St George Private Hospital Expansion
119-129 Princes Highway, 2 Hogben St & 1 South St, Kogarah, NSW

Interim Remedial Action Plan

Akalan Projects Ltd

Reference: 754-SYDEN381816-R03.Rev2

10 November 2025

ST GEORGE PRIVATE HOSPITAL EXPANSION

119-129 PRINCES HIGHWAY, 2 HOGBEN ST & 1 SOUTH ST, KOGARAH, NSW

Report reference number: 754-SYDEN381816-R03.Rev2
10 November 2025

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Restriction on Disclosure and Use of Data
This report must be read in the context of the full report and the attached limitations, titled Important Information About Your Tetra Tech Coffey Environmental Report (included as Appendix A).

EXECUTIVE SUMMARY

Tetra Tech Coffey Pty Ltd (Coffey) were engaged by Akalan Projects Pty Ltd (AP) to prepare this interim Remedial Action Plan (RAP)) in support of a State Significant Development Application (SSDA) submitted to the Department of Planning, Housing and Infrastructure (DPHI) under Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act 1979).

The SSDA seeks approval for the expansion of the St George Private Hospital. Specifically, the SSDA seeks consent for two components: the first being the construction of a health services facility (hospital), and the second relating to upgrades to the main hospital campus, including a new emergency department.

For reporting purposes, the site subject to the new health services facility (hospital) is referred to in this report as ‘the site’ and the existing main hospital campus is referred to as ‘the main hospital campus.’

The site is located on the Princes Highway, surrounded by Bank Lane to the west, Hogben Street to the north and the Princes Highway to the East (refer to Figures 1 and 2 in Appendix B). This interim RAP relates to 'the site' only, based on findings of Coffey's PSI and DSI.

AP indicated that this interim RAP will be reviewed by a NSW EPA Accredited Site Auditor.

As an interim RAP, this RAP will require review and may require further refinement / updating once the pending investigations are completed.

The objectives of this interim RAP were to:

- Outline additional investigative works for the southern portion of the site where an existing building prevented any investigations and also additional rounds of groundwater sampling and assessment of potential risks for construction workers and future users related to detectable contaminants in groundwater. Dependent upon the outcome of these additional studies, this interim RAP may be required to be updated.
- Establish remediation goals and outline a preferred strategy that will promote mitigation of contamination risks (if identified) and facilitate redevelopment of the site for its intended use;
- Provide procedures and plans for implementation of the proposed contamination mitigation measures; and
- Outline minimum controls appropriate for the proposed contamination mitigation measures in a manner which will reduce adverse effects on worker health and the environment.

To fulfil these objectives, Coffey has prepared this interim RAP in general accordance with relevant sections in NSW EPA “Contaminated Land Guidelines – Consultants reporting on contaminated land” (NSW EPA 2020).

This interim RAP has been prepared for the purposes of supporting a DA and does not represent a remedial works specification and should not be used for such purposes.

The site has been subject to several phases of investigation and assessment to characterise historical uses of the site and surrounding land, and the contamination status of the site.

Based on the available data for the site, the areas requiring remediation / validation / management include:

- Potentially contaminated soil or rock to be investigated as part of the additional investigations to be completed within the southern portion of the site.
- Potentially contaminated groundwater moving across the site to be investigated as part of the additional investigations to be completed across the site.
- The additional investigations are required for the following purposes:
  - Additional data to assist with waste classification of soil for disposal off-site to a licensed facility;
  - Assess soil and groundwater conditions in relation to PFAS; and
  - Management of groundwater during remediation and construction (if required).

In addition, the following aspects require further consideration / management:

- Potential for sewer lines to retain residual contaminants from any wastes disposed to sewer.
- An assessment of human health risks to further assess the potential risk to human health during the construction and post construction phases from formaldehyde, and potentially chloroform and carbon disulfide, is required.
- Additional rounds of groundwater sampling from the existing groundwater monitoring wells, additional wells (required as part of a proposed SAQP for additional investigations), and analysis, to inform the assessment of human health risks.
- Potential for unexpected finds of contamination to be discovered during redevelopment of the site.

This interim RAP outlines a strategy to mitigate health risks associated with identified contamination and thereby mitigate potentially unacceptable risks during and following redevelopment. This interim RAP also presents a strategy to manage unexpected finds of contamination that may be encountered during construction.

Subject to completion, and results of, the additional investigations proposed, Coffey considers the site can be made suitable for the proposed development if the remediation is carried out in accordance with this interim RAP using the preferred remedial option.

If the additional investigations identify additional remediation / management requirements to those presented in this interim RAP, the interim RAP should be updated to include appropriate remediation/management measures for the identified contamination and associated risks.

This interim RAP requires completion of all pending groundwater assessment, health risk evaluation, and any necessary RAP modifications before works can proceed.

No construction or excavation is to occur until the Final revised / updated RAP has been reviewed and endorsed as satisfactory by the Site Auditor and, where required, the NSW EPA or consent authority.

It is important that this report is read in conjunction with the Important Notes included in Appendix A.

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APPENDICES

Appendix A: Important Information About Your Tetra Tech Coffey Environmental Report

Appendix B: Figures

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Appendix D: DSI Figures, Logs & Results (Coffey, 2025d)

Appendix E: Data Quality Objectives and Data Quality Indicators

Appendix F: HMS Report (ESP (2025)

ACRONYMS/ABBREVIATIONS

Acronyms/Abbreviations	Definition
ABC	Ambient Background Concentration
ACM	Asbestos Containing Material
AEC	Area of Environmental Concern
AHD	Australian Height Datum
ANZG	Australian and New Zealand Guidelines for Fresh and Marine Water Quality
AP	Akalan Projects
AS	Australian Standard
ASC NEPM	National Environmental Protection (Assessment of Site Contamination) Measure 1999 as amended 2013
ASS	Acid Sulfate Soil
BTEX	Benzene, Toluene, Ethylbenzene and Xylene
BYDA	Before You Dig Australia
CEMP	Construction Environmental Management Plan
Coffey	Tetra Tech Coffey Pty Ltd
CoPC	Contaminant of Potential Concern
CRC CARE	Cooperative Research Centre for Contamination Assessment and Remediation of the Environment
CSM	Conceptual site model
DP	Deposited Plan
DPHI	Department of Planning, Housing and Infrastructure
DQI	Data Quality Indicator
DQO	Data Quality Objective
DSI	Detailed Site Investigation
EIL	Ecological Investigation Level
EMP	Environmental Management Plan
ENM	Excavated Natural Material
EP&A Act	Environmental Planning and Assessment Act 1979
ESL	Ecological Screening Level
GIA	Groundwater Impact Assessment
GIL	Guideline Investigation Level
GIR	Geotechnical Investigation Report
GPR	Ground Penetrating Radar
HMS	Hazardous Materials Survey
HHRA	Human Health Risk Assessment
HIL	Health Investigation Level
HSEQ Plan	Health, Safety, Environmental and Quality Plan
HSL	Health Screening Level
LEP	Local Environment Plan
LOR	Limit of reporting
LOSP	Limit of Species Protection
LNAPL	Light Non-Aqueous Phase Liquid

mbgl	Metres below ground level
NATA	National Association of Testing Authorities
NSW EPA	NSW Environment Protection Authority
OCP	Organochlorine pesticides
PAH	Polycyclic aromatic hydrocarbons
PFAS	Per- and polyfluoroalkyl substances
PID	Photoionisation detector
PPE	Personal Protective Equipment
QA/QC	Quality Assurance / Quality Control
RPD	Relative percentage difference
RPE	Respiratory Protective Equipment
SAQP	Sampling Analysis and Quality Plan
SEARs	Secretary's Environmental Assessment Requirements
SSDA	State Significant Development Application
SVOC	Semi volatile organic compound
TPH	Total Petroleum Hydrocarbons
TRH	Total Recoverable Hydrocarbons
UPSS	Underground Petroleum Storage System
UST	Underground Storage Tank
VENM	Virgin Excavated Natural Material
VOC	Volatile organic compounds
WHS	Work Health and Safety

1. INTRODUCTION

1.1 OVERVIEW

Tetra Tech Coffey Pty Ltd (Coffey) were engaged by Akalan Projects Pty Ltd (AP) to prepare this interim Remedial Action Plan (RAP)) in support of a State Significant Development Application (SSDA) submitted to the Department of Planning, Housing and Infrastructure (DPHI) under Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act 1979).

The SSDA seeks approval for the expansion of the St George Private Hospital. Specifically, the SSDA seeks consent for two components: the first being the construction of a health services facility (hospital), and the second relating to upgrades to the main hospital campus, including a new emergency department.

For reporting purposes, the site subject to the new health services facility (hospital) is referred to in this report as ‘the site’ and the existing main hospital campus is referred to as ‘the main hospital campus.’ This interim RAP relates to 'the site' only, based on findings of Coffey's PSI and DSI.

The site is located on the Princes Highway, surrounded by Bank Lane to the west, Hogben Street to the north and the Princes Highway to the East (refer to Figures 1 and 2 in Appendix B).

AP indicated that this interim RAP will be reviewed by a NSW EPA Accredited Site Auditor.

As an interim RAP, this RAP will require review and may require further refinement / updating once the pending investigations are completed.

1.2 BACKGROUND

AP previously engaged Coffey to undertake a Preliminary Site Investigation (PSI), Detailed Site Investigation (DSI), a Groundwater Impact Assessment (GIA) and a Geotechnical Investigation Report (GIR) for the site as detailed in the following reports:

- Coffey (2025a) St George Private Hospital, Groundwater Impact Assessment (report reference: 754-SYDGE381816AB, dated 20 June 2025) (Coffey, 2025a).
- Coffey (2025b) St George Private Hospital, Geotechnical Investigation Report (report reference: 754-SYDGE381816AA, dated 27 June 2025) (Coffey, 2025b).
- Coffey (2025c), Preliminary Site Investigation – Akalan Projects Pty Ltd, 119 Princes Highway, Kogarah (report reference: 754-SYDGE381816-AC-Rev2, dated 5 September 2025 (Coffey, 2025c).

This interim RAP outlines the remediation goals and the strategy to mitigate contamination risks identified in the following report:

- Coffey (2025d) St George Private Hospital Expansion 119-129 Princes Highway, 2 Hogben St & 1 South St, Kogarah, NSW, Detailed Site Investigation, Ref: SYDEG381816.R02, Revision 3 dated 10 November 2025 (Coffey 2025d).

The groundwater impact assessment (Coffey, 2025a) included the following:

- Summary of proposed development including basement geometry;
- Site hydrogeology, including observed groundwater levels, aquifer hydraulic conductivity and well construction details;
- Groundwater inflow assessment and commentary on the estimated groundwater drawdown induced settlement;
- Summary of groundwater quality including field parameters (pH, electrical conductivity, redox potential and temperature) and laboratory test results (total dissolved solids, total suspended solids, turbidity, alkalinity, sulfate, chloride, calcium, metals and toluene);
- Expected groundwater take and discussion of relevant licensing requirements or exemptions; and

- Commentary on likely groundwater treatment and disposal methods.

1.3 OVERVIEW OF PROPOSED DEVELOPMENT

The SSDA requests approval for the expansion of the St George Private Hospital, seeking consent for two components: 1) the construction of a health services facility (hospital) at the site; and 2) upgrades to the main hospital campus, including a new emergency department.

In summary, approval for the following is sought for the site:

- Site preparation works and bulk earthworks, including tree clearing.
- Construction of a seven storey hospital.
- Construction of a five level basement carpark providing a total of 241 parking spaces. Proposed development plans provided in Appendix B indicate that the oncology unit will be located on the lowest basement level.
- Ancillary office, amenities, and loading dock provisions.
- Basement storage and a substation.
- Landscaping works.

The architectural plans for the proposed development are included in Appendix C.

Based on a review of the plans it appears that the whole site will be excavated down to a Basement L5 except for a small portion in the southwest corner with Basement L6 extending to the full depth except along the western quarter of the site and southwest corner. Minor landscaping appears to be within the development - Level 1 Courtyard.

1.4 SEARS RELEVANT TO THIS REPORT

This report has been prepared to respond to the SEARs issued for the St George Private Hospital Expansion project. This interim RAP was recommended to be completed based on the findings of the PSI (Coffey, 2025c) and DSI (Coffey, 2025d). The PSI (Coffey, 2025c) was in prepared in response to SEARs item 17.

1.5 OBJECTIVES

The objectives of this interim RAP were to:

- Outline additional investigative works for the southern portion of the site where an existing building prevented any investigations and also additional rounds of groundwater sampling and assessment of potential risks for construction workers and future users related to detectable contaminants in groundwater. Dependent upon the outcome of these additional studies, this interim RAP may be required to be updated.
- Establish remediation goals and outline a preferred strategy that will promote mitigation of contamination risks (if identified) and facilitate redevelopment of the site for its intended use;
- Provide procedures and plans for implementation of the proposed contamination mitigation measures; and
- Outline minimum controls appropriate for the proposed contamination mitigation measures in a manner which will reduce adverse effects on worker health and the environment.

To fulfil these objectives, Coffey has prepared this interim RAP in general accordance with relevant sections in NSW EPA “Contaminated Land Guidelines – Consultants reporting on contaminated land” (NSW EPA 2020).

This interim RAP has been prepared for the purposes of supporting a DA and does not represent a remedial works specification and should not be used for such purposes.

1.6 SCOPE OF WORK

The scope of work comprises the following:

- Review of PSI (Coffey, 2025c), DSI (Coffey, 2025d), and Groundwater Impact Assessment (Coffey, 2025a))
- Develop scope of additional works;
- Develop mitigation/management strategy; and
- Documentation of these in this report.

1.7 SITE INFORMATION

1.7.1 Site Location and Identification

Site identification details are summarised in Table 1. The location and boundary of the site are shown in Figures 1 & 2 provided in Appendix B.

Table 1: Site Location Details

Item	Description
Address	119-129 Princes Highway, 2 Hogben Street and 1 South Street, Kogarah, NSW, 2217
Site area	Approximately 2,200 m^2 (0.22 ha)
Title identification	Lot A, B & C DP358876 (termed as the northern portion of the site) Lot 1 DP8864, Lot 2 DP8864, Lot 3 DP8864, Lot 4 DP8864 (termed as the middle portion of the site) Lot 5 DP8864 (termed as the southern portion of the site)
Local Government Area	Georges River Council
Current land use	Car park and retail (confectionary store)
Proposed land use	Special Purpose – Infrastructure (Land Zone SP2)
Current Land zoning	SP2 – Infrastructure & MU1 – Mixed Use

1.7.2 Site Description

An environmental scientist from Coffey completed a walkover of the site on the 11th of April 2025 as part of the PSI (Coffey, 2025c) and the following observations were made.

- The site was generally flat.
- At the time of the walkover the site was utilised as a car park with two electric boom gates allowing access and egress onto Hogden Avenue to the north.
- The site surface comprised an asphalt pavement and appeared in generally good condition.
- Small amounts of litter were noted in the south-west corner of the site.
- Mature trees were observed along the northern, western and eastern boundary and appeared to be in relatively healthy condition.
- The southern portion of the site comprised a two-storey white brick building with a shop frontage to the Princes Highway and rear access into Bank Lane, which is currently utilised as a confectionery store. This area was not investigated as it was not accessible for sampling. We this portion of the site is subject to demolition under a separate approval.

1.7.3 Environmental Setting

1.7.3.1 Topography and Drainage

NSW Elevation data available from Google Earth indicates that the western boundary of the site has an elevation of 20 m Australian Height Datum (AHD) and gently slopes towards the east south-east.

1.7.3.2 Geology and Soils

Reference to the MinView Surface Geological Mapping database indicates that the site is underlain by Hawksbury Sandstone. Hawksbury Sandstone is middle Triassic in age and comprises medium to coarse grained quartz sandstone displaying small to large scale, high angle cross bedding with minor shale and laminite lenses.

Reference to the Georges River Local Environment Plan 2021 indicates that the site does not lie within an Acid Sulfate Soils risk area, however it is noted that Class 5 areas were mapped at less than 100 m to the east of the site towards Botany Bay.

1.7.4 Subsurface Profile

The subsurface profile encountered in the DSI (Coffey, 2025d) comprised:

- Asphalt at surface.
- Fill: Pale brown, grey and dark grey Sandy Clay, and Gravelly Sand to depths of between 0.45 m and 1.2 m with trace inclusions of brick, tile, terracotta, PVC, glass, metal, wire, and plastic fragments. Charcoal was noted in the fill at BH108 at depths of between 0.4 m and 0.8 m.
- Potential asbestos-containing materials (ACM) were not observed in the fill whilst drilling[1]
- Concrete was encountered:
  - Evidence of a buried concrete slab was encountered in BH102 between depths of 0.4 m and 0.5 m; and
  - Concrete fragments were encountered in fill in BH108 between depths of 0.25 m and 0.4 m.
- Natural soils: comprised pale brown, grey and dark grey Sandy Clay / Silty Clay to depths of between 1.0 m and 1.65 m.
- Sandstone: pale brown weathered sandstone was encountered at most locations from depths of between 0.8 m and 2.7 m.
- Most locations were terminated upon refusal on sandstone, with the following exceptions:
  - BH106 refusal at 1.2 m in fill;
  - BH104 refusal at 1.65 m in natural sandy clay, assumed on sandstone;
  - BH105 refusal at 1.5 m in natural sandy clay, assumed on sandstone; and
  - BH108 refusal at 1.0 m in natural sandy clay, assumed on sandstone.
- Groundwater was not encountered at any of the locations whilst drilling.

The Geotechnical Investigation report (Coffey, 2005b) encountered topsoil / fill to depths of between 0.6 m and 1.5 m, overlying residual sand and clay to depths of up to 2.3 m, then sandstone.

Overall, the ground conditions encountered in the DSI (Coffey, 2025d) were considered to be fairly consistent with those reported in the GIR (Coffey, 2025b).

The logs prepared for the DSI (Coffey, 2025d) are presented in Appendix D.

[1] Though it should be noted that the drilling technique used was not favourable to observing asbestos. Test pits are more favourable for observing asbestos in fill.

1.7.5 Hydrogeology and Hydrology

Surface water features (e.g. ponds / wetlands) are not present on site. Surface water from rainfall is expected to flow towards the subsurface stormwater drainage system that is present across the site. Groundwater and surface water would be expected to ultimately reach / discharge into Botany Bay, a marine ecosystem.

The DSI (Coffey, 2025d) reported:

- Groundwater standing water levels (SWL) measured on 11 August 2025 ranged between about 5 m and 6.4 m.
- The inferred groundwater flow direction is toward the north-east.

In addition, the DSI results suggest the following:

- The water bearing unit is the Hawkesbury Sandstone which extends to within about 2.3 m of the surface.
- Based on there being no confining layer, and our significant experience with Hawkesbury Sandstone, the groundwater is considered to be is unconfined.

The DSI acknowledged that the groundwater monitoring wells were designed and installed primarily for geotechnical investigation purposes. The secondary purpose was to provide an initial screen for groundwater contamination purposes. The wells were generally screened between 16 m and 22m below surface level, indicating that the SWL measured between 5 m and 6.4 m are likely a representation of the groundwater pressure head, rather than the actual standing water level.

