a number of large events held at Ruapuna Raceway. Scenarios such as NZV8 racing, Skope Classic, BEARS motorcycling, Circuit Pursuits and Lady Wigram Trophy have been shown to produce noise levels throughout the event that are of similar magnitude. The following NZV8 scenario has been used as the basis of our assessment of noise from large events at the racetrack and is considered to be a good representation of $L_{eq\ (1\ hour)}$ noise levels that might be produced for any large event at the site. This scenario is summarised as follows:

1000 - 1100	NZV8 races, Formula Ford races, NZ production Cars
1100 – 1200	Toyota Racing, NZV8 Racing, OSCARS racing
1200 – 1300	GT3 Racing, Drifters
1300 – 1400	NZ production cars racing, Formula Ford racing
1500 -1600	NZV8 Racing, Toyota Racing
1600 – 1700	GT3 racing
1700 – 1800	OSCARS

Speedway Racing

We have taken speedway racing as involving constant racing and assumed international sprint cars as the basis of our noise assessment. Note that noise from this event is approximately 4 dB louder than other events measured at the speedway and hence is considered a conservative assessment.

Noise Levels from the Above Scenarios

The noise levels around the site for the above three scenarios are summarised in the following tables.

Table 21

Predicted Noise Levels around Ruapuna Park

Receiver	$L_{Aeq\ (1\ hour)}$ noise levels from Raceway during Weekday operation			$L_{Aeq,\ (1\ hour)}$ noise levels from Raceway V8 Racing			$L_{Aeq,\ (1\ hour)}$ noise levels from Speedway operation		
Wind	NE	NW	SE	NE	NW	SE	NE	NW	SE
FHR1	57	61	53	62	65	58	58	63	58
FHR2	56	57	50	61	61	54	60	62	55
FHR3	51	52	44	55	56	48	52	54	47
FHR4	53	51	45	57	55	49	55	53	48
FHR5	48	50	41	53	54	45	50	53	45
FHR6	46	51	43	51	55	47	47	52	45
FHR7	45	54	53	50	58	58	41	48	49
FHR8	40	47	50	44	51	55	41	45	49
FHR9	39	47	50	44	51	54	40	45	48
FHR10	37	43	48	41	47	52	38	42	48
FHR11	37	42	48	41	46	53	38	41	47
FHR12	38	42	49	42	46	53	38	40	47

These noise levels have been plotted graphically in Appendix 1, Figures 1a – 1f for "race operation" for the raceway and the speedway. The wind condition assumed in the figures is the predominant wind directions (north-east and south-west). The north-west wind condition has also been included, although it is important to realise that this wind condition occurs less than 10% of the time (Refer Graph 3).

The highest noise levels around Ruapuna Park are experienced by the receivers to the south-east of the racetrack on Hasketts Road during a north-westerly wind. Under this wind condition, noise levels of up to 65 dBA $L_{eq\ (1\ hour)}$ are predicted at the nearest dwellings. Under the most frequent north-easterly wind conditions, noise levels of up to 62 dBA $L_{eq\ (1\ hour)}$ are predicted at the same properties. During weekday practice conditions, noise levels of 60 dBA $L_{eq\ (1\ hour)}$ are predicted during north-westerly conditions and up to 57 dBA $L_{eq\ (1\ hour)}$ for north-easterly conditions.

Noise levels from the speedway are predicted to be marginally lower than the raceway during race conditions, but very similar at most locations.

With reference to Table 9, Section 4.6.2, we consider the raceway and speedway would have the following long-term noise effects on the 45 dwellings considered. We have only considered noise levels during either the predominant north-easterly or south-westerly wind conditions.

Table 22
Noise Effects on Number of Dwellings (Summarised in Appendix 1, Figures 7a and 7c)

Effect	Raceway	Speedway	
	Day	Day	Night
Minor effects	25	34	-
Minor to moderate effects	13	8	24
Moderate to significant effects	7	3	10
Significant to severe effects	0	0	8
Severe effects	0	0	3

It can be seen in the above table that noise from the raceway if occurring during the day will have more than minor effects on 20 dwellings. It should be noted that NZV8 racing does not normally occur into the night period and hence the noise effects during this time period have not been considered. We understand that on infrequent occasions that drifting has continued past 10pm, however we understand this no longer occurs due to safety considerations. Noise levels associated with drifting are generally lower than V8 racing. Anecdotal evidence suggests that drifting is considerably more annoying for equivalent noise levels than normal racing events.

The speedway is expected to have more than minor effects on 11 dwellings during daytime operation as shown in Table 22. Noise levels during the night period will have more than minor effects on all 45 dwellings considered.

In our proposed annoyance criteria, we considered that it would be reasonable for residents to expect moderate noise effects, however that it would not be reasonable for residents to expect significant noise effects. There are seven dwellings that are exposed to raceway noise levels between 61 – 62 dBA $L_{eq\ (1\ hour)}$ during predominant

winds. These dwellings are considered to be moderately to significantly affected by noise. At these dwellings it would be reasonable for the residents to expect that noise levels were reduced to below 60 dBA $L_{eq\ (1\ hour)}$ at the notional boundary, or the number of raceway events reduced.

The speedway currently generates unreasonable levels of noise during night operation, as, according to our criteria, it has more than moderate noise effects on 21 dwellings. During daytime operation, noise levels at three dwellings are around 60 dBA L_{eq}, a level considered to have more than moderate effects (note that the predicted level is right on the limit and the exceedence is therefore marginal). It would be reasonable for these three residents to expect that the level of noise from the speedway was reduced to below 60 dBA L_{eq} at the notional boundary, or that the number of daytime events were reduced.

In summary, the noise levels from the existing operation of Ruapuna Raceway are considered unreasonable at seven dwellings. Noise levels from the speedway are unreasonable at three dwellings during daytime operation and twenty-one dwellings during night-time operation.

7.2 Noise from Existing Ruapuna Park operating at the Maximum Permitted Capacity

Christchurch City Council have requested that the noise effects from Ruapuna Park be assessed as if it was operating at maximum permitted capacity.

The maximum operating capacity of Ruapuna is defined by the City Plan noise rules for the site. These are described in Section 4.1.1 and are summarised below.

- Normal permitted operation with noise levels of 65 dBA $L_{10\ (1\ hour)}$ and 90 dBA L_{max}
- Up to 200 events per year with noise levels of 80 dA $L_{10\ (1\ hour)}$ and 95 dBA L_{max}
- Up to 15 days per year with operation up to 2400 hours;
- Up to 5 days per year with the noise levels of 80 dBA $L_{10\ (1\ hour)}$ and no L_{max} limit.

It is important to note that the above limits are all applied at the **site boundary.**

As previously discussed, we understand from Council monitoring that in 2006 Ruapuna Park held 43 "large events" in the racing calendar at the raceway and 14 "large events" at the speedway. During monitoring, the Raceway invoked the "200-day 80 dBA L_{10}" noise rule on 15 occasions and Speedway invoked the "200-day 80 dBA L_{10}" noise rule on only two occasions. On two occasions the 15 day rule was invoked by the Speedway, allowing motor-sport activities to continue until midnight. The "5-day no L_{max}" rule was not invoked at any point during monitoring.

In our analysis of noise at maximum permitted capacity, we have assumed that the park will operate with 200 large events per year. Whilst it would be theoretically possible for the park to operate with 365 large events per year and still achieve their noise limits, the park does not perform noise monitoring of events and hence the only way to ensure compliance with the "200 day" limit would be to limit large events to below 200 per year. This would still be a significant increase in usage and, with smaller events, would likely represent almost constant activity at the Ruapuna Site.

Given that the park required the 200 day rule to be invoked on 17 days when approximately 60 large events held on site, we have assumed that 200 large events would invoke the rule 60 times.

Even at the maximum permitted level of operation, $L_{eq\ (1\ hour)}$ noise levels emitted from the site would not increase. This is because the site already holds very large events and the type of event currently held is not restricted by the noise limits. It is therefore only the increased number and/or duration of events that could cause an increase in annoyance in the surrounding area.

The park is also entitled to operate up to 2400 hours on 15 occasions per year. The site held 2 events in 2006 that occurred until 2400 hours and invoked this rule. If the park was operating at maximum permitted capacity, the number of events later in the night period would increase from 2 to 15. This is a significant increase.

The L_{max} noise rule limits noise from short duration loud events, such as a car backfiring. An increased number of events is therefore unlikely to result in higher maximum noise emissions from the site – only an increase in the number of single "loud" noises. This is because the increased number of events does not increase the L_{max} noise level emitted from the racetrack. As the "5-day, no L_{max} rule" does not currently need to be invoked, an increased number of events would not necessarily mean that the rule would need to be invoked.

Based on an established relationship between number of events and noise level (refer Table 10, Section 4.6.2) we consider the raceway and speedway would have the following long-term noise effects on the 45 dwellings considered if operating to full capacity. We have only considered noise levels during either the predominant north-easterly or south-westerly wind conditions:

Table 23
Noise Effects on Number of Dwellings (Summarised in Appendix 1, Figure 7b)

Effect	Raceway	Speedway	
	Day	Day	Night
Minor effects	-	24	-
Minor to moderate effects	25	10	-
Moderate to significant effects	13	8	24
Significant to severe effects	7	3	10
Severe effects	0	0	11

In our proposed annoyance criteria, we considered that it would be reasonable for residents to expect moderate noise effects, however that it would not be reasonable for residents to expect significant noise effects. For the daytime operation at the Raceway and Speedway, the noise levels are considered to have significant to severe effects for 10 dwellings. For the night-time operation at the Speedway, the noise levels are considered to have a significant to severe effects for 21 dwellings. Therefore, we consider that it is unreasonable for Ruapuna Park to operate at its maximum permitted

capacity of 200 large events per year, with 15 events occurring until 2400 hours and 5 events with no L_{max} limit.

7.3 Noise from Carrs Road Kart Club

As part of this report we have considered the noise effects from the existing Kart Club at Carrs Road on the surrounding residents. Note that in this assessment we have considered the existing level of operation, i.e weekday practices with semi-regular race meeting during the weekend.

We have reviewed the "Environmental Health Considerations for the Awatea Variation Report" prepared by Russell Malthus, Environmental Health Consultant. A summary of the main points in this report and our comments follow:

The report suggests that the Group 1 Zone noise standards are exceeded at distances of 400 metres. We have reviewed noise monitoring performed by Christchurch City Council at the Kart Club that has been performed for a variety of events. This data shows that the Group One development Standards are exceeded at these distances, and may in fact be exceeded at even further distances at times. We note that the Kart Club is not required to comply with the Group One values; it has a specific noise limit in the City Plan.

The report states that complaints have been received as far afield as Halswell, and that the distinctive character of the karts may contribute to the complaints as the noise level from the karts would be below the Development Standards at this location. We agree that the noise level in Halswell would likely be below the development standard noise limit (50 dBA L_{eq}) during almost all conditions. Such a level would comply with most environmental noise standards and complaints here may be more likely due to the character of the noise source rather than the level. However at these locations the background noise level is around 37 – 40 dBA L_{95}, and this relatively low daytime background noise level may contribute to the perceived intensity of the sound.

The report suggests that noise barriers may be useful at reducing the noise level at receivers close to the site however the confines of the track preclude these barriers from being constructed. It should be noted that the track crash barrier and bunding is currently providing a reasonable degree of acoustic screening and increasing the height of the bunding around the track would have only limited effectiveness in further reducing noise levels at a distance from the track.

The report states that reduction of noise at the receiver would be impractical and not provide protection outdoors. We agree with this statement. Given the amount of nearby dwellings, fitting retrospective noise control treatment at the receiver would be very expensive. Furthermore, treating dwellings will only reduce noise levels inside dwellings with windows shut and will not reduce noise levels outside, or inside when windows are open. Given that kart events occur during the day, we consider that treating dwelling facades would have only limited effectiveness at reducing annoyance.

The report concludes that the kart track is adversely affecting residents in the area and that it may also impact on existing or future businesses.

Appendix 1, Figures 2a – 2c shows noise levels that we predict will occur around the existing Kart Club track at Carrs Road during a large race involving Yamaha 100cc class karts for north-east and south-west wind conditions respectively. The noise level at the nearest dwellings is around 61 dBA L_{eq} during downwind propagation. During zero-met conditions we would expect this noise level to reduce by approximately 5 dB.

Comparing these noise emissions with Table 10 in Section 4.6.3, the noise emissions from the Kart Track are considered to have the following noise effects on the 45 nearby residents considered.

Table 24
Noise Effects on Dwellings (Summarised in Appendix 1, Figure 7g)

Effect	Number of Dwellings Affected by Carrs Road Kart Club
Minor effects	40
Minor to moderate effects	4
Moderate to significant effects	1
Significant to severe effects	0
Severe noise effects	0

Again, in our proposed annoyance criteria, we considered that it would be reasonable for residents to expect moderate noise effects, however that it would not be reasonable for residents to expect significant noise effects.

A small number of dwellings are expected to be moderately affected; however only one dwelling is expected to be significantly affected. We note that the majority of dwellings around the track are expected to receive less than minor effects. If the usage of the track were to increase from its current usage, there would likely be a commensurate increase in annoyance.

We disagree with the assessment made in the Environmental Health Considerations for the Awatea Variation Report that the noise levels would affect businesses, given the short period of operation at the site during the week (Wednesday afternoon) and the fact that the number of karts on the track is fewer than during a large race during these times. Although some businesses operate during weekends and effects on these businesses need to be considered, these businesses are unlikely to be private offices. Given that noise levels of up to 60 dBA L_{eq} are expected at existing business facades, this would give a noise level of approximately 45 dBA L_{eq} inside with a partially open window. This is below the maximum recommended level noise for most commercial and industrial operations as contained in AS/NZS2107:2000 *Acoustics—Recommended design sound levels and reverberation times for building interiors.* We would therefore consider the effects of noise on businesses to be less than minor.

Based on the current level of use, we consider that at the majority of dwellings surrounding the Kart Club, noise levels are reasonable. However at one dwelling it

could be reasonably expected that the Kart Club decrease noise levels to below 60 dBA L_{eq}.

It should also be noted that this area is likely to experience significant growth in the future. The number of moderately affected dwellings could therefore increase. We therefore recommend that relocation of the Kart Club is considered if the surrounding land is going to be rezoned as residential under the Awatea Plan Change.

7.4 Relocating Kart Club to Quarry. Ruapuna Park Stays in Current Location.

The following table shows the change in noise level at each receiver location over the existing level of noise from Ruapuna Park if the kart track was relocated into the Pound Road Quarry. In this situation noise levels in the area cannot decrease unless mitigation measures are implemented at the existing Ruapuna racetrack.

Table 25
Change in Noise Levels at Receiver Locations

Receiver	Kart in Quarry & Ruapuna Existing Location - Change in L_{eq} Noise Level (dB)							
	Ruapuna Existing Reference Level (Weekday)	Weekday Operation At Ruapuna and Kart Club			Ruapuna Existing Reference Level (Race)	Race Operation At Ruapuna and Kart Club		
Wind	All	NE	NW	SW	All	NE	NW	SW
FHR1	0	+1	0	0	0	+2	0	+1
FHR2	0	0	0	0	0	+1	0	0
FHR3	0	0	0	0	0	+1	0	+1
FHR4	0	0	0	0	0	+1	0	0
FHR5	0	0	0	0	0	+1	0	+1
FHR6	0	+1	0	0	0	+2	+1	+1
FHR7	0	+5	+4	+5	0	+8	+8	+8
FHR8	0	+2	+1	+2	0	+5	+3	+5
FHR9	0	+1	+1	+1	0	+3	+2	+4
FHR10	0	+2	+1	+1	0	+4	+2	+4
FHR11	0	+1	+1	+1	0	+3	+2	+3
FHR12	0	+1	+1	+1	0	+3	+2	+2

The following table gives a guide to the significance of the change in noise level at each receiver location. Note that an increase in raceway noise level will only have the commensurate effect where raceway noise is already the predominant noise in an area.

Table 26
Change in Sound Level Vs. Subjective Response

Change in L_{eq} Sound Level (dB)	Subjective Reaction
>12	More than a doubling of Loudness
9 – 11	Doubling of Loudness
5 – 7	Appreciable Change
3 – 4	Just Perceptible Change
0 - 2	Imperceptible Change

An imperceptible increase in noise levels is predicted for the majority of receivers during normal "weekday" operation. The only exception to this is the two dwellings at receiver location FHR7. At this location we would predict a perceptible increase in noise levels.

During raceday operation at both racetracks, an imperceptible increase in noise level is still predicted for many receivers; however a just perceptible to appreciable increase would generally be experienced at receivers to the north and east of the quarry.

The overall noise levels from this scenario are summarised for the north-east, north-west and south-west wind conditions in the following table:

Table 27
Raceway Noise Levels at Receiver Locations

Receiver	Kart in Quarry & Ruapuna Existing Location – $L_{Aeq\ (1\ hour)}$ noise levels					
	Weekday Operation At Ruapuna and Kart Club			Race Operation At Ruapuna and Kart Club		
Wind	NE	NW	SW	NE	NW	SW
FHR1	58	61	53	64	65	58
FHR2	57	57	50	62	61	54
FHR3	51	52	44	56	57	48
FHR4	53	51	45	57	55	49
FHR5	49	50	42	54	55	46
FHR6	47	51	43	53	56	48
FHR7	50	58	58	58	66	66
FHR8	42	48	53	49	54	59
FHR9	41	47	51	47	53	57
FHR10	39	44	50	45	50	56
FHR11	38	43	50	45	48	55
FHR12	39	43	50	45	48	56

The above results are summarised in Appendix 1, Figures 3a – 3c. Comparing these noise emissions with Table 10 in Section 4.6.3, the noise emissions from the Kart Track are considered to have the following noise effects on the 45 dwellings in the Pound Road area considered in this study (refer to Photo 1 and Appendix 6). In considering effects, we have only considered noise levels during the predominant north-east or south-west wind conditions.

Table 28
Noise Effects on Dwellings (Summarised in Appendix 1, Figure 7e)

Effect	Number of Dwellings Affected Kart in Quarry Ruapuna Existing
Minor effects	10
Minor to moderate effects	26
Moderate to significant effects	7
Significant to severe effects	2
Severe effects	0

In our proposed annoyance criteria, we considered that it would be reasonable for residents to not expect any perceptible increase in noise. As previously discussed, a just perceptible to appreciable increase in noise level is expected to the north and east of the quarry. This increase in noise level is expected to result in two dwellings being exposed to motorsport noise levels that are considered to have significant to severe effects where previously they were exposed to noise levels that are considered to have no more than minor effects. Sixteen dwellings would receive minor to moderate effects whereas previously they received no more than minor effects.

Note that in considering the above we have assessed possible mitigation measures around the quarry that could be used to decrease noise emissions. These include bunding around the top of the quarry and recontouring of the quarry pit edges to increase the barrier effect. None of these measures were effective enough to influence our conclusions.

We therefore do not consider that the noise environment resulting from relocating the Kart Club to the Pound Road quarry would be reasonable.

7.5 Relocating Ruapuna Park to Quarry. Kart Club is Located Elsewhere

The following table shows the change in noise level at each receiver location if Ruapuna Park was relocated into the Pound Road Quarry. In this situation, noise levels may increase for some receivers and decrease for others.

Table 29
Change in Noise Levels at Receiver Locations

Receiver	Ruapuna Relocated to Pound Road Quarry Change in L_{eq} Noise Level (dB)			
	Existing Scenario	Operation in Pound Road Quarry		
Wind	All	NE	NW	SW
FHR1	0	-4	-12	-10
FHR2	0	-5	-11	-10
FHR3	0	-2	-7	-6
FHR4	0	-5	-9	-8
FHR5	0	-1	-6	-4
FHR6	0	+2	-4	-4
FHR7	0	+11	+8	+3
FHR8	0	+10	+9	+8
FHR9	0	+9	+9	+7
FHR10	0	+9	+7	+7
FHR11	0	+9	+6	+6
FHR12	0	+7	+4	+5

The table and the figures show that receivers to the south of the existing racetrack (FHR1 – FHR5) show an appreciable decrease in noise levels. In some cases the noise levels will halve in loudness.

At receivers to the east, northeast and north of the Pound Road Quarry (FHR7 – FHR12) a doubling of loudness would be expected during northeast conditions. During other conditions, an appreciable increase in noise levels is expected.

Relocating Ruapuna Park into the quarry would result in significant reductions in noise at some receiver locations. However at a similar number of receiver locations a significant increase is expected.

The overall noise levels from this scenario are summarised for the north-east, north-west and south-west wind conditions in the following table:

Table 30
Raceway Noise Levels at Receiver Locations

Receiver	Ruapuna Raceway in Quarry - $L_{Aeq\ (1\ hour)}$ noise levels					
	Weekday Operation At Ruapuna			Race Operation At Ruapuna		
Wind	NE	NW	SW	NE	NW	SW
FHR1	54	48	43	59	54	48
FHR2	51	45	40	56	50	45
FHR3	48	44	37	53	49	42
FHR4	47	41	36	52	46	41
FHR5	47	43	36	52	48	41
FHR6	47	46	38	52	51	43
FHR7	56	61	56	61	66	61
FHR8	49	55	57	54	60	63
FHR9	47	54	56	53	60	61
FHR10	46	49	54	50	54	59
FHR11	45	47	54	50	52	59
FHR12	44	45	53	49	50	58

The above results are summarised in Appendix 1, Figures 4a – 4c. Comparing these noise emissions with Table 9 in Section 4.6.2, the noise emissions from the Park are considered to have the following noise effects on the 45 nearby residents considered. In considering effects, we have only considered noise levels during north-east or south-west conditions as these are the predominant wind directions.

Table 31
Number of dwellings affected (Summarised in Appendix 1, Figure 7d)

Effect	Number of Dwellings Affected Ruapuna Relocated to Quarry
Minor Effects	18
Minor to moderate effects	18
Moderate to significant effects	9
Significant to severe effects	0
Severe effects	0

In our proposed annoyance criteria, we considered that it would be reasonable for residents to not expect any perceptible increase in noise. As previously discussed, whilst relocating Ruapuna to the Pound Road Quarry will result in noise reductions at some receivers, a commensurately larger increase in noise level is expected at some dwellings. Furthermore, dwellings in the area surrounding the quarry will experience increased effects from noise.

We therefore do not consider that the noise effects, in relocating Ruapuna Park into the Pound Road quarry, are reasonable.

7.6 Relocating both the Kart Club and Ruapuna Park to the Quarry

The following table shows the change in noise level at each receiver location with this scenario if both the kart track and the raceway were relocated into the Pound Road Quarry. In this situation noise levels in the area can increase or decrease depending on proximity to the quarry and existing Ruapuna Park.

Table 32
Noise Levels at Receiver Locations

Receiver	Kart & Ruapuna Raceway both in Quarry Change in L_{eq} Noise Level (dB)							
	Ruapuna Existing Reference Level (Weekday)	Weekday Operation At Ruapuna and Kart Club			Ruapuna Existing Reference Level (Race)	Race Operation At Ruapuna and Kart Club		
Wind	All	NE	NW	SE	All	NE	NW	SE
FHR1	0	-2	-11	-9	0	0	-9	-6
FHR2	0	-5	-11	-9	0	-3	-9	-7
FHR3	0	-2	-7	-6	0	0	-5	-4
FHR4	0	-5	-10	-8	0	-3	-8	-6
FHR5	0	-1	-6	-5	0	0	-4	-3
FHR6	0	+2	-3	-4	0	+3	-1	-2
FHR7	0	+11	+8	+6	0	+13	+11	+9
FHR8	0	+10	+8	+7	0	+11	+10	+9
FHR9	0	+8	+8	+7	0	+10	+9	+8
FHR10	0	+9	+6	+6	0	+10	+7	+8
FHR11	0	+8	+5	+6	0	+10	+6	+7
FHR12	0	+7	+3	+4	0	+8	+5	+6

At receivers FHR1 – FHR5 there would generally be a reduction in noise levels under this scenario, however under north-east conditions the reduction would be imperceptible to just perceptible. For dwellings to the north and east of the quarry (FHR7 – FHR12) more than a doubling of loudness would be predicted. Under all wind conditions an appreciable to very significant increase in noise levels is predicted at receiver locations FHR7 – FHR12.

The overall noise levels from this scenario are summarised for the north-east, north-west or south-east wind conditions in the following table:

Table 33
Raceway Noise Levels at Receiver Locations

Receiver	Kart Club & Ruapuna in Quarry – $L_{Aeq\ (1\ hour)}$ noise levels					
	Weekday Operation At Ruapuna and Kart Club			Race Operation At Ruapuna and Kart Club		
Wind	NE	NW	SW	NE	NW	SW
FHR1	55	50	44	62	56	51
FHR2	52	46	41	58	52	47
FHR3	49	45	38	55	51	44
FHR4	48	41	36	54	47	42
FHR5	47	44	37	53	50	43
FHR6	48	47	39	54	53	45
FHR7	57	62	59	62	69	67
FHR8	49	55	58	55	61	64
FHR9	47	54	56	53	60	62
FHR10	46	49	55	51	55	60
FHR11	45	47	54	51	52	60
FHR12	45	45	53	50	51	59

The above results are summarised in Appendix 1, Figures 5a – 5c. Comparing these noise emissions with Table 9 in Section 4.6.2, the noise emissions from the relocation of the tracks are considered to have the following noise effects on the 45 nearby residents considered. In considering effects, we have only considered noise levels during north-east or south-west conditions as these are the predominant wind directions.

Table 34
Number of dwellings affected (Summarised in Appendix 1, Figure 7f)

Effect	Number of Dwellings Affected Ruapuna and Kart Club Relocated to Quarry
No more than minor effects	14
Minor to moderate effects	10
Moderate to significant effects	19
Significant to severe effects	2
Severe noise effects	0

In our proposed annoyance criteria, we considered that it would be reasonable for residents to not expect any perceptible increase in noise. As previously discussed, whilst relocating Ruapuna Park and the Kart Club to the Pound Road Quarry will result in noise reductions at some receivers, a commensurately larger increase in noise level is expected at some dwellings. Furthermore, dwellings in the area surrounding the quarry will experience increased effects from noise, and two receivers will be significantly to severely affected by noise.

We therefore do not consider that the noise effects, in relocating both Ruapuna Park and the Kart Club into the Pound Road quarry, are reasonable.

7.7 Potential Mitigation Measures at Ruapuna Park

To reduce the noise effects from any source, the following measures are normally considered:

- **Reduce noise emissions from the source**

  For Ruapuna Motorsport Complex, reduction of noise emissions at the source would involve testing of vehicles to ensure they met a specific noise performance standard. In order for vehicles to comply with this standard the fitting of performance mufflers would be required.

  The current MotorSport New Zealand noise rule is that no vehicle shall exceed a noise level of 95 dB during a pass-by when measured at 30 metres and 90° from the point of the track at which the vehicle is at its maximum rpm. We understand that Speedway New Zealand imposes a similar noise limit on speedways, however the distance is 25m (reference: Speedway New Zealand Inc. Rule T5).

