CHRIS O'BRIEN & COMPANY PTY LTD
CONSULTING CIVIL & STRUCTURAL ENGINEERS
ABN: 69 006 752 656

Reference No: B23366

Project No: 110923

11/10/2023

Wild Cherry School Bairnsdale
28 McKean Street
BAIRNSDALE Vic 3875

Attn: Johanna Camm

Email: johanna.camm@wildcherry.vic.edu.au

Dear Johanna,

RE: Wild Cherry Steiner School Development
Lot A & Lot 1 Caldwell Court, Johnsonville

INTRODUCTION

Chris O'Brien & Company Pty Ltd have been engaged by Johanna Camm of Wild Cherry School Bairnsdale to provide a Geotechnical risk assessment report for the proposed Wild Cherry Steiner School Development at Lot A & Lot 1 Caldwell Court, Johnsonville Vic 3902. An erosion management overlay exists over the property.

The purpose of this letter is to determine if the works to be carried out on this site will be a risk to the surrounding environment and is to be used in the planning application process only. This letter is not a soil classification report and shall not be used for this purpose.

Information contained in this letter is from a visual inspection of the site and based on information supplied to Chris O'Brien & Company Pty Ltd on the work to be completed on the site.

Note that in accordance with "Guidelines for Landslide Susceptibility" Section 5: Landslide Zoning: the subject site would not be considered in a landslide hazard zone.

The site was inspected by Andrew Powell on the 9th October 2023.

SITE DESCRIPTION & FIELD INVESTIGATION

We completed our site inspection and field investigation on the 9th October 2023. During the inspection and investigation we looked at erosion if occurring, site soil conditions, current site drainage, services available to the site, site access and assessed all relevant environmental risks related to the work to be done on site. Photos of the site are attached to the rear of this report.

Inspection revealed that no erosion is naturally occurring with the allotment having an excellent cover of grass. Access to the main site will be through lot 1 Caldwell Court with Caldwell Court being full kerb and channelled to the extent of Lot 1 with a concrete footpath

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also linking the site to Punt Road to the east. All services are available to the site with the stormwater drainage from the subdivision draining along the southern boundary with a rock beached outlet located about 30m east of the western boundary.

Environmental risks associated with the project include protection of all downslope assets in relation to silt run-off and stormwater flow, management of the stormwater flow to limit stormwater flow to pre-development flows to protect downstream assets and the treatment of stormwater prior to leaving the site to protect downstream assets such as Lagoon Creek from any contaminants during both construction stage and after construction is complete.

Our site investigation was to look at soil types for both stability when batters are created and to determine foundation types for proposed buildings to be constructed. 2 test pits were hand excavated to a depth of 600mm then hand drilled to 900mm along with 4 additional bores hand drilled down to a depth of 1200mm.

The typical soil profiles of the site listed below. It was noted that the soil type were fairly consistent over the entire site.

0 – 250	Dark grey silty sandy loam topsoil, Damp & Firm, with coarse grass roots
250 – 450	Fawn & grey clayey sandy silt, Damp & Stiff
480 – 900	Grey & Orange sandy silty clay, Damp & Stiff

No adverse moisture conditions or fill were encountered during the soil investigation. It is expected that the topsoil will be stripped in work areas and stockpiled for future use. Soils found were cohesive, strong and considered ideal for forming batters up to a maximum slope of 1 in 3 for fill batters and 1 in 2 for cut batters.

PROJECT DETAILS

It is proposed to develop a new school on the site and this will be completed in a number of stages. Development will include a number of buildings, carparking and access roads to the site. The construction work will be as follows.

- Stripping of all topsoil from construction areas and stockpile the topsoil on site for future use.
- Excavation works for the following, to form level bases for building construction, to box out all roads, driveways and carparks, for all footings for proposed buildings on site and for the formation of all landscaped areas and stormwater drainage retarding basin. As noted above maximum fill batter is to be 1 in 3 and maximum cut batter to be 1 in 2.
- Placement and compaction of all materials required to form roads, driveways and carparks.
- Provide tie in to access Caldwell Court with this to be used as the construction access during all works on site.
- Excavation of trenches for the provision of all services to the site including connections required to each individual building, the laying of the services then the backfilling of all trenches.
- Provision of treated storm water drainage outfalls which will be check that the existing rock beached outfall is properly maintained.
- Provision of areas for site facilities, machinery and fuel storage, and topsoil stockpiling for the duration of the works.