1.7.6 Site History

The PSI (Coffey, 2025c) indicated the following relating to site history:

- The northern part of the site was largely occupied for residential purposes from around 1943, then developed into a large commercial building and utilised as a squash centre between 1965 to 1986 prior to being demolished and is now part of the existing carpark.
- The northeastern part of the site was predominantly occupied by mechanics or workshop facilities between 1950 and 1970 prior to becoming a car park.
- The middle portion of the site remained largely as open space and likely a residential property containing a backyard between 1943 and at least 1970. Following this it appeared to have been utilised for a commercial business including bottle exchange, service station and a discount house (presumably for the sale of random goods).
- The southern portion of the site has remained very consistent and has had a building structure present since 1943. Despite the consistency, it has had a number of business activities during this time ranging from a mechanical workshop to film processing laboratory to a retail (confectionery) shop.
- The surrounding area was used for a combination of residential and commercial purposes. Over time, low density residential housing was replaced by additional infrastructure related to health service facilities as well as medium density apartments and townhouses.

2. PREVIOUS INVESTIGATIONS RESULTS AND AUDITOR ADVICE

2.1 PSI

The PSI (Coffey, 2025c) concluded:

Based on the findings of this assessment, it is concluded that there is the potential to encounter soil and/or groundwater contamination at the site. The proposed development will introduce sensitive receptors on to the site, both during construction and future occupation of the site. It is noted that the proposed development is likely to utilise the majority of the sites footprint and may require excavation to accommodate basement carparking and/or a basement. If excavation and disposal of soils is undertaken, volatile contaminants could still remain which may pose a risk to future occupants.

2.2 DSI

The PSI (Coffey, 2025c) recommended:

- *A Detailed Site Investigation (DSI) including intrusive investigations be completed to provide further confidence in ground contamination conditions and the significance of risk that contamination (if present) would pose in a future development scenario.*
- *A Dangerous Goods Search is also recommended to be carried out to confirm the presence of USTs at the site or if they have been decommissioned or left insitu. A geophysics survey could also be undertaken to identify subsurface features such as USTs and if stormwater and sewer services are still present within the site boundaries.*

The DSI (Coffey, 2025d) intrusive investigation comprised:

- Ten boreholes (BH101 to BH110) across a generally systematic grid over the site to refusal depths of between 0.95 m and 1.65 m mbgl. The area investigated excluded the southern portion of the site which is currently occupied by buildings and was inaccessible for sampling.
- Groundwater samples were collected from the three existing groundwater monitoring wells previously installed for the geotechnical investigation and groundwater impact assessment (BH01-BH03).
- Laboratory analysis of selected soil and groundwater samples for the identified contaminants of potential concern (COPC).

The DSI (Coffey, 2025d) concluded:

- *The NSW SafeWork Schedule 11 Hazardous Chemicals on Premises records search did not identify any license records relating to the storage of hazardous chemicals in the site.*
- *The GPR scan indicated UST was not detected with GPR sweeps, though the locator noted that there is a possibility that a UST may be present beneath areas where parked cars restricted the survey.*
- *Ground conditions encountered within the site comprised asphalt at the surface underlain by fill soils and sandy clay / silty clay natural soils and sandstone bedrock. Inclusions of brick, tile, terracotta, PVC, glass, metal, wire, plastic and charcoal fragments were observed in the fill exposed during the investigation.*
- *Potential ACM was not observed in the fill during drilling, though it should be noted that the drilling technique is not favourable to observing asbestos. Test pits are more favourable for observing asbestos in fill.*
- *In general, the analysis of soil samples collected from the investigation locations did not record contamination at concentrations that poses potentially unacceptable risks to human or environmental receptors for the proposed development (commercial / industrial land use).*
- *Elevated concentrations of toluene and metals were detected in groundwater. It is noted that the metals are likely indicative of regional aquifer background concentrations, and the toluene was detected at very low concentration (within the assessment criteria) in BH01.*

- *Given groundwater was encountered at depths ranging between 5 m and 6.4 m, a dewatering management plan should be considered depending on the construction method applied. Reference should be made to the geotechnical reports.*
- *Copper, nickel, lead and zinc exceeded the 95% limit of species protection (LOSP) in the groundwater sampled. The CSM presented in Section 3 indicates that an exposure pathway may exist between the groundwater and the identified human receptors via groundwater seepage into the proposed basement, though, it is anticipated seepage into the proposed basement would be managed via implementation of a dewatering management plan. Reference should be made to the geotechnical reports.*
- *Formaldehyde* [detected in groundwater] *may present a potential dermal (contact) and/or vapour risk to workers during construction of the basement, regardless of the implementation of a dewatering management plan. Groundwater impacted with formaldehyde seeping into the basement post construction could pose a dermal (contact) and/or vapour risks to uses post construction.* [Low levels of] *Chloroform and carbon disulphide if present in groundwater may also represent dermal (contact) and/or vapour risks. Further assessment regarding the potential risk to human health during the construction and post construction phases from formaldehyde, and potentially chloroform and carbon disulphide, is required. This assessment is beyond the scope of this report.*
- *The CSM indicates a potentially complete pathway via groundwater to potential environmental receptors (aquatic receptors on and off-site), though given that the receiving waters (Botany Bay) are considered to be relatively impacted waterways, it is considered that the metals in groundwater do not warrant further investigation or remediation.*
- *Preliminary In Situ Waste Classification indicated natural soils are preliminarily classified as VENM and fill is preliminary classified as General Solid Waste (Non-Putrescible).*

Based on the findings, the following is recommended:

- *The southern portion of the site which is currently occupied by a building was not investigated as it was inaccessible for sampling. This portion of the site will require investigation. The following recommendations are made:*
  - A hazardous building material survey should be completed prior to demolition [the client subsequently provided Coffey with a copy of a survey already completed which is discussed in Section 2.3 below].
  - *Following demolition of the building contamination investigations should be undertaken within the area not sampled during this study. These investigations should give consideration to potential for sewer lines to retain residual contaminants from any wastes disposed to sewer.*
- *Given the past industrial uses of the site and the potential for contamination residues to remain in any subsurface structures, the removal of the sewer line and other underground infrastructure, should be appropriately managed so as not to cross contaminate the ground during removal.*
- *An Unexpected Finds Protocol should be developed to manage potential contamination conditions inconsistent with those encountered in this study during the proposed excavation works.*
- *A human health risk assessment should be completed by a Human Health Risk Assessor to further assess the potential risk to human health during the construction and post construction phases from formaldehyde, and potentially chloroform and carbon disulphide, is required. This assessment is beyond the scope of this report. It is recommended that additional rounds of groundwater sampling and analysis are completed as part of this risk assessment*

Overall, it is recommended that a Remedial Action Plan (RAP) is prepared to cover the above mentioned additional works, and management of the removal of existing sub-surface services / infrastructure and the unexpected finds. The RAP should be implemented during demolition, excavation and construction.

It is concluded that the site can be made suitable for the proposed use as a health facility subject to the outcomes of the recommended additional works and implementation of all associated remediation / management measures that may be recommended from the additional works.

The Groundwater Impact Assessment (Coffey, 2025a) concluded:

Based on this assessment, it is considered that a drained basement for the proposed development is feasible and presents a low risk to the groundwater system, provided that appropriate monitoring of groundwater discharge volumes, water quality and levels is carried out during construction and the results and

recommendations for the Detailed Site Investigation (DSI) being completed concurrently together with this assessment are taken into consideration.
Tetra Tech Coffey consider that this development would be eligible for a Water Access License exemption for taking 3ML or less per year of groundwater. Further information on this exemption can be found on the DPIE website (ref: https://water.dpie.nsw.gov.au/our-work/licensing-and-approvals/exemptions-for-water licences and- works-and-or-use-approvals/groundwater-wal-exemptions). To claim the exemption, DPIE require that discharge volumes are recorded by the site owner.

If groundwater from the site cannot be recycled and used in gardens, cooling towers or toilet flushing, then approval from local government or Transport for NSW will be required for discharge to stormwater. To obtain approval, groundwater would likely need to be treated prior to discharge for pH, turbidity and potentially the removal of heavy metals such as zinc.

The Groundwater Impact Assessment (GIA) was completed prior to the DSI which identified detectable concentrations of formaldehyde in groundwater samples and low levels of Chloroform and carbon disulphide in a groundwater QC sample. The recommendations presented in the GIA may need to be revisited based on the results of the additional investigations of groundwater and assessment of risk to construction workers and/or site users post construction to these compounds. If a risk was identified, then there is a potential that the design may require revision to manage any risk.

2.3 HAZARDOUS MATERIALS SURVEY

The client provided a hazardous materials survey (HMS) to Coffey on 27 October 2025:

- Environmental Safety Professional (ESP, 2025), Hazardous Materials Survey for Akalan Projects Pty Ltd, St George Private Hospital, 1 South Street, Kogarah NSW 2217, (Job Number: J50644, dated 15 July 2025 (ESP, 2025).

ESP (2025) is presented in Appenidx F and indicated the report was prepared for the site, including the Southern Portion of the Site (yet to be investigated by Coffey) as shown below.

- The site inspection undertaken included a visual inspection and sampling of suspected asbestos containing materials (ACM) where practicable.
- The report summarised the findings as follows:
  - ACM – Bonded Asbestos was identified externally;
  - SMF – Synthetic Mineral Fibres were identified internally;
  - Friable asbestos, Lead in paint, PCB, Ozone depleting substances and dangerous goods were not identified internally or externally.

2.4 INTERIM AUDITOR ADVICE

Interim Auditor Advice #2 dated 31 October 2025 indicated the following:

- *Historical activities onsite are recognised in the PFAS NEMP 3.0 as potential sources of PFAS contamination. Investigation for PFAS impacts to soil and groundwater should be carried out.*

Coffey did not identify Per- and polyfluoroalkyl substances (PFAS) as a potential contaminant of concern in the PSI or DSI. This was due to the site history which suggested that fuel storage occurred on-site between 1950 and 1970.

It is generally understood that PFAS was associated with fuel storage, service stations, and mechanical workshops in Australia, mainly stemming from firefighting foams, cleaning agents, and surface treatments, used from the mid-1970s onward (after fuel storage occurred on-site).

Overall, it was considered that the risk of PFAS from an on-site historical source was probably low, however, this RAP has been revised to include additional investigation of PFAS in soil and groundwater, in response to the Auditor's comment.

3. CONCEPTUAL SITE MODEL

The following Conceptual Site Model is based on the findings of the DSI (Coffey, 2025d). Table 2 presents the areas of environmental concern (AEC) based on the findings of the DSI (Coffey, 2025d).

Table 2: Summary of AECs and Conceptual Site Model

Potential Contaminating Activity / AEC	Contaminants of Potential Concern (COPC)	Potentially Affected Media	Potential Transport Mechanism and Exposure Pathways	Receptors	Comments
Northern and Central Portions of the Site (investigated in the DSI (Coffey, 2025d))					
Historical land uses on nearby properties undertaking potentially contaminating activities (including hospital)	Heavy metals, TRH, BTEX & PAH Formaldehyde Groundwater via on site migration.	Groundwater	Dermal contact with contaminated water Incidental ingestion of contaminated groundwater Inhalation of vapours sourced from groundwater Lateral and vertical water migration	Site Users – Site Worker & Visitor (Current and Future Site Use) Future Construction/Maintenance Workers	A number of historical businesses on properties surrounding the site were identified to be potential off-site sources of contamination (hospital and film processing). The DSI (Coffey, 2025d) reported the following in groundwater: • Copper, nickel, lead and zinc exceeded the 95% limit of species protection (LOSP) in the groundwater sampled. • Toluene was detected at very low concentration (within the assessment criteria) in BH01 (upgradient and likely not sourced from the site). • Chloroform and carbon disulfide were detected at very low concentration in TRIP1 / Replicate of BH01 (upgradient and likely not sourced from the site). • Formaldehyde was detected at low concentrations in all three locations, with the highest concentration (about 5 mg/L) detected at BH01 (upgradient and likely not sourced from the site).
Southern Portion of the Site (yet to be investigated)					
Fill material of unknown origin or quality on site, potentially associated with historical site development or surrounding land use changes.	• Heavy metals • Asbestos • TRH • (PAH • BTEX • OCP & OPP • PCB	Soil and Groundwater	Dermal contact with contaminated soil and water Incidental ingestion of contaminated soil and/or groundwater Inhalation of airborne dusts, vapours, and fibres	Site Users – Site Worker & Visitor (Current and Future Site Use) Future Construction/Maintenance Workers	Results for the northern and central portions of the site that the soil sampled is not significantly contaminated, though the southern portion of the site was not investigated as it was occupied by a building and was inaccessible for sampling. Fill within the southern portion of the site may have been imported during past site development with source and composition

Potential Contaminating Activity / AEC	Contaminants of Potential Concern (COPC)	Potentially Affected Media	Potential Transport Mechanism and Exposure Pathways	Receptors	Comments
			Lateral and vertical water migration Surface water flow including suspended solids. Preferential flows via overland/subsurface drainage		being unknown. If not managed correctly this may result in contamination of the fill material within the site. The DSI (Coffey, 2025d) reported the following in groundwater: • Copper, nickel, lead and zinc exceeded the 95% limit of species protection (LOSP) in the groundwater sampled. • Toluene was detected at very low concentration (within the assessment criteria) in BH01 (upgradient and likely not sourced from the site). • Chloroform and carbon disulfide were detected at very low concentration in TRIP1 / Replicate of BH01 (upgradient and likely not sourced from the site). • Formaldehyde was detected at low concentrations in all three locations, with the highest concentration (about 5 mg/L) detected at BH01 (upgradient and likely not sourced from the site).
Historical business use at the site as a service station and mechanic and film processing.	• Heavy metals • Asbestos • TRH • PAH • BTEX • Volatile Organic Compounds (VOCs) • Photographic chemicals (including silver) • Halogenated organics	Soil and Groundwater	Dermal contact with contaminated soil and water Incidental ingestion of contaminated soil and/or groundwater Inhalation of airborne dusts, vapours, and fibres Lateral and vertical water migration Surface water flow including suspended solids.	Site Users – Site Worker & Visitor (Current and Future Site Use) Future Construction/Maintenance Workers	Results for the northern and central portions of the site that the soil sampled is not significantly contaminated, though the southern portion of the site was not investigated as it was occupied by a building and was inaccessible for sampling. The southern portion of the site was previously occupied by a mechanical workshop and film processing centre which may have given rise to contamination if poor chemical use and management and waste handling practices were adopted.

Potential Contaminating Activity / AEC	Contaminants of Potential Concern (COPC)	Potentially Affected Media	Potential Transport Mechanism and Exposure Pathways	Receptors	Comments
			Preferential flows via overland/subsurface drainage		The DSI (Coffey, 2025d) reported the following in groundwater: • Copper, nickel, lead and zinc exceeded the 95% limit of species protection (LOSP) in the groundwater sampled. • Toluene was detected at very low concentration (within the assessment criteria) in BH01 (upgradient and likely not sourced from the site). • Chloroform and carbon disulfide were detected at very low concentration in TRIP1 / Replicate of BH01 (upgradient and likely not sourced from the site). • Formaldehyde was detected at low concentrations in all three locations, with the highest concentration (about 5 mg/L) detected at BH01 (upgradient and likely not sourced from the site).
Weathering of hazardous building materials within current/former site structures that may contain asbestos. Poor historic demolition practices resulting in deposition of hazardous materials in fill.	• Heavy metals including lead • Asbestos (bonded and friable forms).	Soil	Dermal contact with contaminated soil Incidental ingestion of contaminated soil Inhalation of airborne dusts, vapours, and fibres	Site Users – Site Worker & Visitor (Current and Future Site Use) Future Construction/Maintenance Workers	The previous and existing building present within the southern portion of the site which was not investigated as it is occupied by a building as is inaccessible, are likely to have contained hazardous building materials, which may have resulted in contamination to the soils beneath the buildings.
Historical land uses on nearby properties undertaking potentially contaminating activities (including hospital)	Heavy metals, TRH, BTEX & PAH Formaldehyde Groundwater via on site migration.	Soil and Groundwater	Dermal contact with contaminated soil and water Incidental ingestion of contaminated soil and/or groundwater Inhalation of airborne dusts, vapours, and fibres	Site Users – Site Worker & Visitor (Current and Future Site Use) Future Construction/Maintenance Workers	Results or the northern and central portions of the site that the soil sampled is not significantly contaminated, though the southern portion of the site was not investigated as it was occupied by a building and was inaccessible for sampling. A number of historical businesses on properties surrounding the site were identified to be potential off-site sources

Potential Contaminating Activity / AEC	Contaminants of Potential Concern (COPC)	Potentially Affected Media	Potential Transport Mechanism and Exposure Pathways	Receptors	Comments
			Lateral and vertical water migration Surface water flow including suspended solids. Preferential flows via overland/subsurface drainage		of contamination (hospital and film processing). The DSI (Coffey, 2025d) reported the following in groundwater: • Copper, nickel, lead and zinc exceeded the 95% limit of species protection (LOSP) in the groundwater sampled. • Toluene was detected at very low concentration (within the assessment criteria) in BH01 (upgradient and likely not sourced from the site). • Chloroform and carbon disulfide were detected at very low concentration in TRIP1 / Replicate of BH01 (upgradient and likely not sourced from the site). • Formaldehyde was detected at low concentrations in all three locations, with the highest concentration (about 5 mg/L) detected at BH01 (upgradient and likely not sourced from the site).

As discussed in Section 2.4, Coffey did not identify PFAS as a potential contaminant of concern in the PSI or DSI, however, this RAP has been revised to include additional investigation of PFAS in soil and groundwater, in response to the Auditor's comment.

Overall, based on the findings of the DSI (Coffey, 2025d), potential groundwater seepage into the proposed basement presents a potential exposure pathway, though, it is anticipated seepage into the proposed basement could potentially be managed via implementation of a dewatering management plan. However, the additional groundwater investigations need to be completed to appropriately assess groundwater management requirements, if any.

Formaldehyde may present a potential dermal (contact) and/or vapour risk to workers during construction of the basement, regardless of the implementation of a dewatering management plan. Groundwater impacted with formaldehyde seeping into the basement post construction could pose a dermal (contact) and/or vapour risks to uses post construction. Chloroform and carbon disulfide present in groundwater may also represent dermal (contact) and/or vapour risks.

Further assessment regarding the potential risk to human health during the construction and post construction phases from formaldehyde, and potentially chloroform and carbon disulfide, is required.

The CSM also indicated a potential complete pathway between groundwater and the identified environmental receptors (aquatic receptors on and off-site), though given that the receiving waters (Botany Bay) are considered to be relatively impacted waterways, it is considered that the metals and toluene in groundwater do not warrant further significant investigation or remediation.

As discussed in Section 2.4, Coffey did not identify PFAS as a potential contaminant of concern in the PSI or DSI, however, this RAP has been revised to include additional investigation of PFAS in soil and groundwater, in response to the Auditor's comment.

