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08 May 2025

Our ref: UK/C13651-1

Client: School Infrastructure NSW

Via email: PAUL.HUNTER31@DET.NSW.EDU.AU & SAM.REUTER@COLLIERS.COM

**Attention: Paul Hunter**

# BUNGENDORE NORTH CAMPUS HIGH SCHOOL

*Geotechnical Memorandum Confirming Suitability of Previous Geotech Report*

## 1 INTRODUCTION

This Geotechnical memorandum has been prepared to support a Review of Environmental Factors (REF) for the NSW Department of Education (DoE) for the construction and operation of the new Bungendore North Campus High School (the activity).

The purpose of the REF is to assess the potential environmental impacts of the activity prescribed by State Environmental Planning Policy (Transport and Infrastructure) 2021 (T&I SEPP) as “development permitted without consent” on land carried out by or on behalf of a public authority under Part 5 of the Environmental Planning and Assessment Act 1979 (EP&A Act). The activity is to be undertaken pursuant to Chapter 3, Part 3.4, Section 3.37A of the T&I SEPP.

This document has been prepared in accordance with the Guidelines for Division 5.1 assessments (the Guidelines) by the Department of Planning, Housing and Infrastructure (DPHI) as well as the Addendum Division 5.1 guidelines for schools and Addendum October 2024 (Consideration of environmental factors for health services facilities and schools).

The purpose of this report is to confirm the suitability of the geotechnical investigation report produced by Fortify Geotech for the New High School in Bungendore (*report ref: UK/C13651*). The high school will accommodate the operational needs of the high school on a temporary basis (together with the existing high school located within the grounds of Bungendore Public School) as students as enrolments continue to grow. These facilities will be utilised until such time the permanent high school at Birchfield Drive is established.

The following memorandum confirms the previous findings of the investigation remains unchanged and can be used for the purpose of the proposed North Campus of Bungendore High School. For the purposes of this memorandum the previous report issued by Fortify Geotech, C13651 – New Bungendore High School – Rev2 (*report ref UK/C13651*), March 2024 is referenced.

This report also refers to two previous reports issued by Douglas Partners Pty Ltd as listed below.

*Table 1-1: Douglas Partners Geotechnical Documentation*

| Report | By |
|---|---|
| Report on Geotechnical Investigation, New High School in Bungendore (report ref 202107.02.R.001.Rev2) (DP, September 2021) | Douglas Partners Pty Ltd |
| Report on Detailed Site Investigation (Contamination), New High School in Bungendore (report ref 202107.04.R.002.Rev2.DSI) (DP, July 2022) | |

# 2 SITE DESCRIPTION

The project site, and land to which the REF applies (the site) includes Nos. 4-6, and 10 Majara Street, part Lot 1 DP 1276279 (Majara Street Road reserve) and part Lot 1 DP 1276282 as identified in Figure 1.

As shown at **Figure 2**, the Bungendore North Campus High School will utilise the former Council administration building and car park located at 10 Majara Street. Demountable buildings are proposed to be placed north of the existing building. Public domain upgrades will feature in part Lot 1 DP 1276279 and part Lot 1 DP 1276282.

The site is located between Mick Sherd Oval (to the west) and the rail corridor (to the east). The site is located approx. 170m north of the Bungendore Train Station and Bungendore Primary School. The Bungendore Primary School, located on the corner of Gibraltar Street and Majara Street currently accommodates Bungendore High School on a temporary basis.

**FIGURE 1** AERIAL PHOTOGRAPH OF THE SITE


Source: TKD, 2025

# 3 PROPOSED ACTIVITY DESCRIPTION

The proposed activity is for the construction and operation of the new Bungendore North Campus High School. The high school will accommodate the operational needs of the high school on a temporary basis (together with the existing high school located within the grounds of Bungendore Public School) as students as enrolments continue to grow. These facilities will be utilised until such time the permanent high school at Birchfield Drive is established.

Specifically, the project involves the following:

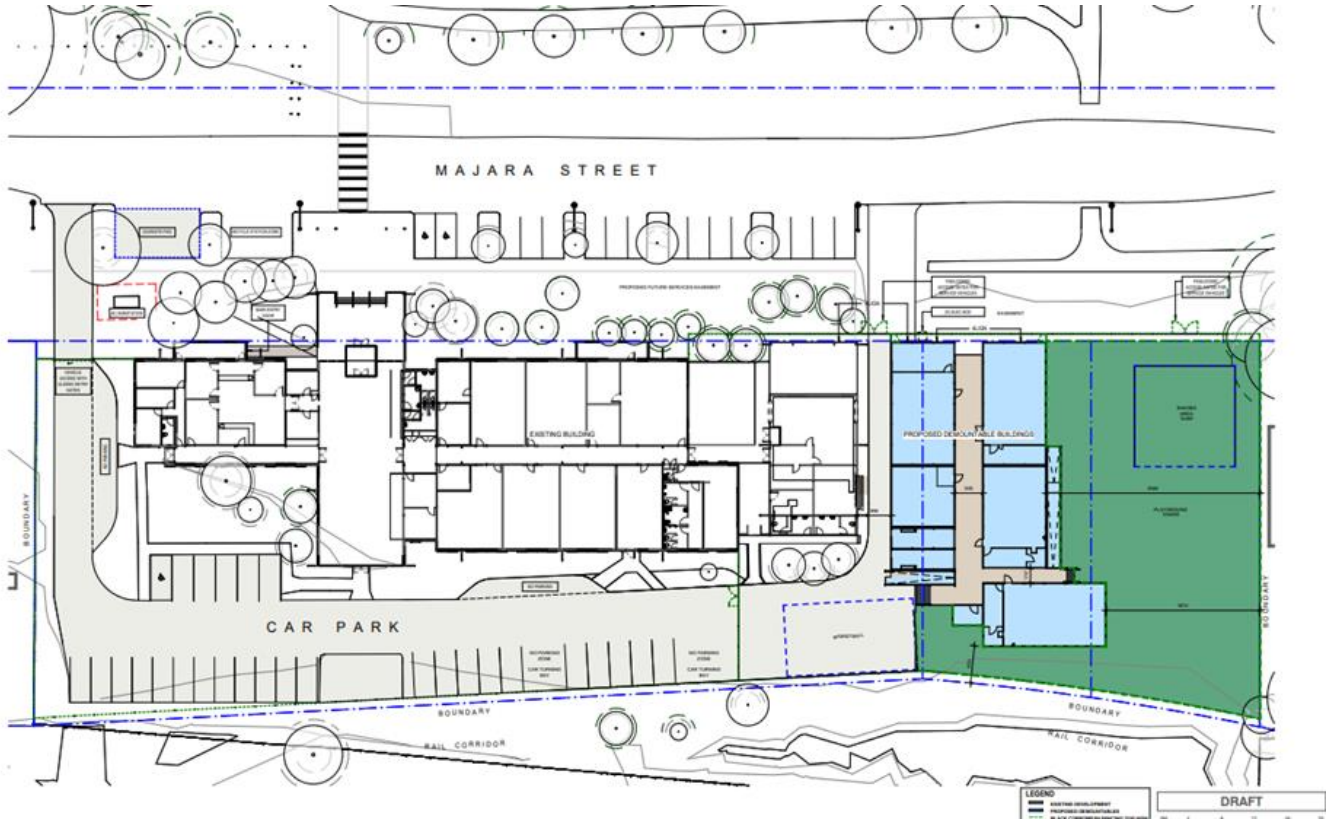
- Use of the former Council administration building as part of the new Bungendore North Campus High School,
- New demountable classrooms,
- Landscaping, outdoor play areas, shade structure and basketball court,
- On site staff parking which utilises the existing car park and access from Majara Street, and
- Public domain upgrades to part Lot 1 DP 1276279 (Majara Street Road reserve) and part lot 1 DP 1276282 to enable kiss and drop from Majara Street and pedestrian connectivity to surrounding areas.

The North Campus facilities proposed will supplement the existing high school facilities located within the Bungendore Primary School site.

Refer to the Review of Environmental Factors (REF) for the detailed scope of works and operational details.

**Figure 2** provides an extract of the proposed Overall Campus Plan.

**FIGURE 2** OVERALL CAMPUS PLAN SITE AND ROOF PLAN



# 4 INITIAL GEOTECHNICAL SCOPE

Fortify Geotech have previously conducted a geotechnical investigation and issued relevant report for the new high school in Bungendore, NSW, in March 2024 for the now discontinued State Significant Development Application (SSDA). During this period, the proposed high school had been designed as a stream 3 high school to initially provide for approximately 450 students with core 4 facilities aimed to future proof demand forecasted to 2035. The school would adjoin the existing Bungendore Public school. The previous geotech investigation and report were aimed at providing relevant geotech advice for the construction of the proposed high school and associated carpark areas. The investigation area within this scope of works comprised the following lots outlined in Table 2-1 below:

*Table 4-1: Site Identification*

| Property Address | Lot Numbers | Scope of this Ref (North Campus Bungendore High School) |
|---|---|---|
| Majara Street | ***Lot 1 DP 1276282*** | Subject site - Partially Included |
| Majara Street between Turallo Terrace and Gibraltar Street | ***Lot 1 DP 1276279*** | |
| 2 Majara Street | ***Lot 12 DP 1139067*** | |
| 4-6 Majara Street | ***Lot 13 DP 1139067*** | Subject site |
| 4-6 Majara Street | ***Lot 14 DP 1139067*** | Subject site |
| 10 Majara Street | ***Lot 3 DP 830878*** | Subject site |
| 68 Turallo Terrace | ***Lot 1 DP 1276285*** | |

The site is located between Mick Sherd Oval (to the west) and the rail corridor (to the east). The site is located approx.170m north of the Bungendore Train Station and Bungendore Primary School. The Bungendore Primary School, located on the corner of Gibraltar Street and Majara Street currently accommodates Bungendore High School on a temporary basis

# 5 REVISED SCOPE OF WORKS - BUNGENDORE NORTH CAMPUS HIGH SCHOOL

No extensive earthworks have been conducted within this location since the delivery of the previous geotechnical report. For the revised scope of works the client has not noted any extensive earthworks to be conducted, and excavations are expected to only comprise minor footing excavations for the purpose of the temporary structures.