  The reduction of noise by reducing exhaust noise is often presented as a trade-off between the excitement of racing fans during races and the annoyance caused to nearby residents (Ciecka, Close, Snellgrove). It is suggested that reduction in vehicle noise levels will reduce visitor numbers to racetracks, however the opposite effect has been found to be true in some studies (Hellweg).

  The practicality of exhaust noise control has been disputed for various car types. Exhaust noise control from single-seater cars is considered less practical than for saloon cars. A study by Close suggested that noise from stock car engines, differentials and fans will become dominant once exhaust noise levels have been reduced by approximately 15 dB.

  A similar conclusion was made by Growcott in his evidence on Western Springs Speedway, where he stated that the limit of improvement using mufflers on speedway cars would be achieved using a relatively modest sized muffler (approximately 10 dB). Marshall Day Acoustics has performed some preliminary work at this speedway which suggests that reduction in noise using mufflers may have a limit of 5 dB.

- **Enclose the source**

  Enclosing a noise source is often a very effective noise mitigation measure. Fully enclosing the raceway and speedway would present obvious problems and we do not consider this to be a practical solution.

- **Construct noise barriers around the source.**

  Constructing noise barriers around a source is often a cost effective way to reduce noise emissions. However, noise barriers can often have limited effectiveness at large distances, as meteorological effects such as wind and temperature inversions can reduce their effectiveness. This is particularly true

for situations where noise barriers are located halfway between source and receiver.

Noise barriers can also reduce the amount of noise absorbed as sound passes over soft ground. Noise barriers are more effective when introduced to a situation where noise is propagating over hard ground.

There is already an existing bund around the southern side of Ruapuna Raceway which is providing line-of-sight screening to most residences and is likely to have some effectiveness as a noise barrier. There is a full sheet steel wall that encircles the speedway. The ground cover surrounding the complex is acoustically soft.

We have considered the effect of constructing an 8 metre high noise barrier or bund to the south of the raceway and speedway in the location of the existing bund.

In order to show these results, we have produced a noise difference map showing the noise level difference with the barrier in place, compared with the existing situation. This plot is shown in Appendix 1, Figure 6.

From the figure it can be seen that while the barrier produces a significant reduction in noise levels close to the barrier, at the location of most surrounding dwellings the noise reduction is not significant (less than 2 dB). At these dwelling locations, the barrier would reduce noise levels from the near side of the track significantly; however the noise from the main straight on the far side of the track would not be significantly reduced. We do not consider that increasing the height of the existing bund to be an effective noise control option as it would not provide an appreciable decrease in noise levels.

- **Acoustically treat the receiver**

  Generally, acoustically treating the receivers is viewed as a last resort when all other noise control measures have been exhausted. Only indoor areas are normally treated; outdoor recreational areas will still receive the same amount of noise.

  Acoustically treating receivers usually involves:

  - The installation of heavy glass panes or double glazing if appropriate;
  - Increasing the mass of internal wall and ceiling linings;
  - Installing ventilation systems so that windows can remain shut; and
  - Treating external doors where appropriate

  It should be noted that new dwellings constructed in this area are required to comply with City Plan noise limits to control aircraft noise from CIAL internally. Many of the above measures will therefore have already been included in new or recently constructed dwellings around Ruapuna Park.

7.8 Summary of Possible Relocation Scenarios

We have considered all of the possible relocation scenarios currently being considered by Council.

Relocating the Kart Track to the Pound Road quarry whilst Ruapuna Park stays in its current location will result in an insignificant increase in noise level for many receivers; however a just perceptible to appreciable increase would generally be experienced at receivers to the north and east of the quarry (Refer to Section 7.4). At receivers close to the quarry an appreciable increase in noise would be experienced.

Relocating Ruapuna Raceway into the quarry would result in significant reductions in noise at some receiver locations. However at a similar number of receiver locations a significant increase is expected. Under the predominant northeast wind directions, the increase in noise levels at some dwellings will be more significant than the decrease in noise levels at others under the same conditions.

Relocating both the Kart Track and Ruapuna Park to the Pound Road quarry will in general result in a reduction in noise levels at receivers to the south and west, however the reduction would be only just perceptible under predominant north-east conditions. For dwellings to the north and east of the quarry more than a doubling of loudness is predicted.

The expected levels of annoyance in each situation are summarised in the following table:

Table 35: Summary of Noise Effects (Summarised in Appendix 1, Figures 7)

Effect	Number of dwellings affected				
	Currently affected	Affected if Ruapuna at Limit of Operation	Ruapuna Relocated to Quarry	Kart Club in Quarry Ruapuna Existing	Both Ruapuna and Kart Club Relocated to Quarry
Minor effects	25	-	18	10	14
Minor to moderate effects	13	25	18	26	10
Moderate to significant effects	7	13	9	7	19
Significant to severe effects	0	7	0	2	2
Severe effects	0	0	0	0	0

No relocation options to the Pound Road Quarry are considered reasonable in terms of noise effects. If relocation of these racetracks is considered to be required, alternative sites should be considered.

As discussed in Section 4.0, the City Plan currently contains a 400 metre exclusion zone around the boundary of the site within which it is a non-complying activity to build. There are currently six dwellings within this buffer zone, with a seventh located just outside the zone. These dwellings are moderately to significantly affected by noise. The current buffer distance is therefore generally sufficient for preventing

significant noise effects on new dwellings; however dwellings built just outside this zone may still be moderately affected by noise. In order to prevent minor to moderate noise effects, the buffer zone would need to be extended to approximately 1300 metres from the existing Ruapuna site. The 1300 metre buffer would represent a contour outside of which noise levels were generally below 55 dBA $L_{eq\ (1\ hour)}$.

We have summarised the approximate buffer distances around each of the above scenarios that would be required to prevent moderate and significant noise effects:

Table 36: Buffer Distances

Effect	Buffer Distances (Metres)			
	Ruapuna at Limit of operation	Ruapuna Relocated to Quarry (normal operation)	Kart Club in Quarry Ruapuna Existing (normal operation)	Both Ruapuna and Kart Club Relocated to Quarry (normal operation)
Distance to Prevent Significant effects	1300m	250 – 450 m	500 – 1000 m	400 – 900m
Distance to Prevent Moderate Effects	2600m	1000m	1600 – 2000m	2000m

We recommend that the current exclusion zone around Ruapuna Park should be strongly defended by Council. Any attempt to develop or subdivide property inside this zone should be discouraged. Consideration should be given to increasing the buffer distance to approximately 1300 metres.

8.0 CONCLUSIONS

Marshall Day Acoustics have examined the existing and potential noise environments of the areas surrounding Ruapuna Park and the existing noise environment of the Kart Club.

We have proposed criteria for assessing the "reasonableness" of noise when applied to the existing Ruapuna Park and Kart Club operations. In the rural residential areas surrounding Ruapuna Park, daytime noise levels are generally considered to be reasonable, however seven houses are exposed to raceway noise levels that are marginally above our reasonableness criteria. Three houses are exposed to speedway noise levels that are marginally above the reasonableness criteria during the daytime. This is consistent with the small number of complainants. Night operations at the speedway are currently considered unreasonable at twenty one dwellings based on our criteria.

With Ruapuna Park operating to maximum permitted capacity the noise levels from dayime operation of the raceway are considered to have significant to severe effects for 10 dwellings. For the night-time operation at the Speedway, the noise levels are considered to have a significant to severe effects for 21 dwellings. Therefore, we consider that it is unreasonable for Ruapuna Park to operate at its maximum permitted capacity of 200 large events per year.

The current buffer distance around Ruapuna Park is generally sufficient to prevent significant noise effects on existing dwellings. A buffer distance of approximately 1300 metres would be required to prevent moderate noise effects. The construction of an 8 metre high noise barrier to the south of the existing raceway would not result in a significant decrease in noise levels for the majority of receivers.

Additionally, Marshall Day Acoustics have performed acoustic modelling of a number of scenarios for the possible relocation of the Christchurch Kart Club and Ruapuna Park. Given the predominance of the north-easterly wind at the site location, the possible relocation of the Christchurch Kart Club into the Pound Road quarry would, in general, cause noise effects to increase at the majority of nearby dwellings. Similarly, the possible relocation of Ruapuna Park into the Pound Road quarry would, in general, cause noise effects to increase at the majority of nearby dwellings.

Given the increasing pressure on land surrounding the Christchurch Kart Club we recommend that consideration is given to relocation, however relocation of either the Kart Club or Ruapuna Raceway to the Pound Road quarry is not considered reasonable in terms of noise effects on the surrounding area.

We consider that the current location of Ruapuna currently represents the best practicable option in terms of noise effects on existing dwellings. We do not consider the Pound Road Quarry as the best relocation site for the Kart Club in terms of noise effects on existing dwellings.

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Appendix 1: Figures

Figures 1a – 1f

1a: Ruapuna Park Existing Raceway: NZV8 Race, NE wind

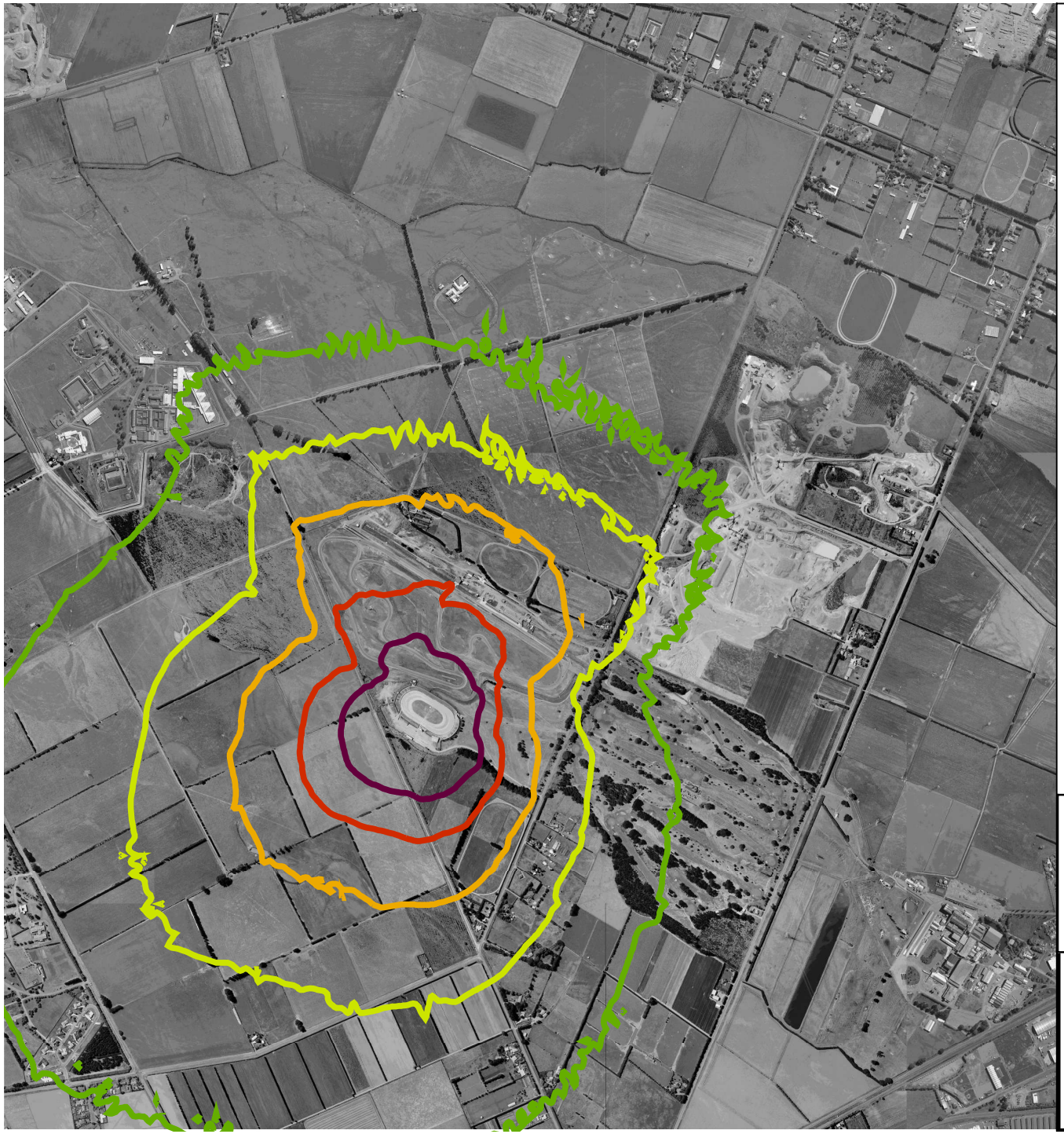
1b: Ruapuna Park Existing Raceway: NZV8 Race, SW wind

1c: Ruapuna Park Existing Raceway: NZV8 Race, NW wind

1d: Ruapuna Park Existing Speedway: International Sprint, NE wind

1e: Ruapuna Park Existing Speedway: International Sprint, SW wind

1f: Ruapuna Park Existing Speedway: International Sprint, NW wind



RACEWAY NOISE STUDY

Scenario:
Ruapuna Speedway Race

Wind Conditions:
NE

Noise level
Leq dB(A)

= 50
= 55
= 60
= 65
= 70

N

0 125 250 500 750 1000
m

MARSHALL DAY
ACOUSTICS

RACEWAY NOISE STUDY

Scenario:
Ruapuna Speedway Race

Wind Conditions:
SW

Noise level
Leq dB(A)

= 50
= 55
= 60
= 65
= 70

N

0 125 250 500 750 1000
m

MARSHALL DAY
ACOUSTICS

RACEWAY NOISE STUDY

Scenario:
Ruapuna Speedway Race

Wind Conditions:
NW

Noise level
Leq dB(A)

= 50
= 55
= 60
= 65
= 70

N

0 125 250 500 750 1000
m

MARSHALL DAY
ACOUSTICS

RACEWAY NOISE STUDY

Scenario:
Ruapuna Circuit NZV8 Race

Wind Conditions:
NE

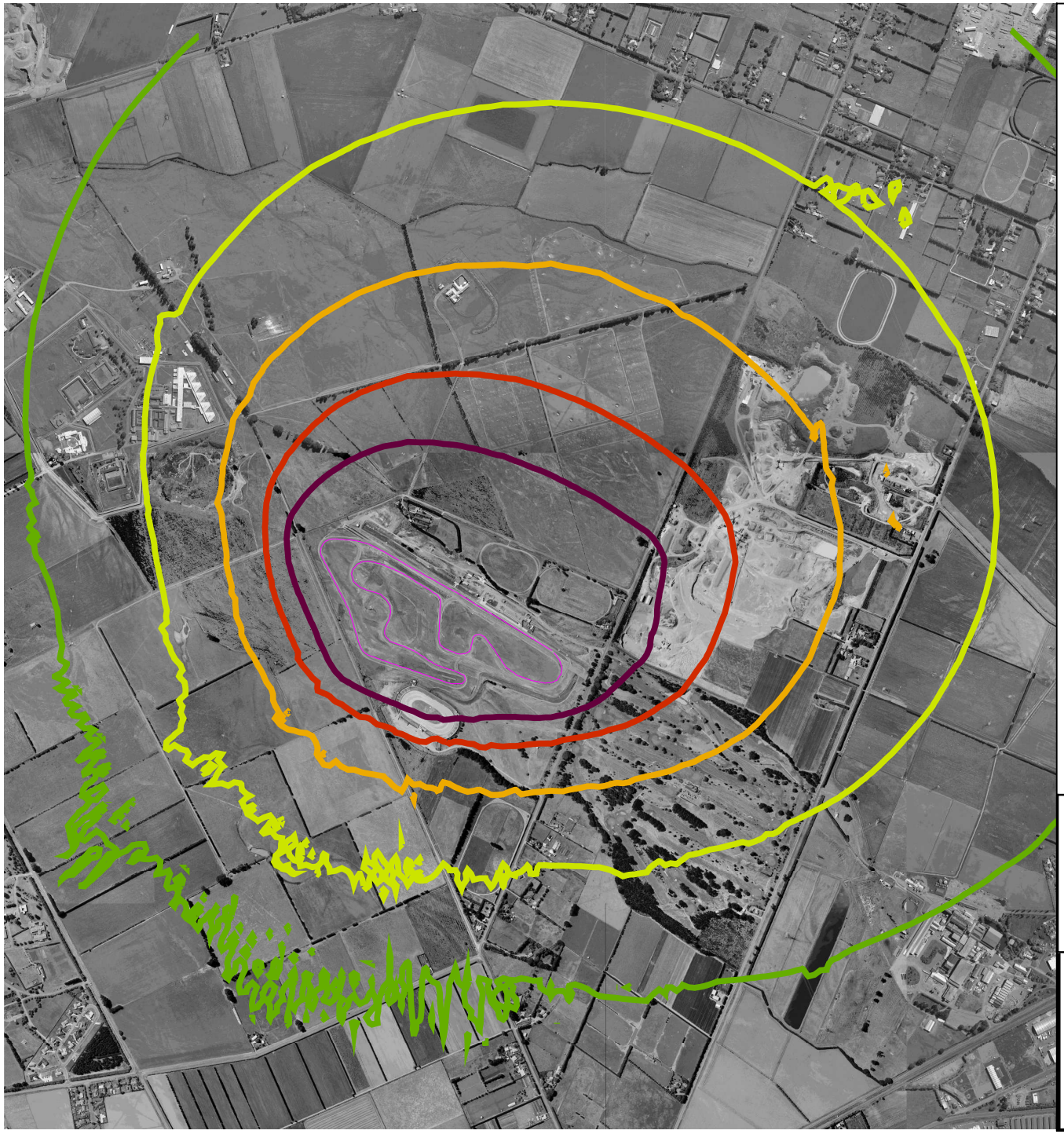
Noise level
Leq dB(A)

= 50
= 55
= 60
= 65
= 70

N

0 125 250 500 750 1000
m

MARSHALL DAY
ACOUSTICS



RACEWAY NOISE STUDY

Scenario:
Ruapuna Circuit NZV8 Race

Wind Conditions:
SW

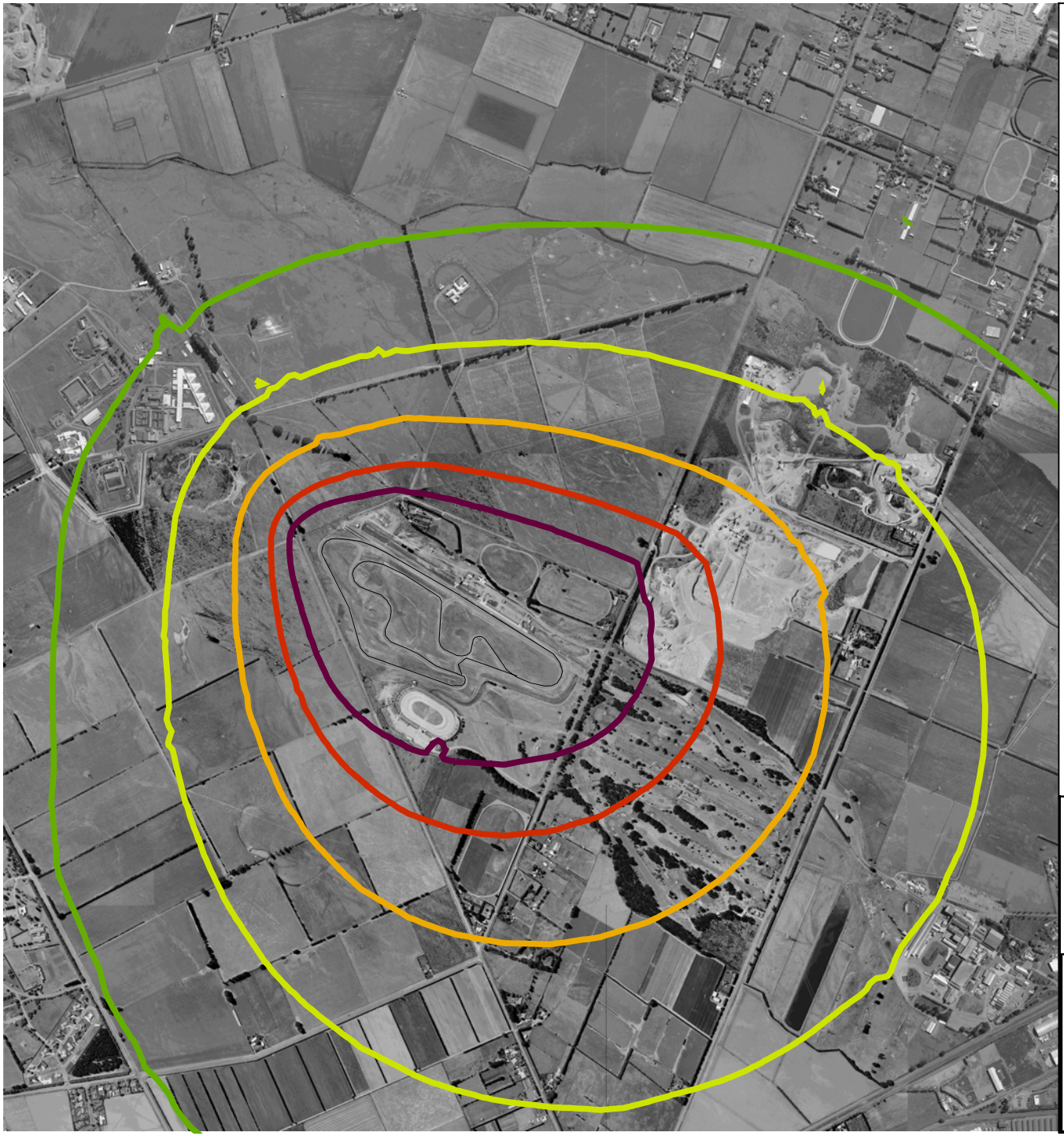
Noise level
Leq dB(A)

= 50
= 55
= 60
= 65
= 70

N

0 125 250 500 750 1000
m

MARSHALL DAY
ACOUSTICS



RACEWAY NOISE STUDY

Scenario:
Ruapuna Circuit NZV8 Race

Wind Conditions:
NW

Noise level
Leq dB(A)

= 50
= 55
= 60
= 65
= 70

N

0 125 250 500 750 1000
m

MARSHALL DAY
ACOUSTICS

Figures 2a – 2c

2a: Carrs Road KART track: Yamaha 100cc Race Conditions, NE wind

2b: Carrs Road KART track: Yamaha 100cc Race Conditions, SW wind

2c: Carrs Road KART track: Yamaha 100cc Race Conditions, NW wind


CHRISTCHURCH
KART
CLUB
Event Noise
Levels at Carrs Road
Track
NE Conditions
Noise level
Leq
in dB(A)
= 50.0
= 55.0
= 60.0
= 65.0
= 70.0
MARSHALL DAY
ACOUSTICS
0 15 30 60 90 120
m


CHRISTCHURCH
KART
CLUB
Event Noise
Levels at Carrs Road
Track
SW Conditions
Noise level
Leq
in dB(A)
= 50.0
= 55.0
= 60.0
= 65.0
= 70.0
MARSHALL DAY
ACOUSTICS
0 15 30 60 90 120
m

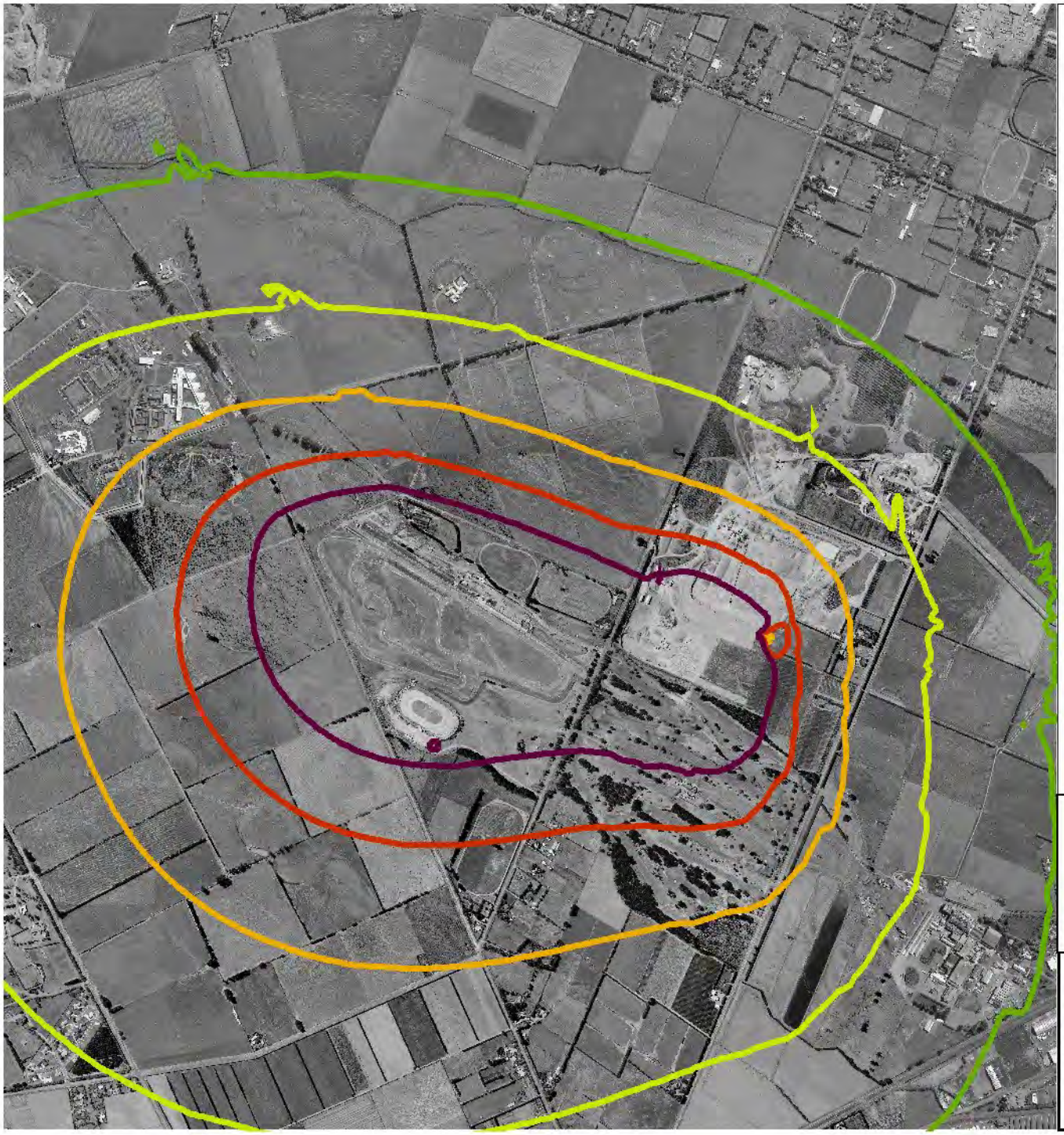

CHRISTCHURCH
KART
CLUB
Event Noise
Levels at Carrs Road
Track
NW Conditions
Noise level
Leq
in dB(A)
= 50.0
= 55.0
= 60.0
= 65.0
= 70.0
MARSHALL DAY
ACOUSTICS
0 15 30 60 90 120
m