4. REMEDIAL STRATEGY

4.1 REMEDIATION GOALS / OBJECTIVES

The remediation goals with respect to contamination included the following:

- Phase 1: Additional Investigations
  - Groundwater
    - Clarify groundwater quality, including in relation to PFAS
    - Assess risks (human health) posed by contamination in groundwater
  - Hazardous Materials
    - Develop appropriate removal and management strategies prior to demolition, based on ESP (2025)
  - Soils in southern area of site
    - Identify soil quality, including in relation to PFAS
    - Preliminary waste classification
  - Soils in northern and central portions of the site southern area of site
    - Identify soil quality in relation to PFAS.
- Phase 2: Mitigation / Management measures
  - Mitigate and / or control potentially unacceptable risks to human health and the environment from potential sources of contamination (outlined in Section 3) during redevelopment and future occupation of the site;
  - To reduce potential environmental impacts from the site to acceptable levels; and
  - To render the site suitable for the proposed expansion of the St George Private Hospital.

4.2 REMEDIATION OPTIONS

The ASC NEPM Toolbox (2013) includes Key Principles for Remediation and Management of Contaminated Sites including a preferred hierarchy of options for site clean-up and / or management, which is outlined as follows:

i) on-site treatment of the soil, so that the contaminant is either destroyed or the associated hazard is reduced to an acceptable level

ii) off-site treatment of excavated soil, so that the contaminant is either destroyed or the associated hazard is reduced to an acceptable level, after which it is returned to the site.

If it is not possible for either of the two above options to be implemented, then other options for consideration should include :

i) removal of contaminated soil to an approved site or facility, followed by (where necessary) replacement with clean fill

ii) isolation of the contamination on-site in an appropriately designed and managed containment facility

iii) a less sensitive land use to minimise the need for remedial works which may include partial remediation

iv) Leaving contaminated material in-situ providing there is no immediate danger to the environment or community and the site has appropriate management controls in place.

Remediation options will depend on a number of considerations / factors including:

- Effectiveness of remediation – will the solution meet the remedial objectives.
- Contractor experience with remedial technology.
- Sustainability – waste generation, stakeholder acceptance of the remedial solution etc.
- Acceptable timeframes.
- Cost effectiveness.
- Long term liabilities and ongoing management requirements.

4.3 REMEDIATION OPTIONS REVIEW

Potential contamination requiring remediation / management was identified at the site during the DSI (Coffey, 2025d) as follows:

- Following demolition of the building contamination investigations should be undertaken within the area not sampled, including the potential for sewer lines to retain residual contaminants from any wastes disposed to sewer.
- Given the past industrial uses of the site and the potential for contamination residues to remain in any subsurface structures, the removal of the sewer line and other underground infrastructure, should be appropriately managed so as not to cross contaminate the ground during removal.
- A human health risk assessment should be completed by a Human Health Risk Assessor to further assess the potential risk to human health during the construction and post construction phases from formaldehyde, and potentially chloroform and carbon disulfide, is required. It is recommended that additional groundwater sampling and analysis be completed to inform the risk assessment.

  This should be completed in the short term, prior to demolition, using the existing groundwater monitoring wells to clarify groundwater management requirements, if any.
- An Unexpected Finds Protocol to be developed to manage potential contamination conditions inconsistent with those encountered during the proposed excavation works.

Additional investigation of PFAS in soil and groundwater is also required, in response to the Auditor's comment. Refer to Section 2.4.

Overall, this interim Remedial Action Plan (RAP) covers:

- The above mentioned additional works and associated management measures
- Management of the removal of existing sub-surface services / infrastructure and
- Procedures to cover unexpected finds during development works.

The additional investigation is required to:

- Assess soil conditions in the southern portion of the site, which was not accessible at the time due to the presence of the existing structures; and
- Assess soil conditions in the northern southern portions of the site in relation to PFAS only, in response to the Auditor's comments.
- The additional investigations are required for the following purposes:
    - Additional data to assist with waste classification of soil for disposal off-site to a licensed facility;
    - Assess soil and groundwater conditions in relation to PFAS; and
    - Management of groundwater during remediation and construction (if required).

In addition, the following aspects require further consideration / management:

- Potential for sewer lines to retain residual contaminants from any wastes disposed to sewer.
- A assessment of human health risks to further assess the potential risk to human health during the construction and post construction phases from formaldehyde, and potentially chloroform and carbon disulfide, is required.
- Additional rounds of groundwater sampling from the existing groundwater monitoring wells, and analysis, to inform the HHRA.
- Potential for unexpected finds of contamination to be discovered during redevelopment of the site.

Additional soil / rock contamination may be identified during the additional investigations, and this contamination will be required to be chased out, excavated and disposed of to a licensed facility, given the following reasons in selection of remediation options:

- Excavation is required for the proposed basement. It would be logical to remove soil / rock contamination offsite, as part of the proposed excavations. It is recommended that potentially contaminated soil / rock be segregated from VENM/ENM material. Contaminated soil / rock would be disposed of to an appropriate licensed facility and VENM/ENM could be reused at another sites(s) subject to approval.
- Given the time / space / logistical constraints, onsite containment / encapsulation of contamination and onsite treatment of contamination, would not be considered practicable.

4.4 LOCATION AND EXTENT OF REMEDIATION / VALIDATION / MANAGEMENT REQUIRED

Based on the available data for the site, the areas requiring remediation / validation / management include:

- Whole of site:
  - Additional groundwater sampling and analysis to be completed to inform the assessment of risk to human health.
  - Additional soil sampling to assess soils quality in relation to PFAS.
- Southern Portion:
  - Potentially contaminated soil or rock under building footprint to be investigated.
- The additional investigations are required for the following purposes:
  - Additional data to assist with waste classification of soil for disposal off-site to a licensed facility;
  - Assess soil and groundwater conditions in relation to PFAS; and
  - Management of groundwater during remediation and construction (if required).

In addition, the following aspects require further consideration / management:

- Potential for sewer lines to retain residual contaminants from any wastes disposed to sewer.
- A HHRA to be completed by a Human Health Risk Assessor to further assess the potential risk to human health during the construction and post construction phases from formaldehyde, and potentially chloroform and carbon disulfide, is required.
- Potential for unexpected finds of contamination to be discovered during redevelopment of the site.

4.5 SCOPE OF ADDITIONAL INVESTIGATION

It is anticipated the additional investigation will comprise the following elements:

4.5.1 Prior to Demolition:

- **Phase 1A: Development of a Sampling Analysis Quality Plan (SAQP) for Phases 1B and 2.**
  - SAQP should be reviewed and approved by the Site Auditor.
- **Phase 1B: Groundwater Sampling and Analysis and Assessment of Health Risks.**
  - Evaluation of suitability of existing groundwater monitoring network for the contaminants of concern. If unsuitable, identify location and design details of new and/or additional monitoring wells to assess contaminants of concern. Assess the need for multiple rounds of groundwater sampling and analysis.
  - Collect groundwater samples from the existing groundwater monitoring wells and/or additional monitoring wells using a hydrasleeve (consistent with procedure employed in the DSI (Coffey, 2025d)).
  - A portion of the groundwater collected will be utilised to measure field water quality parameters (pH, dissolved oxygen, redox potential, electrical conductivity and temperature). A comment will also be made on appearance, presence / absence of free-phase oils / sheens and odour of the sampled water.

- Submission of groundwater samples for analysis at a laboratory which is NATA accredited for the following:
  - Heavy metals (filtered);
  - TRH, BTEXN, MAHs, Chlorinated hydrocarbons, PFAS, SVOCs, and VOCs (with library match of any unidentified peaks) and/or a GCMS screen with library match, pH and hardness[2]; and
  - QA/QC samples: as required.
- Review of field and laboratory results and assessment of potential health risks for workers during construction and users of the site post construction.
- Preparation of an Additional Groundwater Assessment report including conclusions and recommendations. The report should generally conform with the NSW EPA Consultants Reporting on Contaminated Land Guidelines including conclusions and recommendations.

- **Phase 1C: Hazardous Building Material Audit prior to demolition.**
  - Develop and document hazardous materials removal and management strategies based on ESP (2025) report
  - Removal or hazardous material prior to demolition
  - Completion of a post removal letter confirming hazardous materials have been appropriately removed and managed prior to building demolition.

It is recommended that Phase 1 works are undertaken in the short term, prior to demolition, using the existing groundwater monitoring wells to clarify groundwater management requirements, if any.

4.5.2 Post Demolition:

- **Phase 2: Intrusive Investigations in the Southern Area & Central and Northern Portions for PFAS only.**
  - Preparation of a Health, Safety and Environmental & Quality Plan (HSEQ) for the proposed investigations.
  - Engagement of an accredited services locator to scan proposed test pit locations for underground services prior to excavation and map all underground services across the site (where possible).
  - Five test pits to be excavated in the southern portion of the site following removal of the existing building to a depth of 2.5 m, or 0.5 m into natural soil, whichever is the lesser, using a 5 Tonne excavator, or similar.
  - Ten test pits to be excavated in the central and northern portions of the site to a depth of 2.5 m, or 0.5 m into natural soil, whichever is the lesser, using a 5 Tonne excavator, or similar.
  - The ground conditions encountered in the tests will be logged and observations of potential contamination will be noted on the test pit log.
  - Submission of 10 representative soil samples collected from the Southern Portion for analysis at a laboratory which is National Association of Testing Authorities (NATA) accredited for a selection of the following for contamination assessment and waste classification purposes:
    - Eight priority metals and Silver;
    - TRH, BTEX, PAH;
    - VOCs and Semi-volatile Organic Compounds (SVOCs) (with library match of any unidentified peaks) and/or a GCMS screen with library match;
    - Chlorinated hydrocarbons and Monocyclic Aromatic Hydrocarbons (MAHs);
    - Soil pH;
    - Nitrogen (Ammonia as N);

[2] If multiple rounds of groundwater sampling is to be undertaken the analyte suite can be reassessed after first round of results are reviewed. The Site Auditor would need to approve any changes to the analytical suite.

  - Asbestos (Bonded ACM, FA and AF);
  - PFAS;
  - TCLP for metals and PAH, where required; and
  - QA/QC samples: as required.
- Submission of 20 representative soil samples collected from the Central and Northern Portions for analysis at a laboratory which is National Association of Testing Authorities (NATA) accredited for a selection of the following for contamination assessment and waste classification purposes:
  - PFAS; and
  - QA/QC samples: as required.
- Preparation of an Additional DSI report presenting the results of these additional investigations. The report should generally conform with the NSW EPA Consultants Reporting on Contaminated Land Guidelines including conclusions and recommendations.

5. SUMMARY OF REMEDIATION PLAN

5.1 PROPOSED SEQUENCE OF WORKS

In addition to the normal environmental controls and mitigation measures required for redevelopment of the site and sub-surface excavations, the following sections outline the remediation work which will be required.

Unless otherwise identified, all activities discussed below will be the responsibility of the Contractor or their representative. The sequences outlined are generalised and should be reviewed with final procedures and sequences to be determined by the Contractor or their representative.

Table 3 presents the general steps required to implement the remediation and validation strategy.

Table 3: General Steps to Implement Remediation and Validation Strategy

Step	Item	Responsible Party
1	Complete additional investigations: Phase 1A: Development of SAQP for Phases 1C and 2. Phase 1B: Groundwater Sampling and Analysis and Assessment of Health Risks.	Environmental Consultant
2	Revise this interim RAP, including management of groundwater during construction (if required)	Environmental Consultant
3	Obtain relevant consents / approvals prior to demolition works	Contractor
4	Remove existing on-site structures, including implementation of an unexpected finds protocol during removal works and obtain asbestos clearance	Akalan Projects Pty Ltd / Contractor
5	Compete additional investigation: Phase 2: Intrusive Investigations in the Southern Area & Central and Northern Portions for PFAS only	Environmental Consultant
6	Revise this interim RAP (if required)	Environmental Consultant
7	Complete remedial works / contamination mitigation measures as per the revised RAP, including implementation of an unexpected finds protocol during remediation works	Contractor and Environmental Consultant
8	Prepare Final Validation Report documenting implementation of the RAP and validation of the works and reach conclusions on site suitability.	Environmental Consultant

5.2 OUTCOME MATRIX – DECISION FRAMEWORK FOR FUTURE INVESTIGATION RESULTS

To ensure the remediation strategy remains achievable and adaptive to new data, the following outcome matrix (Table 4) defines the link between potential future investigation results and the corresponding RAP actions. This structured framework ensures decisions are transparent, auditable, and based on defined environmental or health-risk thresholds.

Table 4: Outcome Matrix

Future Investigation Outcome	RAP Response / Action	Decision Trigger / Audit Control Point
Groundwater contaminant concentrations remain below relevant human health and environmental criteria	Proceed with remediation and construction works as outlined in this Interim RAP. No additional mitigation required.	Validation of acceptable results through Additional Groundwater Assessment (Section 4.5).
Groundwater contaminants exceed acceptable levels for construction-phase exposure (e.g. formaldehyde > health-based trigger)	Update HHRA and implement appropriate mitigation controls such as PPE, confined-space management, and dewatering controls to reduce vapour exposure.	Site Auditor review and written endorsement prior to commencement of excavation.
Groundwater contaminants predicted to cause unacceptable vapour intrusion into basement air post-construction	Revise RAP to include engineering vapour mitigation (e.g. sub-slab depressurisation, vapour barrier, enhanced ventilation) or review basement design to limit enclosed areas, increase ventilation etc.	HHRA identifies vapour risk above NEPM (2013) HSL-D criteria or site specific criteria; Auditor concurrence required.
Soil contamination identified exceeding Commercial/Industrial HILs or Waste Classification thresholds	Excavate and dispose to licensed facility; update RAP and validation plan accordingly.	Exceedance identified in Additional DSI; waste reclassified per EPA (2014) guidelines.
New contaminants of potential concern (CoPC) detected not previously assessed	Undertake supplementary assessment and revise RAP to include additional CoPC management measures.	Discovery of previously unidentified CoPC during supplementary investigations.
Unexpected contamination or infrastructure residues encountered during excavation	Develop situation specific controls/management measures and/or enact Unexpected Finds Protocol (Section 9.2), isolate affected area, and seek Site Auditor direction prior to continuation.	Triggered upon discovery of materials inconsistent with expected conditions.
Groundwater impact cannot be effectively mitigated to achieve safe basement air quality	Reassess development design and/or consider alternative remedial approaches (e.g. hydraulic control, basement waterproofing system).	Auditor determines remediation impracticable without modification to design.

Explanatory Note:

1. The decision framework above provides the mechanism by which the interim RAP will be refined following completion of the forthcoming Additional Groundwater Assessment and Additional DSI. Should any of the defined triggers be met, the interim RAP will be updated, and the final RAP must be re-endorsed by the NSW EPA Accredited Site Auditor before construction or excavation proceeds.

2. Greater detail regarding odour control may be necessary dependant on groundwater investigations.

5.3 PROCEDURAL COMMITMENT – REFINEMENT/UPDATING RAP

This interim RAP requires completion of all pending groundwater assessment, health risk evaluation, and any necessary RAP modifications before works can proceed.

Further, if the remediation strategy presented in this interim RAP, is refined and/or updated due to the results of the additional works, the new refined/updated Final RAP must be re-authorised by the Site Auditor prior to the issue of a Construction Certificate (CC).

To ensure that the remediation strategy is refined, updated and re-authorised by the Site Auditor prior to the issue of a Construction Certificate, the following procedural commitment is provided:

- This interim RAP requires completion of all pending groundwater assessment, health risk evaluation, and necessary RAP modifications before works can proceed.
- This ensures that, should new data indicate unacceptable risk conditions — such as groundwater contaminants causing vapour intrusion or basement air impacts — the RAP can be readily refined to include appropriate mitigation measures, design adjustments, or supplementary investigations. This

framework demonstrates that remediation of the site remains technically achievable under reasonably foreseeable scenarios and provides a clear audit trail for future decision-making.

No construction or excavation is to occur until the Final revised / updated RAP has been reviewed and endorsed as satisfactory by the Site Auditor and, where required, the NSW EPA or consent authority.

6. REMEDIATION AND VALIDATION ACTIVITIES

6.1 ADDITIONAL INVESTIGATIONS

6.1.1 Hazadous Materials Assessment

At the completion of the demolition of the building the HMA consultant should provide a report validating the removal of hazardous materials and the results of a site walkover following demolition.

6.1.2 Additional Groundwater Assessment

An Additional Groundwater Assessment is to be undertaken to supplement the assessment completed in the DSI. The scope of the Additional Groundwater Assessment should be as set out in Section 4.5 above.

Prior to completing the Additional Groundwater Assessment a Sampling Analytical and Quality Plan (SAQP) should be prepared. The SAQP should include Data Quality Objectives and Data Quality Indicators (DQOs/DQIs) consistent with Section 6.6 below.

6.1.3 Additional Detailed Site Investigation (Southern Area)

An Additional Detailed Site Investigation is to be undertaken to supplement the assessment completed in the existing DSI for the northern and central portions of the site. The scope of the Additional Groundwater Assessment should be as set out in Section 4.5 above.

Prior to completing the Additional DSI a SAQP should be prepared. The SAQP should include DQOs/DQIs consistent with Section 6.6 below.

6.1.4 Additional Detailed Site Investigation (Central and Northern Areas)

An Additional Detailed Site Investigation is to be undertaken to supplement the assessment completed in the existing DSI for the assessment of PFAS only in response to the Auditor's comment. The scope of the Additional Groundwater Assessment should be as set out in Section 4.5 above.

Prior to completing the Additional DSI a SAQP should be prepared. The SAQP should include DQOs/DQIs consistent with Section 6.6 below.

6.2 REMOVAL OF EXISTING STRUCTURES & INFRASTRUCTURE

6.2.1 Above Ground

Hazardous materials should be removed and validated by a suitably qualified hazardous materials consultant and then demolition should be undertaken in accordance with normal industry practice following appropriate legislative and regulatory requirements and consents.

6.2.2 Below Ground

The findings of the additional investigation will allow the careful removal of the sewer and other below ground infrastructure, minimising breakages and removal in a manner which limits or minimises discharge of any residual solids and liquids in the pipes. The pipes should then be disposed of offsite in accordance with regulatory requirements and good industry practice. If there are any spills the potentially impacted soils need

to be excavated, segregated from non-impacted soils, sampled for waste classification, and then disposed offsite in accordance with regulatory requirements and Section 6.3

If contaminated fill is found to present an unacceptable human health risk, then that material will be required to be chased out, excavated and disposed of to a licensed facility, followed by validation.

If the contaminated fill is not found to present an unacceptable risk to human health, then the fill material would be excavated and removed from the site to allow for excavation of the proposed basement.

6.3 WASTE CLASSIFICATION AND OFF-SITE DISPOSAL

The DSI (Coffey, 2025d) included preliminary waste classification comments as follows:

- The fill encountered at the test locations is preliminary classified as General Solid Waste (Non-Putrescible).
- The natural soils encountered at the test locations are considered to be preliminary classified as VENM.