For the purposes of this memorandum, Fortify Geotech have been issued with the following architectural documentation for the revised scope.

*Table 5-1: Architectural Documentation*

| Document | Architectural Drawing Register (REF) |
|---|---|
| Bungendore High School – North Campus (Temporary)<br>NSW Department of Education | AR REF 0000 *Revision* P12 Dated 04/04/25<br>AR REF 1000 *Revision* P12 Dated 04/04/25<br>AR REF 1100 *Revision* P12 Dated 04/04/25<br>AR REF 1300 *Revision* P12 Dated 04/04/25<br>AR REF 1301 *Revision* P12 Dated 04/04/25<br>AR REF 2000 *Revision* P12 Dated 04/04/25<br>AR REF 2001 *Revision* P12 Dated 04/04/25<br>AR REF 3000 *Revision* P12 Dated 04/04/25<br>AR REF 3400 *Revision* P12 Dated 04/04/25<br>AR REF 8000 *Revision* P12 Dated 04/04/25<br>AR REF 8001 *Revision* P12 Dated 04/04/25<br>AR REF 9900 *Revision* P12 Dated 04/04/25 |

# 6 REVIEW OF PREVIOUS REPORT (UK/C13651)

Fortify Geotech have conducted a review of the previous report issued and have found the following information contained within the initial scope and investigation to be relevant to the Ref being the submitted for the North Campus Bungendore High School.

Borehole Logs and Subsurface Profile

For the purposes of the revised scope, from the extent of all boreholes reported, the following are relevant:

*Table 6-1: Relevant Borehole Logs*

| Report Reference | Borehole Reference |
|---|---|
| UK/C13651 | BH6, BH7 & BH8 |
| 202107.02.R.001.Rev2 (DP, September 2021) | BH03, BH05, BH06 |
| 202107.04.R.002.Rev2.DSI (DP, July 2022) | BH130 – BH139 |

Borehole logs from the above indicate the subsurface profile of the proposed site comprises unsuitable topsoil and fill materials, underlain by alluvial and residual soils primarily comprised of SANDs and CLAYs, founded above a siltstone and sandstone bedrock, ranging from extremely weathered (XW) to moderately weathered (MW). Each borehole log is attached at the end of this memo and the general subsurface profile expected depths to encounter the profile is listed in Table 4-2 below for the Fortify Geotech boreholes and in Table 4-3 below for the Douglas Partners boreholes. The below tables are extracted from the Fortify Geotech report with only relevant boreholes listed.

*Table 6-2: Depth Interval of Each Soil/Rock Unit in Each Borehole- Fortify Geotech Boreholes*

| Unit | Unit Description | Depth Interval Below Ground Level in Each Borehole (m) | | |
|---|---|---|---|---|
| | | BH06 | BH07 | BH08 |
| Unit 1 | Topsoil (unsuitable material) | 0.0 – 0.2 | 0.0 – 0.1 | 0.0 – 0.1 |
| Unit 2 | Fill (unsuitable material) | 0.2 – 0.5 | 0.1 – 0.4 | - |
| Unit 3 | Slopewash (unsuitable material) | - | 0.4 – 0.7 | - |
| Unit 4 | Alluvial Soil | 0.5 – 0.7 | 0.7 – 1.2 | 0.1 – 1.0 |
| Unit 5 | Residual soil | 0.7 – 1.0 | - | - |
| Unit 6a | XW Bedrock | 1.0 - >1.6 | 1.2 - >1.5 | 1.0 - >1.8 |

| Unit | Unit Description | Depth Interval Below Ground Level in Each Borehole (m) | | |
|---|---|---|---|---|
| | | BH06 | BH07 | BH08 |
| Refusal Depth | | 1.6 | 1.5 | 1.8 |

*Table 6-3: Subsurface Profile and Depth Interval of Each Soil/Rock Unit – Douglas Partners Boreholes*

| Subsurface Profile | Unit Description | Depth Interval Below Ground Level Across All Boreholes (m) |
|---|---|---|
| | | Site 3 |
| TOPSOIL / FILL | Topsoil & Uncontrolled Fill material; unsuitable material. Generally, CLAYs & SILTs. | 0.0 – 0.2/0.6 |
| Alluvial, Colluvial & Residual Soils | Generally CLAYs, SILTs & SANDs; ranging from low to high plasticity, containing sand and gravel, stiff to very stiff. | 0.2/0.6 – 0.4/>1.1 |
| Siltstone / Sandstone Bedrock | Extremely Weathered (XW) Siltstone and Sandstone bedrock; extremely low strength | 0.25/1.0 - 0.6/1.4 |
| | Highly Weathered (HW) Siltstone and Sandstone bedrock; low strength | 0.6/1.3 - >1.0/>3.0 |
| | Highly to Moderately Weathered (HW/MW) Siltstone and Sandstone bedrock; low to medium strength | 0.7/1.5 - >1.2/>1.7 |
| | Moderately Weathered (MW) Siltstone and Sandstone bedrock; medium strength | 1.8 - >6.0 |

## 6.1 SITE CLASSIFICATION

As noted within the previous Fortify Geotech report, due to the presence of uncontrolled fill materials exceeding 0.6m depth, the site is designated as a Class “P” (problem) site in accordance with AS2870. If the fill is removed, or if footings are founded in the natural soils or weathered bedrock below the fill, a Class “M” (moderately reactive) category can be used in design of new footings. The characteristic ground surface movement “ys”, as defined by AS2870 for the range of normal soil moisture conditions is estimated to be between 20mm to 40mm for the encountered subsurface profile described in Section 6. If a controlled fill certification can be obtained, then the ‘uncontrolled fill’ could be re-classified as ‘controlled fill’, and the “P” classification could be removed.

Normal moisture conditions are those caused by seasonal and regular climatic effects.

Should earthworks (cut or fill) be undertaken on the site, or other activities which may cause abnormal moisture conditions to impact the soils within or near the building envelope beyond those addressed herein, the site classification shall be reassessed.

## 6.2 TEMPORARY STRUCTURE FOOTINGS

As the site has been classified as Class P, footing design shall be undertaken in accordance with engineering principles, based upon the requirements on AS2870 and the characteristic ground surface movement estimate of 20mm to 40mm.

For the temporary structures, it has been noted that footings will primarily comprise bored piers. As a mitigation measure, all footings should be founded below the unsuitable topsoil and fill materials. If these materials are encountered, they should be removed and replaced with compacted engineered fill or the footing depth should be extended to bear on the underlying stiff to very stiff alluvial and residual soils or weathered bedrock. It is recommended that all footings should be inspected by a geotechnical engineer to confirm the bearing pressure of the footings prior to pouring concrete. When designing footings based on engineering principles, recommended allowable end-bearing pressures for various footing systems and likely foundation materials are provided in Table 4-4.Table 6-4: Recommended Allowable End-Bearing Pressures for Footings

| Foundation Material Type | Unit | Depth Below Existing Surface Level | Allowable End-Bearing Pressure | | | Allowable Shaft Adhesion on Piles | |
|---|---|---|---|---|---|---|---|
| | | | Strips | Pads | Piles | Downward Loading | Uplift |
| Alluvial & Residual Soils (dense or better) | Unit 4 & 5 | ~0.1/0.6m | 125 kPa | 150 kPa | 200kPa | 20kPa | 10kPa |
| XW Bedrock | Unit 6a | ~0.25m/1.0m | 500kPa | 600kPa | 750kPa | 75kPa | 35kPa |
| HW & HW/MW Bedrock | - | ~0.6m/>1.0m | 1000kPa | 1200kPa | 1500kPa | 150kPa | 75kPa |
| MW Bedrock | - | >1.8m | 1500kPa | 2000kPa | 2500kPa | 250kPa | 125kPa |

At allowable bearing pressure foundation settlement would be less than 1% of the footing width.

All footings should be inspected and approved by an experienced geotechnical engineer to confirm the foundation material and design values, and to ensure the excavations are clean and stable.

## 6.3 GEOTECH ADVICE

Based on a review of the previous Fortify Geotech report, all other geotech advice pertaining to excavation conditions, use of excavated materials, construction of excavation batters, low retaining walls, and controlled fill platforms, design CBR values, groundwater control, earthquake site factor and requirements for geotechnical inspections are assessed to still be suitable for the purposes of the revised scope. We recommend that previous geotech report be referred to where required for the above advice.

# 7 MITIGATION MEASURES

| Mitigation Measure | Timing | Reason for Measure |
|---|---|---|
| All footings should be founded below the unsuitable topsoil and fill material.<br><br>Footings should be founded in the natural or rock material. | Construction | To minimise differential settlement in the building. |

# 8 CONCLUSIONS

Unless otherwise specified above, for the purposes of the revised scope for the Bungendore North Campus High School, the advice contained within previous geotech report issued by Fortify Geotech (*report ref: UK/C13651*) remains relevant and applicable to the revised scope.

