

Redcliffs School, Christchurch - Site Study

Prepared for Ministry of Education (Client)

By Beca Ltd (Beca)

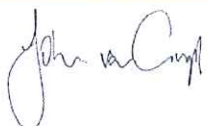
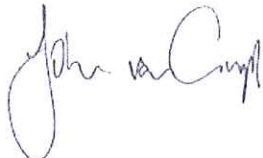
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Revision History

Revision N°	Prepared By	Description	Date
0	Lachlan Munro	Interim report for client review	19/06/2014
1	John van Cingel	Final Report including client feedback: Option 1A added, bund cost removed, higher \$/m2 rates for new build, allow \$ for upgrade of exist buildings, access gap in bund to unsafe area. Plans consolidated	3/7/2014

Document Acceptance

Action	Name	Signed	Date
Prepared by	John van Cingel		2/07/2014
Reviewed by	Jamie Swan		2/07/2014
Approved by	John van Cingel		3/07/2014
on behalf of	Beca Ltd		

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Executive Summary

To protect the existing site from further rockfall damage and injury it has been recommended that a 4m high bund be constructed along the northwest and southwest boundaries of the existing Redcliffs School site. This will reduce the available site area by 24% to 1.87ha.

The Ministry of Education (MoE) has engaged Beca Ltd (Beca) to develop a high level bulk and location masterplan to determine whether the remaining site area can accommodate a school with a roll of 300 students, with the potential to grow to 400 students. The architectural Bulk & Location plans are then used to provide a preliminary comparative cost estimate between the options.

Three options are presented for scenarios of a roll of 300 and 400 pupils:

- Option 1: Existing Buildings (reusing as many of the existing building as possible with new buildings located along the rockfall protection bund)
- Option 1A: Existing Buildings (reusing as many of the existing building as possible with new buildings located away from rockfall protection bund)
- Option 2: New Build (completely new buildings and layout)

The study concludes that all options can accommodate a school with a roll of either 300 or 400 students.

Under Options 1 and 1A a single level primary school with 17 Classrooms and a new Hall can be constructed on the reduced site. Option 1 utilises the existing buildings, car parking and site entries with minimal loss to playing field areas. With additional classrooms for a roll of 400 the remaining hard court areas however, are too small to accommodate a netball court but these could be re-established elsewhere on the site.

Option 1A also utilises the existing buildings, car parking and site entries with new buildings located away from the rockfall protection bund, while this reduces the Playing Field areas it provides for an increase in the hardcourt areas to accommodate two netball courts. The existing Playground has also been relocated.

Under Option 2 a single level primary school with a roll of 400 can be constructed on the reduced site with a larger playing field and more netball court size hardcourt areas.

While developing a new school on a greenfield site will deliver a new school that meets all of the Ministry's Modern Learning Environment requirements and a large playing field and 4 netball courts this comes at a cost premium of approximately \$7m when compared with the costs of redeveloping the existing school.

Item	OPTION 1		OPTION 1A		OPTION 2	
	Existing Buildings 300 Roll	Existing Buildings 400 Roll	Existing Buildings 300 Roll	Existing Buildings 400 Roll	New Build 300 Roll	New Build 400 Roll
New floor area (m ²)	630	1130	630	1130	2095	2670
Total Development Cost	\$4,674,000	\$6,688,000	\$5,403,000	\$7,435,000	\$11,044,000	\$13,417,000
Range	\$4m-\$5m	\$6m-\$7m	\$5m-\$6m	\$7m-\$8m	\$11m-\$12m	\$13m-\$14m

Table of Contents

1	Introduction.....	3
1.1	Background	3
1.2	Purpose of this Report.....	3
2	Master Planning.....	4
2.1	Ministry Requirements.....	4
2.2	Option 1 - Existing Buildings Site Development Plan (along bund)	5
2.3	Option 1A - Existing Buildings Site Development Plan (away from bund)	6
2.4	Option 2 - New Site Development Plan.....	7
3	Cost Comparison.....	8
3.1	Overview of the Process.....	8
3.2	Assumptions	8
3.3	Preliminary Cost Estimates	9
3.4	Findings	10
3.5	Common Cost Related Risks	12
4	Conclusion.....	13
4.1	Key Findings.....	13
4.2	Recommendation	13

Appendices

Appendix A – Architectural Site Plans

Appendix B – Preliminary Cost Estimates

1 Introduction

1.1 Background

Following the earthquake of 4 September 2010 a temporary bund was constructed behind the school for protection from potential rockfall as cracks had started to appear in the cliff face behind. The bund served its purpose following the 22 February 2011 earthquake with relatively minor damage to buildings and only small rocks entering the site. It was the earthquake and aftershocks on 13 June 2011 that caused more damage and an increase in rockfall risk that forced the school to close and relocate to Van Asch Deaf Education Centre in Sumner.

Redcliffs School has been in operation since 1907 and the desire to return to the original site has never waned.

1.2 Purpose of this Report

On behalf of the Ministry of Education (the Ministry), Beca Ltd. (Beca) has undertaken a bulk and location study for the existing Redcliffs School site following the recommendations of specialist investigations to determine the extent of safe buildable land for education purposes post-earthquakes. The land for the school area has been reduced due to the requirement for a 4.3m wide by 4m high rockfall bund along the southwest and northwest boundaries of the site. The protection bund will mitigate the rockfall risk of the unstable cliff face behind the site.

The first objective of this study was to investigate how the reduced land area impacts the existing building stock and its ability to initially cater for a roll of 300 pupils as well as accommodate future growth (up to 400 pupils).

The second objective was to provide a high level comparison with a total new build school on the reduced site.

Cost estimates for the options are also included to assist in evaluating the most appropriate solution for returning Redcliffs School back to their original site.

This report does not include any geotechnical, rockfall hazard, structural, infrastructure, traffic or planning investigations as these were not required by the MoE.