- Placement and compaction as required for all materials required in the construction of the buildings on the site.
- Re-topsoiling from stockpile on site all disturbed areas, trenches and cut and fill batters with all areas to be sown with local grasses.

SUMMARY OF RISK

LANDSLIDE	**LOW**
SHEET/RILL EROSION	**LOW**
TUNNEL EROSION	**LOW**

- Low to moderate grades over the entire site ranging from about 1 in 20 to 1 in 8.
- There is no evidence of any landslip or soil erosion on our site or on any of the surrounding properties.
- A construction management plan will need to be implemented for entire construction time for all buildings to be constructed along with roads driveways and carparks and all associated underground services. The plan will need to show measures to be undertaken to control erosion and storm water during the construction period. The following will have to be considered:

i. Location of any temporary construction works office and machinery storage area.
ii. Identification and location of areas suitable for the stockpile of topsoil with measures of erosion control to be shown (i.e. diversion banks and sediment fences)
iii. Measures and techniques to protect drainage lines and watercourses from sediment runoff from disturbed or under construction areas.
iv. Drainage of all construction and stockpile areas for the duration of the works and details of stormwater treatment to be provided.
v. A stabilized vehicle access point to and from all storage areas on the site for the entire length of the construction
vi. The form, bulk, scale and location of cut and fill is to be controlled to ensure no adverse effects on the natural water course to the west. (i.e. diversion banks and spoon drains)
vii. All erosion and sediment control measures will need to be inspected on a daily basis by the site manager with any maintenance required to be rectified immediately.

- Storm water management plan for the whole site both during the construction stage and when the site is fully developed, with drainage treatment and details and control of storm water run-off to be clearly indicated. Stormwater flows must be limited to pre-development flows to protect downstream assets. Control of sediment run-off and erosion control details to be shown for both construction and post construction. It is essential that all storm water run-off from construction areas be treated prior to entering site run-off areas.

The above recommendations will need to be provided and approved prior to the commencement of any construction works on site. All storm water pits, silt fences etc will need regular maintenance to ensure the systems work as intended, as any silt build up in pits etc could cause the system to fail. All plans must be approved by Council prior to any work commencing on site.

A report on the foundations for all proposed buildings on site is in report No. B23367.