Should you require any further information regarding this report, please do not hesitate to contact our office.

Yours faithfully,

**Fortify Geotech Pty Ltd**

Written by:

**Ugen Kezang**
*Geotechnical Engineer*
*B.Eng (Hons)*

Reviewed by:

**Roseller Oblimar**
*Operations Manager - Senior Geotechnical Engineer*
*CPEng NER RPEQ APEC Engineer IntPE(Aust)*
*Registered Professional Engineer of Queensld (RPEQ) #29762*
*NSW Professional Engineer Registration #PRE0000595*
*ACT Professional Engineer Registration # 00300002966*

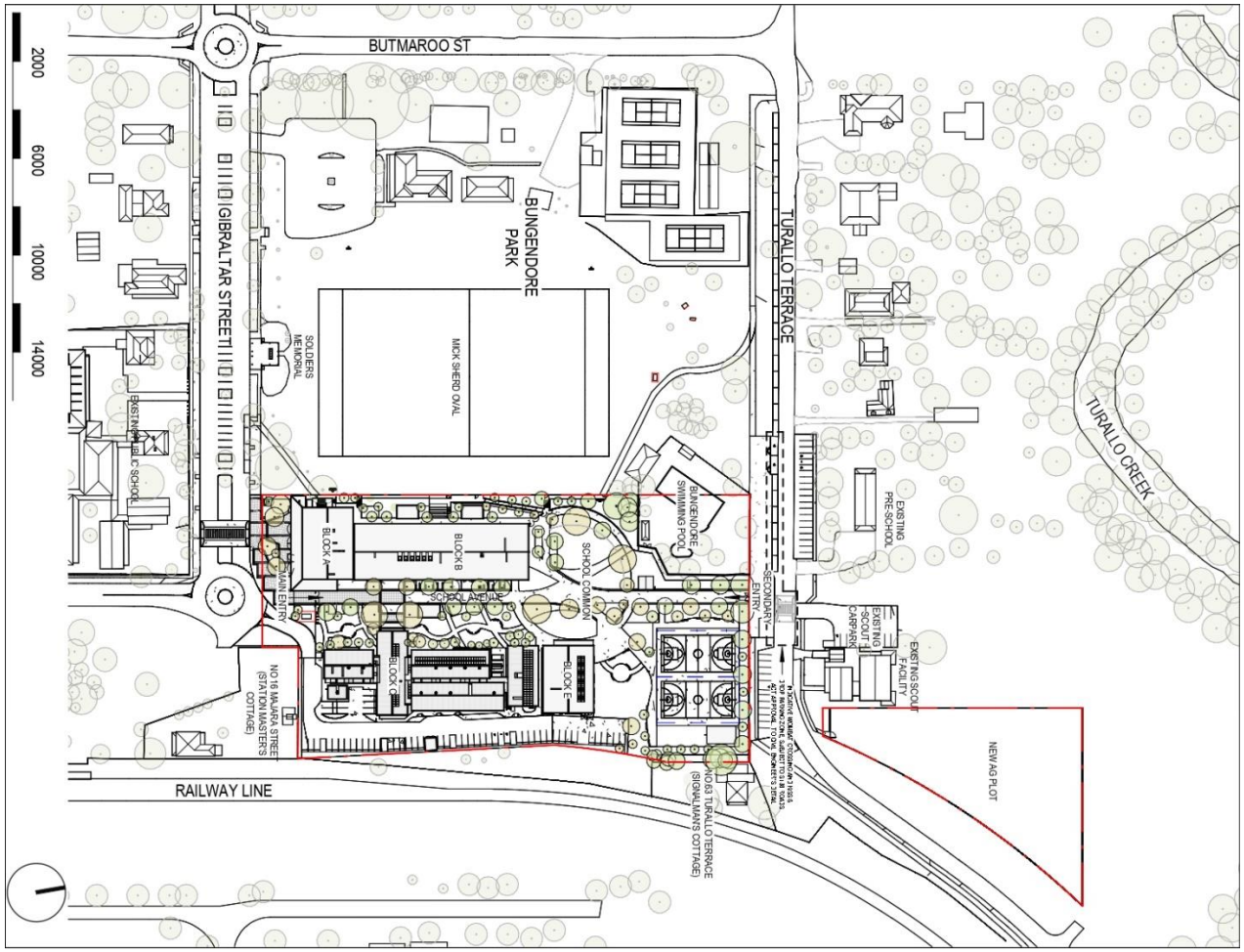
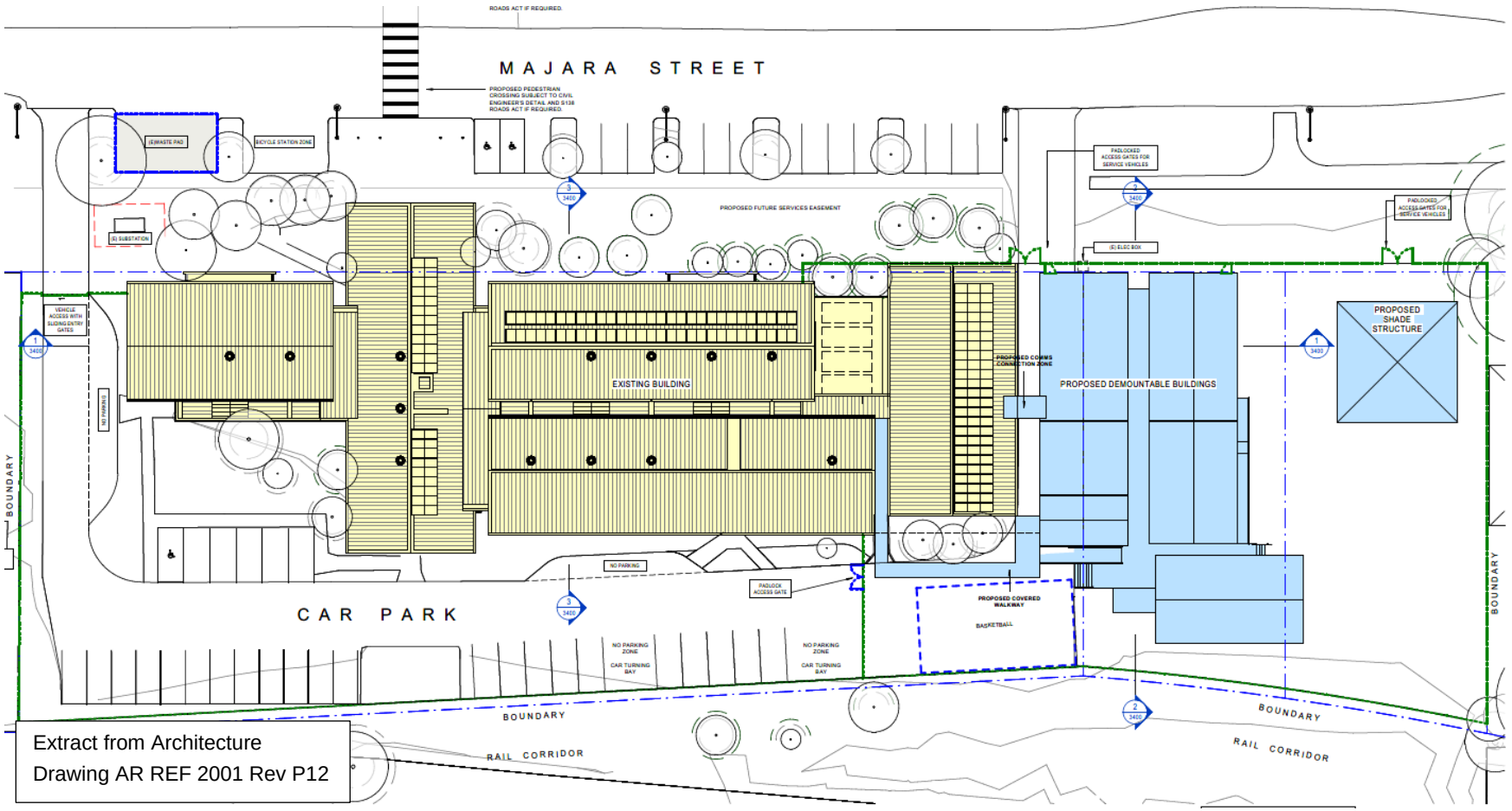