Figures 3a – 3c

3a: Ruapuna Existing Location, Kart Track in Pound Road Quarry, Race, NE wind

3b: Ruapuna Existing Location, Kart Track in Pound Road Quarry, Race, SW wind

3c: Ruapuna Existing Location, Kart Track in Pound Road Quarry, Race, NW wind



RACEWAY NOISE STUDY

Scenario:
Ruapuna NZV8 Rac
Kart Race in quarry

Wind Conditions:
NE wind

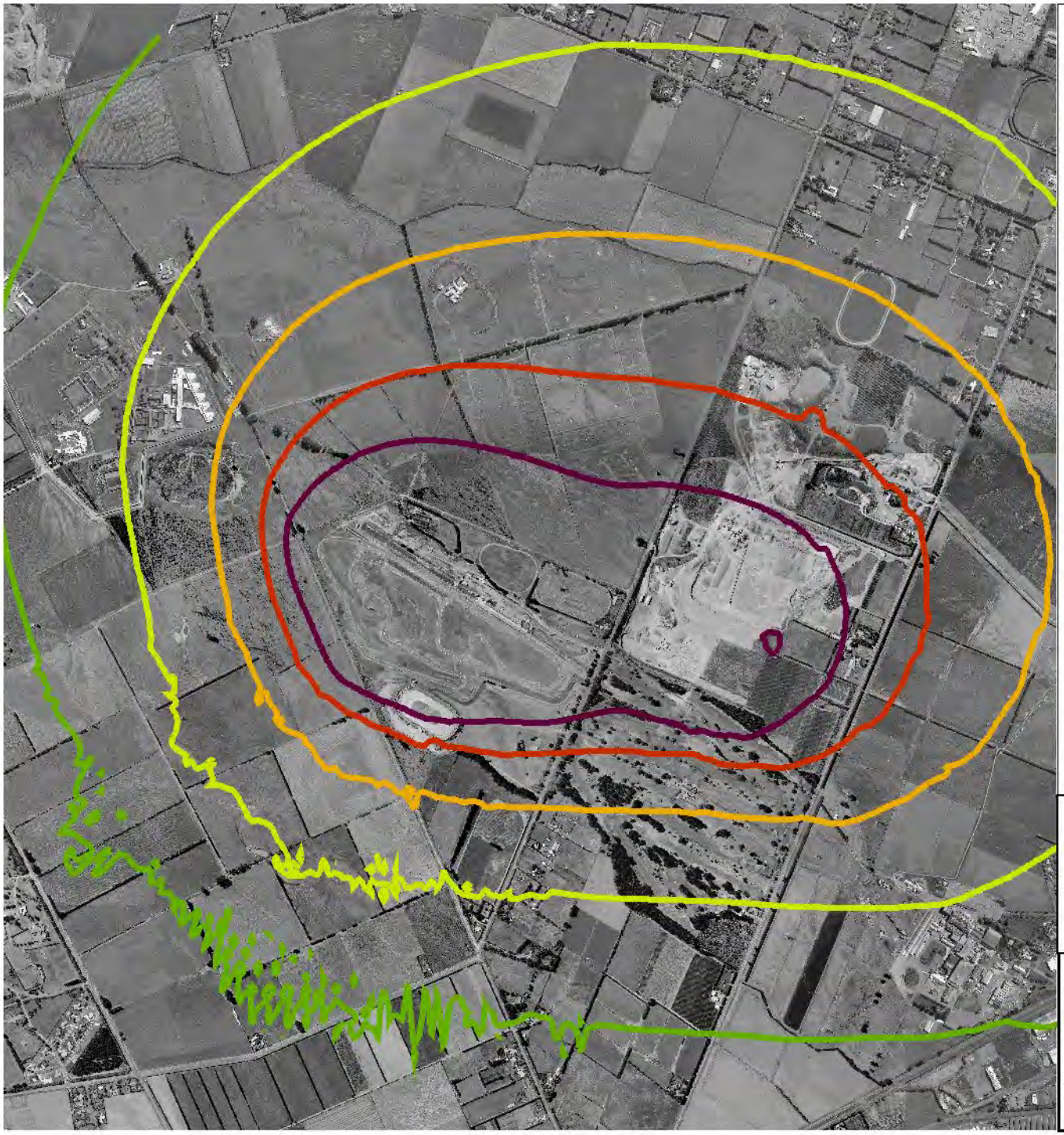
Noise level
Leq dB(A)

= 50
= 55
= 60
= 65
= 70

N

0 125 250 500 750 1000
m

MARSHALL DAY
ACOUSTICS



RACEWAY NOISE STUDY

Scenario:
Ruapuna NZV8 Race
Kart Race in quarry

Wind Conditions:
SW wind

Noise level
Leq dB(A)

= 50
= 55
= 60
= 65
= 70

N

0 125 250 500 750 1000 m

MARSHALL DAY
ACOUSTICS

RACEWAY NOISE STUDY

Scenario:
Ruapuna NZV8 Race
Kart Race in quarry

Wind Conditions:
NW wind

Noise level
Leq dB(A)

= 50
= 55
= 60
= 65
= 70

N

0 125 250 500 750 1000 m

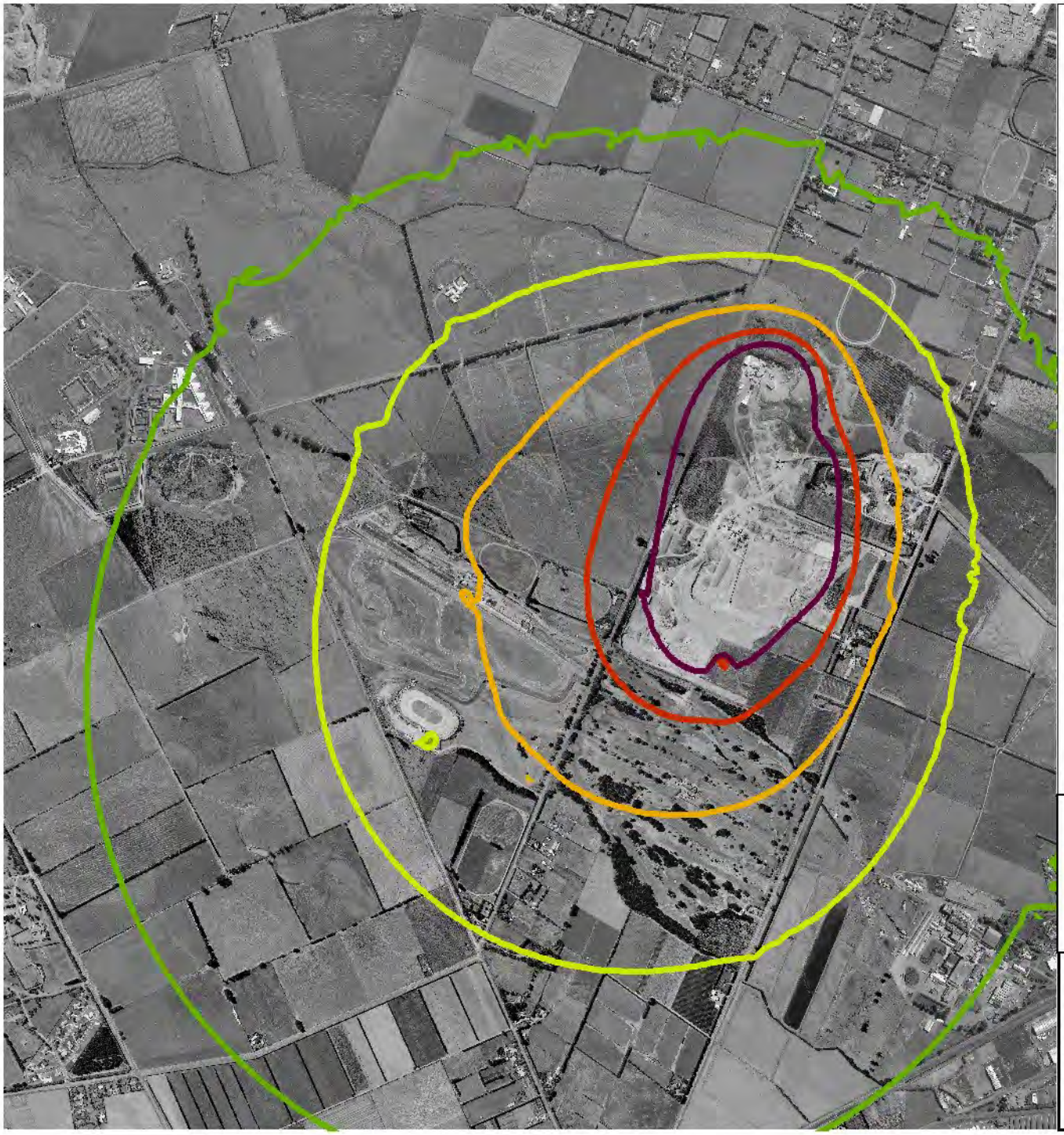
MARSHALL DAY
ACOUSTICS

Figures 4a – 4c

4a: Ruapuna Raceway in Pound Road Quarry, Race, NE wind

4b: Ruapuna Raceway in Pound Road Quarry, Race, SW wind

4c: Ruapuna Raceway in Pound Road Quarry, Race, NW wind



RACEWAY NOISE STUDY

Scenario:
NZV8 Race in quarry

Wind Conditions:
NE wind

Noise level
Leq dB(A)

= 50
= 55
= 60
= 65
= 70

N

0 125 250 500 750 1000
m

MARSHALL DAY
ACOUSTICS

RACEWAY NOISE STUDY

Scenario:
NZV8 Race in quarry

Wind Conditions:
SW wind

Noise level
Leq dB(A)

= 50
= 55
= 60
= 65
= 70

N

0 125 250 500 750 1000 m

MARSHALL DAY
ACOUSTICS

RACEWAY NOISE STUDY

Scenario:
NZV8 Race in quarry

Wind Conditions:
NW wind

Noise level
Leq dB(A)

= 50
= 55
= 60
= 65
= 70

N

0 125 250 500 750 1000 m

MARSHALL DAY
ACOUSTICS

Figures 5a – 5c

5a: Ruapuna Raceway and Kart Track in Pound Road Quarry, Race, NE wind

5b: Ruapuna Raceway and Kart Track in Pound Road Quarry, Race, SW wind

5c: Ruapuna Raceway and Kart Track in Pound Road Quarry, Race, NW wind

RACEWAY NOISE STUDY

Scenario:
NZV8 Race in quarry
Kart Race in quarry

Wind Conditions:
NE

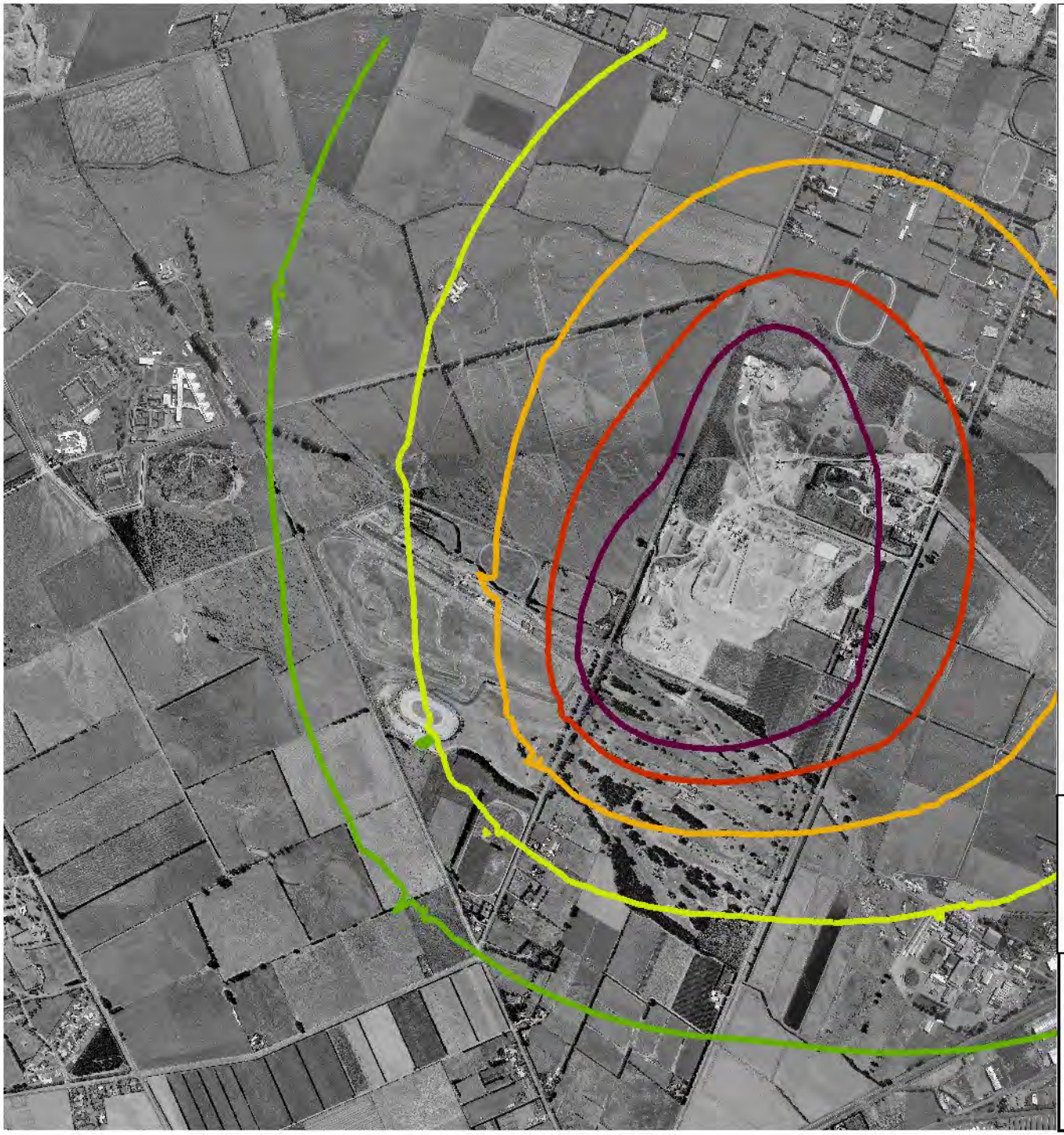
Noise level
Leq dB(A)

= 50
= 55
= 60
= 65
= 70

N

0 125 250 500 750 1000 m

MARSHALL DAY
ACOUSTICS



RACEWAY NOISE STUDY

Scenario:
NZV8 Race in quarry
Kart Race in quarry

Wind Conditions:
SW

Noise level
Leq dB(A)

= 50
= 55
= 60
= 65
= 70

N

0 125 250 500 750 1000 m

MARSHALL DAY
ACOUSTICS

RACEWAY NOISE STUDY

Scenario:
NZV8 Race in quarry
Kart Race in quarry

Wind Conditions:
NW

Noise level
Leq dB(A)

= 50
= 55
= 60
= 65
= 70

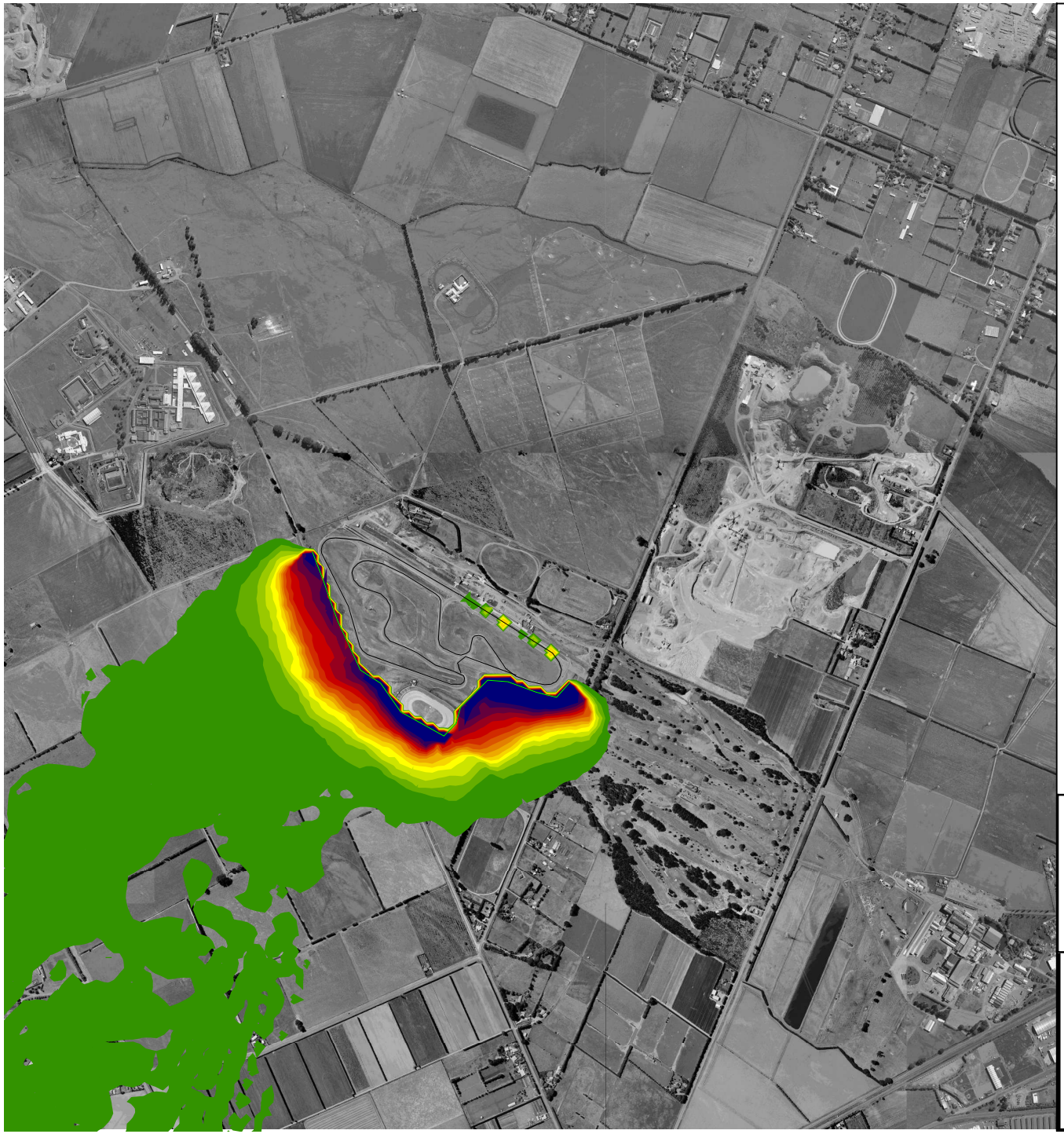
N

0 125 250 500 750 1000
m

MARSHALL DAY
ACOUSTICS

Figures 6

Figure 6: Effect of Noise Barrier



RACEWAY NOISE STUDY

Scenario:
Ruapuna Circuit NZV8 Race
Difference with 8m barrier

Wind Conditions:
No Wind

Reduction in noise level with 8m barrier

=	1.0
=	2.0
=	3.0
=	4.0
=	5.0
=	6.0
=	7.0
=	8.0
=	9.0
=	10.0
=	11.0
=	12.0
=	13.0
=	14.0
=	15.0

N

0 125 250 500 750 1000 m

MARSHALL DAY ACOUSTICS

Figures 7

Figure 7a: Affected receivers – Ruapuna Park existing location and operation

Figure 7b: Affected receivers – Ruapuna Park existing location, maximum capacity operation

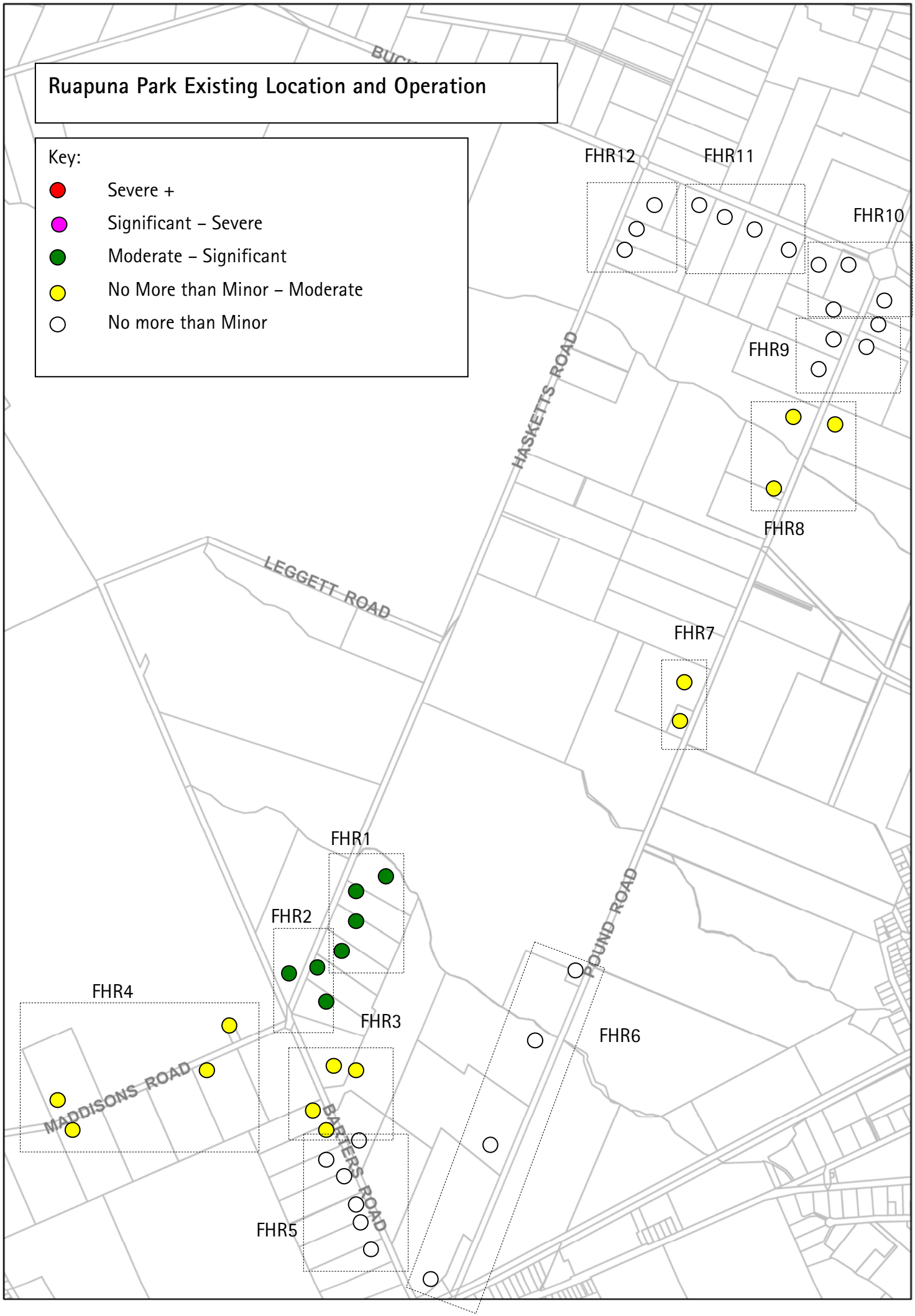
Figure 7c: Affected receivers – Speedway during night-time operation

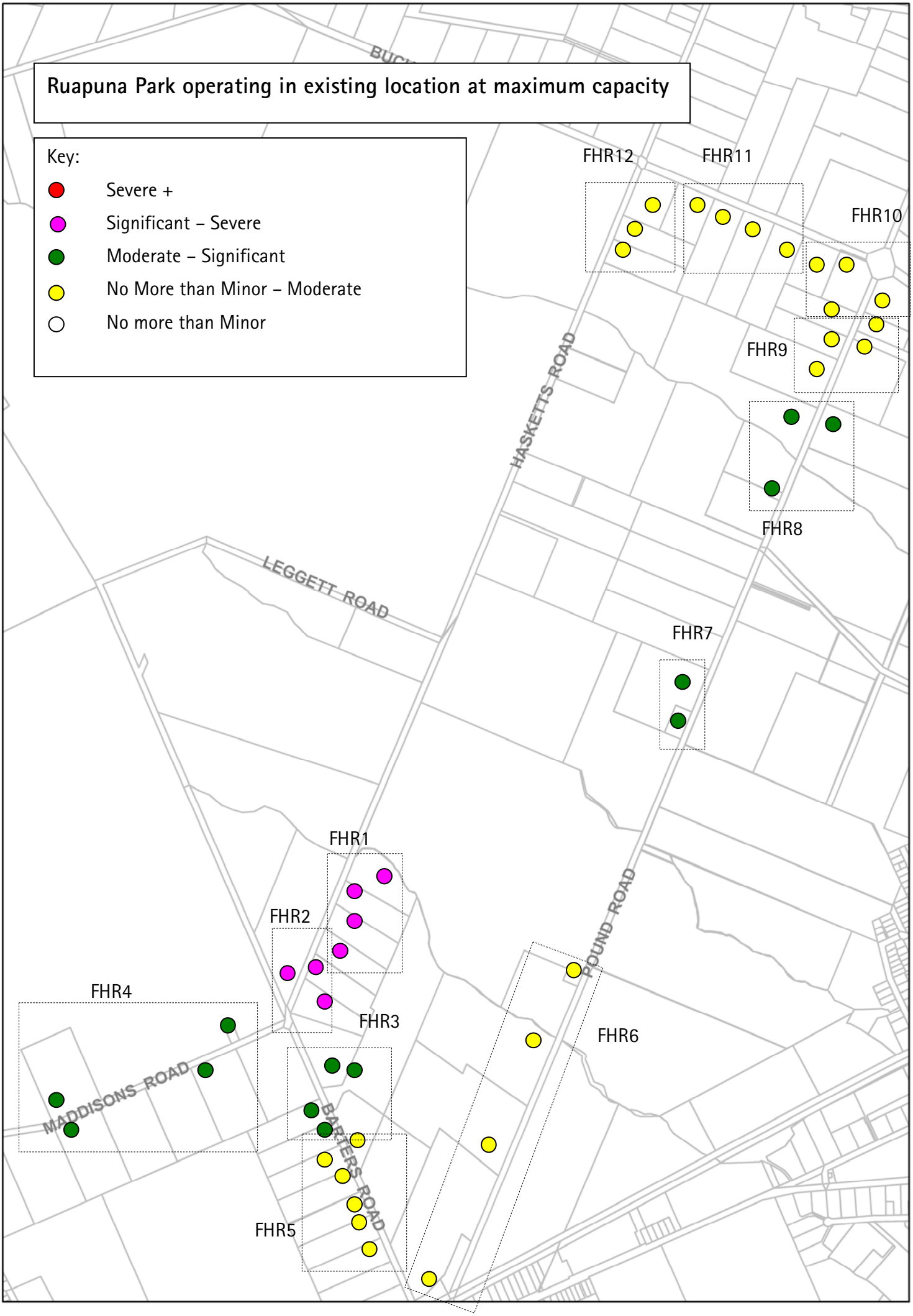
Figure 7d: Affected receivers – Ruapuna Park relocated to quarry