CONCLUSION

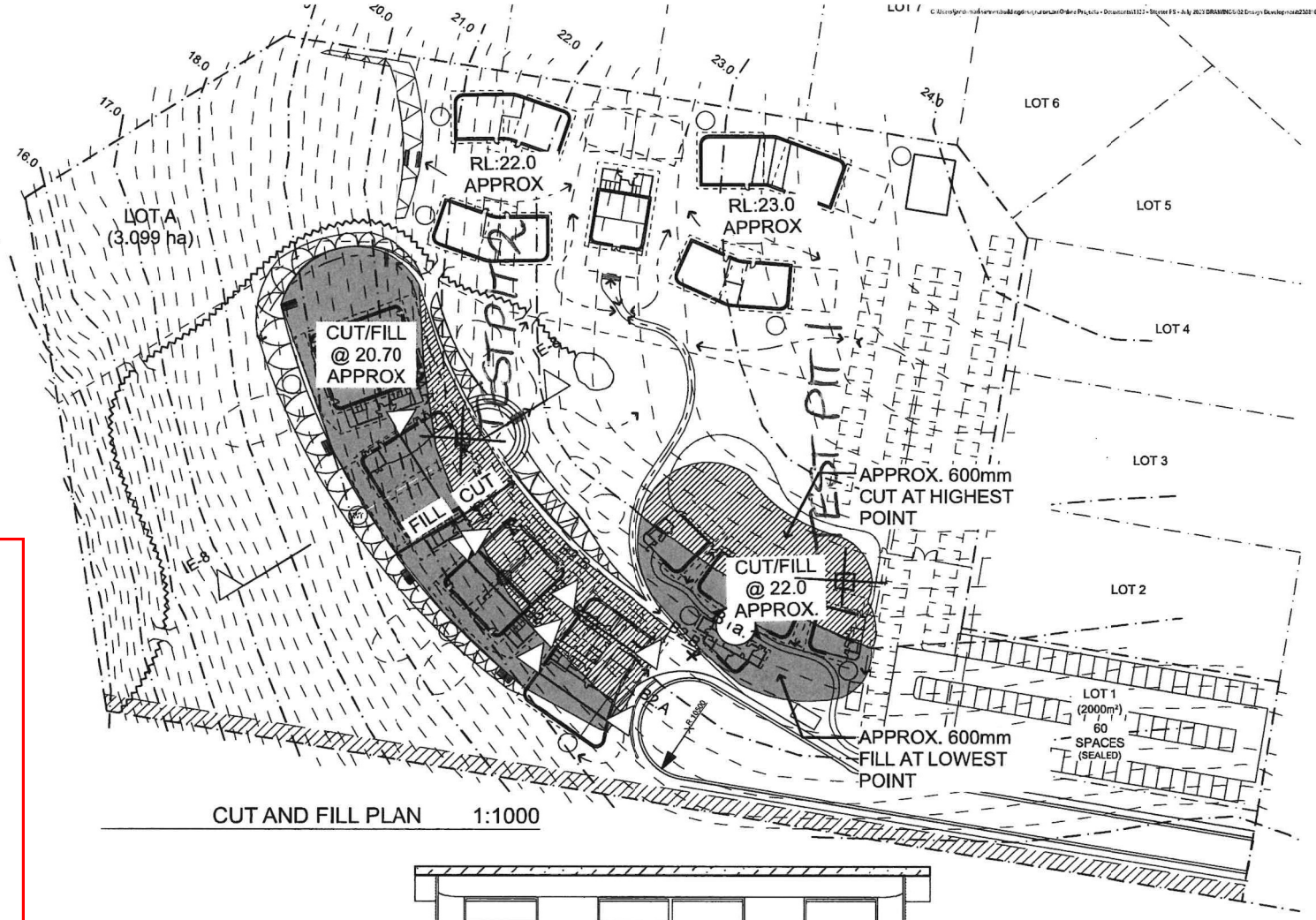
Following our site inspection and field investigation it is clear that provided all aspects of this report are strictly adhered to that no environmental risks will come from the proposal to develop a school on this site. Proposed management of all stormwater will only improve the quality of water leaving the site.

Should you need to clarify anything, please contact the Andrew Powell on 0402384596

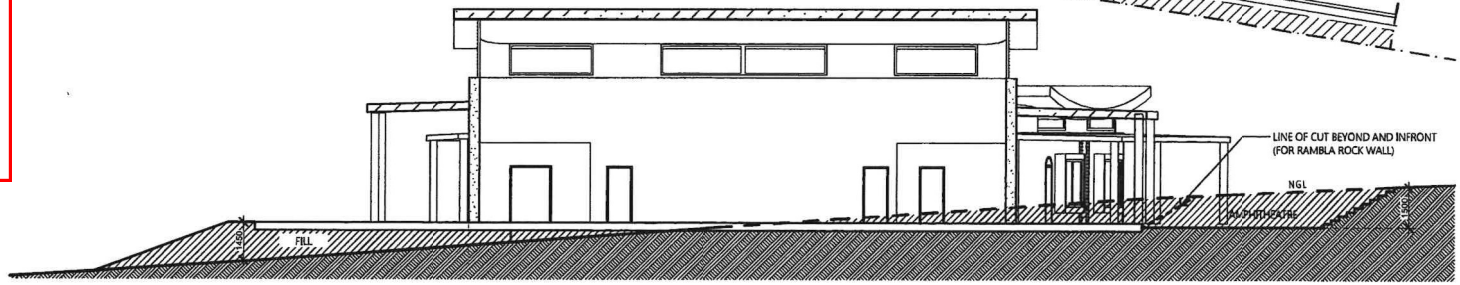
Yours faithfully,

Andrew Powell Assoc.Dip (Civil)
for CHRIS O'BRIEN & COMPANY PTY LTD

Plot Date: 16/08/2023



CUT AND FILL PLAN 1:1000



SECTION THROUGH HALL AND AMPHITHEATRE 1:200

Date	Change Name	ChID	RevID
-	-	-	-

MARK SIMNETT
BUILDING DESIGN
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North