The preliminary waste classification of soils within the southern area of the site have not been classified. However, the additional investigations described above should enable the classification of these soils. This classification should be included within the Additional DSI report.

The additional investigations would also aim to confirm the classification of the underlying bedrock, particularly within the formaldehyde impacted groundwater zone.

Waste soils being removed from the site would need to be handled, transported and managed in accordance with the requirements of the POEO Act (1997), POEO Regulations and other EPA guidance as appropriate. Waste soils should only be removed to an appropriately licensed facility.

Additionally, the following minimum requirements for transport of material from the site would need to include:

- All material transported off-site by a licensed contractor.
- Excess dust or load material would be removed from the outside of the truck prior to leaving the site.

This may require on-site a wheel wash or spray wash to dislodge excess material. Where soil is tracked outside the site, it will need to be promptly cleaned up in a manner that does not adversely affect the surrounding land, surface water bodies or local stormwater system.

- Trucks will be covered prior to leaving the site and throughout travel to the disposal site.
- Trucks will enter and exit the site in predetermined points and will follow strict transport routes to and from the disposal site(s).

6.4 IMPORTED BACKFILL PROCEDURES, IF REQUIRED

If material is required to be imported for backfill, it would need to classify as VENM or excavated natural material (ENM) in accordance with the associated Resource Recovery Orders / Exemptions published by the NSW EPA.

Inspection of VENM or ENM at the source site should be undertaken by the Environmental Consultant prior to importing the material to site. Analysis of samples of the material may be required if sufficient information is not available from the supplier.

VENM certificates and ENM classification reports should be reviewed by the Environmental Consultant prior to acceptance of the material to the site. A visual inspection of the material should also be undertaken by the Environmental Consultant when the material arrives at the site. Material tracking documentation will be incorporated into the validation report.

6.5 VALIDATION OBJECTIVE

The intent of the validation works is to collect suitable and adequate data to assess whether the remediation objectives have been achieved.

6.6 DATA QUALITY OBJECTIVES

A process for establishing data quality objectives (DQOs) for the contamination assessment and waste classification investigation has been defined by the US EPA and summarised in Appendix B to Schedule B2, Guideline on Site Characterisation of the ASC NEPM (NEPC, 2013).

DQOs are designed to:

- Develop data quality objectives (DQOs) using the seven step DQO process based on the study objectives;
- Collect the appropriate types and level of data (based on proposed mixed use development) and contaminants of potential concern (CoPC)); and
- Assess the data against the benchmarks established in the DQOs.

The DQO process is a seven-step iterative planning approach used to plan for environmental data collection activities. It provides a systematic approach for defining the criteria that a data collection design should satisfy, including when, where, who and how to collect samples or measurements, determination of tolerable decision error rates and the number of samples or measurements that should be collected.

The seven-step process for this validation plan and data quality indicators to be adopted are discussed and summarised in Appendix E.

6.7 VALIDATION / CLEAN-UP CRITERIA

Remediation (acceptance) and validation criteria for these works have been adopted using the amended National Environmental Protection (Assessment of Site Contamination) Measure 1999 (NEPC, 1999 as amended 2013) – referred to as the amended ASC NEPM (NEPC, 2013). A summary of remediation (acceptance) criteria is summarised in the following sections.

6.7.1 Human Health and Environmental Assessment Criteria

The assessment / acceptance criteria applicable to this site are summarised in Table 5.

Table 5: Validation Criteria

Media	Exposure Setting	Guideline Source and Description
Soil	Human Health	• NEPC (2013) National Environment Protection (Assessment of Site Contamination) Measure (NEPM) Amendment (2013; Schedule B1, Health Investigation Levels and Health Screening Levels for Commercial / Industrial Land Use (HIL/HSL D) • NEPC (2013) National Environment Protection (Assessment of Site Contamination) Measure (NEPM) Amendment (2013; Schedule B1 Vapour intrusion / inhalation for a Commercial / Industrial Land Use (HSL-D) for vapour intrusion in Silt soils applicable to those not in contact with the basement, GILs for Marine Waters. • CRC Care Technical Report No 10, Health Screening Levels for Commercial / Industrial Use (Heath Screening Level (HSL) D) Direct Contact Pathway and HSL for commercial use or for intrusive maintenance workers. • Management Limits for TRH - Table 1B (7) in NEPC (2013) as interim Tier 1 guidance. • Asbestos - ASC NEPM (NEPM, 2013): ▪ 0.05 %w/w for bonded ACM (Commercial/Industrial); ▪ 0.001 %w/w for FA and AF where the FA and AF are able to be quantified by gravimetric procedures (this HSL does not apply to free (respirable) fibres); and ▪ All forms of asbestos: No visible asbestos for surface soil. • PFAS NEMP 3.0 (2025), HIL D Commercial Industrial for Direct Contact.
Groundwater	Human Health	• ADWG (2011, updated 2025); Australian Drinking Water Guidelines - recreational exposure • Volatile organics Tier 1 health risk assessment
	Environmental (Botany Bay)	• ANZG (2018); Australian and New Zealand Guidelines for Fresh and Marine Water Quality – Marine Default Guideline Value • PFAS NEMP 3.0 (2025), Interim marine guideline values for 99% species protection. Given the potential for bioaccumulation of PFAS, a precautionary approach is considered appropriate in this case, and the 99% species protection level would apply.
Soil	Waste Classification	• NSW EPA (2014); Waste Classification Guidelines, Part 1 – Classifying Waste

6.8 FINAL SITE WALKOVER

A site walkover shall be completed by the Environmental Consultant following removal of fill.

A final site walkover shall be completed by the Environmental Consultant following completion of remedial works / contamination mitigation measures, including all material importation and placement.

If potential contamination is observed on the ground surface, then further investigation / corrective actions may be required. The observations made during the final site walkover shall be included in the validation report.

6.9 VALIDATION REPORT

At the completion of the remedial works / contamination mitigation measures, a validation report will be prepared in general accordance with relevant regulations and guidelines, documenting the works as completed. This report will contain information including the following:

- Information demonstrating compliance with appropriate regulations and guidelines.
- Details regarding the results of the additional investigations.
- Details regarding the management of groundwater (if undertaken).
- Details of the source, classification and suitability of all imported materials.
- Any variations to the strategy undertaken during the implementation of the remedial works / contamination mitigation measures.
- Details of any environmental incidents and / or unexpected finds of contamination occurring during the course of the remedial works / contamination mitigation measures and the actions undertaken in response to these incidents.
- Details on waste classification, tracking and off-site disposal.
- Clear statement of the suitability of the site for the proposed use.

The validation report will also serve to document the remediation works for future reference.

7. APPROVALS, NOTIFICATIONS AND LICENCES

This section discusses some of the regulatory compliance requirements associated with the remediation. It is important to note that this section is not exhaustive, and the Contractor must ensure they comply with all relevant and applicable legislation and guidelines.

All works will be completed in accordance with the consent conditions and in accordance with any other requirements of the SSDA submitted to the DPHI under Part 4 of the EP&A Act 1979, Council and other regulatory agencies. If the remedial work is not approved by the DPHI / Council, a notification to obtain approval for remedial works / contamination mitigation measures at the site may be required to be submitted to the DPHI / Council 30 days before commencing the remediation works.

All approvals required to complete the works are to be obtained by the Contractor, prior to commencing the works. The contractor is expected to comply with all approval conditions. Additionally, the Contractor will be responsible for all notification to the relevant authority (where required) for any works including (currently SafeWork NSW). The Contractor will also be responsible for obtaining all licences required from, or by, regulatory agencies for remediation related works.

Soils or liquids disposed from the site must be classified in accordance with the NSW EPA (2014) Waste Classification Guidelines. All impacted soil and water requiring off-site disposal will be transported and disposed of to either a licensed landfill, liquid waste facility or to public sewer (after obtaining approvals for disposal). Waste classified as “hazardous waste” may be treated on site to reduce the waste classification prior to off-site disposal. Any wastes leaving the site will need to be transported by a NSW EPA licensed contractor. Prior to waste leaving the site, written pre-approval from a licensed disposal facility will be obtained and included in the site validation report. All material leaving the site must be tracked and documented.

Other legislative requirements that may be applicable include, but are not limited to:

- Contaminated Land Management Act 1997;
- Environmental Planning and Assessment Act 1979;
- Protection of the Environment Operations Act 1997;
- Waste Avoidance and Resource Recovery Act 2001; and
- WHS Act 2011 and the WHS Regulation.

8. WHS AND SITE ENVIRONMENTAL MANAGEMENT PLAN

A site-specific Construction Environmental Management Plan (CEMP) and Work Health and Safety (WHS) Plan, will be required to be prepared by the remedial contractor and include, but not be limited to, the following minimum controls applicable to the remediation:

- Site Preparation and controls
- Inductions
- Toolbox talks
- Asbestos awareness training
- Record keeping
- Site specific safety plan
- SafeWork NSW requirements
- Risk assessments
- Safe work method statements
- Site specific safety requirements associated with remedial works / contamination mitigation measures outlined within this interim RAP and managing contaminated materials
- Access
- Barricades and signage
- Dust control
- Odour control may be required, dependent on the results of the additional groundwater investigations
- Sediment control and water management
- Stockpile management
- Personal protective equipment (PPE) / respiratory protective equipment (RPE)
- Noise

Details regarding the roles and responsibilities allocated for the duration of the project must be included in Table 6 prior to the commencement of the remedial works / contamination mitigation measures.

Table 6: Roles and Responsibilities

Role	Organisation	Contact details
Developer	Akalan Projects Pty Ltd	TBC
Principal Contractor	TBC	TBC
Environmental Consultant	Coffey	02 9406 1000

TBC: To be confirmed.

The client indicated the hours of operations during construction will likely be 7am to 6pm Monday to Friday, 8am to 1pm Saturdays, and 1pm to 7pm Saturdays (excluding 'high' impact noise works)

9. DATA GAPS, UNCERTAINTIES AND CONTINGENCY PLANNING

9.1 DATA GAPS AND UNCERTAINTIES

The site has been subject to several phases of investigations and assessments to characterise historic site uses, and the contamination status of the site. Following the review of the available site history information and investigation data, the following potential data gaps and uncertainties have been identified:

- The presence of potentially unidentified contamination between investigation positions, or in areas where limited investigation data is currently available, or constraints have prevented access for appropriate assessment. For example, there remains a possibility for presence of contaminated fill beneath existing on-site structures and the Auditor recently identified PFAS as a potential contaminant of concern.
- Limitations associated with the investigation methods employed during previous investigations.

The above data gaps and uncertainties have been used to develop the Unexpected Finds Protocol presented in the following Sections.

The following sections should be revised following completion of the recommended additional investigations.

9.2 UNEXPECTED FINDS PROTOCOL

The following presents a discussion regarding the management of unexpected finds.

9.2.1 Management of Unexpected Finds

Should unexpected contamination or aesthetically unacceptable material be encountered on-site during site demolition and subsurface excavations, works will stop in the affected part of the site, and the find should be assessed by the Environmental Consultant. This area will be isolated to minimise potential for disturbance. Akalan Projects Pty Ltd and their sub-contractors on site will be notified of the unexpected find.

Liaison with the Site Auditor will be undertaken to agree a management approach to mitigate risks from unexpected finds as they arise.

Due to the potential variability in both the nature and extent of an unexpected find, it is not considered reasonable to define specific remedial strategies for contamination associated with the unexpected find.

If wastes are likely to be generated because of managing unexpected finds, waste classification would be undertaken in accordance with the methodology presented in Section 6.2 using the criteria presented in Table 5.

9.2.2 Training and Induction of Staff

Personnel involved in earthworks on site are to be inducted on the importance of removal of subsurface infrastructure in a manner that minimises the potential for residual solids and liquids to adversely impact the surrounding soils, identification of potential unexpected finds and asbestos awareness. The induction can be undertaken at the time of general site induction and refreshed periodically at toolbox meetings.

Induction to provide awareness of all types of possible unexpected finds is not practicable. In general, a precautionary approach will be employed and the unexpected finds procedure outlined in the following section will be implemented.

Additionally, it is noted that some forms of potential contamination may not be associated with any visual or olfactory indications in the field. The unexpected finds procedure will not provide protection against such impacts.

9.2.3 Unexpected Finds Procedure

Should an unexpected find or actual or suspected contamination be encountered during the remediation or site redevelopment works, the following procedure will apply:

- Stop work in the potentially hazardous area as soon as it is safe to do so and move to the upwind side of the area, or away from the area.
- Assess the potential immediate risk to human health posed by the unexpected find and assess if evacuation or emergency services need to be contacted.
- Delineate an exclusion zone around the affected area using fencing and / or appropriate barriers and signage. Additional control measures may be required for odours and / or volatile compounds.
- Contact the appointed licensed asbestos assessor / environmental consultant for advice and request a site visit to undertake an assessment of the unexpected find.
- The licensed asbestos assessor / environmental consultant will assess the unexpected find and provide advice regarding:
  - Preliminary assessment of the contamination and need for immediate management controls;
  - What further assessment and / or remediation works are required and how such works are to be undertaken in accordance with contaminated site regulations and guidelines;
  - Preparation of an addendum to the interim remedial action plan (if necessary) or provide clean up advice;
  - Remediation works required (where applicable);
  - Validation works required following remediation works (if applicable).
- Works are not to recommence in the affected area until appropriate advice has been obtained from the asbestos assessor / environmental consultant.
- If it is deemed safe to do so by the Principal Contractor or appointed Subcontractor, works may resume in the affected area.

9.2.4 Potential Unexpected Finds

Based on findings of previous investigations and site history, potential unexpected finds which could reasonably be expected within the site are summarised in Table 7.

Table 7: Summary of Non-specific Unexpected Finds

Potential Unexpected Find	Observed Characteristic	Key Contaminant of Concern
Buried dry waste materials or debris	May include a variety of waste materials including wood, plastic, metal fragments, building rubble (concrete, brick, asphalt, cement fibre sheeting / conduits containing asbestos etc.).	Heavy metals, TRH, PAH, forms of asbestos
Structures or conduits containing deleterious materials	Could be identified as follows: • Identification of a buried tank, distribution lines, vents etc.; • Deeper sand fill sometimes with stained or odorous characteristics; • Presence of small concrete footings surrounding by odorous or visually impacted soils and / or groundwater.	TPH, BTEX, PAH, lead, VOC
Hydrocarbon Compounds	Potentially related to historic use as a service station, mechanics, photographic processing facility etc. May be identified by a hydrocarbon odour which may vary in strength from weak (just detectable) to very strong (easily detectable at a distance from the source). The odour may or may not be accompanied by specific areas of dark staining (black grey) or larger scale discolouration of strata from a previously identified 'natural colour' (e.g. brown-dark brown fill, or brown red mottled residual clay) May also be visible as a distinct coloured sheen on water within an excavation.	TPH, BTEX, PAH, lead, VOC

10. LONG TERM MANAGEMENT REQUIREMENTS

The requirement of long term management would depend on the outcomes of the additional investigations and remedial actions, though given that the proposed remedial strategy includes removal of unacceptable contaminated fill, long term management is unlikely to be required.

11. CONCLUSION

The site has been subject to several phases of investigation and assessment to characterise historical uses of the site and surrounding land, and the contamination status of the site.

Based on the available data for the site, the areas requiring remediation / validation / management include:

- Potentially contaminated soil or rock to be investigated as part of the additional investigations to be completed within the southern portion of the site.
- Potentially contaminated groundwater moving across the site to be investigated as part of the additional investigations to be completed across the site.
- The additional investigations are required for the following purposes:
  - Additional data to assist with waste classification of soil for disposal off-site to a licensed facility;
  - Assess soil and groundwater conditions in relation to PFAS; and
  - Management of groundwater during remediation and construction (if required).

In addition, the following aspects require further consideration / management:

- Potential for sewer lines to retain residual contaminants from any wastes disposed to sewer.
- An assessment of human health risks to further assess the potential risk to human health during the construction and post construction phases from formaldehyde, and potentially chloroform and carbon disulfide, is required.
- Additional rounds of groundwater sampling from the existing groundwater monitoring wells, additional wells (required as part of a proposed SAQP for additional investigations), and analysis, to inform the assessment of human health risks.
- Potential for unexpected finds of contamination to be discovered during redevelopment of the site.

This interim RAP outlines a strategy to mitigate health risks associated with identified contamination and thereby mitigate potentially unacceptable risks during and following redevelopment. This interim RAP also presents a strategy to manage unexpected finds of contamination that may be encountered during construction.

Subject to completion, and results of, the additional investigations proposed, Coffey considers the site can be made suitable for the proposed development if the remediation is carried out in accordance with this interim RAP using the preferred remedial option.

If the additional investigations identify additional remediation / management requirements to those presented in this interim RAP, the interim RAP should be updated to include appropriate remediation/management measures for the identified contamination and associated risks.

This interim RAP requires completion of all pending groundwater assessment, health risk evaluation, and any necessary RAP modifications before works can proceed.

No construction or excavation is to occur until the Final revised / updated RAP has been reviewed and endorsed as satisfactory by the Site Auditor and, where required, the NSW EPA or consent authority.

It is important that this report is read in conjunction with the Important Notes included in Appendix A.

12. REFERENCES

ANZG (2018); Guidelines for Fresh and Marine Water Quality

ADWG (2018 updated 2025); Australian Drinking Water Guidelines

Coffey (2025a) St George Private Hospital, Groundwater Impact Assessment (report reference: 754-SYDGE381816AB, dated 20 June 2025)

Coffey (2025b) St George Private Hospital, Geotechnical Investigation Report (report reference: 754-SYDGE381816AA, dated 27 June 2025)

Coffey (2025c), Preliminary Site Investigation – Akalan Projects Pty Ltd, 119 Princes Highway, Kogarah (report reference: 754-SYDGE381816-AC-Rev2, dated 5 September 2025

Coffey (2025d), St George Private Hospital Expansion 119-129 Princes Highway, 2 Hogben St & 1 South St, Kogarah, NSW, Detailed Site Investigation, Ref: SYDEG381816.R02, Revision 3 dated 10 November 2025.

CRC Care (2011) Technical Report No. 10, Health screening levels for petroleum hydrocarbons in soil and groundwater (CRC Care, 2011)

ESP (2025), Hazardous Materials Survey for Akalan Projects Pty Ltd, St George Private Hospital, 1 South Street, Kogarah NSW 2217, (Job Number: J50644, dated 15 July 2025.

HEPA (2025) PFAS National environmental management plan (NEMP) 2.0. National Chemicals Working Group of the Heads of EPAs Australia and New Zealand (HEPA), January 2025.

NEPC (2013); National Environmental Protection (Assessment of Site Contamination) Measure 1999 (the 'ASC NEPM') (NEPC, 2013)

NSW EPA (2014) 'Waste Classification Guidelines'.

NSW EPA (2020); Contaminated Land Guidelines – Consultants Reporting on Contaminated Land

NSW EPA (2022); Contaminated Land Guidelines - Sampling Design Part 1 – Application

Contaminated Land Management (CLM) Act, 1997 (CLM Act 1997).

Protection of the Environment Operations (POEO) Act 1997 (POEO Act 1997).