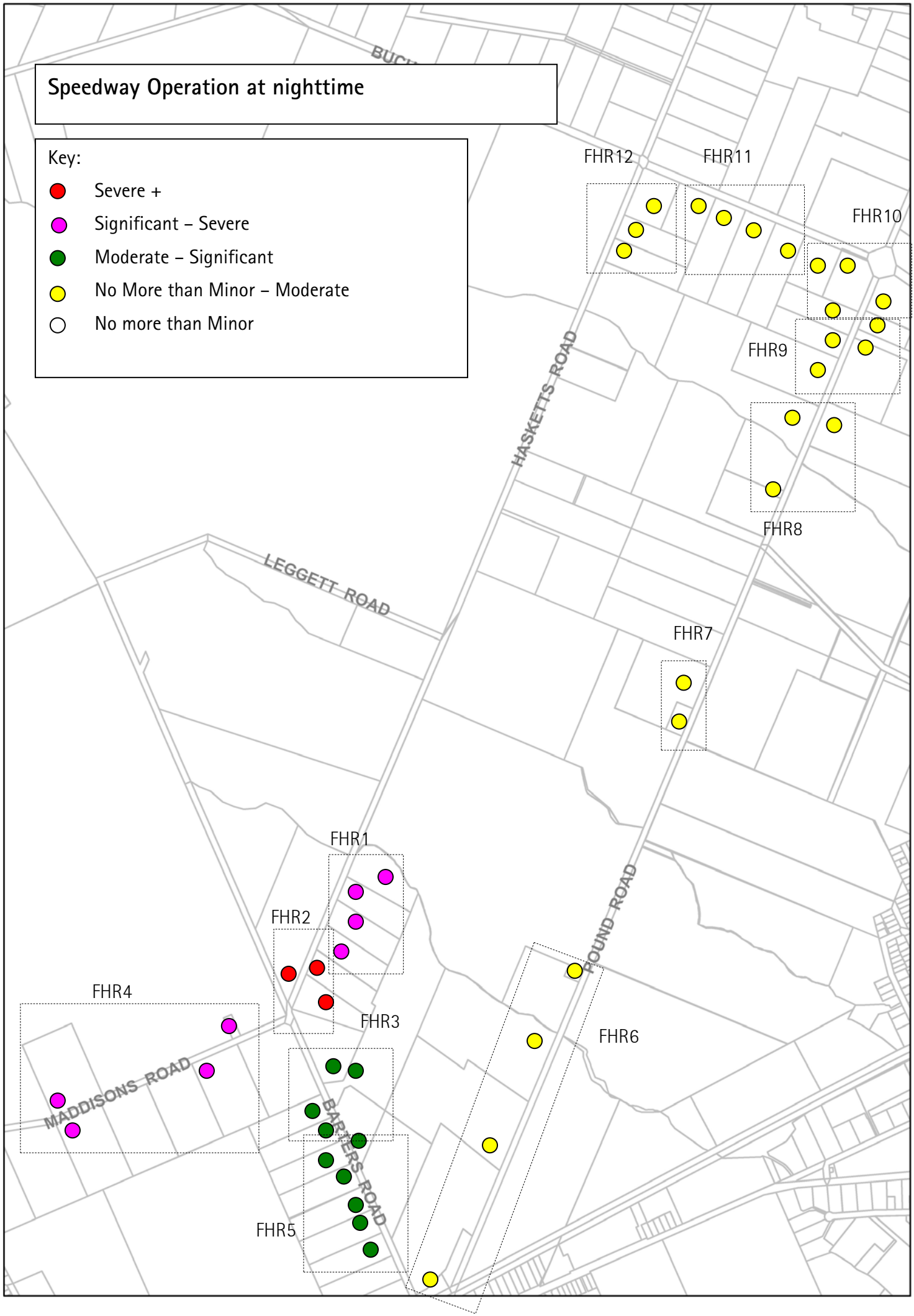
Figure 7e: Affected receivers – Ruapuna Park existing location, Kart Club in quarry

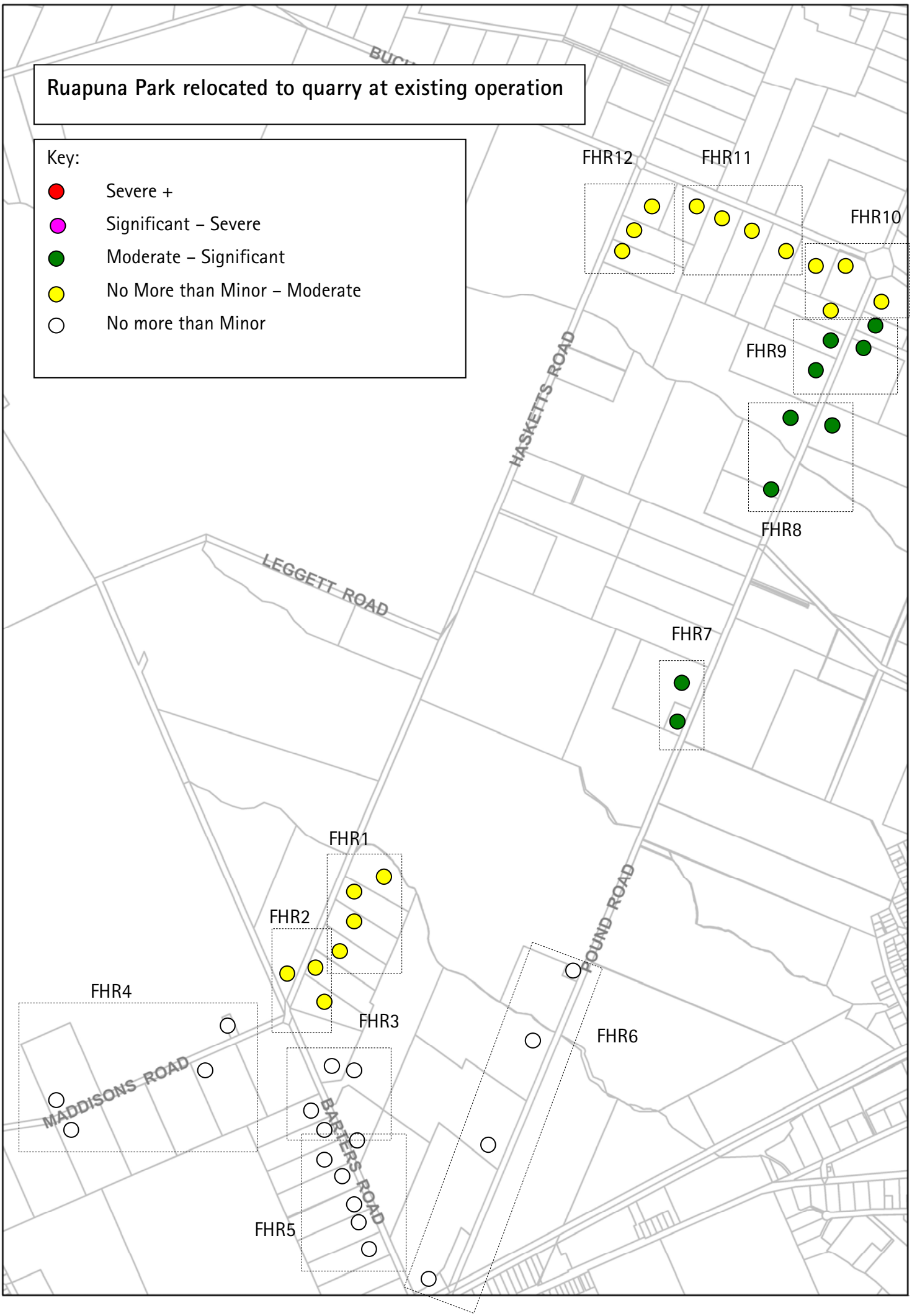
Figure 7f: Ruapuna Park and Kart Club relocated to quarry

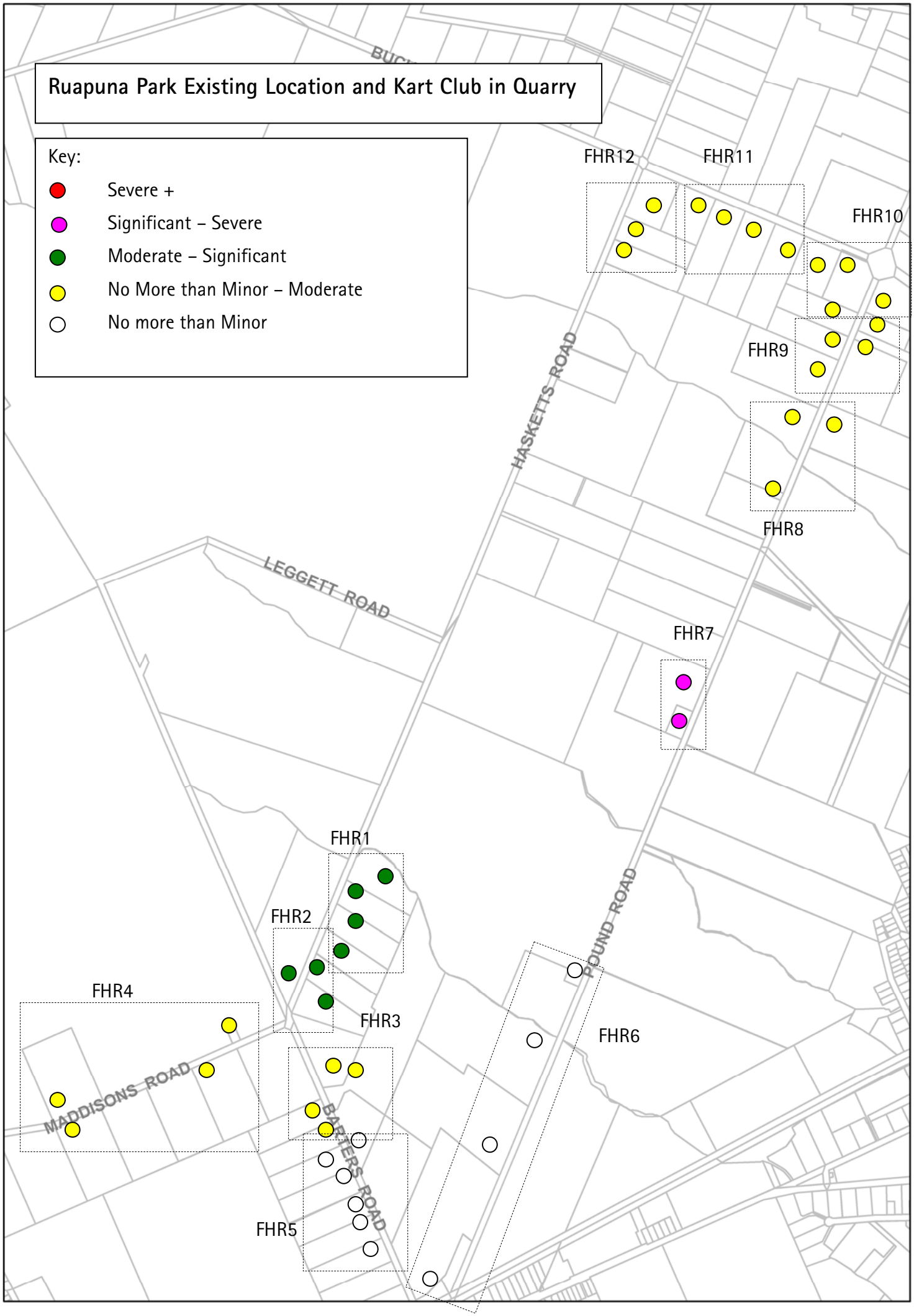
Figure 7g: Affected receivers – Carrs Road Kart Club

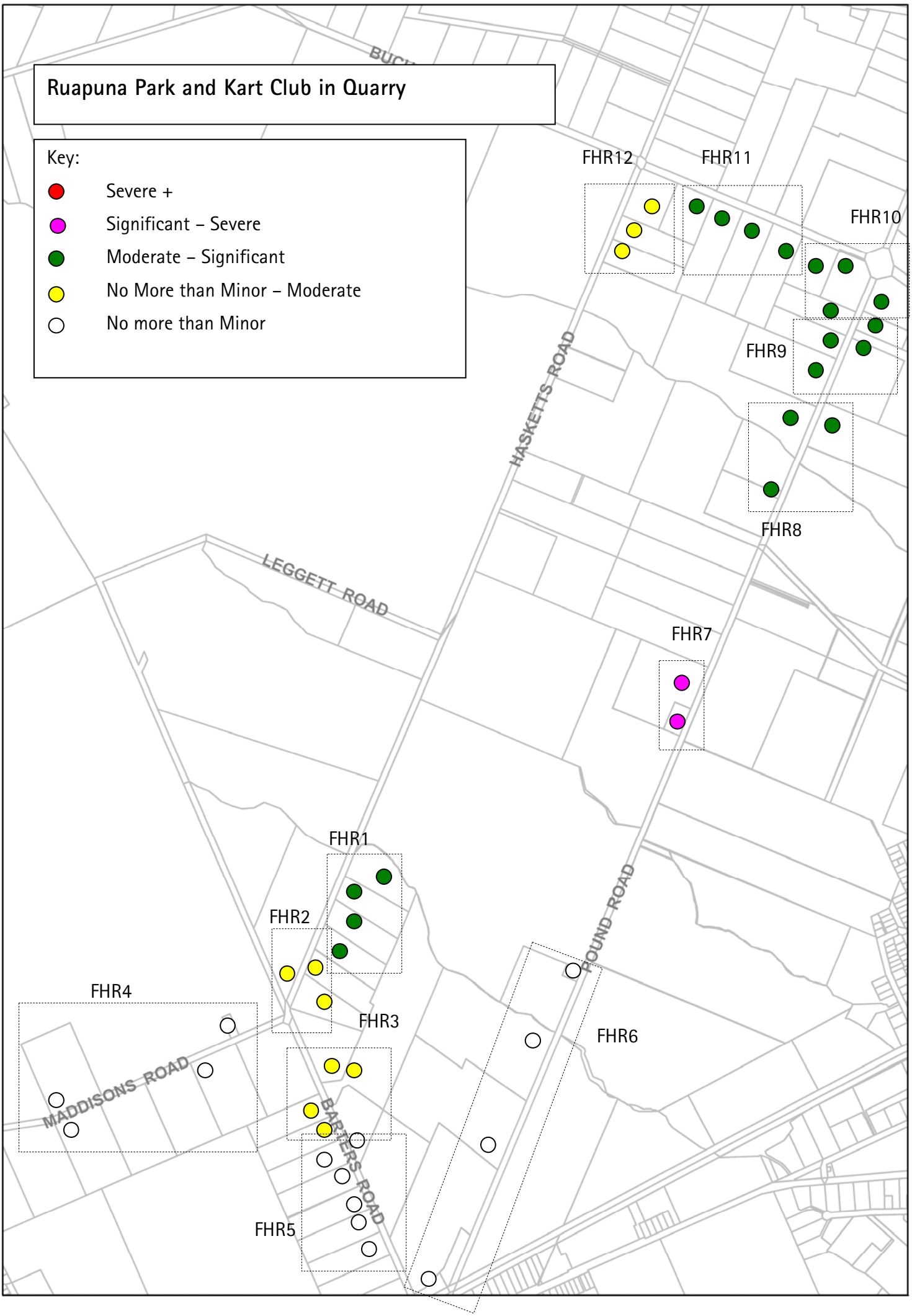

Ruapuna Park Existing Location and Operation
Key:
Severe +
Significant – Severe
Moderate – Significant
No More than Minor – Moderate
No more than Minor
FHR12
FHR11
FHR10
FHR9
FHR8
FHR7
FHR1
FHR2
FHR3
FHR4
FHR5
FHR6
HASKETTS ROAD
LEGGETT ROAD
POUND ROAD
MADDISONS ROAD
BARTERS ROAD


Ruapuna Park operating in existing location at maximum capacity
Key:
Severe +
Significant – Severe
Moderate – Significant
No More than Minor – Moderate
No more than Minor
FHR12
FHR11
FHR10
FHR9
FHR8
FHR7
FHR1
FHR2
FHR3
FHR4
FHR5
FHR6
HASKETTS ROAD
LEGGETT ROAD
POUND ROAD
MADDISONS ROAD
BARTERS ROAD


Speedway Operation at nighttime
Key:
Severe +
Significant – Severe
Moderate – Significant
No More than Minor – Moderate
No more than Minor
FHR12
FHR11
FHR10
FHR9
FHR8
FHR7
FHR6
FHR5
FHR4
FHR3
FHR2
FHR1
HASKETTS ROAD
LEGGETT ROAD
POUND ROAD
MADDISONS ROAD
BARTERS ROAD


Ruapuna Park relocated to quarry at existing operation
Key:
Severe +
Significant – Severe
Moderate – Significant
No More than Minor – Moderate
No more than Minor
FHR12
FHR11
FHR10
FHR9
FHR8
FHR7
FHR1
FHR2
FHR3
FHR4
FHR5
FHR6
HASKETTS ROAD
LEGGETT ROAD
ROUND ROAD
MADDISONS ROAD
BARTLERS ROAD


Ruapuna Park Existing Location and Kart Club in Quarry
Key:
Severe +
Significant – Severe
Moderate – Significant
No More than Minor – Moderate
No more than Minor
FHR12
FHR11
FHR10
FHR9
FHR8
FHR7
FHR1
FHR2
FHR3
FHR4
FHR5
FHR6
HASKETTS ROAD
LEGGETT ROAD
POUND ROAD
MADDISONS ROAD
BARTLERS ROAD


Ruapuna Park and Kart Club in Quarry
Key:
Severe +
Significant – Severe
Moderate – Significant
No More than Minor – Moderate
No more than Minor
FHR12
FHR11
FHR10
FHR9
FHR8
FHR7
FHR1
FHR2
FHR3
FHR4
FHR5
FHR6
HASKETTS ROAD
LEGGETT ROAD
ROUND ROAD
MADDISONS ROAD
BARTLERS ROAD


Existing Carrs Road Site
MCTEIGUE ROAD
CARRS ROAD
HALSWELL JUNC
ROAD
WIGRAM ROAD
Key:
Severe +
Significant – Severe
Moderate – Significant
No More than Minor – Moderate
No more than Minor
39 receivers in this area no more than minor. These receivers not shown due to number

Appendix 2: Glossary of terms

To assist readers in understanding this report, we have prepared the following brief discussion on acoustic terminology.

decibels: Sound levels are measured using a logarithmic scale known as decibels (dB). Under this scale, doubling the amount of acoustical energy results in a 3 decibel increase in level. However, subjectively, a sound which is judged as being twice as loud as another is typically 10 decibels louder. A difference of 2 dBA is the minimum which the human ear can detect.

dBA: The most common term used in relation to environmental sound. The "A" weighting applied to decibels is designed to represent the sensitivity of the ear. However, the human response to noise is such that an individual's perception to a specific noise source may well be different to that of another person.

Typical noise *levels:*

Source	Level (dBA)
Rural area away from roads	25-30
Quiet town area at night	35-45
Wind in trees (16km/h)	43
Lawnmower at 40m	62
Normal conversation at 1m	63
Dog barking at 40m	64
Car (80km/h) at 40m	65
Domestic music (background)	65
TV at 3m	74
Vacuum cleaner at 1m	81

Effect of distance: Noise is attenuated with distance from the source. For most noise sources, this attenuation is 6 dBA per doubling of distance, however at distances close to a raceway the attenuation per doubling of distance would be expected to be 3 dBA. Note that this means noise levels drop off much quicker close to a source than they do further away.

L_{10}: Because most noise sources are not constant, it is common to describe them in terms of a statistical analysis. The L_{10} noise level is the level which is exceeded for 10% of any measurement period, and is often used to represent intrusive noise.

L_{eq}: L_{eq} is an energy based average – it is the constant level which would give the same amount of acoustical energy as the time varying noise source being considered. Numerically, L_{eq} and L_{10} are often similar.

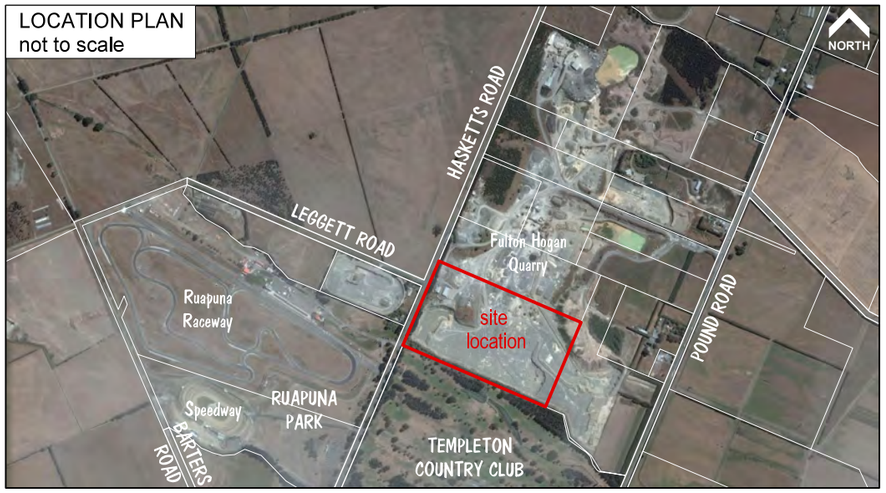
L_{95}: L_{95} is the level which is exceeded for 95% of any measurement period, and represents the "background" noise level. Many countries use L_{90} rather than L_{95}. There is very little difference between these two parameters.

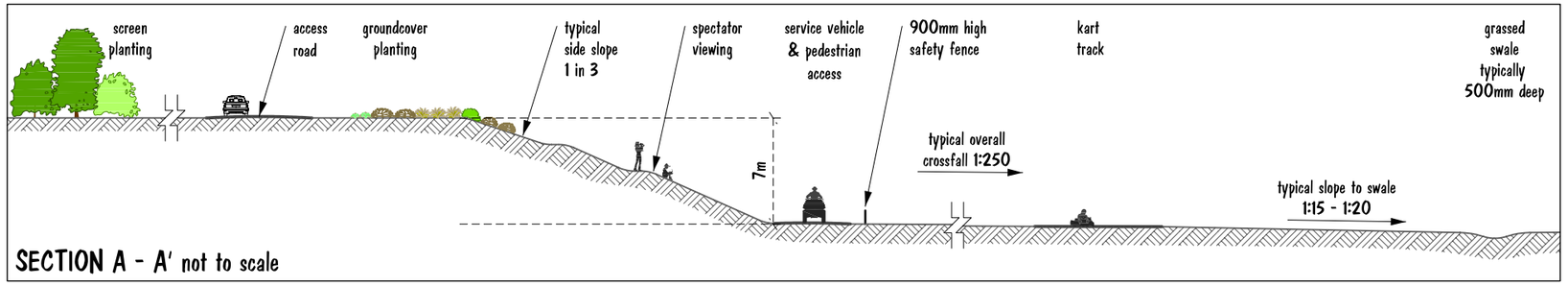
SEL: SEL is an abbreviation for "Sound Exposure Level". It represents the total amount of sound energy compressed into 1 second. SEL is extremely useful for calculating noise from a single event such as a vehicle driving past or an aircraft flying over.

Notional boundary: The notional boundary is defined as a line 20m from a rural dwelling, or the legal boundary if the dwelling is less than 20m from the boundary.

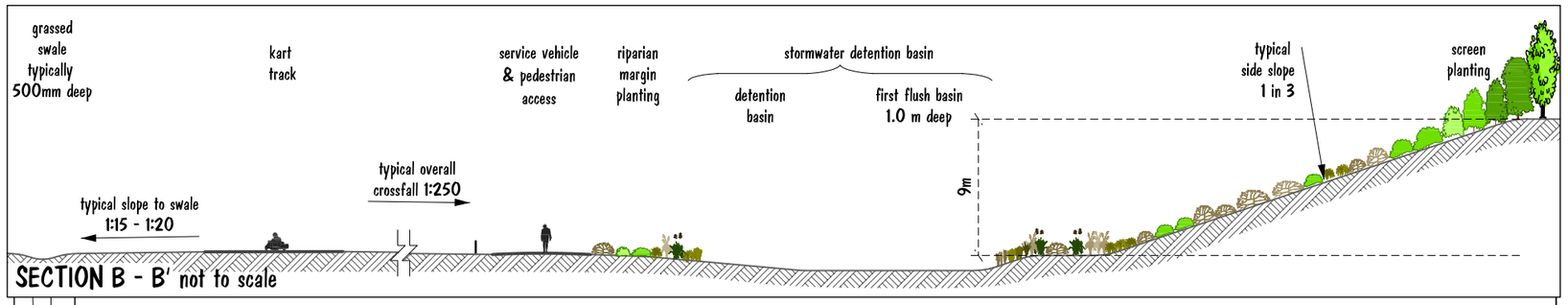
Appendix 3: Kart Club Concept Plan (Overleaf)

LOCATION PLAN
not to scale





SECTION A - A' not to scale



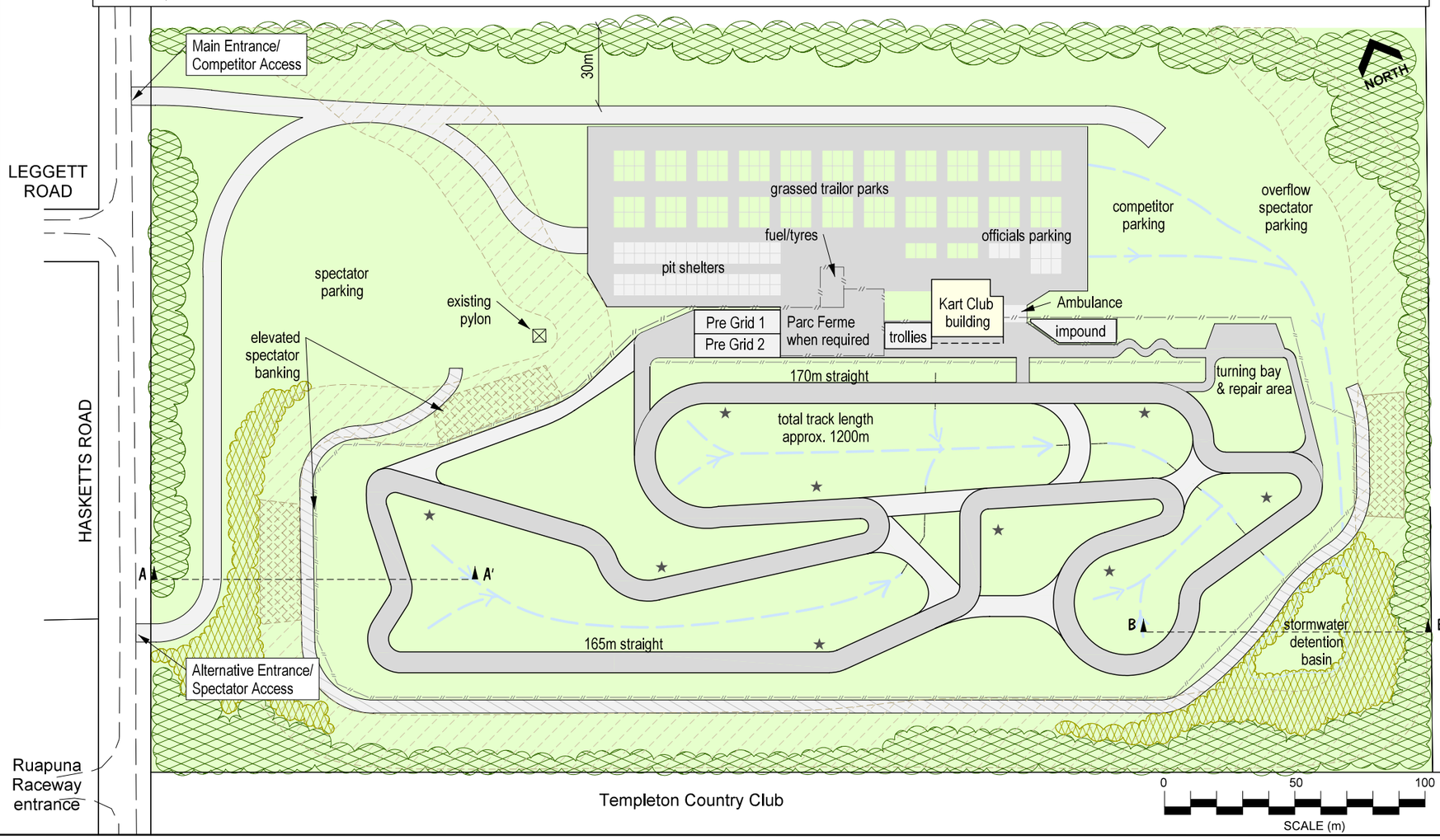
SECTION B - B' not to scale

KEY

- extent of track to be reinstated to meet International Rating Criteria
- additional track to be installed by Kart Club
- 900mm high safety fence
- 1800mm high safety fence
- ★ Flag Marshal Point
- Elevated specator banking
- Service Vehicle/Pedestrian Access
- approx. extent of sides slopes
- grassed stormwater swale
- piped section/culvert
- massed tree & shrub planting - including screen & shelter belt vegetation
- massed ground cover planting - including riparian margin plants and low growing natives

NOTES

1. Total area shown is approx. 14 hectares. Minumum land area required for this track layout is approx. 10 hectares.
2. The stormwater system consists of a one metre deep first flush basin and detention basin. These will be fed by mowable grassed swales, typically 500mm deep.
3. Along the northern boundary a 30m wide strip of land is indicated to accommodate either bunding back up to ground level or a buffer zone between activities, depending on future development.