FIGURE 3: INITIAL SCOPE OF THE NEW HIGH SCHOOL IN BUNGENDORE

C13651-1




Extract from Architecture
Drawing AR REF 2001 Rev P12

FIGURE 4: REVISED SCOPE OF BUNGENDORE HIGH SCHOOL – NORTH CAMPUS

C13651-1

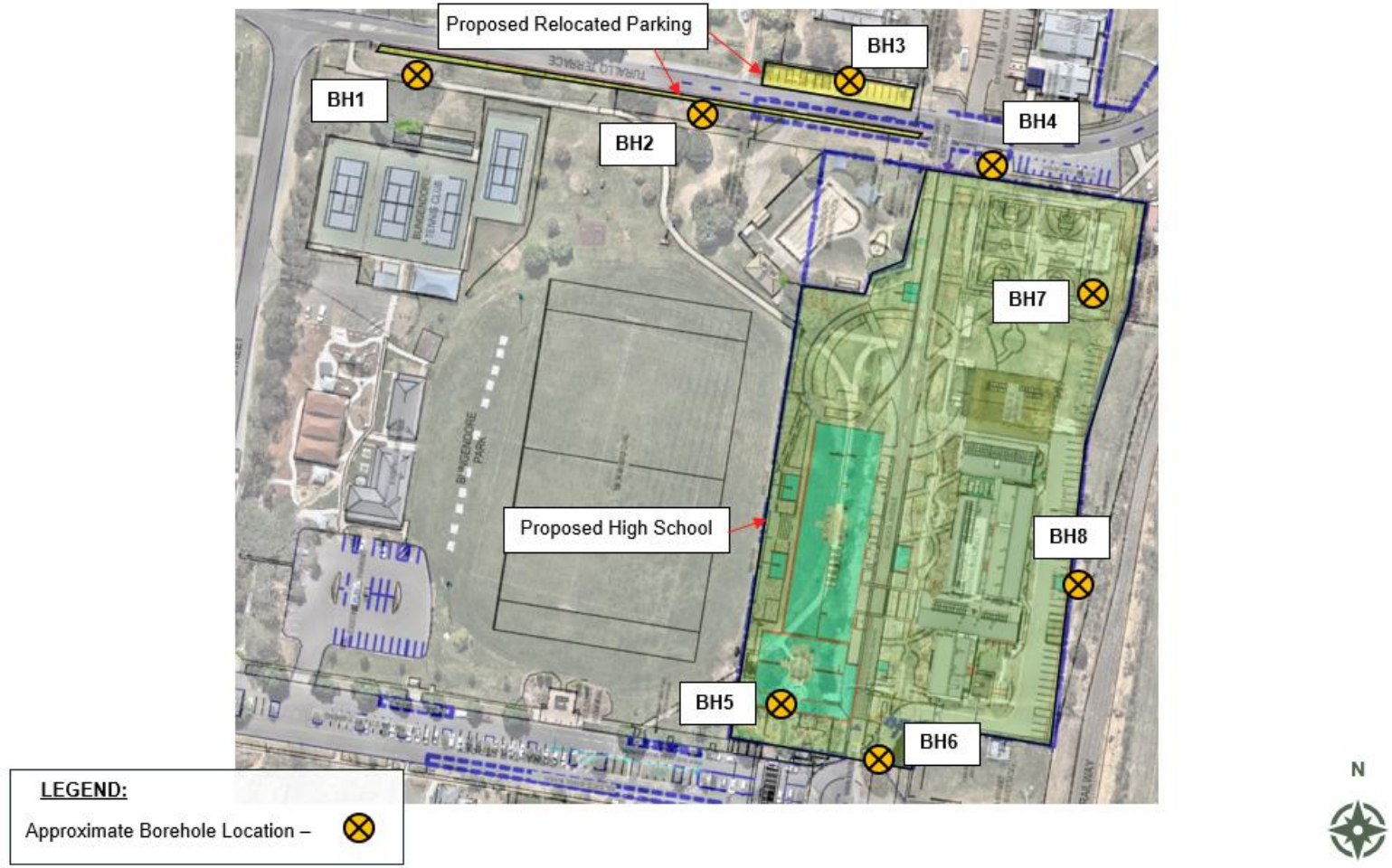



FIGURE 5: FORTIFY GEOTECH BOREHOLE MAP (EXTRACT FROM UK/C13651)

C13651-1

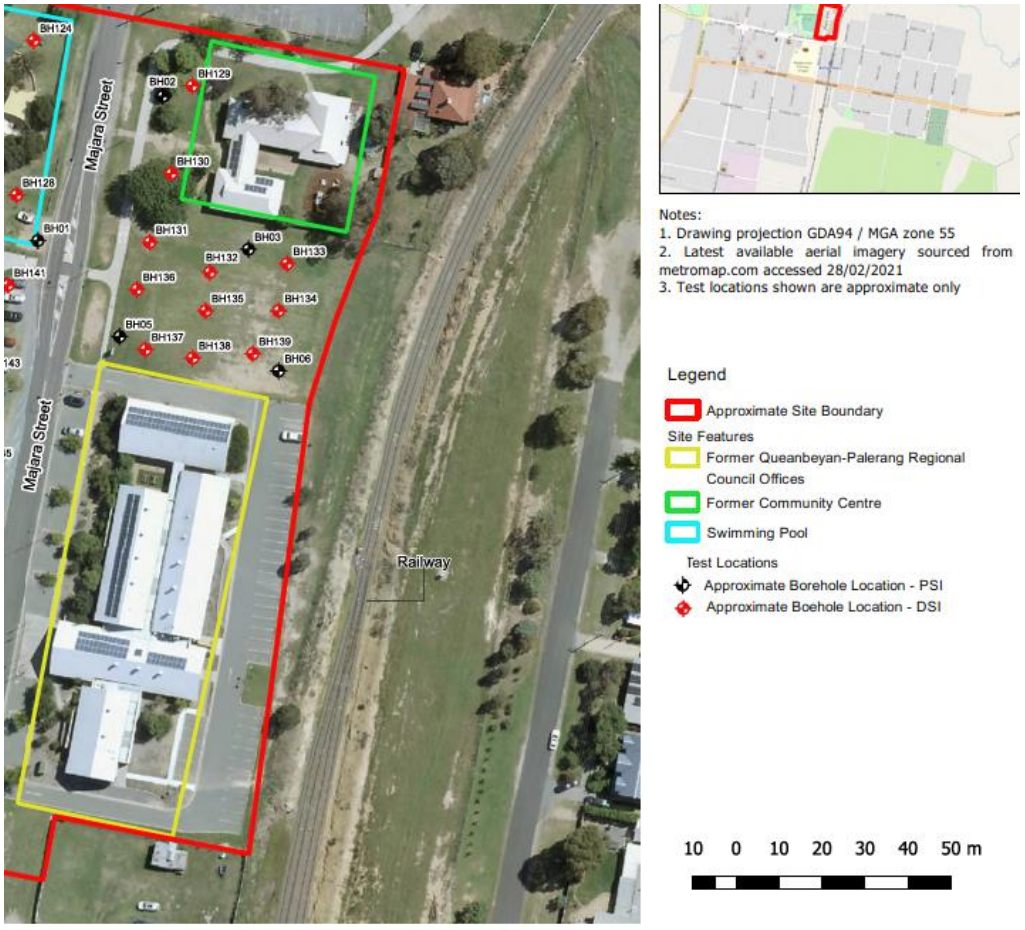



FIGURE 6: FORTIFY GEOTECH BOREHOLE MAP (EXTRACT FROM UK/C13651, SOURCE: DOUGLAS PARTNERS)

C13651-1

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GEOTECH

# Appendix A

Borehole Logs BH6 to BH8

FORTIFY GEOTECH

# Borehole Log

| | |
|---|---|
| Borehole No. | **BH06** |
| Sheet | 1 of 1 |
| Job No. | C13651 |

CLIENT: Hindmarsh

PROJECT: Proposed New High School, Bungendore, NSW

Location : Proposed High School

Collar Level : Not Known
Angle From Vertical : 0°
Bearing : N.A.

Equipment Type : Excavator with Auger Attachment
Hole Diameter : 300mm

| Sample No. | Water | Method/ Casing | RL (m) | Depth (m) | Graphic Log | U.S.C.S. | Material Description, Structure<br>Soil Type: Plasticity or Particle Characteristics, Colour, Secondary and Minor Components, Moisture, Structure | Moisture Condition | Consistency or Relative Density | Field Test Results | Geological Profile |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | None Encountered | | | 0.2 | | SM | Silty SAND; fine to coarse sand. low plasticity silt, brown, slightly cemented. | D | L | | TOPSOIL |
| | | | | 0.5 | | SC-SM | Clayey Silty SAND; fine to coarse sand, low plasticity fines, pale brown, with fine to coarse quartz cobbles. | D | L | | FILL |
| | | | | 0.7 | | CL-CH | Sandy CLAY; medium plasticity clay, fine to coarse sand, white, mottled orange. | *w*~PL | St | | ALLUVIAL SOIL |
| | | | | 1.0 | | SC-SM | Clayey Silty SAND; fine to coarse sand, low to medium plasticity fines, pale yellow-brown, with SILTSTONE cobbles. | D-M | MD | | RESIDUAL SOIL |
| | | | | 1.6 | | | Extremely Weathered (XW) SILTSTONE, excavates as Silty Clayey SAND; orange-brown, mottled pink, inferred very low to low strength. | D | D-VD | | WEATHERED BEDROCK |
| | | | | 2.0 | | | BOREHOLE TERMINATED AT 1.6m<br>Refusal | | | | |
| | | | | 3.0 | | | | | | | |

Logged By : UK Date : 13/3/24 | Checked By : JM Date : 20/3/24

BOREHOLE/EXCAVATION LOG C13651 LOHD.GPJ EXC.GDT 25/3/24

FORTIFY GEOTECH

# Borehole Log

| | |
|---|---|
| Borehole No. | **BH07** |
| Sheet | 1 of 1 |
| Job No. | C13651 |

CLIENT: Hindmarsh

PROJECT: Proposed New High School, Bungendore, NSW

Location : Proposed High School

Collar Level : Not Known
Angle From Vertical : 0°
Bearing : N.A.