US EPA (2006) Guidance on Systematic Planning Using the Data Quality Objectives Process (EPA QA/G-4)

APPENDIX A: IMPORTANT INFORMATION ABOUT YOUR TETRA TECH COFFEY ENVIRONMENTAL REPORT

IMPORTANT INFORMATION ABOUT YOUR TETRA TECH COFFEY ENVIRONMENTAL REPORT

Introduction

This report has been prepared by Tetra Tech Coffey for you, as Tetra Tech Coffey's client, in accordance with our agreed purpose, scope, schedule and budget.

The report has been prepared using accepted procedures and practices of the consulting profession at the time it was prepared, and the opinions, recommendations and conclusions set out in the report are made in accordance with generally accepted principles and practices of that profession.

The report is based on information gained from environmental conditions (including assessment of some or all of soil, groundwater, vapour and surface water) and supplemented by reported data of the local area and professional experience. Assessment has been scoped with consideration to industry standards, regulations, guidelines and your specific requirements, including budget and timing. The characterisation of site conditions is an interpretation of information collected during assessment, in accordance with industry practice.

This interpretation is not a complete description of all material on or in the vicinity of the site, due to the inherent variation in spatial and temporal patterns of contaminant presence and impact in the natural environment. Tetra Tech Coffey may have also relied on data and other information provided by you and other qualified individuals in preparing this report. Tetra Tech Coffey has not verified the accuracy or completeness of such data or information except as otherwise stated in the report. For these reasons the report must be regarded as interpretative, in accordance with industry standards and practice, rather than being a definitive record.

Your report has been written for a specific purpose

Your report has been developed for a specific purpose as agreed by us and applies only to the site or area investigated. Unless otherwise stated in the report, this report cannot be applied to an adjacent site or area, nor can it be used when the nature of the specific purpose changes from that which we agreed.

For each purpose, a tailored approach to the assessment of potential soil and groundwater contamination is required. In most cases, a key objective is to identify, and if possible quantify, risks that both recognised and potential contamination pose in the context of the agreed purpose. Such risks may be financial (for example, clean up costs or constraints on site use) and/or physical (for example, potential health risks to users of the site or the general public).

Limitations of the Report

The work was conducted, and the report has been prepared, in response to an agreed purpose and scope, within time and budgetary constraints, and in reliance on certain data and information made available to Tetra Tech Coffey.

The analyses, evaluations, opinions and conclusions presented in this report are based on that purpose and scope, requirements, data or information, and they could change if such requirements or data are inaccurate or incomplete.

This report is valid as of the date of preparation. The condition of the site (including subsurface conditions) and extent or nature of contamination or other environmental hazards can change over time, as a result of either natural processes or human influence. Tetra Tech Coffey should be kept appraised of any such events and should be consulted for further investigations if any changes are noted, particularly during construction activities where excavations often reveal subsurface conditions.

In addition, advancements in professional practice regarding contaminated land and changes in applicable statues and/or guidelines may affect the validity of this report. Consequently, the currency of conclusions and recommendations in this report should be verified if you propose to use this report more than 6 months after its date of issue.

The report does not include the evaluation or assessment of potential geotechnical engineering constraints of the site.

Interpretation of factual data

Environmental site assessments identify actual conditions only at those points where samples are taken and on the date collected. Data derived from indirect field measurements, and sometimes other reports on the site, are interpreted by geologists, engineers or scientists to provide an opinion about overall site conditions, their likely impact with respect to the report purpose and recommended actions.

Variations in soil and groundwater conditions may occur between test or sample locations and actual conditions may differ from those inferred to exist. No environmental assessment program, no matter how comprehensive, can reveal all subsurface details and anomalies. Similarly, no professional, no matter how well qualified, can reveal what is hidden by earth, rock or changed through time.

The actual interface between different materials may be far more gradual or abrupt than assumed based on the facts obtained. Nothing can be done to change the actual site conditions which exist, but steps can be taken to reduce the impact of unexpected conditions.

For this reason, parties involved with land acquisition, management and/or redevelopment should retain the services of a suitably qualified and experienced environmental consultant through the development and use of the site to identify variances, conduct additional tests if required, and recommend solutions to unexpected conditions or other unrecognised features encountered on site. Tetra Tech Coffey would be pleased to assist with any investigation or advice in such circumstances.

Recommendations in this report

This report assumes, in accordance with industry practice, that the site conditions recognised through discrete sampling are representative of actual conditions throughout the investigation area. Recommendations are based on the resulting interpretation.

Should further data be obtained that differs from the data on which the report recommendations are based (such as through excavation or other additional assessment), then the recommendations would need to be reviewed and may need to be revised.

Report for benefit of client

Unless otherwise agreed between us, the report has been prepared for your benefit and no other party. Other parties should not rely upon the report or the accuracy or completeness of any recommendation and should make their own enquiries and obtain independent advice in relation to such matters.

Tetra Tech Coffey assumes no responsibility and will not be liable to any other person or organisation for, or in relation to, any matter dealt with or conclusions expressed in the report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in the report.

To avoid misuse of the information presented in your report, we recommend that Tetra Tech Coffey be consulted before the report is provided to another party who may not be familiar with the background and the purpose of the report. In particular, an environmental disclosure report for a property vendor may not be suitable for satisfying the needs of that property's purchaser. This report should not be applied for any purpose other than that stated in the report.

Interpretation by other professionals

Costly problems can occur when other professionals develop their plans based on misinterpretations of a report. To help avoid misinterpretations, a suitably qualified and experienced environmental consultant should be retained to explain the implications of the report to other professionals referring to the report and then review plans and specifications produced to see how other professionals have incorporated the report findings.

Given Tetra Tech Coffey prepared the report and has familiarity with the site, Tetra Tech Coffey is well placed to provide such assistance. If another party is engaged to interpret the recommendations of the report, there is a risk that the contents of the report may be misinterpreted and Tetra Tech Coffey disowns any responsibility for such misinterpretation.

Data should not be separated from the report

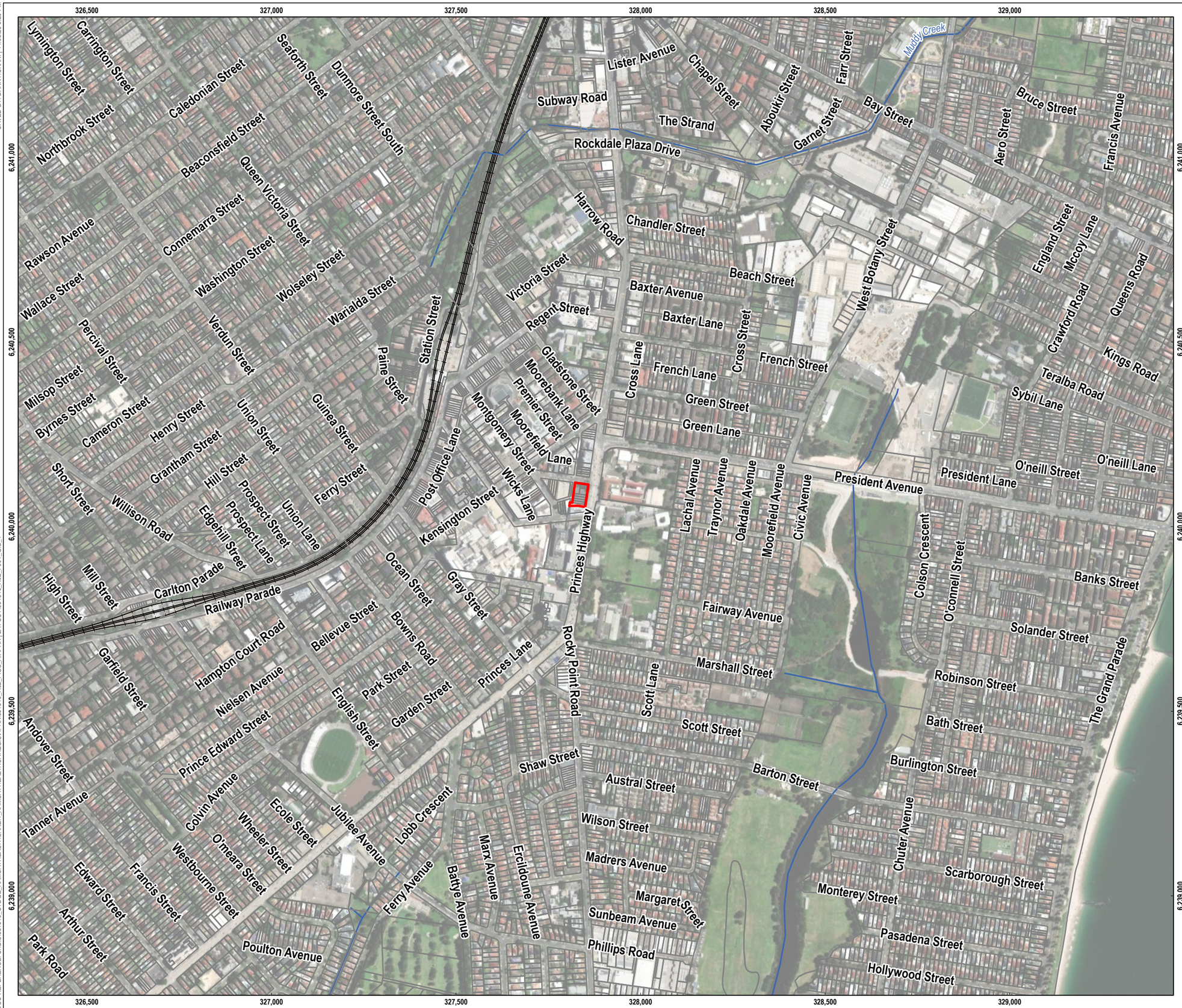
The report as a whole presents the findings of the site assessment and the report should not be copied in part or altered in any way. Logs, figures, laboratory data, drawings, etc. are customarily included in our reports and are developed by scientists or engineers based on their interpretation of field logs, field testing and laboratory evaluation of samples. This information should not under any circumstances be redrawn for inclusion in other documents or separated from the report in any way.

This report should be reproduced in full. No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by third parties.

Responsibility

Environmental reporting relies on interpretation of factual information using professional judgement and opinion and has a level of uncertainty attached to it, which is much less exact than other design disciplines. This has often resulted in claims being lodged against consultants, which are unfounded. As noted earlier, the recommendations and findings set out in this report should only be regarded as interpretive and should not be taken as accurate and complete information about all environmental media at all depths and locations across the site.

APPENDIX B: FIGURES



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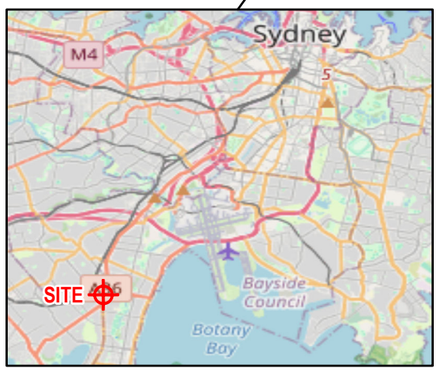
DOC REFERENCE: S:\GIS\381816_SYDGE_RAMSAYHEALTHCARE\1_RAMSAYHEALTHCAREGIS\APRX\381816_R02_FIGS_A.APRX | LAYOUT:381816_R02_F001_GIS_1

Ramsay Health Care

LEGEND

- Railway
- Watercourse
- Site boundary
- Lot



SOURCE
Site boundary from Tetra Tech Coffey.
Road, railway, lot and watercourse from NSW Government.
Aerial imagery from ESRI (various capture dates).

N

0 200 400 m

SCALE **1:10,000**
PAGE SIZE: **A3**
PROJECTION: **GDA2020 MGA Zone 56**

RAMSAY HEALTH CARE PTY LTD
C/O AKALAN PROJECTS LTD
ST GEORGE HOSPITAL (RHC) –
DETAILED SITE INVESTIGATION

FIGURE 1 DRAFT

Site location

TETRA TECH COFFEY

DATE: **14.08.25** PROJECT: **754-SYDGE381816** FILE: **381816_R02_F001_GIS**

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Ramsay Health Care

LEGEND

- Site boundary
- Lot

SOURCE
Site boundary from Tetra Tech Coffey.
Road and lot from NSW Government.
Aerial imagery from Nearmap (05/06/2025).

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0 20 40 m

SCALE **1:1,000**
PAGE SIZE: **A3**
PROJECTION: **GDA2020 MGA Zone 56**

RAMSAY HEALTH CARE PTY LTD
C/O AKALAN PROJECTS LTD
ST GEORGE HOSPITAL (RHC) – DETAILED SITE INVESTIGATION

FIGURE 2 DRAFT

Site layout

TETRA TECH COFFEY

DATE: **14.08.25** PROJECT: **754-SYDGE381816** FILE: **381816_R02_F002_GIS**

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APPENDIX C: PROPOSED DEVELOPMENT PLANS

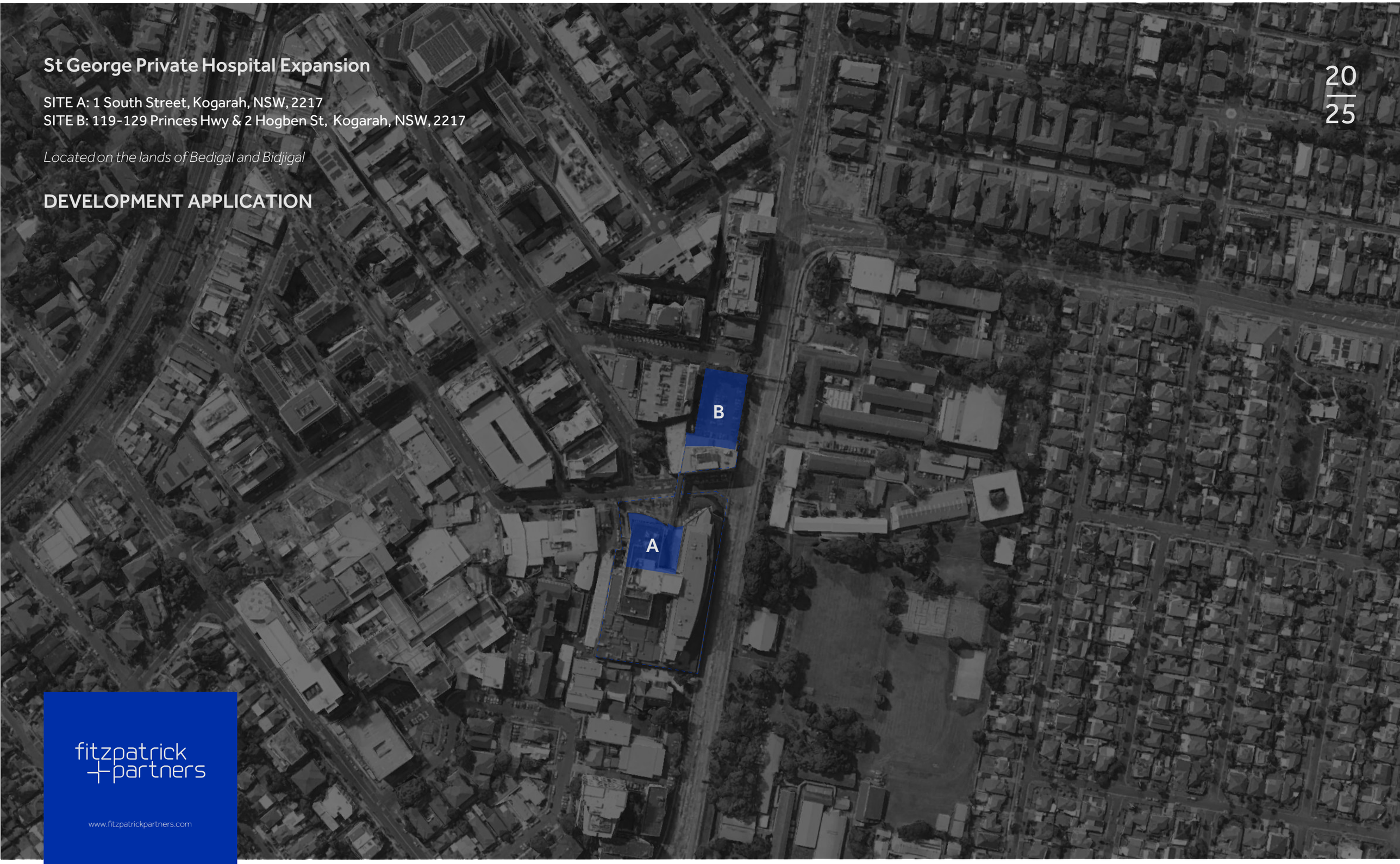
St George Private Hospital Expansion

SITE A: 1 South Street, Kogarah, NSW, 2217
SITE B: 119-129 Princes Hwy & 2 Hogben St, Kogarah, NSW, 2217

Located on the lands of Bedigal and Bidjigal

DEVELOPMENT APPLICATION

20
25



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Fitzpatrick + Partners acknowledge that we work on the Traditional Lands of the Gadigal people of the Eora Nation.

We pay our respects to Elders past, present and emerging.

Always was, always will be, Aboriginal land.