CHRISTCHURCH
CITY COUNCIL · YOUR PEOPLE · YOUR CITY

KART TRACK RELOCATION AT POUND ROAD QUARRY

DRAFT CONCEPT

Original Plan Size: A3

ISSUE.02 16/11/06
LP198504 FJG

Appendix 4: Existing Noise Levels—Detailed Data

9.1 Measurement Locations

The following measurement sites have been used to determine the level of existing noise in the area surrounding the raceway.

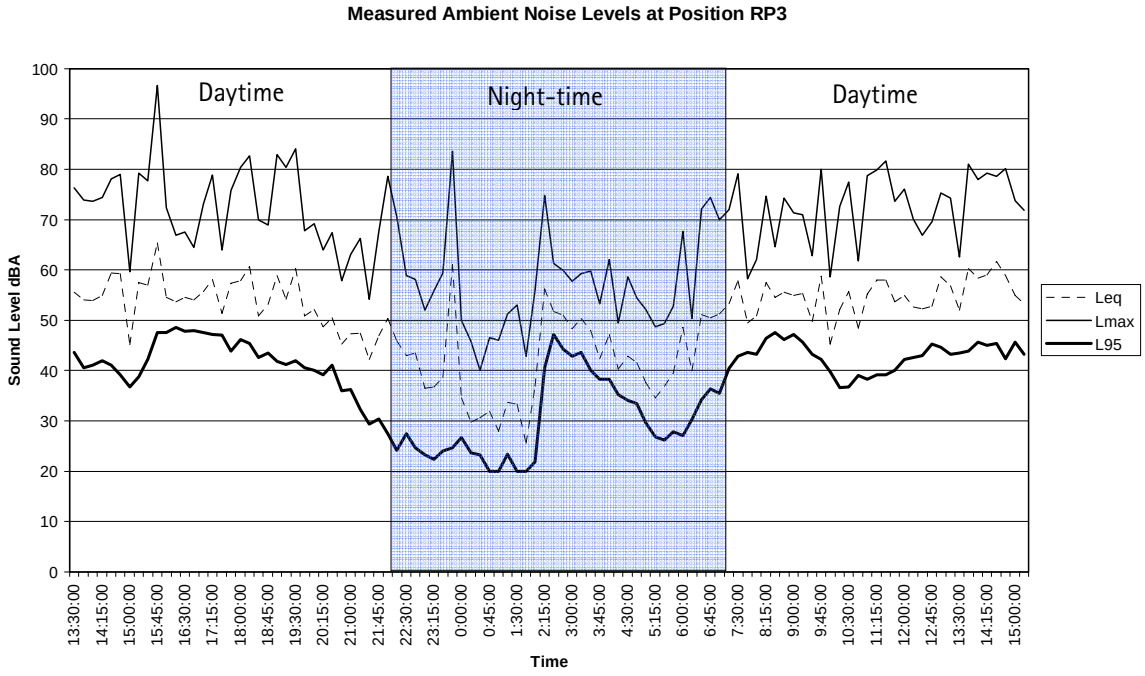
Site	Map Coordinates[1]	Description
RP1	E2468745 N5739342	200m south of Main South Road on Marshs Road. 7m from near carriageway. (attended)
RP2	E2468145 N5740485	Corner of Maddisons Road and Hasketts Road. 7m from near lane (attended)
RP3	E2466810 N5740085	Residential area corner of Maddisons Road and Kirk Road (unattended weekday)
RP4	E2468182 N5740271	Residence on Western side of Barters Road 350 metres south of Maddisons Road. Approximately 40 metres from near carriageway. (unattended weekend)
RP5		Templeton Golf Course, approximately 200 metres from Hasketts Road (Unattended).

Detailed Noise Monitoring Results

At each selected monitoring position, the existing noise environment has been investigated using either spot measurements or unattended loggers. Unattended loggers have been used to give an indication of the typical variation over 24hr periods. Results from loggers are only useful in showing general trends because there is no reliable way to know exactly what noise sources were present at any time of day, and short term weather fluctuations can give rise to unusual noise results. In the area surrounding Ruapuna, the level of ambient noise will be highly dependent on the wind direction, as plane take off and land on different runways at CIAL depending on wind direction.

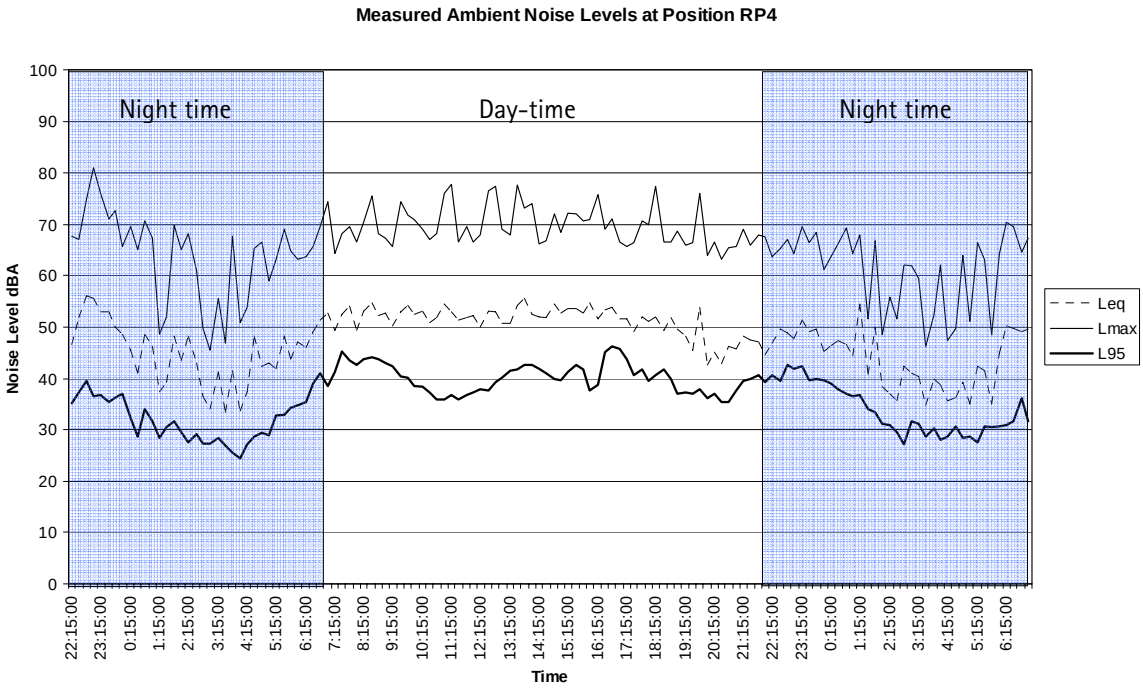
Position RP3: Residential area corner of Maddisons Road and Kirk Road

This position was chosen as it represented noise levels in the area surrounding Ruapuna but is far enough from the race track such that noise levels from track operations were not audible at the start or end of the logging period. During the early morning period, very high winds were experienced at the location which affected the results. Fortunately, this occurred outside the time period when Ruapuna is allowed to operate.



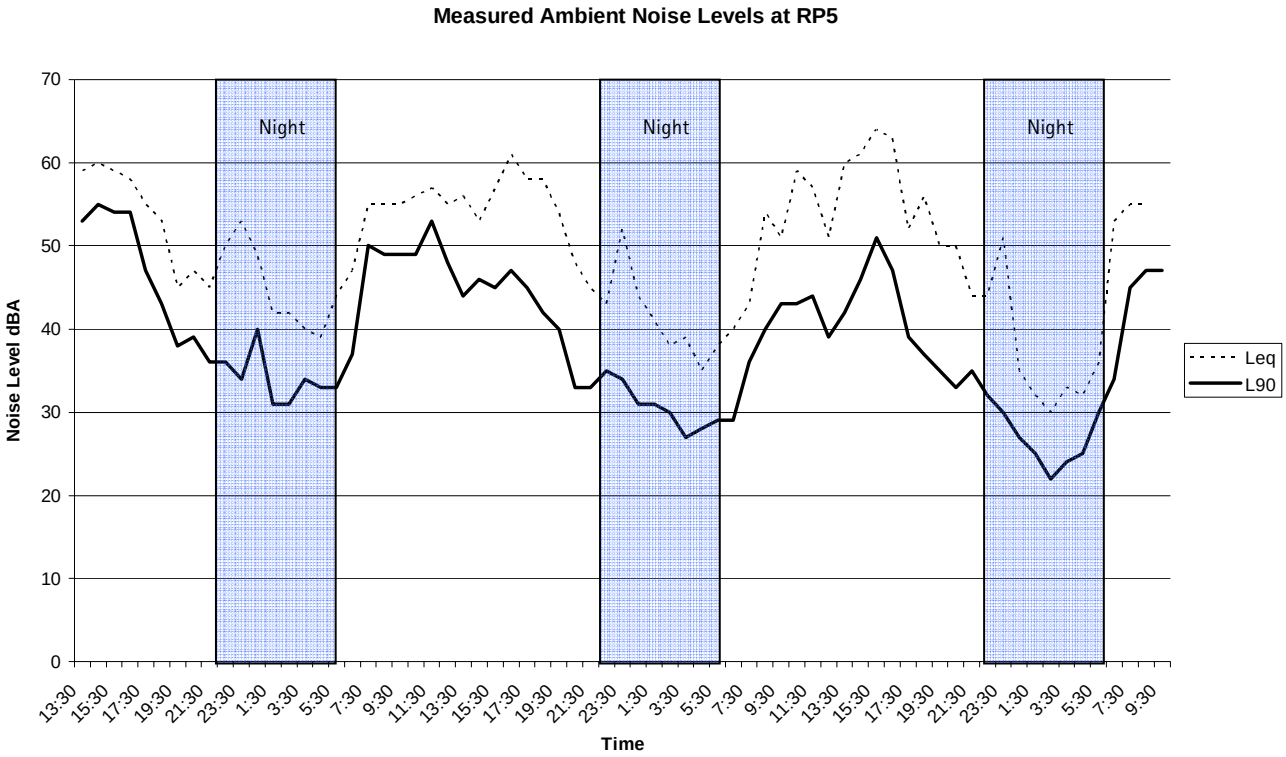
Position RP4: Residence on Western side of Barters Road, 350m south of Maddisons Road

This position was chosen as it represented noise levels in the area closest to Ruapuna. The position and time was chosen to coincide with a period when Ruapuna was not creating noise. Noise levels at this location are considered to be a fair representation of noise levels at the façade of dwellings along Barters and Hasketts Road. The wind direction during the logging period was a light southwest.



Position RP5: Templeton Golf Course beside Fulton Hogan Quarry

This was a Christchurch City Council measurement location. The measurement position was chosen to determine the background noise levels in the area surrounding the Fulton Hogan Quarry. The measurement period was Friday to Monday, 7th – 10th April 2006. The wind during the logging period was from the north-east and north-westerly direction.



Appendix 5: Octave Band Measured Noise Data

Kart Type	Number of Karts	Distance from track	Octave Band Noise Level dB L_{max}							
			63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Rotax 125cc	1	13m braking into corner	70	78	73	73	76	73	71	70
	1	16m tight corner	70	78	72	78	75	74	73	70
	1	9 m acceleration out of corner	70	87	86	90	84	79	81	81
	1	22m wide sweeping corner	75	75	77	83	73	72	69	65
	1	30m wide sweeping corner	71	79	85	85	81	78	75	72
	1	27m accelerating out of tight bend	76	77	73	76	68	64	61	58

Car Type	Number of Cars	Distance from track (metres)	Octave Band Sound Pressure Level dB L_{max}							
			63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
V6 Holden Commodore	1	40	77	84	88	77	76	76	72	62
		40	78	87	89	82	79	79	75	64
		20	90	89	89	80	76	74	69	60
		46	80	78	76	61	61	61	55	45
RX7	1-2	40	83	97	89	86	83	76	72	81
		20	83	93	92	84	87	79	76	79

Appendix 6: Receiver Locations

RECEIVER	PROPERTY DESCRIPTION	NZMG REFERENCE	
		EASTING	NORTHING
FHR1	LOT 1 DP23834 LOT 2 DP23824 LOT1 DP 24156 LOT 2 DP 24156	2468328	5741021
FHR2	LOT 1 DP 343538 LOT 5 23824 LOT 6 23824	2468052	5740794
FHR3	LOT 7 DP 22834 LOT 1 DP38418 LOT 11 DP23834 LOT 12 DP23834	2468214	5740309
FHR4	SECTION 19A DRAYTON SETT SECTION 16 DRAYTON SETT LOT 3 DP78305 LOT 6 78305	2467621	5740406
FHR5	LOT 2 38418 LOT 14 DP23834 LOT 13 DP23834 LOT 15 DP23834 LOT 16 DP23834 LOT 17 DP23834	2468265	5740074
FHR6	LOT 1 DP 33334 LOT 2 DP 33334 LOT 3 DP 33334 RS 38609	2468740	5740168
FHR7	LOT 1 DP 54768 LOT 1 DP 33515	2469351	5741577
FHR8	RS 38795 LOT 2 DP 67673 RS 2205	2469724	5742357
FHR9	LOT 1 DP 67673 LOT 1 DP 24939 LOT 1 DP 22982 LOT 2 DP 22982	2469847	5742264
FHR10	PT LOT 3 DP 22982 PT LOT 3 DP 24939 LOT 2 DP26224 LOT 4 DP 24939	2469814	5742870
FHR11	LOT 5 DP 24939 LOT 6 DP 24939 LOT 7 DP 24939 LOT 8 DP 24939	2469571	5743128
FHR12	LOT 9 DP24939 LOT10 DP 24939 LOT 11 DP 24939	2469252	5743268

MARSHALL DAY Acoustics

RUAPUNA ADDITIONAL ANALYSIS

Ruapuna 2011 Additional Noise Analysis

Rp001 2011468c

28 June 2012

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Project: **RUAPUNA ADDITIONAL ANALYSIS**

Prepared for: **Christchurch City Council**
PO Box 237
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Attention: **Andrew Long**

Report No.: **Rp001 2011468**

Document control

Status:	Rev:	Comments	Date:	Author:	Reviewer:
Draft				S Camp	
Complete	01		January 2012	S Camp	
Final	02		17 Feb 2012	S Camp	J Farren
Final	03	NE logger results added	28 June 2012	S Camp	
Approved	04	Minor corrections	9 Aug 2012	S Camp	

EXECUTIVE SUMMARY

Marshall Day Acoustics have undertaken a detailed review of noise monitoring around the Ruapuna Raceway site. Noise monitoring was carried out by Council staff in consultation with Marshall Day, and included fixed logger positions on the site boundary, supplemented with a number of shorter duration measurements at other locations.

Noise monitoring confirms that noise contours prepared by Marshall Day in 2007 are still valid.

This report recommends a number of updates to the noise rules for Ruapuna, including reductions in the allowable number of events and their duration. Specific rules controlling residential development within the Ruapuna noise contours are also proposed.

TABLE OF CONTENTS

1.0 INTRODUCTION

Marshall Day Acoustics has been engaged to undertake a detailed review of the results of noise monitoring around the Ruapuna Raceway during the 2011 season. In particular, our brief is to;

- Analyse the latest (2010/11) monitoring data, and compare it to data from 2005/06,
- Determine whether or not the Ruapuna site is complying with existing noise rules, and establish which "noise band" specific events fall into,
- Establish noise contours (55 and 60 dBA) around the site based on the latest data. This will involve a review of the contours we have previously prepared,
- Review the proposed package of rules for Ruapuna, including setback requirements, acoustic insulation and the cost and need for increasing lot size,

This report details the results of our findings.

2.0 EXISTING NOISE RULES

The Christchurch City Plan (volume 3, part 11, paragraph 1.3.4) sets the following noise limits for Ruapuna:

(ii) Ruapuna Raceway

Operational noise levels of 90dBA L_{max} and 65dBA L_{10} (1 hour) to apply between the hours of 0900 and 2200 hours on any day of the calendar year, except that:

- *for up to 200 days in any calendar year, the permitted levels shall be 95dBA L_{max} and 80dBA L_{10} (1 hour), between the hours of 0900 and 2300;*
- *for up to 15 of those 200 days, these activities shall be permitted up to 2400 hours;*
- *on up to 5 of those 200 days, no L_{max} level shall be applied.*

All levels are to be applied at the boundaries of the Park. At all other times, the levels of the Open Space 3 Zone shall apply.

The City Plan also contains a 400m exclusion zone around the raceway boundary, that makes the construction of a dwelling within this zone a non-complying activity.

3.0 NOISE EFFECTS

In our 2007 report (Rp 002 R21 2007217 Final.doc dated 12 October 2007), we undertook a careful analysis of a wide range of factors. We concluded that noise levels from Ruapuna Raceway are likely to have the effects shown in Table 1, based on the level of noise at the **notional boundary** of a dwelling during major events for the **existing level of activity** on site.

Note that "notional boundary" is different to "boundaries of the Park" where the City Plan noise rules apply.

Table 1: Noise Effects Vs. Noise Level – Ruapuna Current Operation

Noise Level $L_{Aeq(1\text{-}hr)}$ dB		Effect
Daytime (7am – 10pm)	Night-time (10pm – 7am)	
55	45	No more than minor effects
60	50	Moderate noise effects
65	55	Significant noise effects
70	60	Severe noise effects

We also concluded that noise levels would need to be 5 dB lower than shown in Table 1 for the same overall effects, if the Park was operating at its **permitted capacity**.

It is important to realise that this table is only given as guidance on the potential mean level of response to noise; the actual effects of the noise on each individual will vary depending on a number of variables, including their specific sensitivity to noise.

The maximum (L_{Amax}) noise level also has a bearing on noise effects, but for simplicity we have omitted this from the above table. We will discuss this further in relation to reverse sensitivity requirements.

4.0 2005/2006 – MEASURED NOISE EMISSIONS

During the 2005/2006 season, Christchurch City Council staff monitored noise levels during 35 events, with noise levels ranging from 58 to 77 dB L_{A10}[1], and from 75 to 93 dB L_{Amax}.

We peer reviewed these noise measurements (Ruapuna Peer Review 6Oct06) made by Council. In summary, we found;

- There were no occasions in which the "up to 5 days no L_{max} limit" (no L_{max} control) was invoked.
- There were only 15 occasions when the "200-day" rule (95dB L_{Amax} and 80dB L_{A10}) was invoked.
- On all other occasions, the base limits (90dB L_{Amax} and 65dB L_{A10}) were complied with.

Our peer review confirmed that noise from Ruapuna Park was complying with City Plan noise rules at all boundaries of the site during the 05/06 season.

5.0 2010/2011 – MEASURED NOISE EMISSIONS

We have undertaken a detailed analysis of measurements undertaken by Council staff over the 2010/2011 season. These measurements involved a combination of fixed noise loggers

[1] L_{A10} and L_{Aeq} are very similar, and for the purposes of this report can be considered interchangeable.

during events, and spot measurements at a number of other positions around the boundary of the site. We worked with Council prior to the measurements commencing, to ensure that measurement locations were appropriate to give a detailed picture of the entire site boundary.

The 2010/2011 noise monitoring programme has included a number of locations not previously monitored, to give a more definitive picture of noise levels around the entire boundary of the park. Earlier monitoring concentrated on the southern corner of the site because of the nearby dwellings, which have now been purchased by Council. The latest monitoring has attempted to gain an understanding of noise around the entire site perimeter, to inform the plan change process.

It is important to realise that noise loggers measure **everything**. They do not differentiate between noise from the event, noise from the crowd, noise from road traffic, and noise from overflying aircraft. As such, the results are **always an over-estimate** of event noise. Our analysis therefore gives a conservative picture of noise from the Ruapuna site.

In slightly more technical terms, we make the following comments on our analysis;

- Council staff indicated on their records the start and finish time of each event. We have broadly confined our analysis to this time period,
- The reported maxima (L_{Amax}) values are the highest recorded during the event. For some of the quieter events particularly, these values may actually represent an aircraft flyover, or other unrelated noise source,
- The reported L_{A10} values are 1-hour values as per the existing noise rules for the site. Our analysis is fairly conservative, because we have taken 5-minute results from the loggers and converted these to rolling 1-hour values, using logarithmic averaging. In other words, after the first hour of measurement, we have calculated an L_{A10} value for the preceding 1-hour period at each 5 minute interval, and then analysed these values.

The noise monitoring locations used during this season are shown in Appendix 1. The red markers denote the fixed logger positions. Figure 1 below shows the three fixed logger positions which provide the majority of the noise data.

Our overall findings can be best seen by considering these three logger locations:

- The *NW Corner Site* represents the closest site boundary to the Ruapuna Track, and therefore typically results in the highest noise levels;
- The *NE Corner Site* is similar to the NW, but provides a better indication of noise to the north;
- The *South Side Site* is a short distance inside the site boundary to reduce the effect of road traffic noise, and is consistent with the reported results from the 2005/2006

season. Measured noise levels at the South side site will be slightly higher than at the boundary of the property.

Figure 1: Noise Logger Positions

Table 2, Table 3, and Table 4 show a summary of the results for each of these logger positions. We have colour coded the results to allow direct comparison with the existing District Plan rules shown at the bottom of each table.