Equipment Type : Excavator with Auger Attachment
Hole Diameter : 300mm

| Sample No. | Water | Method/ Casing | RL (m) | Depth (m) | Graphic Log | U.S.C.S. | Material Description, Structure<br>Soil Type: Plasticity or Particle Characteristics, Colour, Secondary and Minor Components, Moisture, Structure | Moisture Condition | Consistency or Relative Density | Field Test Results | Geological Profile |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | None Encountered | | | 0.1 | | SM | Silty SAND; fine to coarse sand, low plasticity fines, brown, with quartz cobbles. | D | L | | TOPSOIL |
| | | | | | | SW-SM | Gravelly Silty SAND; fine to coarse sand, low plasticity silt, fine to coarse, subangular gravel, brown, with brick fragments and quartz cobbles. | D | L | | FILL |
| | | | | 0.4 | | SM | Silty SAND; fine to coarse sand, low plasticity fines, brown, with rounded, fine to medium gravel. | D-M | L-MD | | SLOPEWASH |
| | | | | 0.7 | | SC | Clayey SAND; fine to coarse sand, medium plasticity clay, brown, orange-brown, trace of fine gravel. | D-M | St-VSt | DIST Atterbergs & PSD | ALLUVIAL SOIL |
| | | | | 1.0 | | | Extremely Weathered (XW) SILTSTONE, excavates as Silty Gravelly SAND; pink, brown, inferred low strength. | D | D-VD | | WEATHERED BEDROCK |
| | | | | 1.2 | | | BOREHOLE TERMINATED AT 1.5m<br>Refusal | | | | |
| | | | | 1.5 | | | | | | | |
| | | | | 2.0 | | | | | | | |
| | | | | 3.0 | | | | | | | |

Logged By : UK Date : 13/3/24 | Checked By : JM Date : 20/3/24

BOREHOLE/EXCAVATION LOG C13651 LOHD.GPJ EXC.GDT 25/3/24

**Fortify Geotech**

FORTIFY GEOTECH

# Borehole Log

| | |
|---|---|
| Borehole No. | **BH08** |
| Sheet | 1 of 1 |
| Job No. | C13651 |

CLIENT: Hindmarsh

PROJECT: Proposed New High School, Bungendore, NSW

Location : Proposed High School

Collar Level : Not Known
Angle From Vertical : 0°
Bearing : N.A.

Equipment Type : Excavator with Auger Attachment
Hole Diameter : 300mm

| Sample No. | Water | Method/ Casing | RL (m) | Depth (m) | Graphic Log | U.S.C.S. | Material Description, Structure<br>Soil Type: Plasticity or Particle Characteristics, Colour, Secondary and Minor Components, Moisture, Structure | Moisture Condition | Consistency or Relative Density | Field Test Results | Geological Profile |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | None Encountered | | | 0.1 | | SM | Silty SAND; fine to coarse sand, low plasticity silt, pale brown, orange. | D | L | | TOPSOIL |
| | | | | 0.3 | | SC-SM | Clayey Silty SAND; fine to coarse sand, low to medium plasticity fines, orange-brown. | D | L-MD | | ALLUVIAL SOIL |
| | | | | 1.0 | | CL-CH | Sandy Silty CLAY; medium plasticity fines, fine to coarse sand, grey, mottled orange. | *w*~PL | St | | |
| | | | | 1.5 | | | Extremely Weathered (XW) SILTSTONE, excavates as Silty Clayey SAND; fine to coarse sand, low to medium plasticity fines, orange-brown, mottled pale grey, inferred low strength. | D | D-VD | | WEATHERED BEDROCK |
| | | | | 1.8 | | | Extremely to Highly Weathered (XW/HW) SILTSTONE; inferred low to medium strength, pale yellow, grey. | D | D-VD | | |
| | | | | 2.0 | | | BOREHOLE TERMINATED AT 1.8m<br>Refusal | | | | |
| | | | | 3.0 | | | | | | | |

Logged By : UK Date : 13/3/24 | Checked By : JM Date : 20/3/24

BOREHOLE/EXCAVATION LOG C13651 LOHD.GPJ EXC.GDT 25/3/24

FORTIFY
GEOTECH

# Appendix B

Douglas Partners Logs BH03, 05, 06 & BH131 to BH139

# BOREHOLE LOG

**CLIENT:** School Infrastructure NSW
**PROJECT:** Proposed High School
**LOCATION:** Majara Street, Bungendore

**SURFACE LEVEL:** 697.5 AHD
**EASTING:** 722590
**NORTHING:** 6096147
**DIP/AZIMUTH:** 90°/--

**BORE No:** BH03
**PROJECT No:** 202107.03
**DATE:** 26/3/2021
**SHEET** 1 OF 1

| RL | Depth (m) | Description of Strata | Graphic Log | Sampling & In Situ Testing: Type | Depth | Sample | Results & Comments | Water | Well Construction Details |
|---|---|---|---|---|---|---|---|---|---|
| 697 | 0.2 | TOPSOIL FILL/Sandy CLAY (CL): low plasticity, brown, fine grained sand, with rootlets, moist, w>PL, stiff, TOPSOIL FILL | | E | 0.1 | | PID < 1 | | |
| | 0.4 | FILL/CLAY (CI): medium plasticity, pale brown-yellow, with fine to medium grained sand and low plasticity silt, dry to moist, w<PL, hard, FILL | | D | 0.3 | | | | |
| | | Silty CLAY (CL/CI): low to medium plasticity, pale brown and orange, trace fine grained sand, dry to moist, w<PL, hard, residual | | D<br>E<br>S | 0.5 | | PID < 1<br>3,30<br>refusal | | |
| | | | | | 0.8 | | | | |
| 696 | 1.0 | SILTSTONE: fine grained, dry to moist, low strength, highly weathered, highly fractured | | D<br>E | 1.0 | | PID < 1 | | |
| | | -from 1.5m, highly to moderately weathered, low to medium strength | | D<br>S | 1.5<br>1.55 | | 30/50<br>refusal | | |
| | 1.7 | Bore discontinued at 1.7m<br>-refusal | | | | | | | |
| 695 | | | | | | | | | |
| 694 | | | | | | | | | |
| 693 | | | | | | | | | |

**RIG:** EVH2100 **DRILLER:** S2S **LOGGED:** TBO/EAGL **CASING:** N/A

**TYPE OF BORING:** Continuous flight auger to 1.7m

**WATER OBSERVATIONS:** No free groundwater observed

**REMARKS:** Location coordinates are in MGA94 Zone 55. Surface levels and coordinates are approximate only and must not be relied upon

**SAMPLING & IN SITU TESTING LEGEND**

| | | | | | |
|---|---|---|---|---|---|
| A | Auger sample | G | Gas sample | PID | Photo ionisation detector (ppm) |
| B | Bulk sample | P | Piston sample | PL(A) | Point load axial test Is(50) (MPa) |
| BLK | Block sample | $U_x$ | Tube sample (x mm dia.) | PL(D) | Point load diametral test Is(50) (MPa) |
| C | Core drilling | W | Water sample | pp | Pocket penetrometer (kPa) |
| D | Disturbed sample | ▷ | Water seep | S | Standard penetration test |
| E | Environmental sample | ▼ | Water level | V | Shear vane (kPa) |

Douglas Partners
Geotechnics / Environment / Groundwater

# BOREHOLE LOG

**CLIENT:** School Infrastructure NSW
**PROJECT:** Proposed High School
**LOCATION:** Majara Street, Bungendore

**SURFACE LEVEL:** 697 AHD
**EASTING:** 722555
**NORTHING:** 6096087
**DIP/AZIMUTH:** 90°/--

**BORE No:** BH05
**PROJECT No:** 202107.03
**DATE:** 26/3/2021
**SHEET** 1 OF 1

| RL | Depth (m) | Description of Strata | Graphic Log | Sampling & In Situ Testing: Type | Depth | Sample | Results & Comments | Water | Well Construction Details |
|---|---|---|---|---|---|---|---|---|---|
| 697 | | TOPSOIL FILL/Sandy CLAY (CL): low plasticity, brown, fine grained sand, with rootlets, moist, w>PL, stiff, | | E | 0.1 | | PID < 1 | | |
| | 0.2 | TOPSOIL FILL | | | | | | | |
| | | FILL/Silty SAND (SM): fine grained, brown and pale brown, low plasticity silt, moist to wet, loose to medium dense, FILL | | D | 0.3 | | | | |
| | 0.4 | | | | | | | | |
| | | FILL/Silty CLAY (CI): medium plasticity, brown, trace fine to coarse grained sand, moist to dry, w<PL, very stiff, FILL | | D<br>E | 0.5 | | PID < 1 | | |
| | 0.6 | | | | | | | | |
| | | Silty CLAY (CL/CI): low to medium plasticity, pale brown and orange, trace fine grained sand, dry to moist, w<PL, very stiff, residual | | S | | | 3,7,11<br>N = 18 | | |
| 696 | 1 | | | | 0.95 | | | | |
| | | -from 1.0m, extremely weathered siltstone | | D<br>E | 1.0 | | PID < 1 | | 1 |
| | 1.4 | | | | | | | | |
| | | SILTSTONE: fine grained, pale brown, dry to moist, low strength, highly weathered, highly fractured | | D | 1.5 | | | | |
| | | -from 1.7m, grey and pale brown | | S | | | 8,24,30/130<br>refusal | | |
| 695 | 2 | | | | 1.93 | | | | |
| | | | | D<br>E | 2.0 | | PID < 1 | | 2 |
| | | -from 2.5m, pale brown and pale red | | | 2.5 | | | | |
| | | | | S | | | 6,22,30/120<br>refusal | | |
| 694 | 3 | | | | 2.92 | | | | |
| | 3.0 | Bore discontinued at 3.0m | | D<br>E | 3.0 | | PID < 1 | | 3 |
| | | -limit of investigation | | | | | | | |
| 693 | 4 | | | | | | | | 4 |