Contents

| DEVELOPMENT APPLICATION

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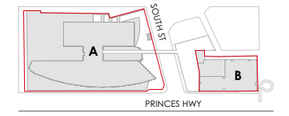

PROJECT
St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

DRAWN BY
TEAM

APPROVED BY
JF

PRINT DATE
10/20/2025

PROJECT NORTH

DRAWING
| DEVELOPMENT APPLICATION
LOCATION PLAN (SITES A & B)

PROJECT NUMBER
22505

DRAWING NUMBER
DA - 0002

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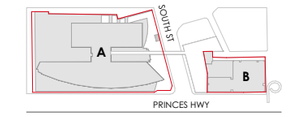

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- DEMOLITION SCOPE
- DASHED OUTLINE INDICATES EXTENT OF NEW DDA-COMPLIANT WORKS
- EXISTING WALLS AND STRUCTURE
- NEW WALLS AND STRUCTURE

PROJECT

St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

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1:1000 @A3

20mm ON ORIGINAL

DRAWN BY
TEAM

APPROVED BY
JF

PRINT DATE
10/20/2025

PROJECT NORTH

DRAWING
| DEVELOPMENT APPLICATION
SITE PLAN (SITES A & B)

PROJECT NUMBER
22505

DRAWING NUMBER
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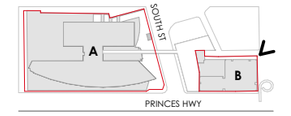

PROJECT

St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

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JF

PRINT DATE
10/20/2025

DRAWING
3D MONTAGE: SITE B - BANK LN
3D MONTAGE - MAIN ENTRY FROM HOGBEN STREET

PROJECT NUMBER
22505

DRAWING NUMBER
DA - 1101

ISSUE
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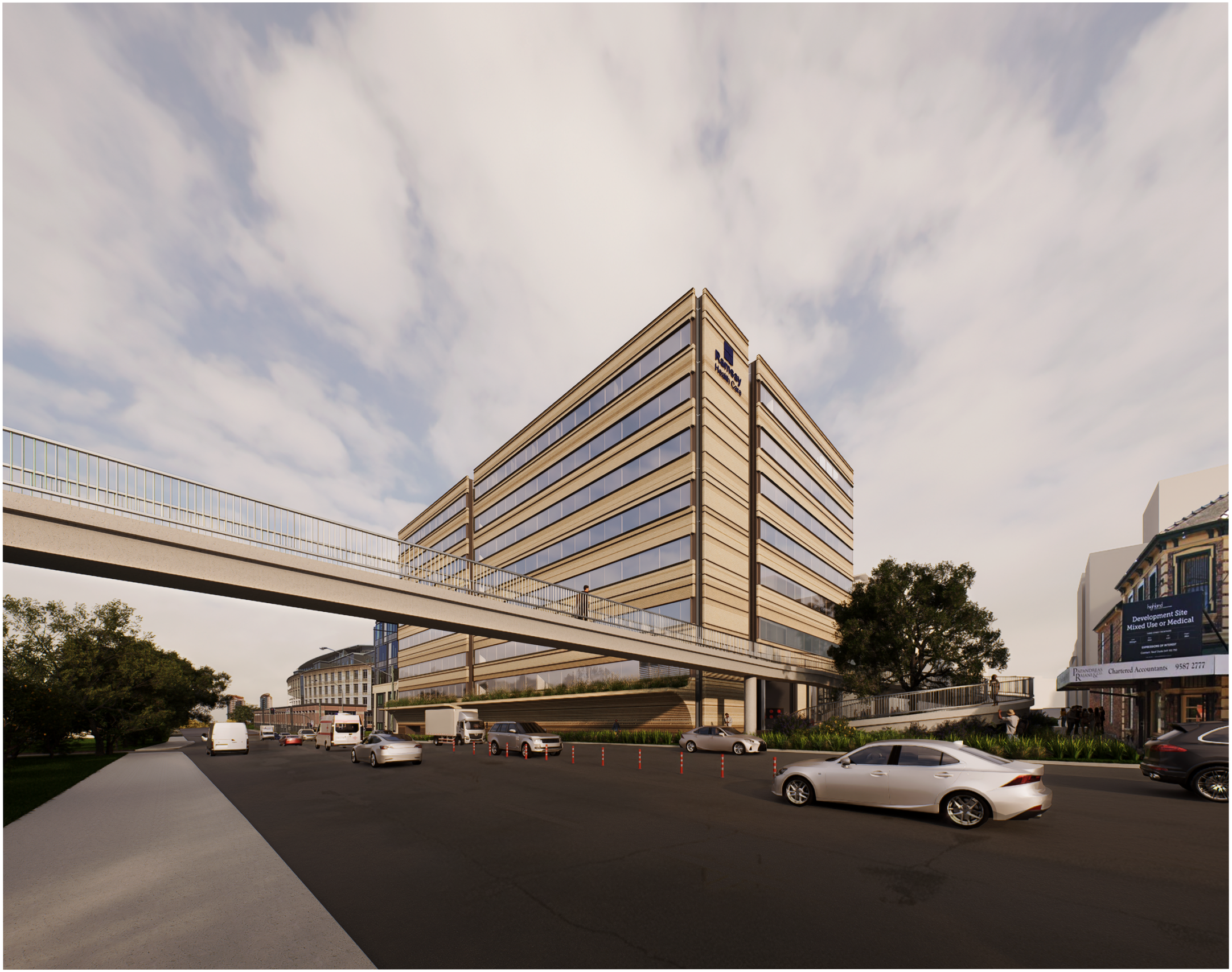

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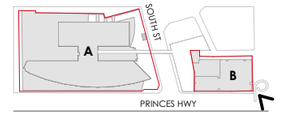

PROJECT

St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

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TEAM

APPROVED BY
JF

PRINT DATE
10/20/2025

DRAWING
3D MONTAGE: SITE B - BANK LN
3D MONTAGE - VIEW SOUTHWEST FROM PRINCES HIGHWAY

PROJECT NUMBER
22505

DRAWING NUMBER
DA - 1102

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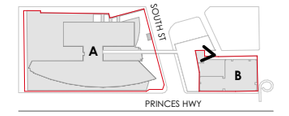


PROJECT

St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

DRAWN BY
TEAM

APPROVED BY
JF

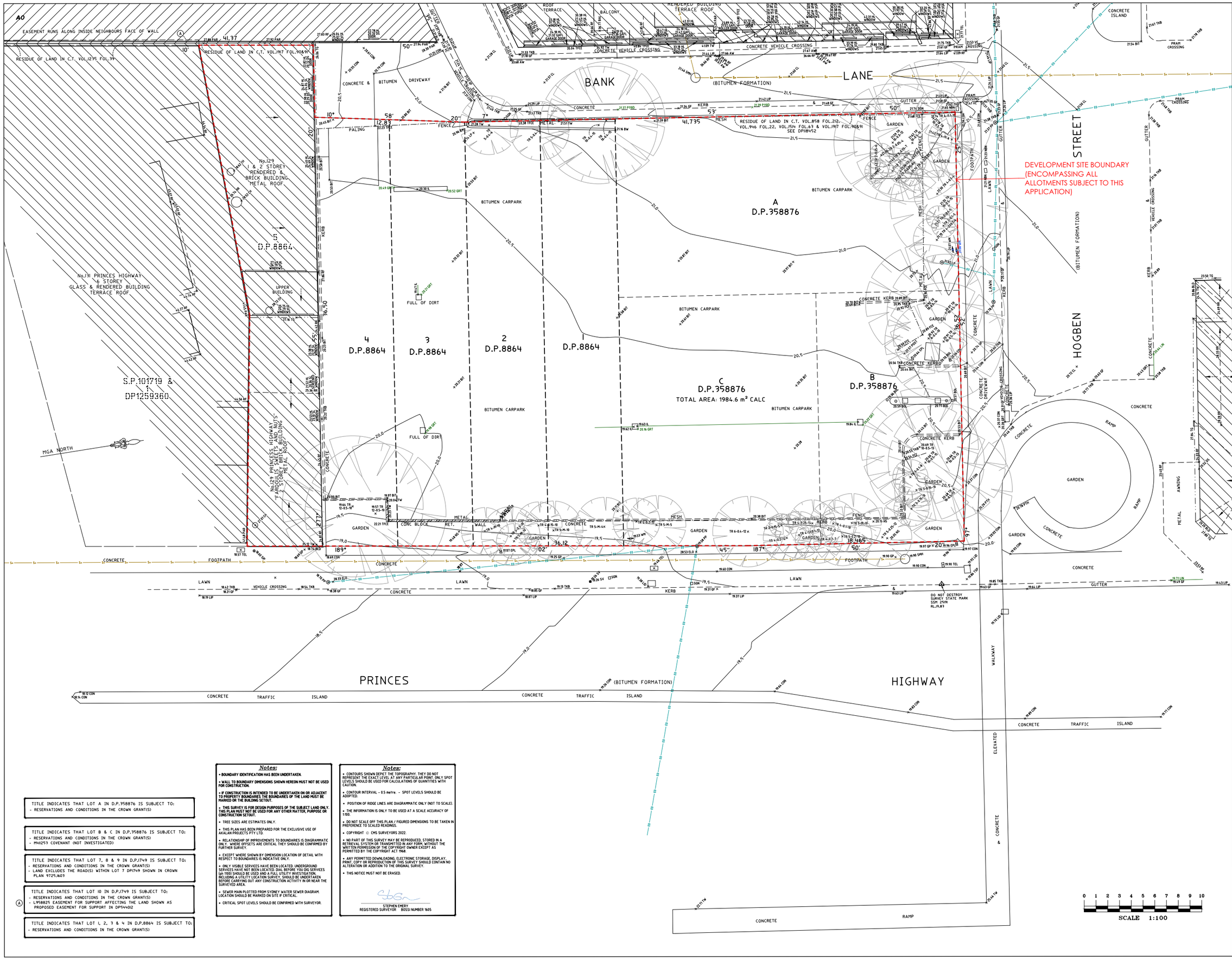
PRINT DATE
10/20/2025

DRAWING
3D MONTAGE: SITE B - BANK LN
3D MONTAGE- VIEW NORTH FROM BANK LANE

PROJECT NUMBER
22505

DRAWING NUMBER
DA - 1103

ISSUE
G



TITLE INDICATES THAT LOT A IN D.P.358876 IS SUBJECT TO:
- RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)

TITLE INDICATES THAT LOT B & C IN D.P.358876 IS SUBJECT TO:
- RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- MN11253 COVENANT (NOT INVESTIGATED)

TITLE INDICATES THAT LOT 7, 8 & 9 IN D.P.1749 IS SUBJECT TO:
- RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- LAND EXCLUDES THE ROAD(S) WITHIN LOT 7 DP1749 SHOWN IN CROWN PLAN 9725.1603

TITLE INDICATES THAT LOT 10 IN D.P.1749 IS SUBJECT TO:
- RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)
- L958825 EASEMENT FOR SUPPORT AFFECTING THE LAND SHOWN AS PROPOSED EASEMENT FOR SUPPORT IN DP534012

(A) TITLE INDICATES THAT LOT 1, 2, 3 & 4 IN D.P.8864 IS SUBJECT TO:
- RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S)

Notes:

- **BOUNDARY IDENTIFICATION HAS BEEN UNDERTAKEN.**
- **WALL TO BOUNDARY DIMENSIONS SHOWN HEREON MUST NOT BE USED FOR CONSTRUCTION.**
- **IF CONSTRUCTION IS INTENDED TO BE UNDERTAKEN ON OR ADJACENT TO PROPERTY BOUNDARIES THE BOUNDARIES OF THE LAND MUST BE MARKED OR THE BUILDING SETOUT.**
- **THIS SURVEY IS FOR DESIGN PURPOSES OF THE SUBJECT LAND ONLY. THIS PLAN MUST NOT BE USED FOR ANY OTHER MATTER, PURPOSE OR CONSTRUCTION SETOUT.**
- TREE SIZES ARE ESTIMATES ONLY.
- THIS PLAN HAS BEEN PREPARED FOR THE EXCLUSIVE USE OF AKALAN PROJECTS PTY LTD.
- RELATIONSHIP OF IMPROVEMENTS TO BOUNDARIES IS DIAGRAMMATIC ONLY. WHERE OFFSETS ARE CRITICAL THEY SHOULD BE CONFIRMED BY FURTHER SURVEY.
- EXCEPT WHERE SHOWN BY DIMENSION LOCATION OF DETAIL WITH RESPECT TO BOUNDARIES IS INDICATIVE ONLY.
- ONLY VISIBLE SERVICES HAVE BEEN LOCATED. UNDERGROUND SERVICES HAVE NOT BEEN LOCATED. DIAL BEFORE YOU DIG SERVICES (ph 1100) SHOULD BE USED AND A FULL UTILITY INVESTIGATION, INCLUDING A UTILITY LOCATION SURVEY, SHOULD BE UNDERTAKEN BEFORE CARRYING OUT ANY CONSTRUCTION ACTIVITY IN OR NEAR THE SURVEYED AREA.
- SEWER MAIN PLOTTED FROM SYDNEY WATER SEWER DIAGRAM. LOCATION SHOULD BE MARKED ON SITE IF CRITICAL.
- CRITICAL SPOT LEVELS SHOULD BE CONFIRMED WITH SURVEYOR.

Notes:

- CONTOURS SHOWN DEPICT THE TOPOGRAPHY. THEY DO NOT REPRESENT THE EXACT LEVEL AT ANY PARTICULAR POINT. ONLY SPOT LEVELS SHOULD BE USED FOR CALCULATIONS OF QUANTITIES WITH CAUTION.
- CONTOUR INTERVAL - 0.5 metre. - SPOT LEVELS SHOULD BE ADOPTED.
- POSITION OF RIDGE LINES ARE DIAGRAMMATIC ONLY (NOT TO SCALE).
- THE INFORMATION IS ONLY TO BE USED AT A SCALE ACCURACY OF 1:100.
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STEPHEN EMERY
REGISTERED SURVEYOR BOSSI NUMBER 1605

0 1 2 3 4 5 6 7 8 9 10
SCALE 1:100

NOTES

DEMOLITION SCOPE (NOTE ADDED BY FITZPATRICK + PARTNERS):
ALL EXISTING SURFACE FEATURES LOCATED WITHIN THE DEVELOPMENT SITE BOUNDARY (ENCOMPASSING ALL ALLOTMENTS SHOWN ON THIS SURVEY) ARE TO BE REMOVED AS PART OF THE PROPOSED WORKS.
THIS INCLUDES (BUT IS NOT LIMITED TO) EXISTING TREES, VEGETATION, PAVING, FENCING, AND MINOR SITE STRUCTURES. SUBSURFACE SERVICES AND STRUCTURES ARE TO BE REMOVED UNLESS OTHERWISE NOTED IN ENGINEERING OR SERVICES DOCUMENTATION.

LEGEND:

AW = AWNING
BAL = BALCONY
BIN = RUBISH BIN
BIT = BITUMEN
BW = BOTTOM WALL
BLD = EXTERNAL BUILDING
CL = CENTRELINE
CH = CHIMNEY
COL = COLUMN
COM = COMMUNICATIONS PIT
CON = CONCRETE
DS = DOOR SILL LEVEL
EK = ELECTRICITY KIOSK
ELO = ELECTRICITY LINE OVERHEAD
EPL = ELECTRICITY PILLAR
FCE = FENCE
FL = FLOOR LEVEL
GFL = GARAGE FLOOR LEVEL
GPM = GAS PIPELINE MARKER/INDICATOR
GP = GAS PLAQUE
GRT = GRATE
GF = GUTTER LEVEL
HL = HOOD LEVEL
IL = INVERT LEVEL
LP = LIGHT POLE
LID = MISCELLANEOUS PIT LID
LIN = LINTEL
LIP = KERB LIP
NBN = NBN PT
NS = NATURAL SURFACE
PIODD = INVERT LEVEL PIPE AND DIA
.JOD
PAR = PARAPET
PTH = PATH
PAV = PAVING
PP = POWER POLE
RF = TOP OF ROOF
RR = ROOF RIDGE
SCN = SCREEN
SEAT = SEAT
SIP = SEWER INSPECTION PIT
SMH = SEWER MAN HOLE
SGN = SIGN
SL = SILL LEVEL
STR = STAIRS
SV = STOP VALVE
TEL = TELSTRA
TER = TERRACE
TFCE = TOP OF FENCE
TG = TOP OF GUTTER
TKB = TOP OF KERB
TW = TOP WALL
TL = TRAFFIC LIGHT
TSP = TRAFFIC SIGNAL PIT
TR = TREE
TRL = TREE LINE
UBM = UNDERSIDE BEAM
VA = VALVE
VC = VEHICLE CROSSING
VNT = VENT
WL = WATER LID
WM = WATER METER
E = ELECTRICITY OVERHEAD
S = SEWER UNDERGROUND
TREE SPREAD-DIAMETER-HEIGHT

HORIZONTAL DATUM:
CO-ORDINATE SYSTEM: MGA GDA94
MARKS USED: SSM 25191 AND SSM 25193

VERTICAL DATUM:
DATUM: AUSTRALIAN HEIGHT DATUM (AHD)
B.M. ADOPTED: SSM 25191
R.L. 19.826 (CLASS LB)
SOURCE: S.C.I.M.S. (04/01/22)

i	FIRST ISSUE	17/01/22

CLIENT:
AKALAN PROJECTS PTY LIMITED
84 ALEXANDER STREET,
CROWS NEST NSW 2065

SURVEY PLAN SHOWING DETAIL & LEVELS OVER LOTS PT7, 8, 9 & 10 IN D.P.1749 & LOTS 1, 2, 3 & 4 IN D.P.8864 & LOTS A, B & C IN D.P.358876

ST GEORGE PRIVATE HOSPITAL, SOUTH STREET, KOGORAH

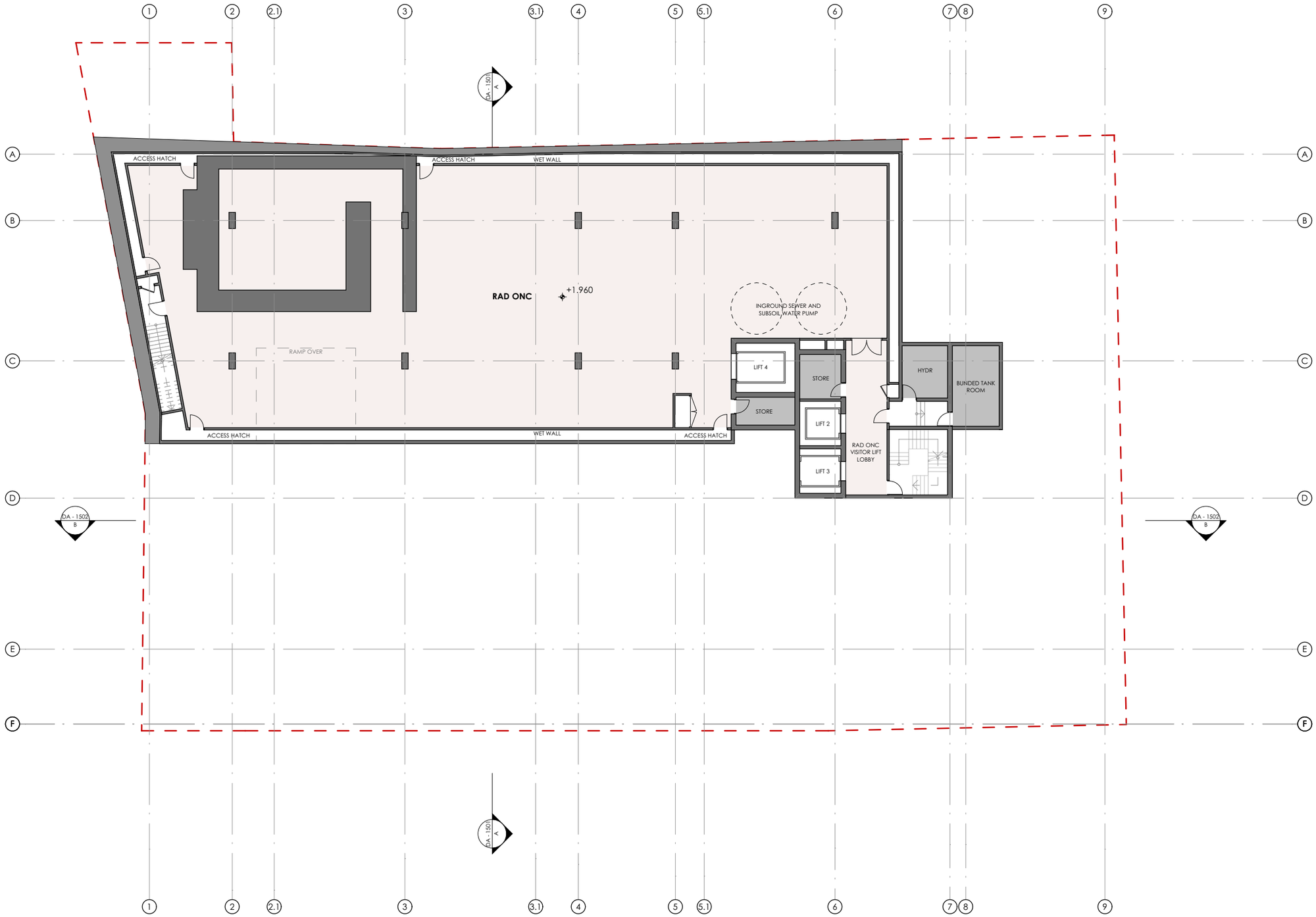
C.M.S. Surveyors Pty Limited
ACN: 096 240 201
PO Box 463 Dee Why NSW 2099
2/99A South Creek Road, Dee Why NSW 2099
Telephone: (02) 9971 4802
Facsimile: (02) 9971 4822
E-mail: info@cmssurveyors.com.au