Table 2: Northwest Site Logger Results

		L_{A10} 1-hour (dB)			L_{Amax} (dB)
Date	**Event**	**Lowest**	**Highest**	**Average**	**Highest**
31 Oct 10	Lady Wigram	66	87	79	104
7 Nov 10	Powerbuilt Club Race Day	53	75	71	88
20 Nov 10	Speedway evening event	57	60	59	88
27 Nov 10	NZ V8 series	60	71	69	83
27 Nov 10	3 hour endurance race	62	78	76	93

		L_{A10} 1-hour (dB)			L_{Amax} (dB)
Date	**Event**	**Lowest**	**Highest**	**Average**	**Highest**
11 Dec 10	CAMS/Motorcycle Canterbury	54	73	67	85
11 Dec 10	Speedway evening event	35	54	51	75
18 Dec 10	Drifting	50	59	55	82
16 Jan 11	Motorcycle Canterbury SI Cup	58	63	62	81
23 Jan 11	A Formula Challenge	50	56	53	77
5 Feb 11	Skope Race Meeting	50	87	81	99
20 Feb 11	Drag Racing, 4's & Rotaries	53	75	72	102
2 Apr 11	Truck Racing, Drift cars & Go-carts	52	65	62	86
30 Apr 11	Mini South Fun Day	51	67	61	81
7 Apr 12	Supertourers	52	78	72	92
8 Apr 12	Supertourers	48	74	69	89
District Plan Rule—any day			**65**		**90**
District Plan Rule—200 days per year			**80**		**95**
District Plan Rule—5 day exemption			**80**		**no limit**
District Plan Rules exceeded			**>80**		**n/a**

At the Northwest corner of the site, Table 2 allows us to draw the following conclusions;

- 2 events (Lady Wigram and Skope) exceed the 5-day exemption. Our detailed review of the programme for these two events shows that these exceedances relate to the Formula 5000 cars, and these practice or race for a total period of less than 1 hour during each event day. As an example of this, Figure 2 shows the measured noise levels during the Lady Wigram event, with the Formula 5000 events highlighted. The start time of these events are taken directly from the official results page for this event, and therefore represent actual times, not scheduled times. The finish time is taken as being the start of the next event on the calendar,

  Our analysis shows that both the Lady Wigram and the Skope events comply with the 200-day rule if the Formula 5000 segments are excluded,

- Drag racing invokes the 5-day exemption by virtue of the high L_{Amax},

- 7 events invoke the 200-day exemption, although the two Supertourer events are in a different race season to the other measured events,

- The Supertourers appear to be slightly noisier than their predecessors, the NZ V8. However, it is possible that this is more a reflection of a greater number of race cars on the track, than noisier cars per se,

- The remaining 6 events comply with the "any-day" rule

Figure 2: Lady Wigram detailed analysis

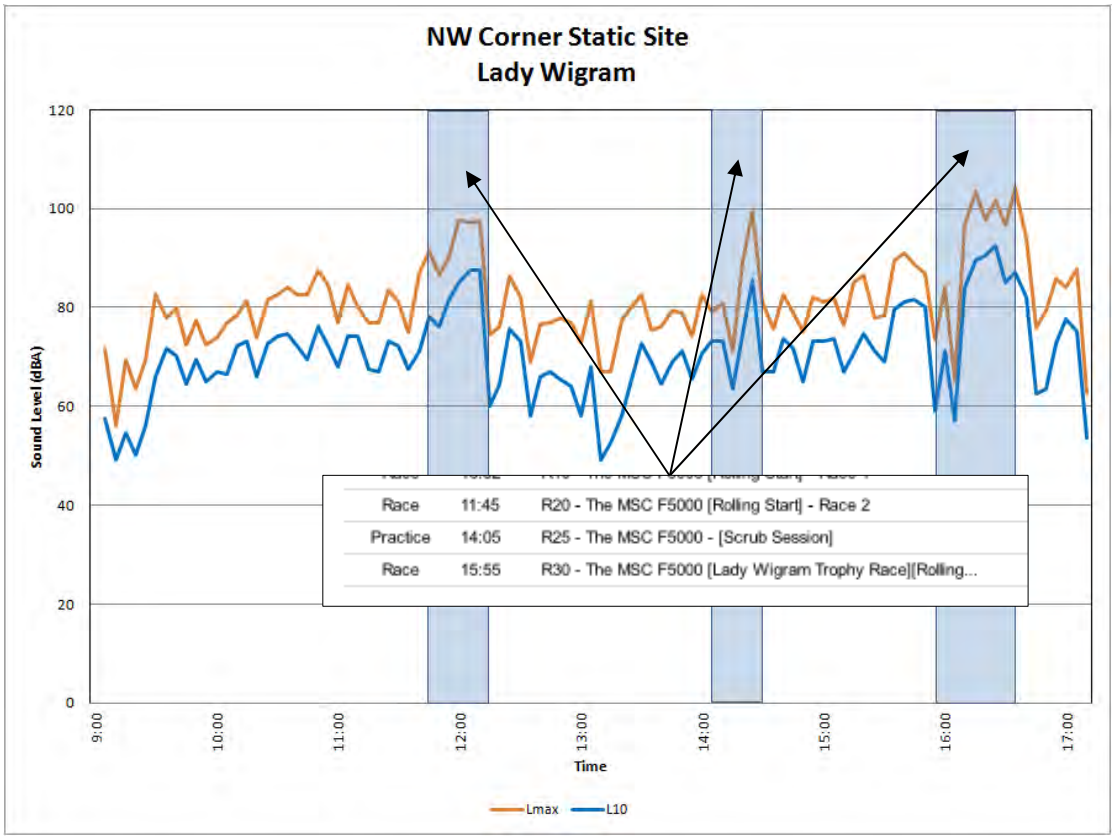


Table 3: Northeast Site Logger Results

		L_{A10} 1-hour (dB)			L_{Amax} (dB)
Date	**Event**	**Lowest**	**Highest**	**Average**	**Highest**
31 Oct 10	Lady Wigram	58	70	66	83
7 Nov 10	Powerbuilt Club Race Day	56	70	66	82
20 Nov 10	Speedway evening event	52	59	55	84
27 Nov 10	NZ V8 series	55	62	60	83
27 Nov 10	3 hour endurance race	62	74	72	86
11 Dec 10	CAMS/Motorcycle Canterbury	53	66	61	85
11 Dec 10	Speedway evening event	49	55	53	76
18 Dec 10	Drifting	50	58	55	83

		L_{A10} 1-hour (dB)			L_{Amax} (dB)
Date	Event	Lowest	Highest	Average	Highest
16 Jan 11	Motorcycle Canterbury SI Cup	58	67	64	84
23 Jan 11	A Formula Challenge	50	58	55	77
5 Feb 11	Skope Race Meeting	54	73	67	84
20 Feb 11	Drag Racing, 4's & Rotaries	59	68	65	96
2 Apr 11	Truck Racing, Drift cars & Go-carts	51	61	59	82
30 Apr 11	Mini South Fun Day	50	58	55	82
7 Apr 12	Supertourers		Not logged		
8 Apr 12	Supertourers		Not logged		
District Plan Rule—any day			**65**		**90**
District Plan Rule—200 days per year			**80**		**95**
District Plan Rule—5 day exemption			**80**		**no limit**
District Plan Rules exceeded			**>80**		**n/a**

At the Northeast corner of the site, Table 3 allows us to draw the following conclusions;

- Measured noise levels at the northeast corner are consistently lower than at the northwest corner. This is expected, given the greater distance from the track,
- Only the drag racing event invokes the 5-day exemption, by a minor 1 dB (L_{Amax}),
- 6 other events invoke the 200 day exemption,
- The remaining 7 measured events comply with the any-day noise rules.

Table 4: South Site Logger Results

		L_{A10} 1-hour (dB)			L_{Amax} (dB)
Date	Event	Minimum	Maximum	Average	Maximum
31 Oct 10	Lady Wigram	64	80	76	95
7 Nov 10	Powerbuilt Club Race Day	55	63	61	82
20 Nov 10	Speedway evening event	65	65	65	93
27 Nov 10	NZ V8 series	58	68	65	81
27 Nov 10	3 hour endurance race	54	68	64	83

		L_{A10} 1-hour (dB)			L_{Amax} (dB)
Date	Event	Minimum	Maximum	Average	Maximum
11 Dec 10	CAMS/Motorcycle Canterbury	53	67	62	81
11 Dec 10	Speedway evening event	42	61	58	85
18 Dec 10	Drifting	60	69	66	87
16 Jan 11	Motorcycle Canterbury SI Cup	59	73	69	85
23 Jan 11	A Formula Challenge	54	60	58	84
5 Feb 11	Skope Race Meeting	57	75	69	92
20 Feb 11	Drag Racing, 4's & Rotaries	61	67	65	89
2 Apr 11	Truck Racing, Drift cars & Go-carts	61	69	67	85
30 Apr 11	Mini South Fun Day	54	63	61	81
7 Apr 12	Supertourers		Not logged		
8 Apr 12	Supertourers		Not logged		
District Plan Rule—any day			**65**		**90**
District Plan Rule—200 days per year			**80**		**95**
District Plan Rule—5 day exemption			**80**		**no limit**
District Plan Rules exceeded			**>80**		**n/a**

At the south corner of the site, Table 4 allows us to draw the following conclusions;

- No events exceed the District Plan Rules,
- No event invokes the 5-day exemption,
- 10 events invoke the 200-day exemption, although the Lady Wigram event only just complies with the 80 dB L_{A10} rule,
- The remaining 4 measured events comply with the "any-day" rule

6.0 2011 VERSUS 2006 COMPARISON

The nature of events at Ruapuna makes it difficult to directly compare noise monitoring data from two separate seasons. Firstly, some events have not been measured during both seasons. Secondly, monitoring locations are often slightly different, and thirdly, motorsport events are by nature somewhat variable.

Nevertheless, results from the Southern Site logger position during the 2010/2011 season are a reasonable basis for comparison with the graphed 2005/2006 results from Council. Table 5 shows a comparison for events which can be directly compared. Where a range is given, this indicates two days measurements for the same type of event.

Table 5: 2011 comparison to 2006

	dB L_{A10}		dB L_{Amax}	
	05/06	**10/11**	**05/06**	**10/11**
Lady Wigram	65-70	80	83-88	95
NZ V8 series	73-75	65	85	93
Speedway evening event	61-65		77	85-93
Drifting	75	69	93	87
Motorcycle Canterbury SI Cup	66	67-73	83-87	81-85
Skope Race Meeting	68-76	75	88-90	92

As can be seen from Table 5, noise levels during the latest season are higher than the 05/06 season for some events, and lower for others. We suspect that this reflects the variability of events, and limitations of noise monitoring methodology, more than any suggestion that events have become noisier.

One significant conclusion which we can draw from our analysis of the monitoring data, is that the current noise rules are extremely difficult and expensive to monitor reliably. Even the extensive monitoring undertaken by Council only provides an indicative snapshot of noise emissions from the site. In our view, long term monitoring of noise from Ruapuna would be better achieved by use of one or more fixed noise loggers. We will discuss this further in section 9.1 of this report.

7.0 NOISE CONTOURS

In our 2007 report, we produced noise contours around the Ruapuna site, based on a large event such as a V8 series race. The contours assumed a conservative approach of wind blowing in all directions at once. Appendix 2 shows these contours.

To validate these contours based on the current season's monitoring, we have analysed results from mobile locations well beyond the site (see Appendix 1). This is a difficult process because the mobile results are only brief snapshots of a race day. We have therefore taken the snapshot results and corrected them based on the average 1-hour L_{10} noise level measured at the NW logger position.

Our analysis suggests that the contours presented in our 2007 report are still valid. As an example of this, Table 6 shows comparative results for 3 measurement locations.

Table 6: Typical contour validation results

Location and event	2007 contour noise level (dB L_{Aeq})	Current results (dB L_{Aeq})
Maddison Park Entrance, Lady Wigram	56	51
Maddison Road, Lady Wigram	59	62
Maddison Road, V8 series	59	56

8.0 CURRENT ACTIVITY STATUS

We have used the latest noise monitoring results (2010/2011) to estimate how many of the events held at Ruapuna over the past several years fit into each category of the existing noise rules.

8.1 Racetrack

For the purpose of this analysis, we have made a number of fairly broad, conservative assumptions. In particular, we have assumed that;

- When an event is scheduled for multiple days, each day produces the same amount of noise. In practice, measurements have only been undertaken on race day, which is undoubtedly the noisiest of the three,
- All bookings by the drag racing club are as noisy as the major event monitored, and invoke the 5-day exemption. This is unlikely to be the case,
- All motorised events, other than drifting and public "have a go" days, invoke the 200-day exemption. This is a conservative approach given that some other events complied with the any-day rule during the latest monitoring (see Table 2),
- Lady Wigram and Skope events comply with the 200-day limit, with the exception of the Formula 5000 sessions. We will discuss Formula 5000 later.

On this basis, we arrive at the summary shown in Table 7.

Table 7: Number of events meeting existing noise rules

Year	Any-day Rule	200-day Exemption	5-day Exemption	Total
07/08	0	76	8	**84**
08/09	8	72	8	**88**
09/10	10	76	5	**91**
10/11	17	66	8	**91**
11/12[1]	13	63	9	**85**

Note: 1. Anticipated, from draft calendar

Of note from this table, is that the total number of events at Ruapuna Park is fairly constant at about 90 per year, significantly less than anticipated under the noise rules.

Weekday driver training is not included in the above figures. Training occurs up to 5 days per week during typical business hours.

The number of events invoking the 5-day exemption has been fairly constant at about 8 per year—all bookings made by the Pegasus Bay Drag Racing Club. Whilst this is slightly above the permitted 5, we expect that some of the drag racing events are not as noisy as the monitored event, and would therefore fit into the 200-day exemption. However, more monitoring of drag racing events would be useful in this regard.

8.2 Speedway

For the Speedway, current monitoring suggests that most speedway events currently invoke the 200-day exemption. The NW logger position is some distance from the Speedway track and therefore doesn't reflect this—we have arrived at this conclusion by reviewing noise monitoring results from mobile positions at boundary locations closer to the track.

On this basis, it is our view that the noise effects from various Speedway events can be categorised on the basis of the event finishing time alone. As such, we recommend splitting Speedway events into two categories based on finish time.

9.0 PROPOSED RULES

We have worked closely with Council staff in considering revisions to the District Plan noise rules for Ruapuna.

In our view, there are two important aspects to the noise rules for a large community facility such as this. Firstly, there need to be rules which restrict the noise level and number of noisy days on site. Secondly, because noise effects extend beyond the boundaries of the site, there need to be reverse sensitivity controls on the construction of new dwellings within defined noise contours.

In our view, the existing rules need to be upgraded to bring them in line with industry best practice, and to make compliance monitoring simpler.

9.1 Noise Rules for Ruapuna

We recommend implementing the following changes to the existing noise rules for Ruapuna:

- Update the standards used for measurement and assessment of noise, to reflect the latest versions. This would involve a rule along the lines of "…noise from the site shall be measured in accordance with NZS 6801:2008 *Acoustics – Measurement of environmental sound*, and assessed in accordance with NZS 6802:2008 *Acoustics - Environmental noise*…". We also recommend adding *"…except that any corrections for special audible characteristics and duration as defined in paragraphs 6.3 and 6.4 of*

NZS 6802 shall not apply…". We consider this exception to be important because the noise rules relevant to Ruapuna have been developed to specifically address noise from motorsport activity, and adjusting the rules based on "corrections" could inadvertently allow higher noise levels;

- Change the measurement parameter from L_{10} to L_{Aeq} to reflect best practice in accordance with the updated standards. Our review of the latest measurement data confirms that there is generally little difference between these two parameters. The existing "1-hour" definition should be retained. In terms of notation, any reference to L_{max} should now also be changed to L_{Amax}. These have the same meaning, and the latter is simply the international version of the former;

- Add a new rule allowing compliance monitoring to be undertaken by use of a permanent noise logger at one representative location. Based on the latest monitoring results, we recommend a fixed location on the western site boundary, somewhere between the Westside South Mobile Site and the Northwest Corner Site (see Appendix 1). We suggest a rule along the lines of "…for the purposes of these rules, compliance shall be deemed to occur based on the analysis of results of a fixed noise logger located at a site approved by Council…". The chosen position needs to be well away from any point of public access, and be secure. As such, we suggest allowing flexibility in selecting the location;

- Differentiate between the Racetrack and the Speedway when defining the allowable number of events. The two facilities are managed independently of each other, and hence it is appropriate to have separate limits. We note that some speedway events will occur on the same day as Racetrack events, and as such, the total number of days of use will be less than the total permitted number of events;

- Reduce the number of events in each category and the associated finish times. In our view, the current rules permit too many noisy events at Ruapuna, and the possibility of a large number of late evening events. If the site operated to its currently permitted capacity, there would be significant adverse noise effects at existing dwellings. We suggest restrictions along the following lines,

Activity	Noise Limit L_{Amax}/L_{Aeq}	Number of Events	Hours	
			Existing	Proposed
Driver Training/Open Hire Days	90/65	200—220	9am till 10pm	9am till 6pm
Raceway Events—practice days	95/80	50	9am till 11pm[1]	9am till 6pm
Raceway Events—event days	95/80	80	Midnight[1]	9am till 10pm
Speedway Events	95/80	20	9am till 10pm	12noon till 6pm
	95/80	20	9am till 11pm	12noon till 10pm

Note: 1. Current rules allow for 11pm finish, with up to 15 days per year till midnight.

- Allow specific exemptions for Formula 5000 and drag racing, to permit established activity but prevent new noisy activities being introduced. Our initial view is that Formula 5000 could be allowed to exceed the noise rules for up to say 1.5 hours per day, but limited to the number of days currently scheduled for the Lady Wigram and Skope Classic events. Drag racing complies with the current "200-day" noise rule of 80 dB (L_{A10}), and we suggest retaining this rule, but allowing drag racing to exceed the L_{Amax} rule between 9am and 6pm on up to 10 days per year.

9.2 Noise Contours and Reverse Sensitivity

We have previously prepared noise contours which we believe are appropriate for Ruapuna (see Appendix 2). In our view, the District Plan should include rules requiring specific consideration of noise prior to the approval of new or altered dwellings within these noise contours.

Based on our detailed noise assessment, we recommend the following;

- Rename the 60 dB and 55 dB noise contours to "Inner Noise Boundary" and "Outer Noise Boundary" respectively. This is consistent with terminology used for other noise contours, such as port noise and aircraft noise. We believe it also helps to avoid an impression that it is possible to measure a single event and compare the result to the contour value. The contours are a composite of a large number of factors, and do not necessarily reflect the noise level at one position at any one time,

- Require any new dwelling, or alterations to an existing dwelling, within the Outer Noise Boundary to comply with appropriate internal noise levels by use of appropriate construction methodology, and,

- Make new dwellings within the Inner Noise Boundary a non-complying activity, or prohibited,

In our view, it is appropriate to set internal noise limits consistent with World Health Organisation guidelines. Because events such as drag racing are unusual in that they consist of a large number of very short duration noises, the L_{Amax} noise levels are much higher than the L_{Aeq} level, and in such circumstances, L_{Amax} levels are the appropriate basis for describing noise effects. As such, we recommend designing dwellings on the basis of the maxima (L_{Amax}), with criteria set accordingly.

It is also our view that adverse noise effects will occur outside dwellings, particularly during summer months. We therefore recommend that any new or altered dwellings within the noise contours should be required to provide an outdoor living space which is screened from noise at Ruapuna.

In terms of wording of proposed noise rules, we suggest the following;

- Require that dwellings be designed to achieve the following indoor sound levels;

Sleeping areas:	45 dB L_{Amax}
Other habitable areas:	55 dB L_{Amax}

- Add a note to the effect that "…compliance with these limits will require external windows and doors to be closed. As such, an alternative means of ventilation may be required to meet the requirements of section G4 of the Building Code…"
- Add a note that "…for the purposes of these rules, the Outer Noise Boundary shall be deemed to be 75 dB L_{Amax}, and the Inner Noise Boundary 80 dB L_{Amax}. In addition, for the purposes of calculations, the external noise environment shall be based on the following design noise spectrum…"

	Octave Centre Frequency (Hz)						
	63	**125**	**250**	**500**	**1000**	**2000**	**4000**
Correction to L_{Amax}	-6	-1	-1	-1	-6	-8	-11

- Require that "…compliance with these limits shall be achieved either by using one of the following acceptable solutions, or by such other alternative supported by calculations and report from a suitably qualified acoustic consultant…". Acceptable solutions shall be as follows:

	Acceptable Solution 1	**Acceptable Solution 2**
Floors (all spaces)	Concrete slab at ground level No limitations for upper storeys	n/a
Bedrooms		
Roof/Ceiling	0.55 mm thick pitched profiled metal roofing, with horizontal ceiling consisting of 2 layers 13 mm thick Noiseline Gib, plus thermal insulation.	Concrete tiles (min 45 kg/m^2), with horizontal ceiling consisting of 1 layer 10 mm thick standard gypsum board, plus thermal insulation.
	No recessed lights.	Recessed lights permitted.
Walls	Brick veneer(minimum 70 mm thick) over ex 100 mm timber frame, lined internally with 1 layer 10 mm thick standard gypsum board, plus thermal insulation.	Hardies Linea weatherboards (16 mm thick), on ex 100 mm timber frame, plus steel channels on resilient sound isolation clips (RSIC) or equivalent. Internal lining of 2 layers 13 mm thick Noiseline Gib. Thermal insulation.

	Acceptable Solution 1	Acceptable Solution 2
Windows	4/12/4 thermal double glazing to outer face of building. Secondary pane of laminated glass minimum 7 mm thick, not less than 100 mm inside double glazing. Total area of windows must not exceed 20% of total external wall area of bedroom. All windows to be in Aluminium frames with full perimeter seals to all opening panes.	{no alternative}
External Doors	Not permitted	Not permitted
Other habitable areas		
Roof/Ceiling	0.55 mm thick pitched profiled metal roofing, with horizontal ceiling consisting of 1 layer 10 mm thick Noiseline Gib, plus thermal insulation. Recessed lights permitted.	Concrete tiles (min 45 kg/m^2), with horizontal ceiling consisting of 1 layer 10 mm thick standard gypsum board, plus thermal insulation. Recessed lights permitted.
Walls	Brick veneer(minimum 70 mm thick) over ex 100 mm timber frame, lined internally with 1 layer 10 mm thick standard gypsum board, plus thermal insulation.	Hardies Linea weatherboards (16 mm thick), on ex 100 mm timber frame lined internally with 1 layer 10 mm thick standard gypsum board, plus thermal insulation.
Windows	4/12/4 thermal double glazing to outer face of building. Secondary pane of glass minimum 4 mm thick not less than 100 mm inside double glazing. Total area of all external doors and windows combined must not exceed 40% of total external wall area of the room.	10.38 mm thick laminated glass. Total area of all external doors and windows combined must not exceed 40% of total external wall area of the room.

	Acceptable Solution 1	Acceptable Solution 2
External Doors	10.38 mm thick laminated glass in Aluminium frame with full perimeter seals. Total area of all external doors and windows combined must not exceed 40% of total external wall area of the room.	Solid timber door, not less than 45 mm thick in Aluminium frame with full perimeter seals. Total area of all external doors and windows combined must not exceed 40% of total external wall area of the room.

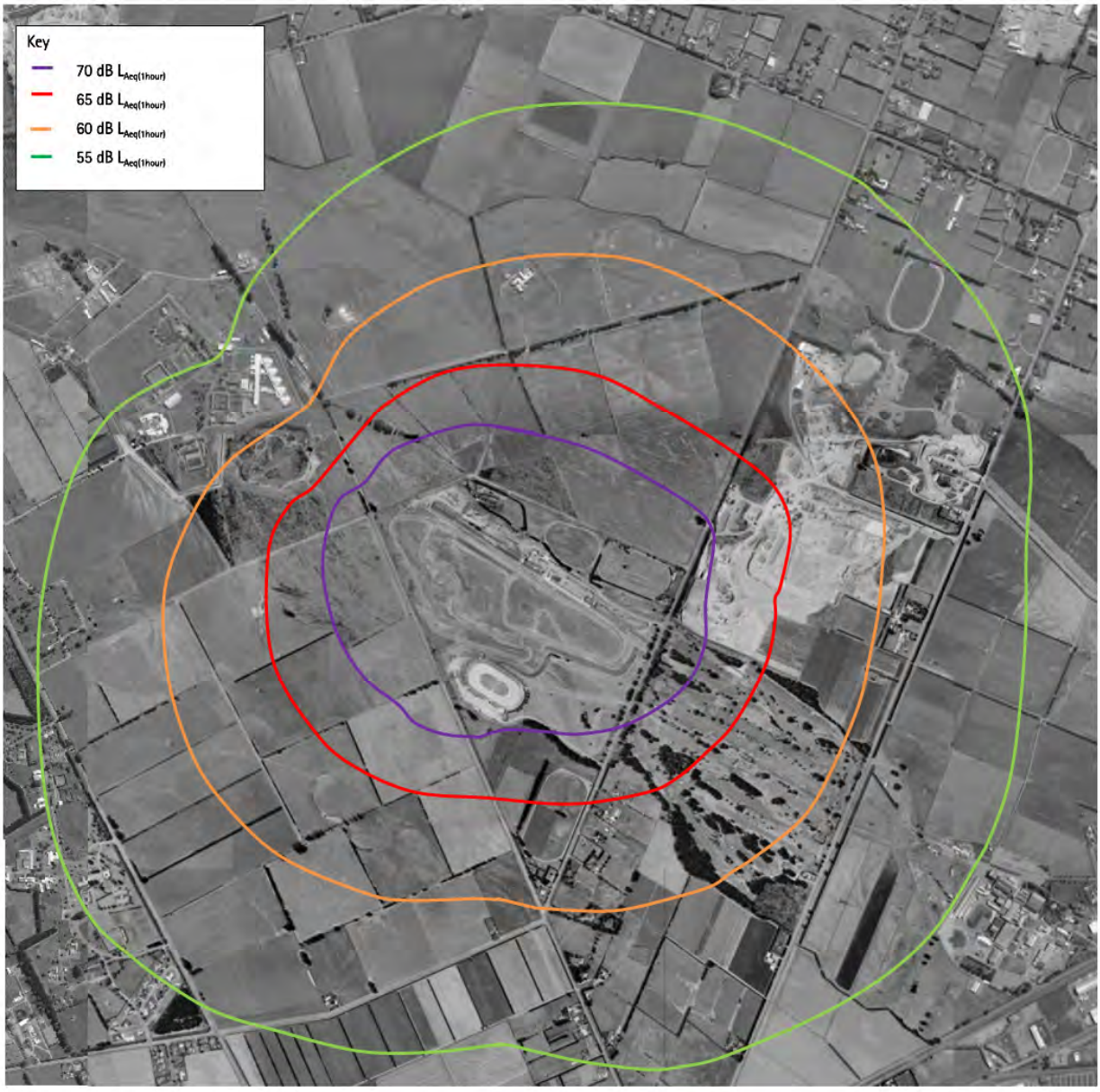
- Require any new or altered dwellings to be provided with "…an outdoor living space, not less than 50 m^2 [Council to confirm this value], screened by a solid wall or fence not less than 2.5 metres high and not more than 2 metres from the edge of the outdoor living space closest to Ruapuna. The design and location of screens shall be in accordance with [Appendix 3], or be designed by a suitably qualified acoustic consultant to achieve a noise reduction of not less than 5 dBA based on the design noise spectrum given in [above condition]…"

Appendix 1: Noise Monitoring Locations

Appendix 2: Noise Contours from 2007 report

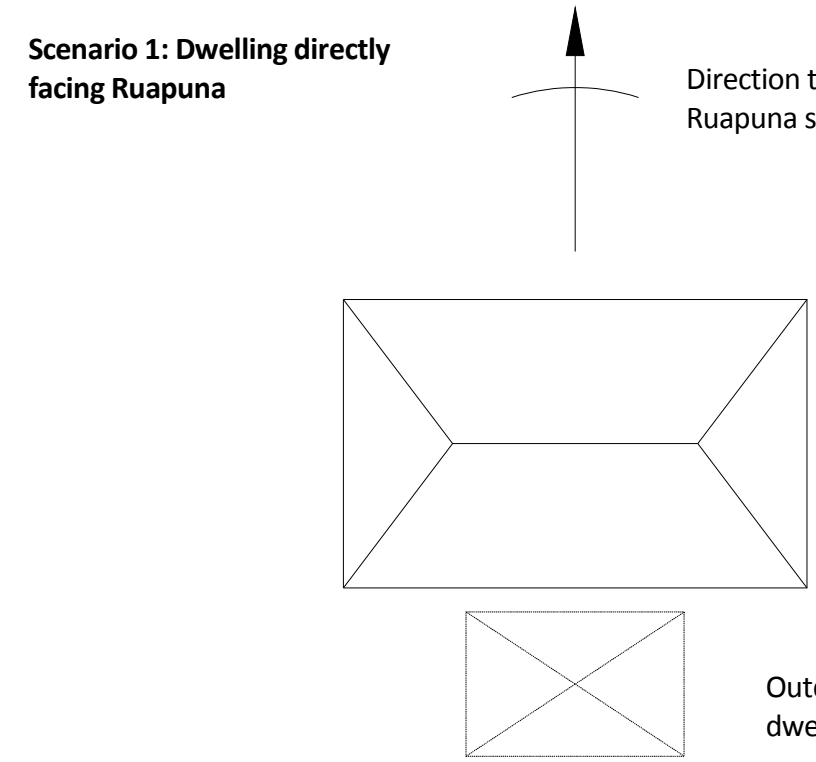
Ruapuna Composite Noise Contour

Situation: NZV8 Raceday Existing & Maximum Permitted Usage
Prepared: 11th September 2008
By: PAI
Notes: This contour shows noise levels under all possible wind conditions considered in our study (NW,SW,NE). Care should be taken in interpreting these contours. This graph should not be taken as noise levels that will occur at all times but rather as a guide to the worst case noise levels that could occur under any wind direction. Refer to report for additional details.