**RIG:** EVH2100 **DRILLER:** S2S **LOGGED:** TBO **CASING:** N/A

**TYPE OF BORING:** Continuous flight auger to 3.0m

**WATER OBSERVATIONS:** No free groundwater observed

**REMARKS:** Location coordinates are in MGA94 Zone 55. Surface levels and coordinates are approximate only and must not be relied upon

**SAMPLING & IN SITU TESTING LEGEND**

| | | | | | |
|---|---|---|---|---|---|
| A | Auger sample | G | Gas sample | PID | Photo ionisation detector (ppm) |
| B | Bulk sample | P | Piston sample | PL(A) | Point load axial test Is(50) (MPa) |
| BLK | Block sample | $U_x$ | Tube sample (x mm dia.) | PL(D) | Point load diametral test Is(50) (MPa) |
| C | Core drilling | W | Water sample | pp | Pocket penetrometer (kPa) |
| D | Disturbed sample | ▷ | Water seep | S | Standard penetration test |
| E | Environmental sample | ▼ | Water level | V | Shear vane (kPa) |

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# BOREHOLE LOG

**CLIENT:** School Infrastructure NSW
**PROJECT:** Proposed High School
**LOCATION:** Majara Street, Bungendore

**SURFACE LEVEL:** 697.5 AHD
**EASTING:** 722592
**NORTHING:** 6096079
**DIP/AZIMUTH:** 90°/--

**BORE No:** BH06
**PROJECT No:** 202107.03
**DATE:** 26/3/2021
**SHEET** 1 OF 1

| RL | Depth (m) | Description of Strata | Graphic Log | Sampling & In Situ Testing: Type | Depth | Sample | Results & Comments | Water | Well Construction Details |
|---|---|---|---|---|---|---|---|---|---|
| 697 | 0.2 | TOPSOIL FILL/Sandy CLAY (CL): low plasticity, brown, fine grained sand, with rootlets, moist, w>PL, stiff, TOPSOIL FILL | | E | 0.1 | | PID < 1 | | |
| | 0.4 | FILL/CLAY (CI): medium plasticity, pale brown-yellow, with fine to medium grained sand and low plasticity silt, dry to moist, w<PL, stiff, FILL | | D | 0.3 | | | | |
| | 0.5 | Silty CLAY (CL): low plasticity, pale brown, moist, w<PL, stiff to very stiff, residual | | D<br>E | 0.5 | | PID < 1 | | |
| | | Silty CLAY (CL/CI): low to medium plasticity, pale brown and orange, trace fine grained sand, dry to moist, w<PL, stiff, residual | | B<br>S | 0.8 | | 3,5,30<br>N = 35 | | |
| | 1.0 | -from 0.7m, pale brown and grey, extremely weathered siltstone | | D<br>E | 0.95<br>1.0 | | PID < 1 | | |
| 696 | | SILTSTONE: fine grained, dry to moist, low strength, highly weathered, highly fractured | | $U_{50}$ | 1.4 | | | | |
| | | | | D<br>S | 1.5<br>1.65 | | 30/140<br>refusal | | |
| 695 | | | | D<br>E<br>S | 2.5<br>2.7 | | PID < 1<br>15,30/50<br>refusal | | |
| | 3.0 | Bore discontinued at 3.0m<br>-limit of investigation | | D<br>E | 3.0 | | PID < 1 | | |
| 694 | | | | | | | | | |
| 693 | | | | | | | | | |

**RIG:** EVH2100 **DRILLER:** S2S **LOGGED:** TBO **CASING:** N/A

**TYPE OF BORING:** Continuous flight auger to 3.0m

**WATER OBSERVATIONS:** No free groundwater observed

**REMARKS:** Location coordinates are in MGA94 Zone 55. Surface levels and coordinates are approximate only and must not be relied upon

**SAMPLING & IN SITU TESTING LEGEND**

| | | | | | |
|---|---|---|---|---|---|
| A | Auger sample | G | Gas sample | PID | Photo ionisation detector (ppm) |
| B | Bulk sample | P | Piston sample | PL(A) | Point load axial test Is(50) (MPa) |
| BLK | Block sample | $U_x$ | Tube sample (x mm dia.) | PL(D) | Point load diametral test Is(50) (MPa) |
| C | Core drilling | W | Water sample | pp | Pocket penetrometer (kPa) |
| D | Disturbed sample | ▷ | Water seep | S | Standard penetration test |
| E | Environmental sample | ▼ | Water level | V | Shear vane (kPa) |

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# BOREHOLE LOG

**CLIENT:** Hindmarsh Construction Pty Ltd
**PROJECT:** Proposed New High School In Bungendore
**LOCATION:** Majara Street, Bungendore

**SURFACE LEVEL:** 697.00 AHD
**EASTING:** 722562
**NORTHING:** 6096109
**DIP/AZIMUTH:** 90°/--

**BORE No:** 131
**PROJECT No:** 202107.04
**DATE:** 11/10/2021
**SHEET** 1 OF 1

| RL | Depth (m) | Description of Strata | Graphic Log | Sampling & In Situ Testing: Type | Depth | Sample | Results & Comments | Water | Well Construction Details |
|---|---|---|---|---|---|---|---|---|---|
| 697 | | FILL/Sandy GRAVEL (GP): poorly graded, gravel up to 30mm in size, grey, fine to coarse grained sand, trace low plasticity clay, moist, medium dense, FILL | | E | 0.1 | | PID < 1ppm | | |
| | 0.2 | Silty CLAY (CL): low plasticity, pale grey-brown, trace fine grained sand, moist, w~PL, estimated stiff to very stiff, possible alluvial | | | | | | | |
| | 0.4 | Silty CLAY (CI): medium plasticity, grey-brown mottled orange, moist, w~PL, estimated very stiff, residual | | E | 0.5 | | PID < 1ppm | | |
| | 0.7 | Silty CLAY (CL/CI): low to medium plasticity, yellow-brown mottled red, moist, w~PL, estimated stiff, extremely weathered siltstone | | | | | | | |
| 696 | 1 | | | E | 1.0 | | PID < 1ppm | | 1 |
| | 1.2 | Bore discontinued at 1.2m<br>-limit of investigation | | | | | | | |
| 695 | 2 | | | | | | | | 2 |

**RIG:** KUBOTA KX033-4 **DRILLER:** Terrain Projects **LOGGED:** SDG **CASING:** NA

**TYPE OF BORING:** 200mm auger

**WATER OBSERVATIONS:** No free groundwater observed

**REMARKS:** Location coordinates are in MGA94 Zone 55. Surface levels and coordinates are approximate only and must not be relied upon

**SAMPLING & IN SITU TESTING LEGEND**

| | | | | | |
|---|---|---|---|---|---|
| A | Auger sample | G | Gas sample | PID | Photo ionisation detector (ppm) |
| B | Bulk sample | P | Piston sample | PL(A) | Point load axial test Is(50) (MPa) |
| BLK | Block sample | $U_x$ | Tube sample (x mm dia.) | PL(D) | Point load diametral test Is(50) (MPa) |
| C | Core drilling | W | Water sample | pp | Pocket penetrometer (kPa) |
| D | Disturbed sample | ▷ | Water seep | S | Standard penetration test |
| E | Environmental sample | ▼ | Water level | V | Shear vane (kPa) |

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# BOREHOLE LOG

**CLIENT:** Hindmarsh Construction Pty Ltd
**PROJECT:** Proposed New High School In Bungendore
**LOCATION:** Majara Street, Bungendore

**SURFACE LEVEL:** 697.25 AHD
**EASTING:** 722576
**NORTHING:** 6096102
**DIP/AZIMUTH:** 90°/--

**BORE No:** 132
**PROJECT No:** 202107.04
**DATE:** 11/10/2021
**SHEET** 1 OF 1

| RL | Depth (m) | Description of Strata | Graphic Log | Sampling & In Situ Testing: Type | Depth | Sample | Results & Comments | Water | Well Construction Details |
|---|---|---|---|---|---|---|---|---|---|
| 697 | 0.0 | TOPSOIL FILL/Silty CLAY (CL): low plasticity, brown, trace fine grained sand and fine gravel, moist, w~PL, estimated stiff to very stiff, TOPSOIL FILL | | E | 0.1 | | PID < 1ppm | | |
| | 0.3 | Silty CLAY (CL): low plasticity, pale grey-brown, trace fine grained sand, moist to wet, w>PL, estimated firm to stiff, possible alluvial | | E | 0.5 | | PID < 1ppm | | |
| | 0.6 | Silty CLAY (CL/CI): low to medium plasticity, yellow-brown mottled red, moist, w~PL, estimated stiff, extremely weathered siltstone | | E | 1.0 | | PID < 1ppm | | |
| | 1 | | | | | | | | 1 |
| 696 | 1.1 | Bore discontinued at 1.1m<br>-limit of investigation | | | | | | | |
| | 2 | | | | | | | | 2 |
| 695 | | | | | | | | | |

**RIG:** KUBOTA KX033-4 **DRILLER:** Terrain Projects **LOGGED:** SDG **CASING:** NA

**TYPE OF BORING:** 200mm auger

**WATER OBSERVATIONS:** No free groundwater observed

**REMARKS:** Location coordinates are in MGA94 Zone 55. Surface levels and coordinates are approximate only and must not be relied upon