LGA: GEORGES RIVER | SHEET 2 OF 4

SURVEYED	DRAWN	CHECKED	APPROVED
MB/BS	GP/CJR/BS	MB/BS	DR

SURVEY INSTRUCTION	SCALE	DATE OF SURVEY
170060	100 @ A0	12/01/22

DRAWING NAME: 170060detail | ISSUE: 1
CAD FILE: 170060detail 1.dwg



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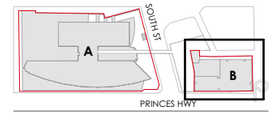

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- EXISTING WALLS AND STRUCTURE
- NEW WALLS AND STRUCTURE

PROJECT

St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

SCALE 1:250 @A3

DRAWN BY TEAM

20mm ON ORIGINAL

APPROVED BY JF

PRINT DATE 10/20/2025

PROJECT NORTH

DRAWING

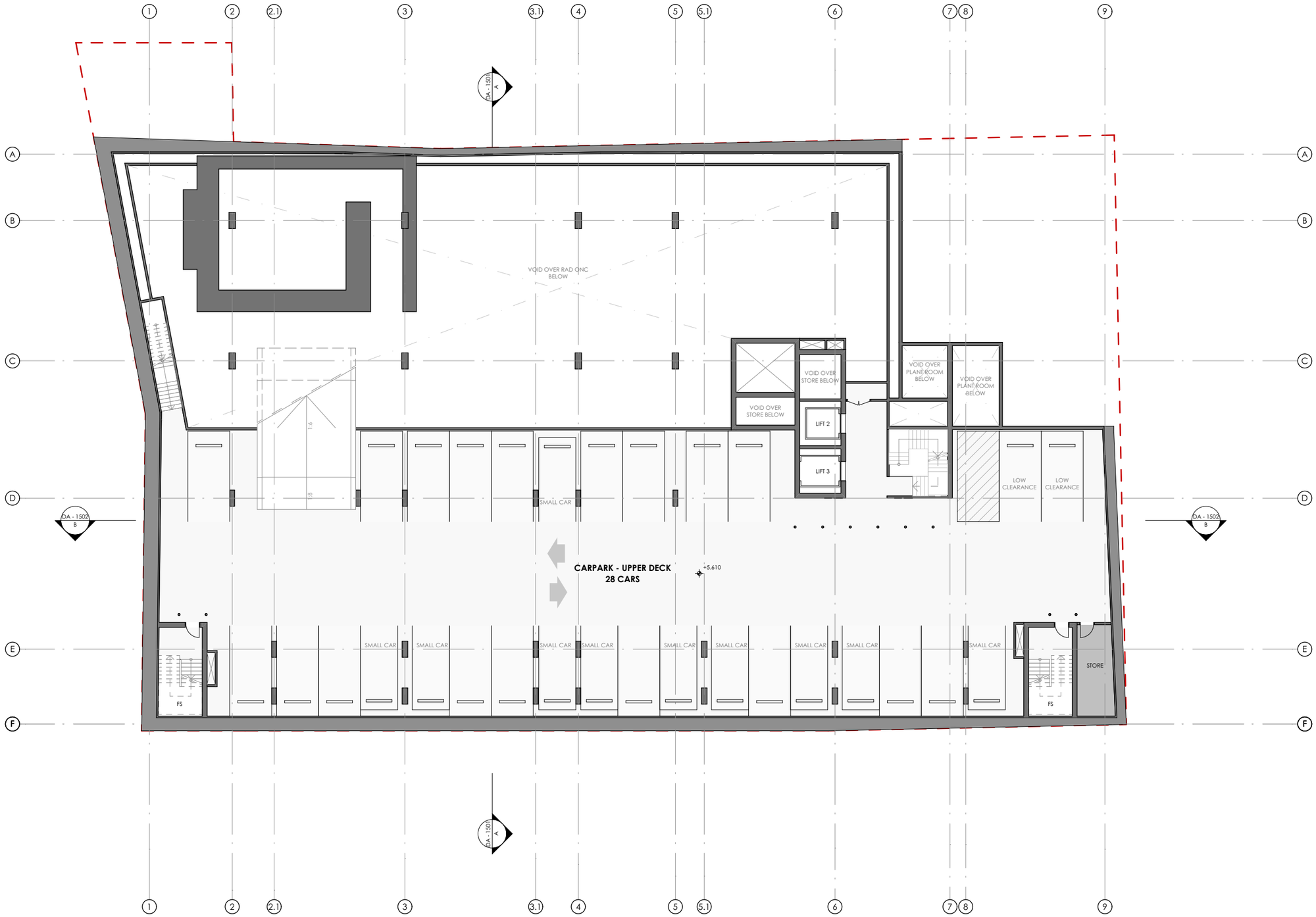
GENERAL ARRANGEMENT PLAN: SITE B - BANK LN

BASEMENT LEVEL 5 FLOOR PLAN - LOWER DECK

PROJECT NUMBER **22505**

DRAWING NUMBER **DA - 1301**

ISSUE **G**



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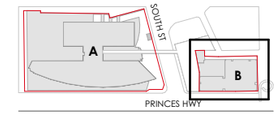

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- DEMOLITION SCOPE
- DASHED OUTLINE INDICATES EXTENT OF NEW DDA-COMPLIANT WORKS
- EXISTING WALLS AND STRUCTURE
- NEW WALLS AND STRUCTURE

PROJECT

St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

SCALE 1:250 @A3

DRAWN BY TEAM

20mm ON ORIGINAL

APPROVED BY JF

PRINT DATE 10/20/2025

PROJECT NORTH

DRAWING

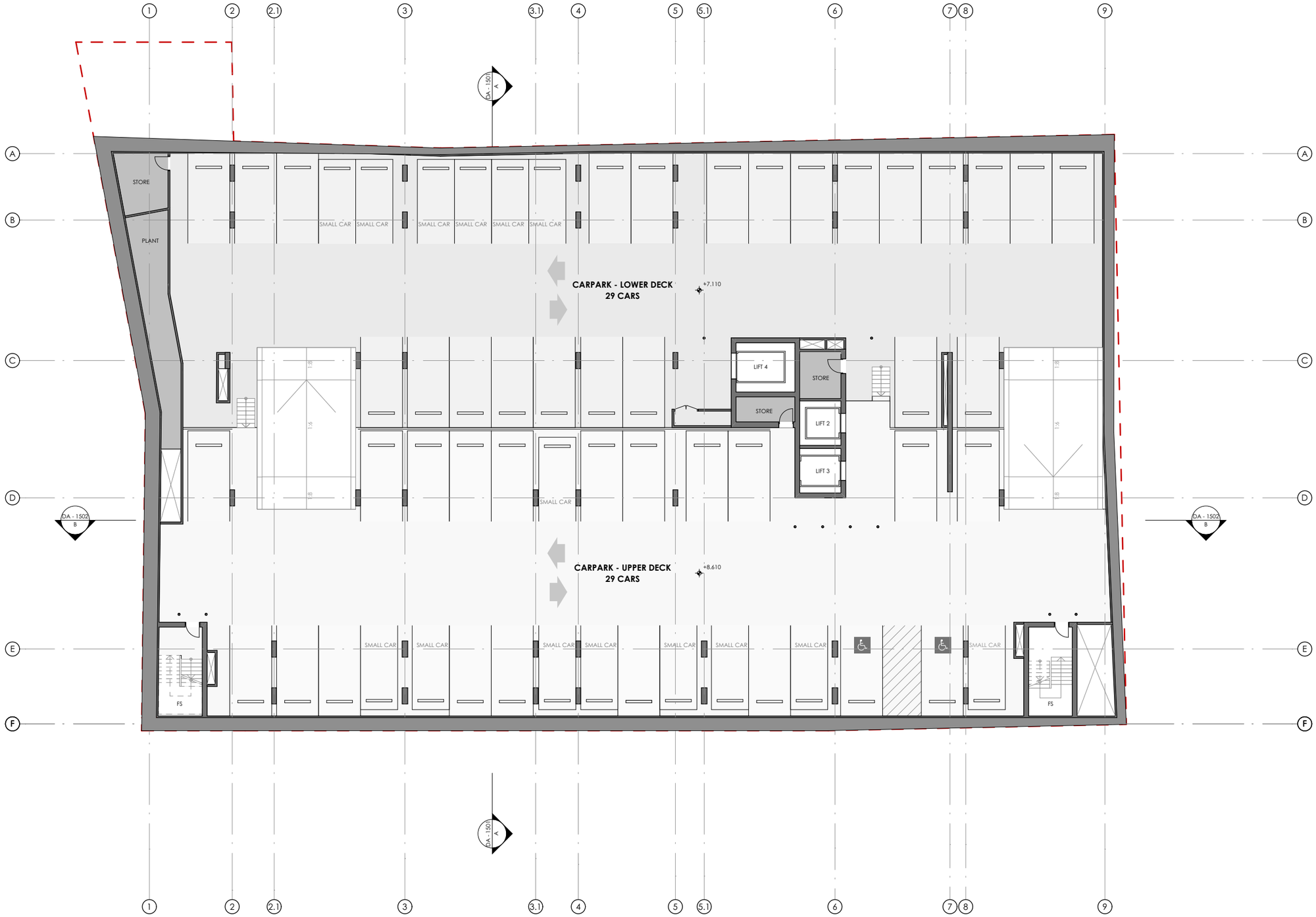
GENERAL ARRANGEMENT PLAN: SITE B - BANK LN

BASEMENT LEVEL 5 FLOOR PLAN - UPPER DECK

PROJECT NUMBER **22505**

DRAWING NUMBER **DA - 1302**

ISSUE **G**



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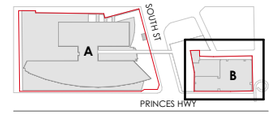

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PROJECT

St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

SCALE 1:250 @A3

20mm ON ORIGINAL

DRAWN BY TEAM

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PRINT DATE 10/20/2025

PROJECT NORTH

DRAWING

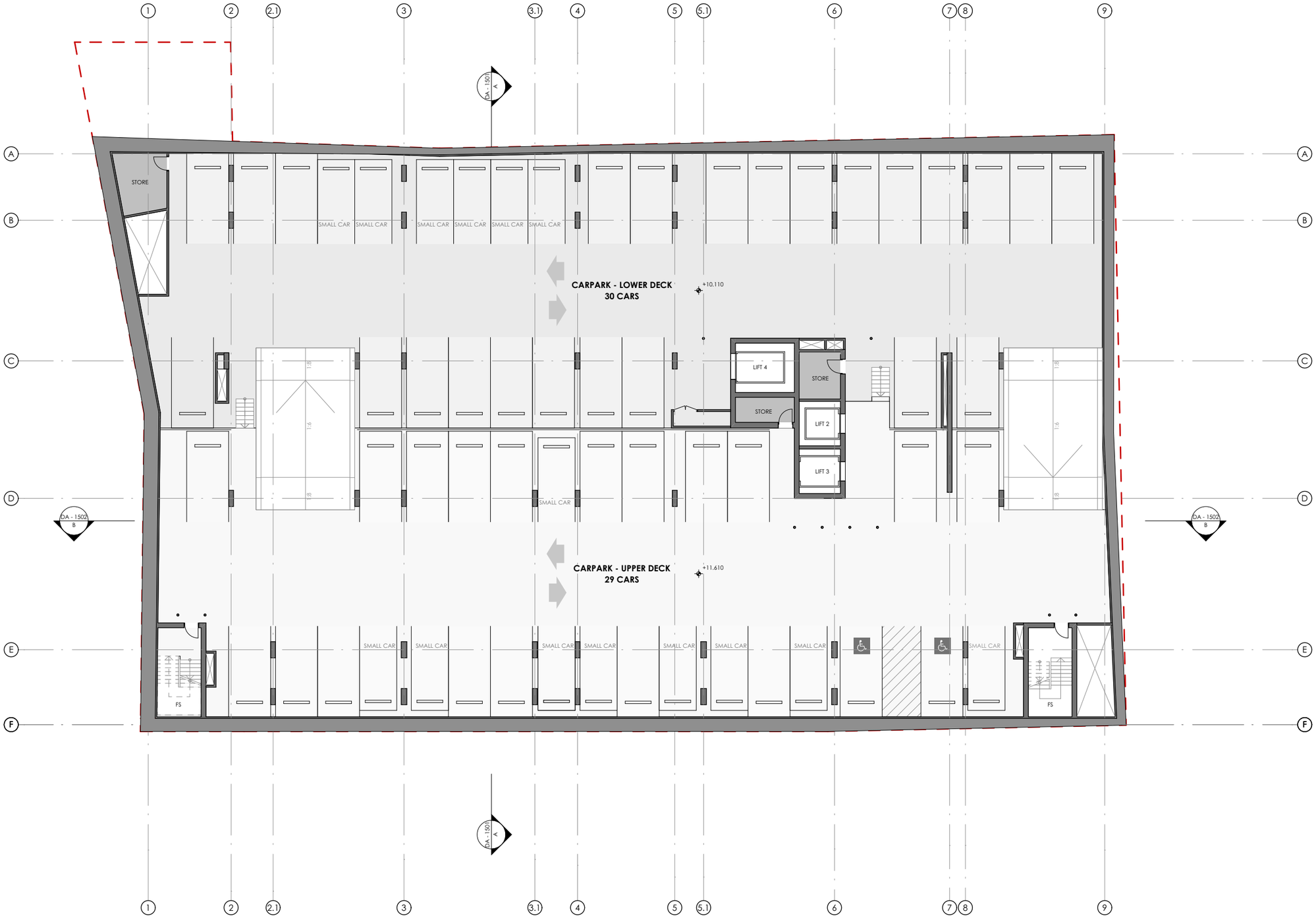
GENERAL ARRANGEMENT PLAN: SITE B - BANK LN

BASEMENT LEVEL 4 FLOOR PLAN

PROJECT NUMBER **22505**

DRAWING NUMBER **DA - 1303**

ISSUE **G**



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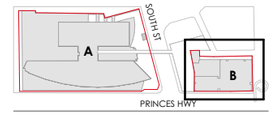

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PROJECT

St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

SCALE 1:250 @A3

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DRAWN BY TEAM

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PRINT DATE 10/20/2025

PROJECT NORTH

DRAWING

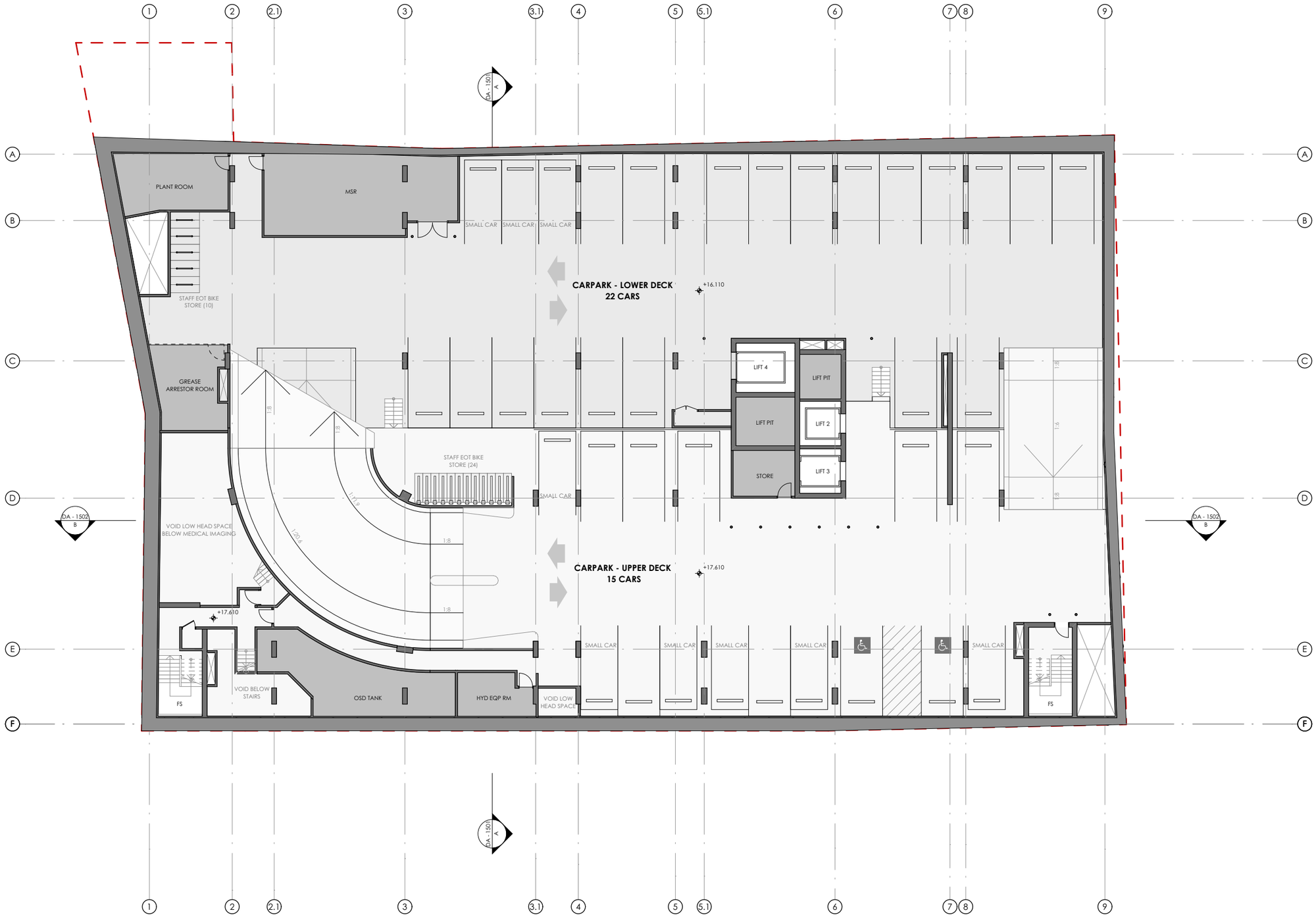
GENERAL ARRANGEMENT PLAN: SITE B - BANK LN