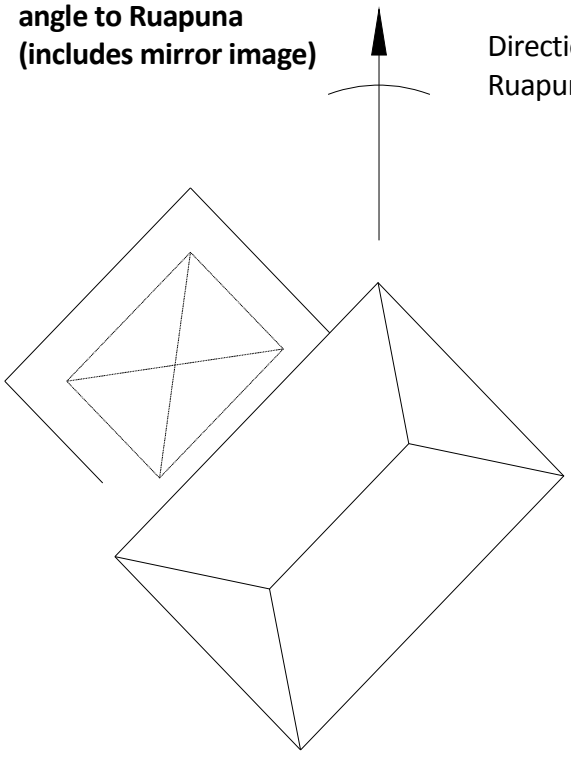


Appendix 3: Outdoor Living Space Noise Control Barrier Requirements

Scenario 1: Dwelling directly facing Ruapuna



Scenario 2: Dwelling at angle to Ruapuna (includes mirror image)



Outdoor Living Space "in front of" dwelling—2.5m high noise control barrier required.

Barrier to be:

1. Solid and continuous, with no airgaps at ground level. Entry/exit via opening shown only.
2. Constructed of timber palings not less than 20 mm thick, or 9 mm thick fibre cement sheet, or other sheet product with a surface mass not less than 12 kg/m^2.
3. Connected to house at one end as indicated.
4. Not more than 2 metres from outdoor living space.

Christchurch City Council	Resource Management Act 1991 Christchurch City Council Christchurch City Plan Plan Change **Section 32 Assessment**	52

RUAPUNA MOTORSPORT PARK – MANAGEMENT OF NOISE

PART 1 INTRODUCTION

1. This report summarises the evaluation undertaken by the Council of proposed Plan Change 52 ('PC52') to the Christchurch City Plan in terms of section 32 of the Resource Management Act 1991 (RMA).

2. Section 32 of the RMA requires the Council to prepare an evaluation of the proposed option(s) in PC52 before adopting any objective, policy, rule or other method. A section 32 report is part of understanding the costs and benefits associated with a proposed plan change and determining the extent to which regulatory intervention is appropriate compared to other methods. Further evaluation, including the consideration and hearing of public submissions, is carried out prior to the Council making decisions on plan changes.

Purpose and Scope

3. Plan Change 52 (at **Attachment 1**) has been drafted in response to noise management issues arising from the operation of the Ruapuna Motorsport Park ('Ruapuna'), located on Hasketts Road near Templeton. Ruapuna is in an area containing rural-residential activities and, further afield, Templeton, Yaldhurst, and Hornby residential areas.

4. The Council received a significant increase in complaints from local residents regarding the operation of Ruapuna around 2005. The Council established a working party to investigate options for addressing these concerns and this resulted in the resolutions made by the Council at its meeting of 25 June 2009. The resolution reflects the three pronged approach recommended by the working party - to initiate a plan change, to purchase seven residential properties affected by "unreasonable" levels of noise (as advised by the 2007 report (**Attachment 2**) by Marshall Day Acoustics ('MDA') and discussed later in this report), and to engage with the Car Club and Speedway Association to vary their current leases so as to introduce measures to control noise.

5. The resolution identified three areas of focus for the Plan Change:

> *Initiate a plan change to restrict the noise levels and frequency of events and track usage to limit the use of Ruapuna Reserve to the current levels;*

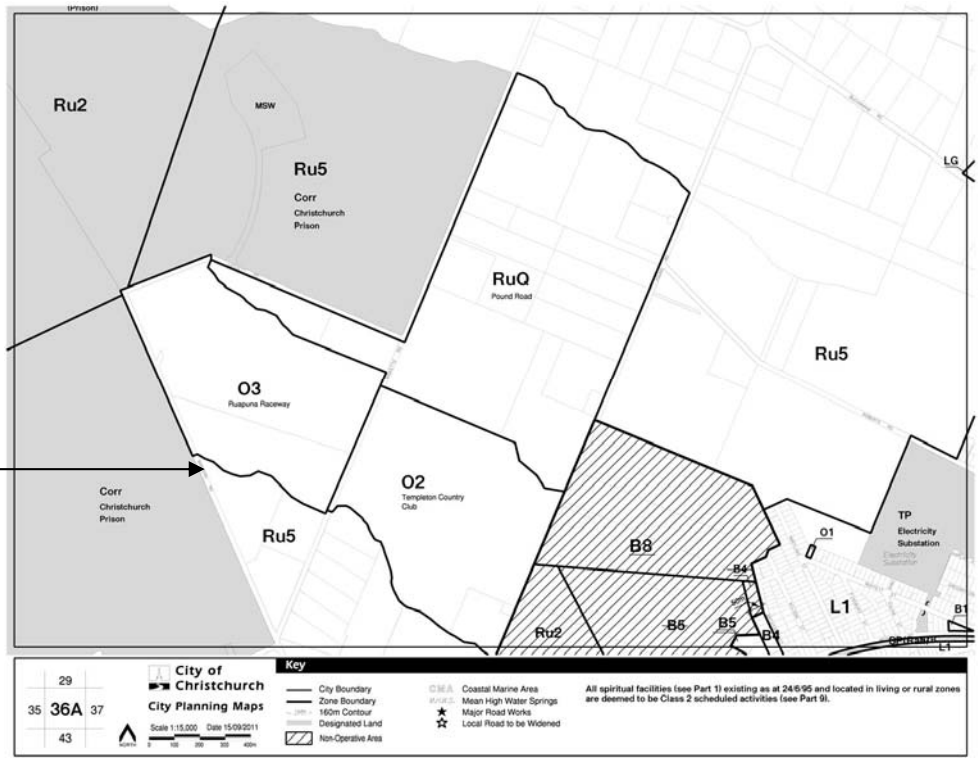
Widen the development setback from 400 metres to correspond with the 60dBA contour line as identified by MDA;

Investigate a plan change or other measures for placing restrictions on rural-residential development between the 55 and 60dBA noise contour lines through the City Plan.

6. Part 3 of this report describes the key proposed amendments.

Ruapuna Motorsport Park

7. Ruapuna Racetrack and Speedway are located on Ruapuna Motorsport Park, 107 Hasketts Road, Templeton. Ruapuna also includes a radio controlled car track. Ruapuna is located in the rural environment to the west of the City, and provides the City with a centre for a variety of motorsport activities. Ruapuna is 55ha of Crown Reserve administered by the Christchurch City Council. The use of the reserve for motorsport activities began when the speedway was established in April 1962 and the racetrack in November 1963.



8. The racetrack is leased to and operated by the Canterbury Car Club, with the lease due to expire on 30 December 2016. The Canterbury Car Club sub-lease to the Canterbury Motor Racing School Limited until 28 March 2017, who in turn sublease to Aristotle Enterprises Limited until 28 December 2016. The Council agreed to the subleases in 2002 and 2004 respectively. The racetrack is the larger of the two tracks and is located at the east of the site.

9. The speedway track, the smaller oval track at the west of the site, is leased by the Christchurch Speedway Association until 2020, with a right of renewal until 2053 (the original lessor was the Paparua County Council in 1987). The Speedway

Association sublease part of the land to the Canterbury Radio Control Car Club until 1 December 2012. This Council agreed to the sublease in 2003.

10. The racetrack operates on an almost daily basis, though with a mixture of uses ranging from bicycle races to competitive motor-racing. Weekdays are generally practice sessions, driver training, or open hire days, with most events taking place in the weekends. The speedway has about 15 events per season, plus other activities on the skid pad.

11. The speedway has full night-time operation facilities but the racetrack does not. The radio control car club is considering installing lights to enable night-time operation.

Surrounding Environment

12. Ruapuna is zoned Open Space 3 and aside from the Templeton Golf Course to the east which is zoned Open Space 2, the land around Ruapuna is zoned Rural 2 (Templeton-Halswell), Rural 5 (Airport Influence), or Rural Quarry. Rural Quarry land, largely owned by Fulton Hogan in this area, adjoins to the east and north. Rural 2 land adjoins Ruapuna to the northwest and includes part of the land owned by the Department of Corrections and contains the men's prison. The remainder of the Corrections land and other land surrounding Ruapuna is zoned Rural 5. The prison land has an existing designation and the zoning would only be relevant if that designation was uplifted. The range of activities occurring in the area reflects the zoning pattern, with the predominant uses being rural-residential, corrections, quarrying, and small scale farming uses.

13. Ruapuna is located within the airport noise contours (as in the City Plan and PC1 to the RPS) and below the southern approach path for Christchurch International Airport. It is also between State Highways 1 and 73, and the main trunk rail line (Christchurch - Dunedin) which adjoins SH1.

Noise Management History

14. Motorsport activities at Ruapuna are a permitted activity, subject to compliance with rule 1.3.4 (Volume 3 Part 11) which sets noise and activity limits for various uses including those at Ruapuna.

15. The current rules for restricting noise at Ruapuna were first proposed in 1995, when the proposed City Plan was notified. The rule as notified limited activity to 120 days per year between 9am and 7pm, and not to exceed 65dBA L_{10} or 85dBA L_{max} at the notional boundary of occupied dwellings.

16. The Council received a number of submissions seeking to have the notified provisions relaxed. When the summary of these submissions was published, Council received one (further) submission relating to landscape, ecology and amenity. During the Hearing, the Commissioner was advised that 200 events per annum would occur at the racetrack and speedway combined. The Commissioners' recommendation was to relax the rules and Council adopted and publicly notified the decision in 1999. No appeals against the Councils' decision were lodged with the Environment Court.

17. The rule as made operative and as currently exists in the City Plan allow activity 365 days per year between the hours of 9am to 10pm and not to exceed 65dBA L_{10} or 90dBA L_{max} at the zone boundary. Two exceptions were also provided, referred to as the 200 day and 5 day exceptions. The 200 day exception allowed noise up to 80dBA L_{10} or 95dBA $L_{max,}$ and for activity to continue to 11pm, or 12am on 15 occasions. The 5 day exception retains the 80dBA L_{10} limit but provides that no L_{max} limit applies. The rule is now considered overly permissive and this plan change seeks to amend it to cap activity levels at Ruapuna.

18. Additionally, rule 2.5.3 (Volume 3 Part 4) controls the development of any new residential units within 400 metres of the OS3 boundary at Ruapuna. Outside the setback, subdivision and residential development in the surrounding Rural 2 and 5 zones are restricted to a four hectare minimum lot size/dwelling density while residences within the nearby Rural Quarry Zone are required to be for custodial or site management purposes only.

19. From 2005, the Council received an increased number of complaints regarding the noise created by motorsport activities at Ruapuna. The Council's Environmental Compliance Team undertook a programme of noise monitoring at Ruapuna from November 2005 until March 2006. The monitoring established that events at Ruapuna were operating within the noise provisions of the Plan.

20. The Council remained concerned, however, and commissioned Marshall Day Acoustics (MDA) to prepare a report to consider the noise issues associated with Ruapuna. Their report advised that noise levels received over 60dBA were unreasonable, and an inner noise boundary was prepared showing the extent of land likely to be subject to unreasonable noise. On this basis, the Council resolved to purchase seven residential properties on Hasketts Road. Six of the seven properties have been purchased by the Council. 40 Hasketts Road has been retained by Housing New Zealand.

21. More recently, the Council undertook further monitoring (over the 2010/11 season) and MDA complied a second report (**Attachment 2**) in relation to the data collected. The monitoring programme was designed to inform this plan change (rather than assess compliance with the plan) and the key findings are discussed in the following section.

22. The Council also resolved to engage the Car Club and Speedway Association in formal discussions in an attempt to vary the current leases to reduce the maximum allowable noise limits. This could potentially include imposing restrictions on the operating hours, introducing noise free days, and placing limits on future expansion of the track.

23. It should be recognised that the lessees are not currently compelled to engage in lease discussions with the Council. The lease with the Canterbury Car Club does not expire until 2016, and the lease with the Christchurch Speedway Association does not expire until 2020, with a right of renewal until 2053.

Noise Analysis

24. The Council has received reports from MDA in 2007 and 2012 relating to the 2005/06 and 2010/11 monitoring respectively. The reports should be read together. The 2007 report found that:

- There is a significant gap between actual and permissible activity at Ruapuna Motorsport Park;

- That noise receipt at a residence over 60dBA is 'unreasonable'. An inner noise boundary has been prepared to illustrate the area of land likely to be subject to unreasonable noise.

25. This led to the 2009 Council resolution as discussed previously. The 2012 report generally confirmed these findings except that:

- One drag racing event was monitored in 2010/11 and the noise levels recorded exceeded 95dBA L_{max} at the northwest logger site, thereby invoking the existing 5 day exception.

- The Formula 5000 class were monitored twice in the 2010/11 season and were recorded at levels which exceed both 95dBA L_{max} and 80dBA L_{10} at the northwest logger site, not only invoking the 5 day exception, for Lmax levels, but exceeding the highest L10 threshold.

26. It is also important to note that these two events form only a very small part of the overall activity at Ruapuna, and that further monitoring would be required to verify any non-compliance with the City Plan rules.

PART 2 STATUTORY CONTEXT

26. Section 74 includes the 'Matters to be considered by territorial authority' and sets out that a territorial authority shall prepare and change its district plan in accordance with its functions under section 31, the provisions of Part 2, a direction given under section 25A(2), its duty under section 32, and any regulations.

27. Section 31 of the Act prescribes the functions of territorial authorities, including (section 31(1)(d)):

    "The control of the emission of noise and the mitigation of the effects of noise"

28. This section 32 assessment considers the issue of whether the existing City Plan provisions adequately address the duty imposed on the Christchurch City Council by section 31(1)(d) of the Act.

29. Before adopting any objective, policy, rule or other method within a proposed Plan Change, section 32(3) and (4) of the Act require the Council to prepare an evaluation of the Plan Change. Section 32(3) states that the evaluation must examine:

    (a) the extent to which each objective is the most appropriate way to achieve the purpose of the Act; and
    (b) whether, having regard to their efficiency and effectiveness, the policies, rules, or other methods are the most appropriate for achieving the objectives.

30. Further, section 32(4) states that the for the purposes of the examination, the evaluation must take into account:

    (a) the benefits and costs of policies, rules, or other methods; and
    (b) the risk of acting or not acting if there is uncertain or insufficient information about the subject matter of the policies, rules, or other methods.

31. This is reflected in *Eldamos Investments Ltd v Gisborne District Council.* In addition, in *Suburban Estates Ltd v Christchurch CC* the Courts stated that settled objectives will be able to be assumed to meet the provisions of Part 2. Because PC52 does not seek to amend the objectives, except to the extent of amending explanation and reasons, they are considered to meet the provisions of Part 2. PC52 does propose to amend one policy and insert a new policy and these changes are assessed in this report.

Existing Use Rights

32. Section 10 of the Resource Management Act 1991 protects existing use rights. This is critically important in the preparation of the plan change. Section 10 reads as follows:

10 Certain existing uses in relation to land protected

(1) Land may be used in a manner that contravenes a rule in a district plan or proposed district plan if—

(a) either—

(i) the use was lawfully established before the rule became operative or the proposed plan was notified; and

(ii) the effects of the use are the same or similar in character, intensity, and scale to those which existed before the rule became operative or the proposed plan was notified:

(b) or—

(i) the use was lawfully established by way of a designation; and

(ii) the effects of the use are the same or similar in character, intensity, and scale to those which existed before the designation was removed.

(2) Subject to sections 357 to 358, this section does not apply when a use of land that contravenes a rule in a district plan or a proposed district plan has been discontinued for a continuous period of more than 12 months after the rule in the plan became operative or the proposed plan was notified unless—

(a) an application has been made to the territorial authority within 2 years of the activity first being discontinued; and

(b) the territorial authority has granted an extension upon being satisfied that—

i) the effect of the extension will not be contrary to the objectives and policies of the district plan; and

(ii) the applicant has obtained approval from every person who may be adversely affected by the granting of the extension, unless in the authority's opinion it is unreasonable in all the circumstances to require the obtaining of every such approval.

(…)

33. Section 10 is important because it provides at (1)(a) that a use may contravene a rule in the Plan if the use was lawfully established and occurring at a similar scale and intensity as before the rule was made operative.

34. If, then, the Council were to amend the existing rule such that the use of Ruapuna would be reduced, s10 provides that the use could continue at the same scale and intensity. The effect of this is that the plan change cannot reduce activity levels at Ruapuna.

35. A significant amount of consultation has occurred with the Canterbury Car Club, Christchurch Speedway Association, and the Canterbury Radio Control Car Club to ensure the rule does not inadvertently reduce activity levels.

PART 3 EVALUATION AGAINST THE REGIONAL POLICY STATEMENT AND THE DISTRICT PLAN

Regional Policy Statement

33. The Canterbury Regional Policy Statement 1998 (RPS) must give effect to the Act and it is assumed for the purposes of this assessment that as it has been through the relevant statutory processes and is now operative that it does so. There is also a draft Regional Policy Statement. The Commissioners recommendation have been accepted by the Council (ECan), but the document had not been made operative at the time of writing.

34. Further to this, proposed Chapter 6 (which was to contain Proposed Change 1 / Chapters 12A and 22) has not been included in the 2012 RPS as yet. Chapters 12A and 22 were made operative in the 1998 RPS by the Minister for the Canterbury Earthquake Recovery, but the judicial review brought by Independent Fisheries found against the Minister and Chapters 12A and 22 were set aside, and also reinstated PC1 and appeals. This situation, however, has little bearing on Ruapuna Motorsport Park or PC52.

35. The objectives and policies of the City Plan were prepared using the correct statutory process and are therefore deemed to give effect to operative RPS as required by S75(3)(c) of the RMA. For that reason the operative RPS is not considered further in this report.

36. The plan change must under s74(2)(a)(i) of the RMA have regard to Proposed Change 1 and the 2012 RPS. The following aspects of these documents are considered pertinent:

- Residential activity on lots over four hectares are excluded from the definition of noise sensitive activities and can occur under the airport noise contours, within which Ruapuna and surrounds are located.
- Settlement patterns in rural areas should enable people and communities to provide for their social and cultural wellbeing.
- The site is under the revised 55dBA airport noise contour shown in the RPS.
- Development should be located and designed to void conflict with incompatible activities.

City Plan – Proposed Amendments

37. As a preface to the evaluation, the key proposed amendments are briefly described below.

Volume 2 Part 14 14.4.1 Policy: Adverse Effects

38. Policy 14.4.1 is proposed to be amended to assist in managing the impact of incremental increases in scale and intensity of an activity. At Ruapuna, the activity has generally been compliant with the City Plan rules since they became operative, but the increase in the number of days the track is used has resulted in noise becoming a significant resource management issue in the area.

39. The amendment provides direction for noise rules in general, and specific to Ruapuna (Volume 3 Part 11 1.3.4).

Volume 2 Part 14 14.4.6 Policy: Motorsport

40. The proposed policy seeks to strengthen the policy framework in relation to the conflict between motorsport and noise sensitive activities. The policy would support the rules below, particularly where a resource consent application may be lodged for a residential activity in close proximity to Ruapuna or where consent is sought for a motorsport activity outside what is permitted by the rules. The proposed policy also requires that motorsport noise be appropriately managed and directs the relevant amended rule (Volume 3 Part 11 1.3.4).

41. The policy describes two clear goals: to manage the emission of motorsport noise; and to manage the growth of noise sensitive activities close to Ruapuna. Providing clear direction and a strong policy framework upon which to base rules and assess non-complying consent applications would assist the Council in protecting both residents and Ruapuna.

Volume 3 Part 4 Rule 2.5.3 Separation from special purpose areas (Rural 1, 2, 3, 4 and 5 zones)

42. Rule 2.5.3 as it exists currently imposes a 400m setback from the OS3 boundary at Ruapuna within which residential activity is a non-complying activity. MDA in 2007 defined 'unreasonable' as noise above 60dBA and have prepared an inner noise boundary to define the extent of unreasonable noise. Noise at or above this level extends beyond the 400m setback. It is therefore considered necessary to amend the rule to properly manage residential activities in this area.

Volume 3 Part 4 Rule 2.5.11 Residential units – Ruapuna Noise Boundary

43. While the noise environment has not been found to be 'unreasonable' between the inner and outer noise boundaries, a significant number of complaints demonstrates that it is sufficient to result in noise annoyance. It is therefore considered necessary to manage residential activities within the contours to minimise noise impact for new residences and to avoid further risk to Ruapuna from reverse sensitivity.

44. PC52 proposes that acoustic attenuation be required for new residences and specific additions within the outer noise boundary. There are currently no restrictions on development specific to noise from Ruapuna in relation to this area of land, although some attenuation is required in this area because of the air noise contour relating to the Christchurch International Airport.

Volume 3 Part 11 Rule 1.3.4 Special exceptions

45. The proposed amendments to Rule 1.3.4 seek to cap the level of activity at Ruapuna to prevent further issues with noise emission from motorsport activity at the site. The rule has sub-clauses (a) – (d) as described below.

- Subclause (a) controls non-motorised activities. The criteria include noise limits (to OS3 night-time standards), hours of operation, and use of the PA / amplified sound. These activities have few adverse effects and are managed accordingly.

- Subclause (b) controls quieter motorised activities, such as practice, driver training and some racing activities. The noise limits are as per the existing rule 'any day' provisions. Hours of operation, use of the PA / amplified sound, and days per year are controlled.

- Subclause (c) controls noisier activities and includes the amended '5 day exception'. The existing '200 day' noise limits are used. Hours of operation, use of the PA / amplified sound, and days per year are controlled. A further control is included to limit racing to particular days.

- Subclause (d) requires that no motorised activity occurs on particular public holidays.

City Plan – Evaluation of Effectiveness

46. The evaluation of the proposed plan change against the City Plan is required by section 32 of the RMA to address effectiveness (s32(3)(b)), efficiency (s32(4)(a)), and the risk of acting or not acting if there is uncertain or insufficient information (S32(4)(b).

47. Section 32 of the Act requires the Council to assess the effectiveness of these provisions in achieving the objectives of the City Plan. Table 1 below.

Table 1

Key City Plan Objectives	Evaluation of Plan Change Provisions
Section 1 **Overall Objective for Christchurch** The sustainable management of the natural and physical resources of the Christchurch environment	Both Ruapuna and the surrounding land are significant resources and the City Plan as it exists currently has been shown to result in an unsustainable situation around Ruapuna. This is demonstrated by the extensive and sustained history of complaints, and also in modelling by MDA of the extent to which noise is 'unreasonable'. The proposed rules seek to remedy the situation, insofar as section 10 of the Act allows, through capping activity at Ruapuna and managing residential development near Ruapuna. The proposed amendments seek to manage the motorsport resource and the potential rural-residential development land, and are considered to be effective in achieving this objective.
4.2 Objective : Amenity A pleasant and attractive City. **4.2.9 Policy : Impacts of noise**	Although motorsport activities at Ruapuna are established, protected by s10 of the RMA, and likely to continue into the

To achieve a low ambient level of noise in the City and the protection of the environment from noise that can disturb the peace, comfort, or repose of people to the extent necessary to avoid, remedy or mitigate unreasonable levels of sound. **4.2.10 - 4.2.11 Policies : Sound levels** 4.2.10 In achieving satisfactory ambient sound levels, to take account of the receiving environment and its sensitivity to noise intrusion. 4.2.11 To provide maximum acceptable sound levels to • enable uses emitting noise to design activities, including at source noise attenuation structures, to reach the desired ambient levels, and • enable recipients to protect themselves against such levels.	forseeable future, these objectives and policies remain relevant. MDA has defined the extent of 'unreasonable' noise, as discussed in Plicy 4.2.9. The plan change seeks to avoid residents becoming subject to unreasonable noise by capping activity levels at Ruapuna and through management of residential activity. Policy 4.2.10 directs plan rules (and other methods) in relation to the receiving environment and its sensitivity. The plan change addresses this through management of the location of new residences and the requirement for acoustic insulation if new residences. Policy 4.2.11, however, is directed at the noise source. Maximum sound levels are provided in the proposed amendments to rule 1.3.4, within the constraints of s10 or the RMA. Advice from MDA is that noise attenuation structures (e.g. a bund) would provide little or no noise reduction for residents downwind of Ruapuna, and only minimal reduction for other residents. The plan change is considered to be effective in achieving these objectives and policies.
9.2 Objective : Metropolitan community facilities The provision of community facilities which serve metropolitan needs for educational, cultural and specialised services. **9.2.4 Policy : Managing effects** To ensure the effects of metropolitan community facilities are managed in a manner that ensures that the amenity values of adjoining land and the wider area are maintained.	Objective 9.2 promotes the provision of community facilities, including for recreation. Ruapuna is a regionally significant facility and could not easily be replaced. It meets the recreational needs of a segment of the community and provides economic benefits to the wider community. The plan change does not place the viability of Ruapuna at risk. Section 10 of the RMA protects lawfully established activities, including those at Ruapuna and is a significant factor in the preparation of the plan change. Policy 9.2.4 seeks to manage the effects of community facilities. The plan change addresses this policy through amendments to rule 1.3.4 to cap noise / activity levels, and to other rules to manage residential activity.

	The plan change is considered to be effective in achieving these objectives and policies.
Section 13 **13.1 Objectives : The rural land and soil resource** (a) That the rural land and soil resource be managed to: • enable rural resources to continue to be used for a variety of rural activities while recognising their operational needs and the potential environmental effects of such activities; • provide scope for the appropriate establishment or extension of urban activities; and • retain the stability and character of rural soils, and the life supporting capacity of the soil resource, including the potential for primary production, and to safeguard natural values. (b) That the open space character and low density of built form which distinguish the rural area be maintained and enhanced. **13.1.4 Policy: Non-rural activities** To ensure that activities not associated with rural resources or the Christchurch International Airport or urban expansion only occur on a scale or extent consistent with avoiding or mitigating adverse effects on rural resources and the character of the rural area. **13.4 Objective : Rural amenity values** That over the rural area as a whole, rural amenity values, including visual character, heritage values, cultural and recreational opportunities are maintained and whenever possible enhanced, and adverse effects of activities are recognised and controlled. **13.4.3 Policy : Avoiding mitigating or remedying adverse effects** To ensure that activities in the rural area, including pastoral, agricultural and horticultural farming, or intensive livestock management and forestry do not gave rise to adverse effects (dust, noise, smell, airborne sprays and visual detraction) without separation or mitigation measures.	Motorsport generally occurs in rural areas across New Zealand and internationally. This is largely due to the need for large areas of land, and the lesser number of nearby residents. The objectives and policies in this section of the Plan are therefore relevant, particularly in relation to potential effects of activities in the rural area, and any impact on amenity. Although it is considered that the amenity of the area around Ruapuna is impacted adversely by motorsport activities, the proposed rules are considered to be as effective achieving the objectives within the constraints of s10 of the RMA. Capping activity at Ruapuna and managing residential development near the Park will avoid additional residents being exposed to the 'unreasonable' noise (from Ruapuna) and provide an appropriate indoor residential environment in new residences (or particular additions).