**SAMPLING & IN SITU TESTING LEGEND**

| | | | | | |
|---|---|---|---|---|---|
| A | Auger sample | G | Gas sample | PID | Photo ionisation detector (ppm) |
| B | Bulk sample | P | Piston sample | PL(A) | Point load axial test Is(50) (MPa) |
| BLK | Block sample | $U_x$ | Tube sample (x mm dia.) | PL(D) | Point load diametral test Is(50) (MPa) |
| C | Core drilling | W | Water sample | pp | Pocket penetrometer (kPa) |
| D | Disturbed sample | ▷ | Water seep | S | Standard penetration test |
| E | Environmental sample | ▼ | Water level | V | Shear vane (kPa) |

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# BOREHOLE LOG

**CLIENT:** Hindmarsh Construction Pty Ltd
**PROJECT:** Proposed New High School In Bungendore
**LOCATION:** Majara Street, Bungendore

**SURFACE LEVEL:** 697.50 AHD
**EASTING:** 722594
**NORTHING:** 6096104
**DIP/AZIMUTH:** 90°/--

**BORE No:** 133
**PROJECT No:** 202107.04
**DATE:** 11/10/2021
**SHEET** 1 OF 1

| RL | Depth (m) | Description of Strata | Graphic Log | Sampling & In Situ Testing: Type | Depth | Sample | Results & Comments | Water | Well Construction Details |
|---|---|---|---|---|---|---|---|---|---|
| 697 | 0.3 | TOPSOIL FILL/Silty CLAY (CL): low plasticity, brown, with fine grained sand, trace course gravel, moist to wet, w>PL, estimated firm to stiff, TOPSOIL FILL | | E | 0.1 | | PID < 1ppm | | |
| | | Silty CLAY (CI): medium plasticity, yellow-brown, mottled grey and orange, moist, w~PL, estimated very stiff, residual | | E | 0.5 | | PID < 1ppm | | |
| | 0.7 | SILTSTONE: fine grained, yellow-brown, dry, low to medium strength, highly to moderately weathered, estimated fractured | | E | 1.0 | | PID < 1ppm | | |
| 696 | 1.2 | Bore discontinued at 1.2m<br>-limit of investigation | | | | | | | |

**RIG:** KUBOTA KX033-4 **DRILLER:** Terrain Projects **LOGGED:** SDG **CASING:** NA

**TYPE OF BORING:** 200mm auger

**WATER OBSERVATIONS:** No free groundwater observed

**REMARKS:** Location coordinates are in MGA94 Zone 55. Surface levels and coordinates are approximate only and must not be relied upon

**SAMPLING & IN SITU TESTING LEGEND**

| | | | | | |
|---|---|---|---|---|---|
| A | Auger sample | G | Gas sample | PID | Photo ionisation detector (ppm) |
| B | Bulk sample | P | Piston sample | PL(A) | Point load axial test Is(50) (MPa) |
| BLK | Block sample | $U_x$ | Tube sample (x mm dia.) | PL(D) | Point load diametral test Is(50) (MPa) |
| C | Core drilling | W | Water sample | pp | Pocket penetrometer (kPa) |
| D | Disturbed sample | ▷ | Water seep | S | Standard penetration test |
| E | Environmental sample | ▼ | Water level | V | Shear vane (kPa) |

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# BOREHOLE LOG

**CLIENT:** Hindmarsh Construction Pty Ltd
**PROJECT:** Proposed New High School In Bungendore
**LOCATION:** Majara Street, Bungendore

**SURFACE LEVEL:** 697.75 AHD
**EASTING:** 722592
**NORTHING:** 6096093
**DIP/AZIMUTH:** 90°/--

**BORE No:** 134
**PROJECT No:** 202107.04
**DATE:** 11/10/2021
**SHEET** 1 OF 1

| RL | Depth (m) | Description of Strata | Graphic Log | Sampling & In Situ Testing: Type | Depth | Sample | Results & Comments | Water | Well Construction Details |
|---|---|---|---|---|---|---|---|---|---|
| 697 | | TOPSOIL FILL/Silty CLAY (CL): low plasticity, brown, with fine grained sand, trace course gravel, moist to wet, w>PL, estimated firm to stiff, TOPSOIL FILL | | E | 0.1 | | PID < 1ppm | | |
| | 0.25 | Silty CLAY (CI): medium plasticity, yellow-brown, trace siltstone gravel, dry to moist, w<PL, estimated hard, extremely weathered siltstone | | E | 0.5 | | PID < 1ppm | | |
| | 0.6 | SILTSTONE: fine grained, yellow-brown, dry, low strength, highly weathered<br>-from 0.8m, grey, medium strength, moderately weathered | | E | 1.0 | | PID < 1ppm | | |
| | 1 | | | | | | | | 1 |
| | 1.1 | Bore discontinued at 1.1m<br>-limit of investigation | | | | | | | |
| 696 | 2 | | | | | | | | 2 |

**RIG:** KUBOTA KX033-4 **DRILLER:** Terrain Projects **LOGGED:** SDG **CASING:** NA

**TYPE OF BORING:** 200mm auger

**WATER OBSERVATIONS:** No free groundwater observed

**REMARKS:** Location coordinates are in MGA94 Zone 55. Surface levels and coordinates are approximate only and must not be relied upon

**SAMPLING & IN SITU TESTING LEGEND**

| | | | | | |
|---|---|---|---|---|---|
| A | Auger sample | G | Gas sample | PID | Photo ionisation detector (ppm) |
| B | Bulk sample | P | Piston sample | PL(A) | Point load axial test Is(50) (MPa) |
| BLK | Block sample | $U_x$ | Tube sample (x mm dia.) | PL(D) | Point load diametral test Is(50) (MPa) |
| C | Core drilling | W | Water sample | pp | Pocket penetrometer (kPa) |
| D | Disturbed sample | ▷ | Water seep | S | Standard penetration test |
| E | Environmental sample | ▼ | Water level | V | Shear vane (kPa) |

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# BOREHOLE LOG

**CLIENT:** Hindmarsh Construction Pty Ltd
**PROJECT:** Proposed New High School In Bungendore
**LOCATION:** Majara Street, Bungendore

**SURFACE LEVEL:** 697.25 AHD
**EASTING:** 722575
**NORTHING:** 6096093
**DIP/AZIMUTH:** 90°/--

**BORE No:** 135
**PROJECT No:** 202107.04
**DATE:** 11/10/2021
**SHEET** 1 OF 1

| RL | Depth (m) | Description of Strata | Graphic Log | Sampling & In Situ Testing: Type | Depth | Sample | Results & Comments | Water | Well Construction Details |
|---|---|---|---|---|---|---|---|---|---|
| 697 | 0.25 | TOPSOIL FILL/Silty CLAY (CL): low plasticity, brown, with fine grained sand, trace course gravel, moist to wet, w>PL, estimated firm to stiff, TOPSOIL FILL | | E | 0.1 | | PID < 1ppm R106 and RR106 | | |
| | 0.4 | Silty CLAY (CL): low plasticity, pale grey-brown, trace fine grained sand, moist to wet, w>PL, estimated firm to stiff, possible alluvial | | | | | | | |
| | 0.7 | Silty CLAY (CI): medium plasticity, orange-brown, trace siltstone gravel, moist, w~PL, estimated stiff to very stiff, residual | | E | 0.5 | | PID < 1ppm | | |
| | 1 | SILTSTONE: fine grained, yellow-brown, dry, low strength, highly weathered, estimated fractured | | E | 1.0 | | PID < 1ppm | | 1 |
| 696 | 1.1 | Bore discontinued at 1.1m<br>-limit of investigation | | | | | | | |
| | 2 | | | | | | | | 2 |
| 695 | | | | | | | | | |

**RIG:** KUBOTA KX033-4 **DRILLER:** Terrain Projects **LOGGED:** SDG **CASING:** NA

**TYPE OF BORING:** 200mm auger

**WATER OBSERVATIONS:** No free groundwater observed

**REMARKS:** Location coordinates are in MGA94 Zone 55. Surface levels and coordinates are approximate only and must not be relied upon

**SAMPLING & IN SITU TESTING LEGEND**

| | | | | | |
|---|---|---|---|---|---|
| A | Auger sample | G | Gas sample | PID | Photo ionisation detector (ppm) |
| B | Bulk sample | P | Piston sample | PL(A) | Point load axial test Is(50) (MPa) |
| BLK | Block sample | $U_x$ | Tube sample (x mm dia.) | PL(D) | Point load diametral test Is(50) (MPa) |
| C | Core drilling | W | Water sample | pp | Pocket penetrometer (kPa) |
| D | Disturbed sample | ▷ | Water seep | S | Standard penetration test |
| E | Environmental sample | ▼ | Water level | V | Shear vane (kPa) |

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# BOREHOLE LOG

**CLIENT:** Hindmarsh Construction Pty Ltd
**PROJECT:** Proposed New High School In Bungendore
**LOCATION:** Majara Street, Bungendore