PROJECT:
Wild Cherry Steiner School Development

ADDRESS:
Lot A / 1738 Princes Hwy - Johnsonville

STAGE 1 CUT AND FILL DIAGRAMS

Designed & Documented by: Mark Simnett

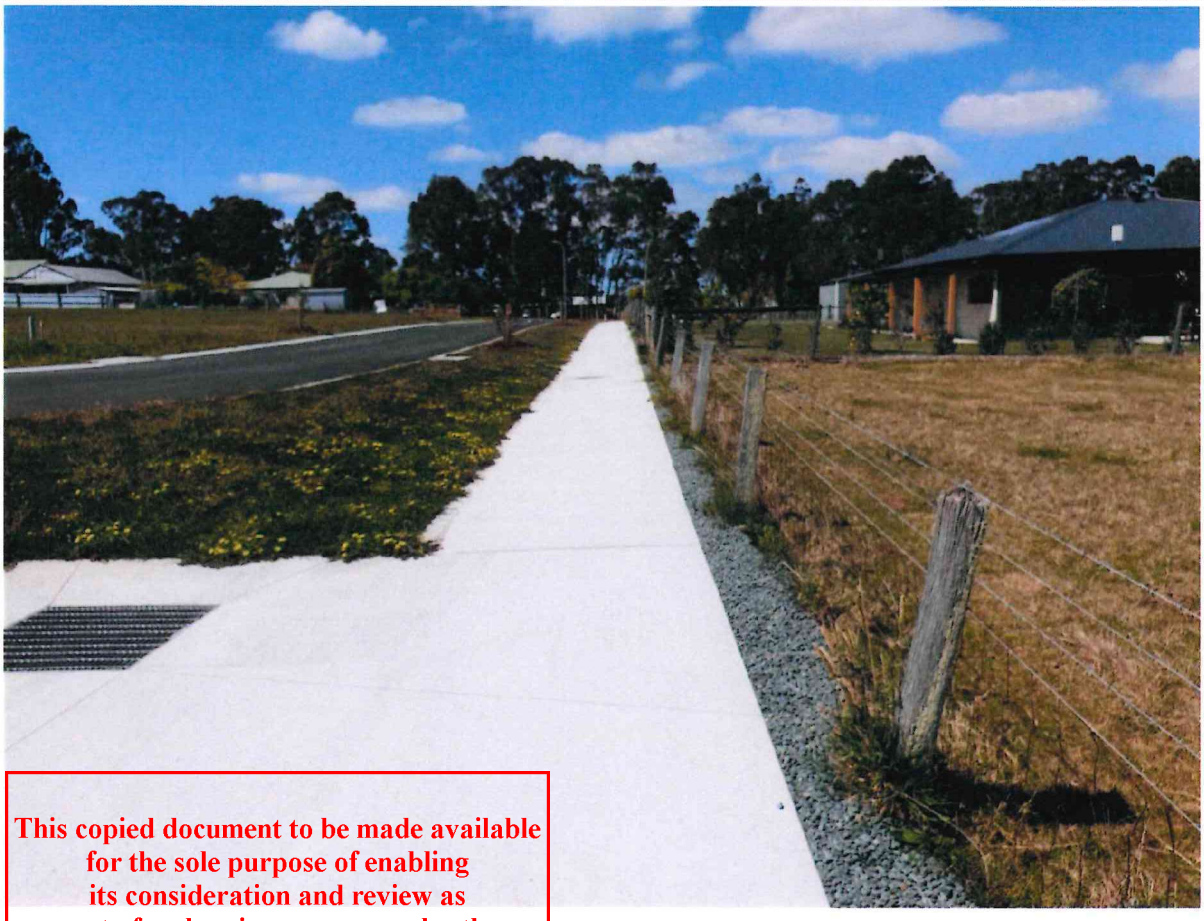
SCALE: As Noted

PLOT DATE: 16/08/2023

1323 FS-3

Photos below show the general site layout.

Photos below show site features, access, drainage etc.



Photos below show example of soil samples.