Section 14 **14.1 Objectives : Provision and diversity** **(**a) Open spaces and recreational facilities that are equitably distributed and conveniently located throughout the City. (b) Diversity in the type and size of open spaces and recreational facilities to meet local, district, regional and nationwide needs. **14.1.5 Policy : Existing open space** To recognise the contribution of existing areas of open space to the City including private open space, and where appropriate maintain the open space function of such areas. **14.1.7 Policy : Metropolitan recreational open space and facilities** To develop or facilitate the development of metropolitan, regional or national recreational open space and facilities. **14.2 Objectives : Efficient and effective use** (a) The efficient and effective use of open space and recreational facilities in meeting the recreational needs of the community. (b) Enhanced public awareness and enjoyment of the City's open spaces and recreational facilities. **14.4 Objective : Adverse environmental effects** That the establishment or development of open space and recreational facilities is undertaken in a manner which enables adverse effects on amenity values to be avoided, mitigated or remedied. **14.4.1 Policy : Adverse effects** To ensure that activities associated with open space and recreational facilities do not have the effect of giving rise to adverse effects (noise, glare, visual detraction) without separation or mitigation measures. **14.4.2 Policy : Local amenities** To ensure that building development in association with open space and	Ruapuna is a regionally significant facility and could not easily be replaced. It meets the recreational needs of a segment of the community and provides economic benefits to the wider community. The proposed plan change seeks the continued operation of Ruapuna through the management of motorsport noise and of residential activity near Ruapuna. Objective 14.4 and supporting policies relate to management of adverse effects. The plan change seeks to amend Rule 1.3.4 to manage the effects of motorsport activity at Ruapuna, and prevent an increase in levels of activity and therefore an increase in noise impact. within the statutory constraints of s10. The proposed changes to rule 1.3.4 are considered be effective in achieving these objectives and policies. . The plan change also seeks to manage residential activity by avoiding locating residences in the inner noise boundary, and by requiring acoustic insulation of new residences. This approach reflects the need for the receiver to avoid noise annoyance from motorsport, where motorsport is likely to continue at a similar intensity and scale for the foreseeable future. The amendment is considered to be effective in assisting to achieve these objectives and policies.

recreational facilities maintains or enhances the amenity values of the local area.	

48. The above evaluation demonstrates that the proposed plan change is effective in implementing the objectives of the Plan (within the constraints of s10 of the RMA).

City Plan – Evaluation of Efficiency

49. Section 32 of the Act also requires the Council to assess the efficiency of the proposed plan change in achieving the objectives of the City Plan. Table 2 below assesses the benefits and costs of the plan change.

Table 2

Benefits	Costs
Prevents an increase in activity levels as could occur under the current rules. Allows the Car Club and Speedway Association to continue existing activities. Appropriate acoustic treatment enables residential development to occur in areas which are predicted to be subject to moderate noise Maintains Ruapuna as a community facility. Maintains the financial viability of Ruapuna. The proposed noise rule would enable better City Plan administration. Achieves some internal attenuation of noise for new residences. Discourages the establishment of new residences within the inner noise boundary Ruapuna avoiding unreasonable noise impact from motorsport and reverse sensitivity issues. Aligns with advice in terms of noise levels and the Council's purchase of properties within the inner noise boundary. Much of the area within the proposed noise contours where acoustic insulation would be required is also within the airport	Restricts the ability for growth of motorsport at Ruapuna and in Canterbury. Does not reduce noise impact for existing residents. Imposes additional building costs. Forced air ventilation required to achieve full benefits because of the effect of opening windows. Does not address enjoyment of outdoor space for rural-residential properties. Rules do not reduce the amount of racing or midweek practice / training at the racetrack or speedway.

noise contours where (a lesser degree of) acoustic insulation is required. Provides reasonable certainty for Ruapuna lessees. Closes the gap between existing uses at Ruapuna and what the City Plan rules allow.	

50. The above evaluation of the benefits and costs of the proposed plan change in respect to environmental, economic, and social perspectives demonstrates that it is moderately efficient overall. It is considered that benefits outweigh the costs over time.

RISK OF ACTING OR NOT ACTING

51. It is considered that there is sufficient information which might be relied upon as a basis for this plan change. It is not practical in terms of cost and time to prepare a perfect data set. Not acting or delaying action, however, would be to risk activities at Ruapuna increasing and becoming unreasonable for a greater number of people.

CONCLUSION

52. The amendments put forward by proposed Plan Change 52 have been assessed as the most appropriate package of rules in terms of s32 of the Act and have been determined to be the most efficient and effective way of achieving the objectives and policies of the City Plan and therefore the purpose of the Act. Significant consultation has occurred prior to and during the preparation of the plan change, including with the Canterbury Car Club, Christchurch Speedway Association, Templeton Residents Association, Quieter Please, Department of Corrections, Ministry for Social Development, and Fulton Hogan.

53. It is acknowledged that these amendments will not reduce the noise levels current residents in the area are exposed to, however, the Council cannot do this through the plan change process because of s10 of the RMA. The proposed lease re-negotiation will be pursued to address noise levels for these residents, and the Council was aware of this when initiating this plan change.

7. KING'S EDUCATION MEMORIAL REQUEST

General Manager responsible:	General Manager Strategy and Planning, DDI 941-8281
Officer responsible:	Unit Manager Central City Plan
Author:	Deborah Cosgrove, Heritage Advisor

PURPOSE OF REPORT

1. The purpose of this report is to seek a decision from the Council regarding a request from King's Education to establish a memorial in Latimer Square to those from the language school who lost their lives in the CTV building in the 22 February 2011 earthquake.

2. The report also recommends key principles to support an appropriate and consistent approach to memorial requests.

EXECUTIVE SUMMARY

3. The Directors of King's Education wrote to the Mayor on 20 December 2011 to ask for his support in establishing a small monument in Latimer Square (**Attachment 1**). Since receiving this letter staff have met the King's Education Directors to understand what they are seeking in wishing to establish a memorial and have explored a number of opportunities with them.

4. King's Education lost 9 staff and 72 students in the CTV building following the February earthquake. They have maintained contact with all bereaved families overseas and believe that, for many families, King's Education is the key point of contact and seen as their local representative here. King's Education are seeking support for the use of public land for their memorial. They are not seeking any funding from Council.

5. King's Education are seeking a permanent, culturally neutral memorial which is specific to their school given the scale of loss from this organisation. Their original proposal and request was for a natural stone monument in Latimer Square. They also intended to prepare a small engraved riverstone which could be sent to each of the bereaved families overseas providing the families with a connection to the memorial site in Christchurch. The engraving would recognise the collective loss of life from King's Education rather than individual names.

6. Latimer Square is the desired location given its proximity to the CTV site and also because this was where King's survivors assembled on 22 February 2011 as they struggled to determine who was lost.

<u>The National Earthquake Memorial</u>

7. The Christchurch Central Recovery Plan identifies a national Earthquake Memorial as an anchor project to be led by the Ministry for Culture and Heritage in partnership with Christchurch City Council, CERA and Ngai Tahu. This memorial will be of local, national and international significance recognising those who lost their lives and providing a place for quiet reflection and larger gatherings. It is important that the primacy of the national memorial is maintained and not diluted by the development of numerous memorials and plaques throughout the central city. An initial meeting with staff from the Ministry of Culture and Heritage, Ngai Tahu, CERA and the Council has been held. While the Ministry have yet to formally establish the project and process for the national Earthquake Memorial, it is clear that this will commence shortly and follow international best practice including engaging with the families of those who died in the February 2011 earthquake.

7 Cont'd

Avonhead Park Cemetery Interment site

8. In response to the need for an interment site following the February earthquake the Christchurch City Council established a site at the Avonhead Park Cemetery. The interment site provided an area where the unidentified human remains could be interred, where the four unfound victims could be commemorated and provides an area for ash interments for all victims of the earthquake.

Issues identified

9. The request from King's Education raises a number of issues for consideration in relation to this proposal and future requests that may be received:

- The need to be responsive to local and international requests to remember those lost in an appropriate way. In particular for King's Education the scale of loss from one organisation.

- The precedent that would be set with agreement to a permanent King's Education memorial in Latimer Square. When the scale of the loss of life is considered there are a number of levels in which recognition could occur including individual, country, workplace and organisation, and location. There is thus potential for requests to be received from a number of affected individuals and groups.

- The potential impact of a number of small memorials on the future national Earthquake Memorial site, with multiple remembrance sites rather than one nationally and internationally significant, high quality site.

- The cumulative impact a range of memorials could have on the built environment in the CBD. It would be difficult to control the design of ad hoc memorials and to change their location once installed.

- The extent to which any permanent memorials or plaques could subsequently overlap planned development in the central city.

- Given its proximity to the CTV site and association with the rescue operation, the extent to which Latimer Square could be the focus of multiple requests for memorials and plaques.

- The inclusion of individual's names on any form of memorial presents additional cumulative impacts due to the potential number of individual requests. Duplication of names may arise once the national Earthquake Memorial is completed and if recognition is also provided at the Avonhead Park Interment site.

- Existing precedents in the city. A plaque to those who lost their lives in the City Mall was put into Cashel Street, at the request of the families, prior to the opening of Re-Start. (pictured below). This is placed within a flowerbed and recognises the loss of life in that area of the central city but not individual names.

7 Cont'd

King's Education Memorial Request – Options Considered

10. In considering the issues raised by this request staff identified a potential range of responses to King's Education's request for a memorial in Latimer Square:

    a) A permanent separate monument in Latimer Square as originally requested by King's Education. This would require a notified resource consent process due to the proposed scale of the monument, the use of public land and the heritage listing of Latimer Square. The precedent could also lead to further requests for permanent monuments in Latimer Square and the central city, the cumulative effect of which would dilute the impact of the national Earthquake Memorial and impact on the built environment of the central city.

    b) Await the establishment of the national Earthquake Memorial within the central city. This option did not deliver a timely response for King's Education as the delivery of the proposed national Earthquake Memorial is expected to take a few years to work through.

    c) Inclusion of a King's Education memorial at the Avonhead Park Cemetery interment site. This would require changes to current Council Interment Guidelines for the site, to allow for recognition of more than one person through a single headstone or similar feature. King's Education have emphasised that they want a central city location, preferably near the former CTV building site.

    d) A temporary memorial be established for an agreed period and then removed once the national Earthquake Memorial is developed. This approach offered the potential for appropriate recognition on a high profile site, potentially Latimer Square, without proliferation of memorials being an issue. However, King's are seeking a permanent memorial. The temporary approach could also set a precedent for others who may want a similar memorial and recognition.

11. Recently the option of a commemorative tree with a plaque arose. An elm tree at the Gloucester Street end of Latimer Square is diseased (**Attachment 2**) and needs to be removed and replaced. The tree that replaces the diseased tree could be planted as a memorial tree with a small plaque placed underneath it.

12. This option has been discussed with the Directors of King's Education and they support this. (**Attachment 3**). A commemorative tree in this location would also:

    - be in keeping with the precedent of having a simple plaque for more localised commemorative purposes as already exists in the City Mall, recognising collective loss of life rather than individual names.
    - Maintain the historic character of Latimer Square through replacement of the diseased tree which is in keeping with the current landscaping of the square.
    - be consistent with the national Earthquake Memorial being the main memorial site for the city.

13. A memorial tree with a plaque diverges from the current approach within Transport and Greenspace that reserves memorial trees with plaques for dignitaries, and does not place plaques at the foot of protected or notable trees. This approach was developed prior to the February 2011 earthquake and consequent loss of life. Staff from Transport and Greenspace have been involved in and support the placement of a plaque under a replacement tree in Latimer Square as a response to King's Education's request for a memorial.

7 Cont'd

Interim approach to handling future memorial requests

14. Further requests for memorials may arise for the central city and suburban areas. As noted earlier the national Earthquake Memorial will be established in the central city to give full recognition to those who lost their lives in the earthquake. This is now being progressed. As the impact of the earthquake has not been factored into any existing policy or guidelines agreeing to key principles would assist staff in handling requests until the national memorial is established.

15. The following principles are recommended to provide a consistent response to any interim requests for memorials

    a) The dedicated Avonhead Park Cemetery interment site is the location to be used where the Council receives a request for recognition of an individual's loss of life. This would include a plaque bearing an individual's name.

    b) In other locations, memorial trees and/or remembrance plaques may be considered where a local or international group approaches the Council seeking collective recognition of a group of deaths. Recognition at the exact location of a death will not generally be possible unless this is considered a suitable location for a memorial tree or a remembrance plaque.

    c) Remembrance plaques are to employ generic wording and not list individual or company names, and recognise the wider loss of life and trauma of the event. The Avonhead Park Cemetery interment site is a location where individual names appear. The design of the national Earthquake Memorial will also consider appropriate recognition. This approach enables those two memorials to have primacy in the city.

    d) The location of memorial trees and/or remembrance plaques will be tracked by means of the Council's memorial assets register and Council's memorial trees register.

16. The Heritage and Greenspace impacts of the preferred option have been considered and the advice received is that the recommendation for a memorial tree and remembrance plaque in Latimer Square is appropriate for the circumstances. The resource consent for the replacement tree has been lodged. A resource consent for the plaque may be required as Latimer Square is a listed heritage item in the Christchurch City Plan; further advice is being sought on this.

FINANCIAL IMPLICATIONS

17. Kings Education would pay costs associated with a remembrance plaque. There may be minor maintenance costs associated with the plaque. The maintenance cost is likely to be less than $200 per annum and would be covered from Transport and Greenspace operational budgets. The maintenance cost covers the cleaning and re-waxing of the plaque and the removal of graffiti should it occur.

18. The replacement of the tree is provided for in Transport and Greenspace budgets.

19. If a resource consent is required due to the heritage status of Latimer Square the cost would be in the order of $1750. This could be waived for King's Education.

20. If a resource consent is required in relation to future memorial requests the fee for processing could be considered on a case by case basis.

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

21. See above.

7 Cont'd

LEGAL CONSIDERATIONS

22. Latimer Square is held under section 7 of the Christchurch City (Reserves) Empowering Act 1971, for the purposes of lawns, ornamental gardens and ornamental buildings. Legal advice indicates the proposal is consistent with the purposes set out in that Act.

23. Latimer Square is a Group 2 Protected Building, Place and Objects item in the Christchurch City Plan and therefore any permanent monument would require resource consent with a public consultation process being likely. A plaque under a tree in Latimer Square may require a resource consent and as noted above, further advice is being sought. The resource consent for the replacement tree has been lodged.

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

24. See above.

ALIGNMENT WITH LTCCP AND ACTIVITY MANAGEMENT PLANS

25. The circumstances of the request were not anticipated by the LTCCP or Activity Management Plans but is a response to a natural disaster. Council has supported the installation of plaques for commemorative and memorial purposes in other parts of the city.

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

26. See above.

ALIGNMENT WITH STRATEGIES

27. See below.

Do the recommendations align with the Council's strategies?

28. Yes. The recommendation aligns with the protection of heritage: Christchurch City Plan Volume 3 Part 10 Heritage and Amenities. Appendix 1 List of Protected Buildings, Places and Objects - Latimer Square, Group 2 listed heritage item.

29. Aligns with Council priorities for Civic and International Relations work, by respecting the city's international partnerships

CONSULTATION FULFILMENT

30. Three meetings have been held with King's Education to discuss their proposal and the best fit with Council policy. At the most recent meeting (24 July 2012), the recommended option was outlined for responding to the King's Education request and for ensuring appropriate use of Latimer Square given likely changes in the CBD over the next 5-10 years. The Directors of King's Education have confirmed that they are in agreement with the proposal that a commemorative tree, together with a plaque, would be an appropriate way in which to meet their request (**Attachment 3**).

31. In working through the issues that the King's Education request has raised staff from Civic and International Relations and Transport and Greenspace have provided advice to reach the recommendations in this report.

7 Cont'd

STAFF RECOMMENDATION

It is recommended that the Council:

(a) Approve the planting of a memorial tree with a remembrance plaque at the base, in Latimer Square, to recognise King's Education staff and students who died in the 22 February 2011 earthquake

(b) Approve the waiving of a resource consent fee for the King's Education plaque should a resource consent be required.

(c) Approve the following principles to support an appropriate and consistent response to any memorial requests noting that the national Earthquake Memorial is now being progressed.

(i) The dedicated Avonhead Park Cemetery interment site is the location to be used where the Council receives a request for recognition of an individual's loss of life. This would include a plaque bearing an individual's name.

(ii) In other locations, memorial trees and/or remembrance plaques may be considered where a local or international group approaches the Council seeking collective recognition of a group of deaths. Recognition at the exact location of a death will not generally be possible unless this is considered a suitable location for a memorial tree or remembrance plaque.

(iii) Remembrance plaques are to employ generic wording and not list individual or company names, and recognise the wider loss of life and trauma of the event. The Avonhead Park Cemetery interment site is the location where individual names appear. The design of the national Earthquake Memorial will also consider appropriate recognition. This approach enables those two memorials to have primacy in the city.

(iv) The location of memorial trees and/or remembrance plaques will be tracked by means of the Council's memorial assets register and Council's memorial trees register.

COMMITTEE RECOMMENDATION

That the Council:

(a) Approve the planting of a memorial tree with a remembrance plaque at the base, in Latimer Square, to recognise King's Education staff and students who died in the 22 February 2011 earthquake

(b) Meet the cost of any resource consent fee for the King's Education plaque should a resource consent be required.

7 Cont'd

(c) Approve the following principles to support an appropriate and consistent response to any memorial requests noting that the national Earthquake Memorial is now being progressed.

(i) The dedicated Avonhead Park Cemetery interment site is the location to be used where the Council receives a request for recognition of an individual's loss of life. This would include a plaque bearing an individual's name.

(ii) In other locations, memorial trees and/or remembrance plaques may be considered where a local or international group approaches the Council seeking collective recognition of a group of deaths. Recognition at the exact location of a death will not generally be possible unless this is considered a suitable location for a memorial tree or remembrance plaque.

(iii) Remembrance plaques are to employ generic wording and not list individual names, and recognise the wider loss of life and trauma of the event. The Avonhead Park Cemetery interment site is the location where individual names appear. The design of the national Earthquake Memorial will also consider appropriate recognition. This approach enables those two memorials to have primacy in the city.

(iv) The location of memorial trees and/or remembrance plaques will be tracked by means of the Council's memorial assets register and Council's memorial trees register.

Councillor Buck left the meeting at 11.36 am and took no part in the vote for this item.

KING'S EDUCATION

Bob Parker
Mayor of Christchurch
PO Box 73016,
Christchurch 8154

Cc: Gerry Brownlee, Roger Sutton

20th December, 2011

RE: King's Education Memorial

Dear Mayor Parker,

Our names are John Ryder and Graeme Dodd and we are the surviving directors of King's Education Limited. Our international school was a tenant on the 3rd floor of the CTV building and you may recall that you spoke at King's Education's Memorial Service at the Aurora Centre on the 14th of March 2011.

Following the February 22nd earthquake, we lost 9 members of our staff and 72 students who were attending our school. King's suffered the single biggest loss of life due to the earthquake and once the magnitude of the situation became apparent we made the very difficult decision to not try and attempt to resurrect our school.

Even though we are no longer continuing to operate King's Education, we still have a tremendous sense of duty to the memory of those staff and students who were lost and also their families. We are still in touch with everyone who was involved with King's and on the 7th of December 2011 we hosted a dinner for around 50 people associated with King's (including family members of King's staff who perished).

We would like to ensure that the 81 King's Education staff and students who lost their lives are remembered. As we no longer have our own King's premises or building we are writing to you to see if it would be possible for us to erect a small and simple monument in Latimer Square, dedicated to the people lost at King's Education. We estimate that the monument would take up a relatively small space, and be approximately 2 metres by 2 metres. We have chosen Latimer Square due to its close proximity to the CTV site and because it is where we, along with many family members, went immediately after the event on the 22nd of February.

We know that having a special place like this to visit in Latimer Square would mean a lot to the associates, colleagues, students, friends and family members of all those who were involved with King's.

We have discussed the above request with staff at CERA and also the Christchurch City Council. They have suggested that we write to you and put our request in writing.

We would really appreciate your support for this request or at least the opportunity to discuss any concerns you have, with either yourself or your staff. We look forward to hearing back from you.

Yours sincerely,

John Ryder
Director
King's Education Limited

Graeme Dodd
Director
King's Education Limited

ATTACHMENT 2 TO CLAUSE 7 PLANNING COMMITTEE 5. 9. 2012

From: Wilson, Elizabeth
Sent: Wednesday, 1 August 2012 1:13 PM
To: Cosgrove, Deborah; Ingles, Carolyn
Cc: Sandeman, Duncan
Subject: FW: KING'S EDUCATION MEMORIAL REQUEST: UPDATE MEETING
Written confirmation from King's that our tree planting proposal is endorsed.

From: Graeme Dodd
Sent: Tue 31/07/2012 8:14 p.m.
To: Wilson, Elizabeth
Subject: Re: KING'S EDUCATION MEMORIAL REQUEST: UPDATE MEETING

Thanks Elizabeth

We appreciate your email and agree with all your points.

Regards,

Graeme dodd

(sent from my iPhone)

On 31/07/2012, at 3:45 PM, "Wilson, Elizabeth" <Elizabeth.Wilson@ccc.govt.nz> wrote:

>
> Hi Graeme
>
> Did the email below get through to you? If so, I hope it looked OK.
>
> Regards Elizabeth
>> _____
>> From: Wilson, Elizabeth
>> Sent: Tuesday, 24 July 2012 4:12 PM
>> To: 'Graeme Dodd'; 'John Ryder'
>> Cc: Ingles, Carolyn; Cosgrove, Deborah; Revell, John
>> Subject: FW: KING'S EDUCATION MEMORIAL REQUEST: UPDATE MEETING
>>
>> Dear Graeme and John
>>
>> Thanks again for coming in to see us this morning. As discussed, we
>> wanted to confirm by email the main points covered:
>>
>> - The King's Education memorial request will now be considered by
>> the Council. In considering this request, the Council need to
>> understand the whole memorial context, including the National Memorial
>> and broader issues of individual EQ memorials.
>> - The report on this is scheduled to be considered by the
>> Council's Planning Committee on 5 September and by the Council on 27
>> September.
>> - In exploring options for responding to the King's request and
>> best using Latimer Square, Council staff have identified a large elm
>> on the Gloucester Street side of the Square which needs replacing.
>> - Our suggestion therefore is that a commemorative tree planting

>> could offer an appropriate way for King's to remember the staff and
>> students who died in February 2011.
>> - As the tree is in a listed heritage park, a resource consent is
>> required to replace it. An application for this consent is underway
>> already.
>> - The tree is expected to be removed by the end of September. The
>> stump will be fully removed and the area then grassed.
>> - We discussed with you options for a plaque or commemorative
>> stone at the foot of the tree. Any commemorative stone would need to
>> be set fairly low into the ground.
>> - We will shortly provide you with guidance on the appropriate
>> size for a plaque, and you will be investigating options for a
>> commemorative stone (perhaps Banks Peninsula basalt or Canterbury
>> greywacke).
>> - The wording you are considering for the inscription would be
>> similar to In memory of the staff and students of King's Education who
>> lost their lives during the earthquake of 22 February 2011.
>> - There is a possibility the commemorative tree could be lit
>> differently to the other trees in the Square, to highlight its
>> significance. This is being explored at the moment.
>> - Commemorative tree plantings are recorded in a special memorial
>> register at the Council. Arrangements for a ceremony/tree planting
>> will be discussed further with King's following the Council meeting.
>> - We will be contacting King's Education again following the
>> Planning Committee discussion, in order to confirm the proposals to be
>> put to the Council at the end of September (and also to confirm if
>> King's wish to attend the Council session).
>>
>> Since the meeting, we have determined that the tree to be replaced in
>> Latimer Square is an Oriental plane tree, so it is proposed that the
>> replacement tree would also be an Oriental plane tree. The
>> replacement tree would be around 3 metres high.
>>
>> We hope this sets out the key issues clearly and look forward to
>> hearing from you.
>>
>> Kind regards
>>
>> Elizabeth Wilson
>>
>> Civic & International Relations Coordinator
>> Marketing Unit
>> Christchurch City Council
>> Tel (+643) 941 8775
>> Mob 027 470 5478 or 027 683 8819
>> Email elizabeth.wilson@ccc.govt.nz
>> Web www.ccc.govt.nz <http://www.ccc.govt.nz/>
>> Civic Offices, 53 Hereford Street, CHCH 8011
>> My office hours: Mon & Tue 9-5, Thurs 9-2, Fri 9-1.
>>
>>

>
> Christchurch City Council
> http://www.ccc.govt.nz
> **********
>

PART B - REPORTS FOR INFORMATION

8. DEPUTATIONS BY APPOINTMENT

Nil.

9. STRATEGY AND PLANNING SUPPORT TO CERA WORK PROGRAMME

Mike Theelen, General Manager Strategy and Planning, provided the Committee with a verbal update on the level of support provided by the Strategy and Planning unit to the Canterbury Earthquake Recovery Authority (CERA) work programme. The discussion included information on:

- Approximately 1350 hours since 1 July 2012 , largely provided to the Central City Development Unit and associated activities, covering:
    - A mixture of full and part time secondments. Secondment costs were generally borne by the Council
    - Areas of input included transport, monitoring, temporary worker accommodation and rock fall.
- Approximately 160 indirect hours on social policy, heritage and demolition
- Ongoing CERA connected work such as housing showcase, cordon reduction
- The importance of having the Council's input and staff involvement was acknowledged so there was a good exchange of knowledge and skills, and ensuring that decisions were taken in a manner that ensured their long term sustainability
- CERA has implemented a transport steering group made up of a number of organisations including the New Zealand Transport Authority (NZTA), the Council, and Environment Canterbury (Ecan)
- Staff are to compile a fact sheet on designations and circulate this to Councillors.

The Committee **decided** to receive the information.

Note: Councillor Wells, the General Manager of Strategy and Planning, and the Programme Manager District Planning are to arrange a meeting with CERA staff to discuss the information provided in this briefing with the effect of enhancing information flow.

PART C – DELEGATED DECISIONS

10. APOLOGIES

Councillor Claudia Reid.

The meeting concluded at 11.49am.

CONSIDERED THIS 27TH DAY OF SEPTEMBER 2012

MAYOR