**SURFACE LEVEL:** 697.00 AHD
**EASTING:** 722559
**NORTHING:** 6096098
**DIP/AZIMUTH:** 90°/--

**BORE No:** 136
**PROJECT No:** 202107.04
**DATE:** 11/10/2021
**SHEET** 1 OF 1

| RL | Depth (m) | Description of Strata | Graphic Log | Sampling & In Situ Testing: Type | Depth | Sample | Results & Comments | Water | Well Construction Details |
|---|---|---|---|---|---|---|---|---|---|
| 697 | | TOPSOIL FILL/Silty CLAY (CL): low plasticity, brown, with fine grained sand, moist to wet, w>PL, estimated firm to stiff, TOPSOIL FILL | | E | 0.1 | | PID < 1ppm | | |
| | 0.2 | Silty CLAY (CL): low plasticity, brown mottled orange, trace fine grained sand, moist to wet, w>PL, estimated firm to stiff, possible alluvial | | E | 0.5 | | PID < 1ppm | | |
| | 0.6 | Silty CLAY (CL/CI): low to medium plasticity, yellow-brown, trace siltstone gravel, moist to dry, w<PL, estimated very stiff, residual | | | | | | | |
| 696 | 1 1.0 | Bore discontinued at 1.0m -limit of investigation | | E | 1.0 | | PID < 1ppm | | 1 |
| 695 | 2 | | | | | | | | 2 |

**RIG:** KUBOTA KX033-4 **DRILLER:** Terrain Projects **LOGGED:** SDG **CASING:** NA

**TYPE OF BORING:** 200mm auger

**WATER OBSERVATIONS:** No free groundwater observed

**REMARKS:** Location coordinates are in MGA94 Zone 55. Surface levels and coordinates are approximate only and must not be relied upon

**SAMPLING & IN SITU TESTING LEGEND**

| | | | | | |
|---|---|---|---|---|---|
| A | Auger sample | G | Gas sample | PID | Photo ionisation detector (ppm) |
| B | Bulk sample | P | Piston sample | PL(A) | Point load axial test Is(50) (MPa) |
| BLK | Block sample | $U_x$ | Tube sample (x mm dia.) | PL(D) | Point load diametral test Is(50) (MPa) |
| C | Core drilling | W | Water sample | pp | Pocket penetrometer (kPa) |
| D | Disturbed sample | ▷ | Water seep | S | Standard penetration test |
| E | Environmental sample | ▼ | Water level | V | Shear vane (kPa) |

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# BOREHOLE LOG

**CLIENT:** Hindmarsh Construction Pty Ltd
**PROJECT:** Proposed New High School In Bungendore
**LOCATION:** Majara Street, Bungendore

**SURFACE LEVEL:** 697.25 AHD
**EASTING:** 722561
**NORTHING:** 6096084
**DIP/AZIMUTH:** 90°/--

**BORE No:** 137
**PROJECT No:** 202107.04
**DATE:** 11/10/2021
**SHEET** 1 OF 1

| RL | Depth (m) | Description of Strata | Graphic Log | Sampling & In Situ Testing: Type | Depth | Sample | Results & Comments | Water | Well Construction Details |
|---|---|---|---|---|---|---|---|---|---|
| 697 | 0.2 | TOPSOIL FILL/Silty CLAY (CL): low plasticity, brown, with fine grained sand, moist to wet, w>PL, estimated firm to stiff, TOPSOIL FILL | | E | 0.1 | | PID < 1ppm | | |
| | | Silty CLAY (CL): low plasticity, pale grey-brown, trace fine grained sand, moist, w~PL, estimated stiff, possible alluvial | | E | 0.5 | | PID < 1ppm | | |
| | 0.6 | Silty CLAY (CI): medium plasticity, yellow-brown, with quartz and siltstone gravel, moist to dry, w<PL, estimated very stiff, extremely weathered siltstone | | E | 1.0 | | PID < 1ppm | | |
| | 1 | | | | | | | | 1 |
| 696 | 1.1 | Bore discontinued at 1.1m<br>-limit of investigation | | | | | | | |
| | 2 | | | | | | | | 2 |
| 695 | | | | | | | | | |

**RIG:** KUBOTA KX033-4 **DRILLER:** Terrain Projects **LOGGED:** SDG **CASING:** NA

**TYPE OF BORING:** 200mm auger

**WATER OBSERVATIONS:** No free groundwater observed

**REMARKS:** Location coordinates are in MGA94 Zone 55. Surface levels and coordinates are approximate only and must not be relied upon

**SAMPLING & IN SITU TESTING LEGEND**

| | | | | | |
|---|---|---|---|---|---|
| A | Auger sample | G | Gas sample | PID | Photo ionisation detector (ppm) |
| B | Bulk sample | P | Piston sample | PL(A) | Point load axial test Is(50) (MPa) |
| BLK | Block sample | $U_x$ | Tube sample (x mm dia.) | PL(D) | Point load diametral test Is(50) (MPa) |
| C | Core drilling | W | Water sample | pp | Pocket penetrometer (kPa) |
| D | Disturbed sample | ▷ | Water seep | S | Standard penetration test |
| E | Environmental sample | ▼ | Water level | V | Shear vane (kPa) |

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# BOREHOLE LOG

**CLIENT:** Hindmarsh Construction Pty Ltd
**PROJECT:** Proposed New High School In Bungendore
**LOCATION:** Majara Street, Bungendore

**SURFACE LEVEL:** 697.25 AHD
**EASTING:** 722572
**NORTHING:** 6096082
**DIP/AZIMUTH:** 90°/--

**BORE No:** 138
**PROJECT No:** 202107.04
**DATE:** 11/10/2021
**SHEET** 1 OF 1

| RL | Depth (m) | Description of Strata | Graphic Log | Sampling & In Situ Testing: Type | Depth | Sample | Results & Comments | Water | Well Construction Details |
|---|---|---|---|---|---|---|---|---|---|
| 697 | 0.2 | TOPSOIL FILL/Sandy CLAY (CL): low plasticity, dark brown, fine to coarse grained sand, with silt and rootlets, trace gravel, moist, w~PL, estimated very stiff, TOPSOIL FILL | | E | 0.1 | | PID < 1ppm | | |
| | 0.4 | Silty CLAY (CL): low plasticity, pale grey-brown, trace fine grained sand, moist, w~PL, estimated stiff, possible alluvial | | | | | | | |
| | 0.7 | Silty CLAY (CI): medium plasticity, yellow-brown mottled grey and orange, moist to dry, w<PL, estimated very stiff, residual | | E | 0.5 | | PID < 1ppm | | |
| | 1.0 | Silty CLAY (CL): low plasticity, grey yellow-brown, moist to dry, w<PL, estimated very stiff, extremely weathered siltstone | | E | 1.0 | | PID < 1ppm | | 1 |
| 696 | 1 | Bore discontinued at 1.0m<br>-limit of investigation | | | | | | | |
| | 2 | | | | | | | | 2 |
| 695 | | | | | | | | | |

**RIG:** KUBOTA KX033-4 **DRILLER:** Terrain Projects **LOGGED:** SDG **CASING:** NA

**TYPE OF BORING:** 200mm auger

**WATER OBSERVATIONS:** No free groundwater observed

**REMARKS:** Location coordinates are in MGA94 Zone 55. Surface levels and coordinates are approximate only and must not be relied upon

**SAMPLING & IN SITU TESTING LEGEND**

| | | | | | |
|---|---|---|---|---|---|
| A | Auger sample | G | Gas sample | PID | Photo ionisation detector (ppm) |
| B | Bulk sample | P | Piston sample | PL(A) | Point load axial test Is(50) (MPa) |
| BLK | Block sample | $U_x$ | Tube sample (x mm dia.) | PL(D) | Point load diametral test Is(50) (MPa) |
| C | Core drilling | W | Water sample | pp | Pocket penetrometer (kPa) |
| D | Disturbed sample | ▷ | Water seep | S | Standard penetration test |
| E | Environmental sample | ▼ | Water level | V | Shear vane (kPa) |

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# BOREHOLE LOG

**CLIENT:** Hindmarsh Construction Pty Ltd
**PROJECT:** Proposed New High School In Bungendore
**LOCATION:** Majara Street, Bungendore

**SURFACE LEVEL:** 697.50 AHD
**EASTING:** 722586
**NORTHING:** 6096083
**DIP/AZIMUTH:** 90°/--

**BORE No:** 139
**PROJECT No:** 202107.04
**DATE:** 11/10/2021
**SHEET** 1 OF 1

| RL | Depth (m) | Description of Strata | Graphic Log | Sampling & In Situ Testing: Type | Depth | Sample | Results & Comments | Water | Well Construction Details |
|---|---|---|---|---|---|---|---|---|---|
| 697 | 0.2 | TOPSOIL FILL/Silty CLAY (CL): low plasticity, dark brown mottled red, with rootlets, trace fine grained sand, moist, w~PL, estimated stiff to very stiff, TOPSOIL FILL | | E | 0.1 | | PID < 1ppm | | |
| | 0.4 | Sandy CLAY (CL): low plasticity, yellow-brown mottled red, fine to coarse grained sand, trace quartz gravel, moist to dry, w<PL, estimated very stiff, residual | | | | | | | |
| | 0.8 | Silty CLAY (CL): low plasticity, yellow-brown, with quartz gravel, moist to dry, w<PL, estimated very stiff, extremely weathered siltstone | | E | 0.5 | | PID < 1ppm | | |
| | 1 | SILTSTONE: fine grained, red-brown, dry, low strength, highly weathered, estimated fractured | | E | 1.0 | | PID < 1ppm | | 1 |
| 696 | 1.2 | Bore discontinued at 1.2m<br>-limit of investigation | | | | | | | |
| | 2 | | | | | | | | 2 |

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**SAMPLING & IN SITU TESTING LEGEND**

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