BASEMENT LEVEL 2/3 FLOOR PLAN - TYPICAL BASEMENT

PROJECT NUMBER **22505**

DRAWING NUMBER **DA - 1304**

ISSUE **G**



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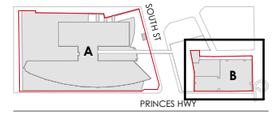

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PROJECT

St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

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PROJECT NORTH

DRAWING

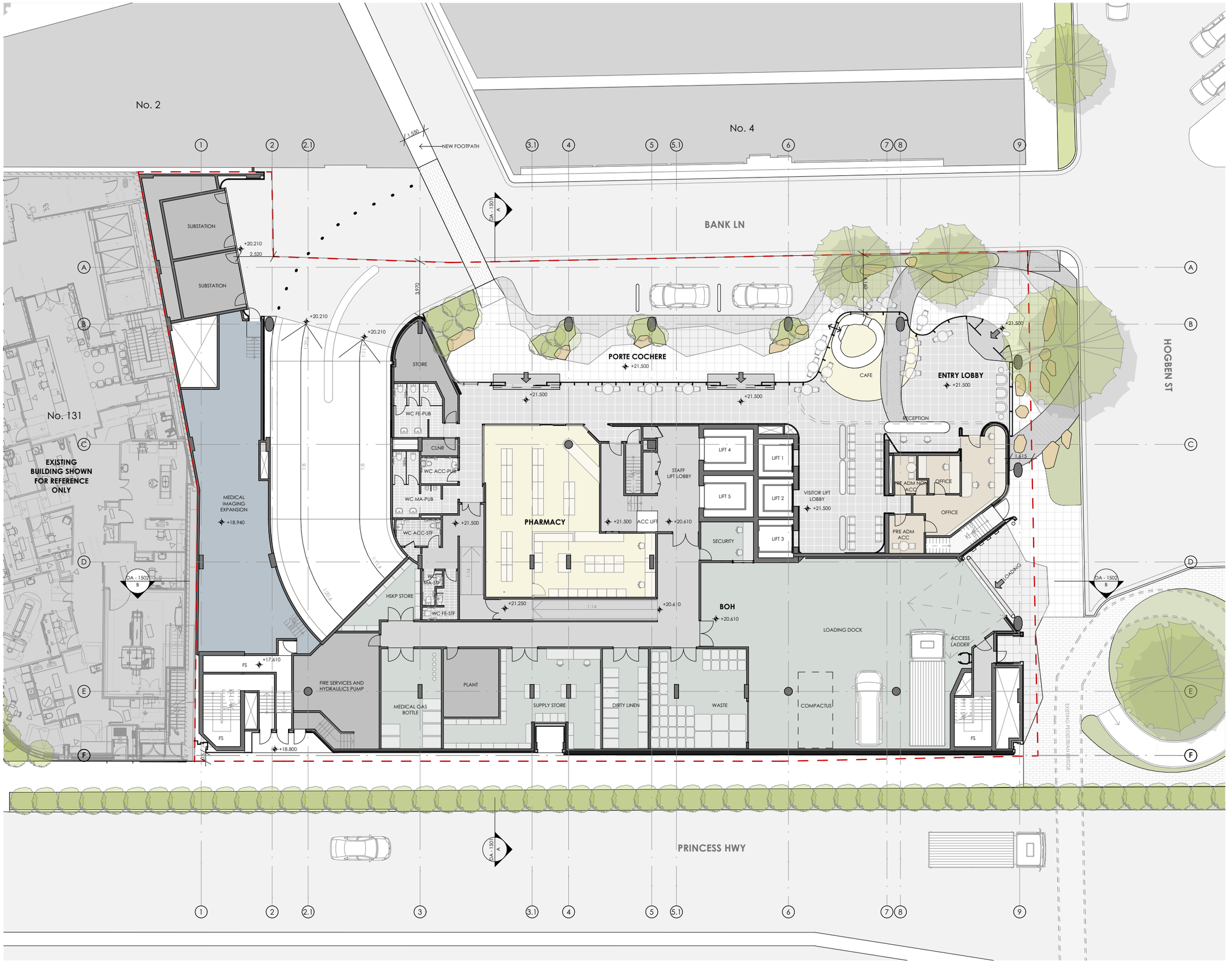
GENERAL ARRANGEMENT PLAN: SITE B - BANK LN

BASEMENT LEVEL 1 FLOOR PLAN

PROJECT NUMBER **22505**

DRAWING NUMBER **DA - 1305**

ISSUE **G**



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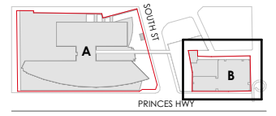

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- NEW WALLS AND STRUCTURE

PROJECT
St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

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PROJECT NORTH

DRAWING
GENERAL ARRANGEMENT PLAN: SITE B - BANK LN
GROUND FLOOR PLAN

PROJECT NUMBER
22505

DRAWING NUMBER
DA - 1306

ISSUE
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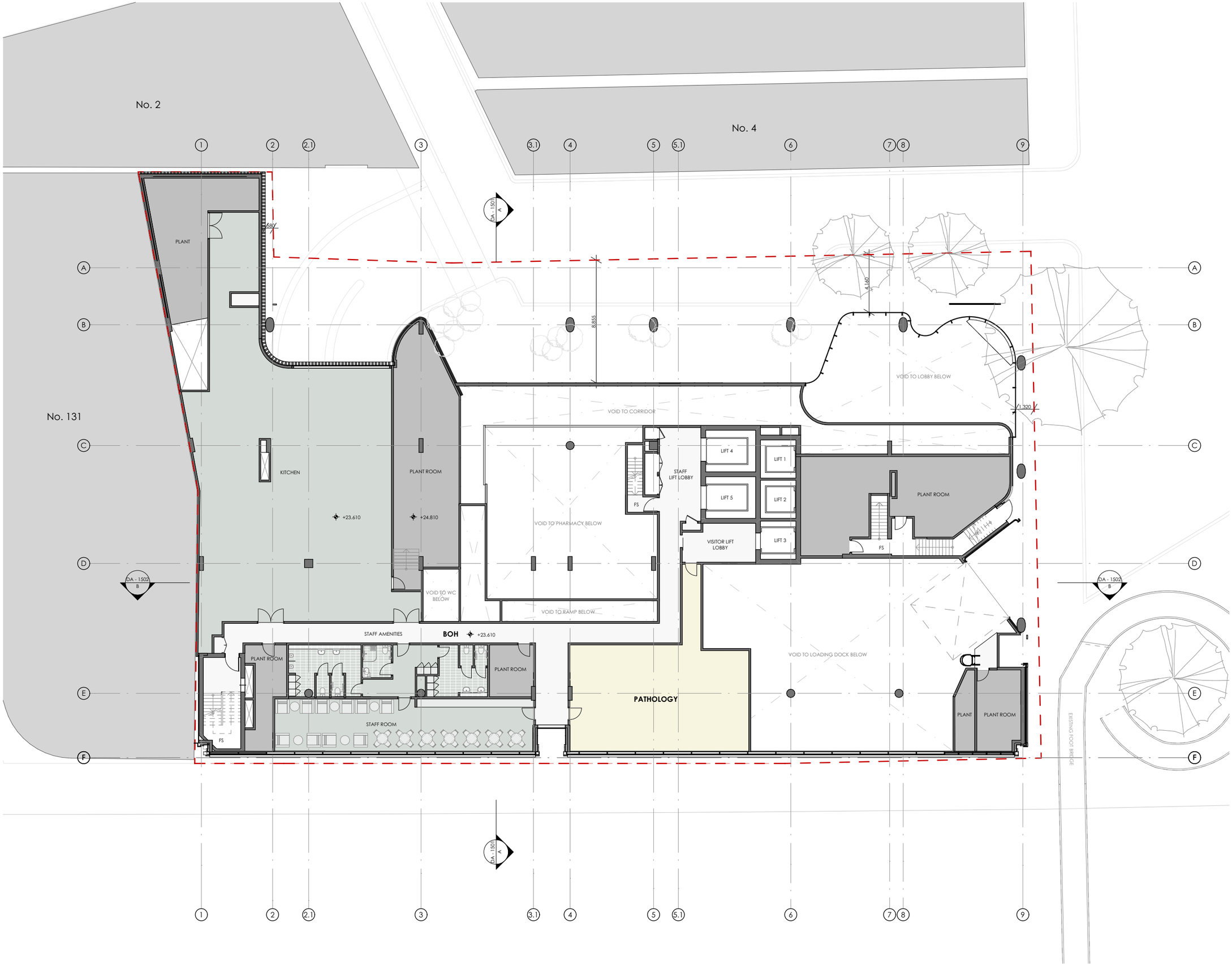

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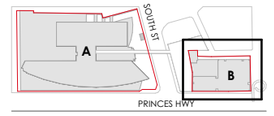

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PROJECT
St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

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PROJECT NORTH

DRAWING
GENERAL ARRANGEMENT PLAN: SITE B - BANK LN
MEZZANINE FLOOR PLAN

PROJECT NUMBER
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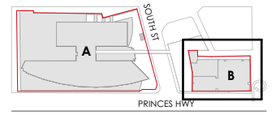

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PROJECT
St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

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PROJECT NORTH

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GENERAL ARRANGEMENT PLAN: SITE B - BANK LN
LEVEL 1 FLOOR PLAN

PROJECT NUMBER
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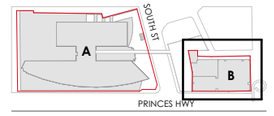

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PROJECT

St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

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PROJECT NORTH

DRAWING

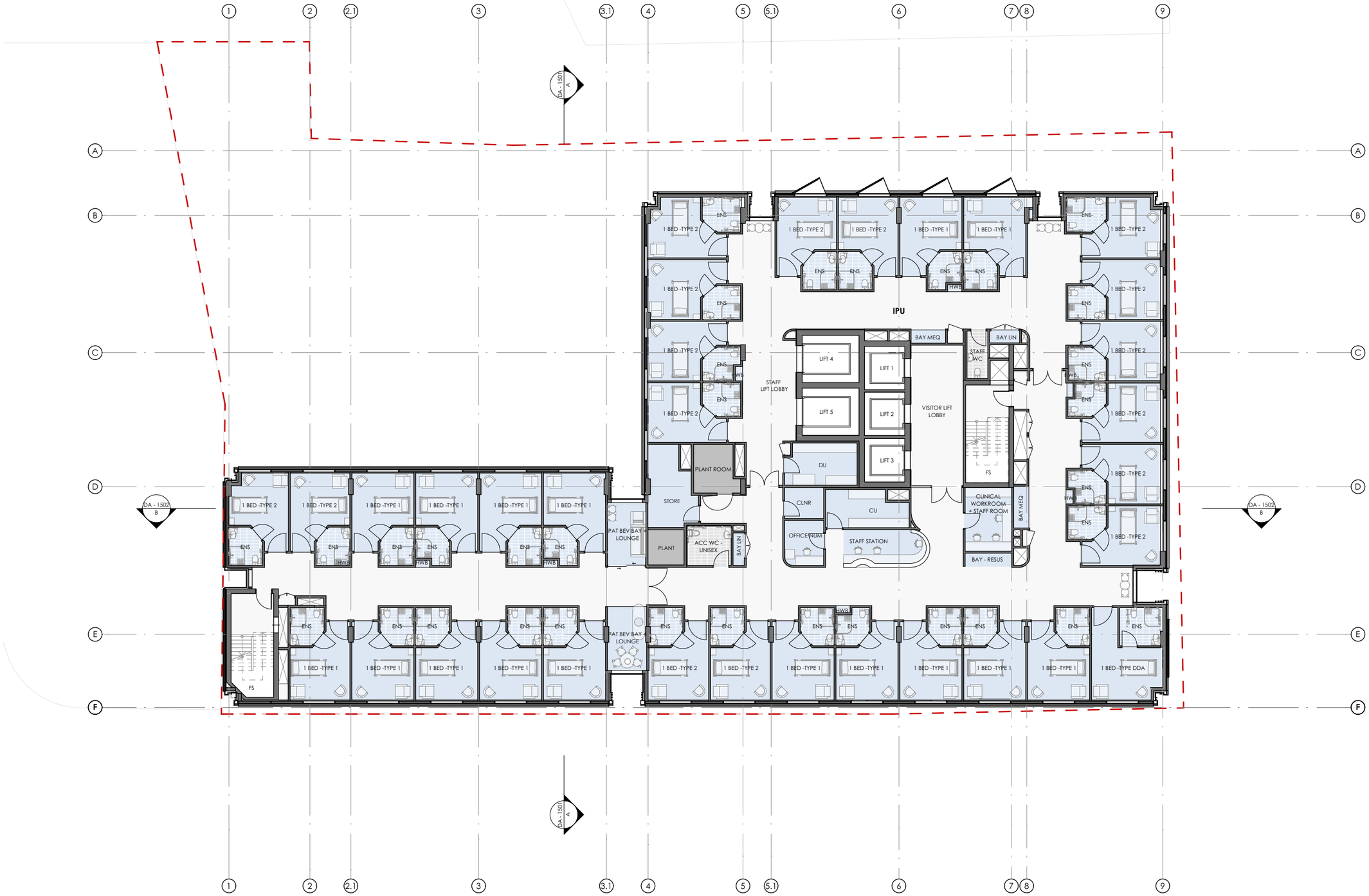
GENERAL ARRANGEMENT PLAN: SITE B - BANK LN

LEVEL 2 FLOOR PLAN

PROJECT NUMBER **22505**

DRAWING NUMBER **DA - 1309**

ISSUE **B G**



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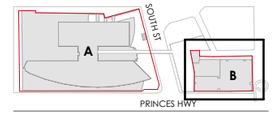

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PROJECT
St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

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20mm ON ORIGINAL
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PROJECT NORTH

DRAWING
GENERAL ARRANGEMENT PLAN: SITE B - BANK LN
LEVEL 3-5 FLOOR PLAN - TYPICAL IPU

PROJECT NUMBER
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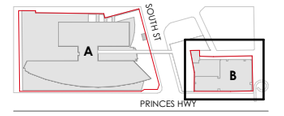

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PROJECT
St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

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PROJECT NORTH

DRAWING
GENERAL ARRANGEMENT PLAN: SITE B - BANK LN
LEVEL 6 FLOOR PLAN - CONSULTING/ PLANT

PROJECT NUMBER
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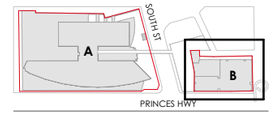


GENERAL LEGEND:

- REFER TO OTHER DRAWINGS OR OUT OF SCOPE
- SITE BOUNDARY LINE
- DEMOLITION SCOPE
- DASHED OUTLINE INDICATES EXTENT OF NEW DDA-COMPLIANT WORKS
- EXISTING WALLS AND STRUCTURE
- NEW WALLS AND STRUCTURE

PROJECT

St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

SCALE 1:250 @A3

20mm ON ORIGINAL

DRAWN BY TEAM

APPROVED BY JF

PRINT DATE 10/20/2025

PROJECT NORTH

DRAWING

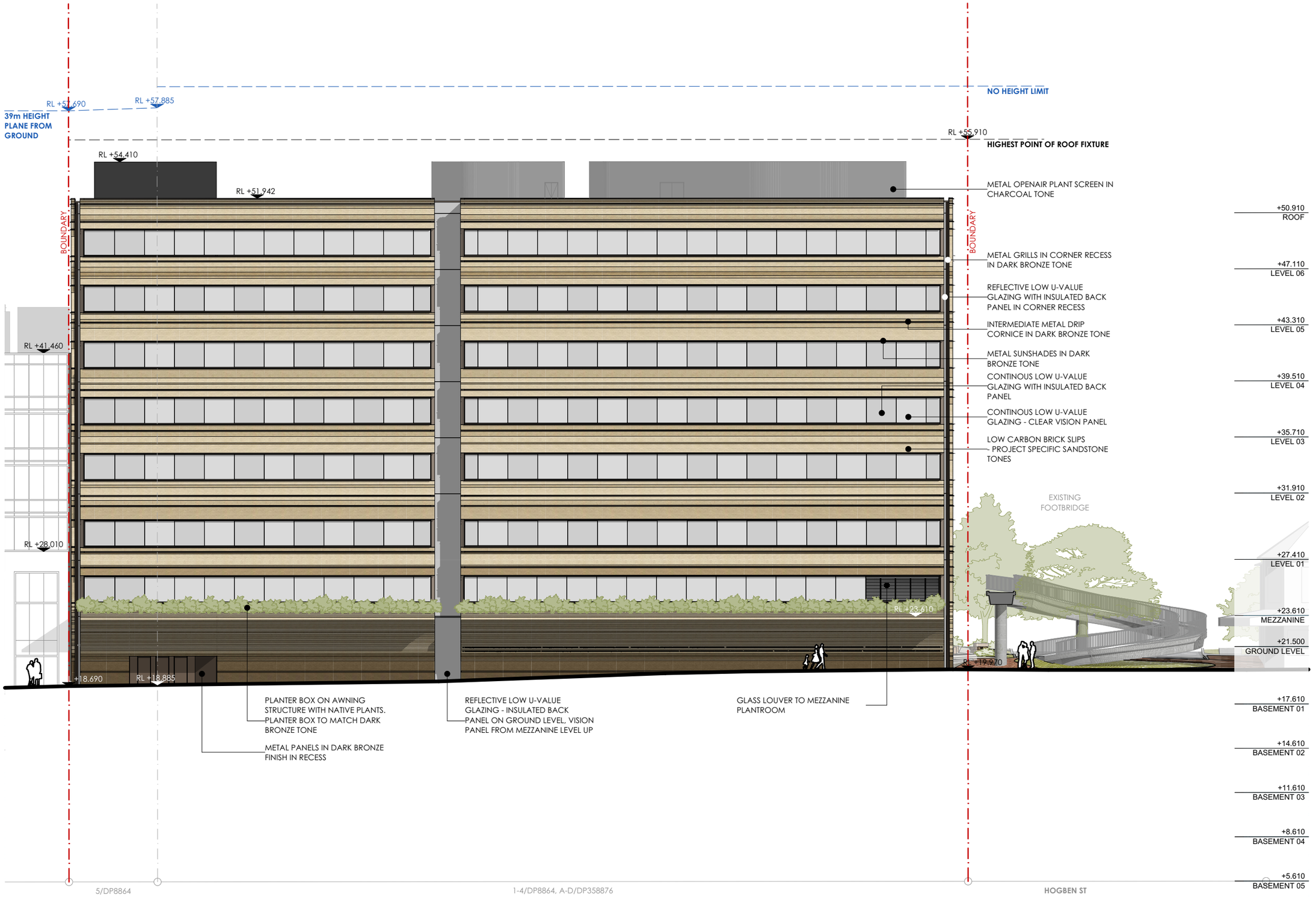
GENERAL ARRANGEMENT PLAN: SITE B - BANK LN

ROOF PLAN

PROJECT NUMBER **22505**

DRAWING NUMBER **DA - 1312**

ISSUE **C G**



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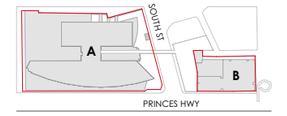


PROJECT
St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

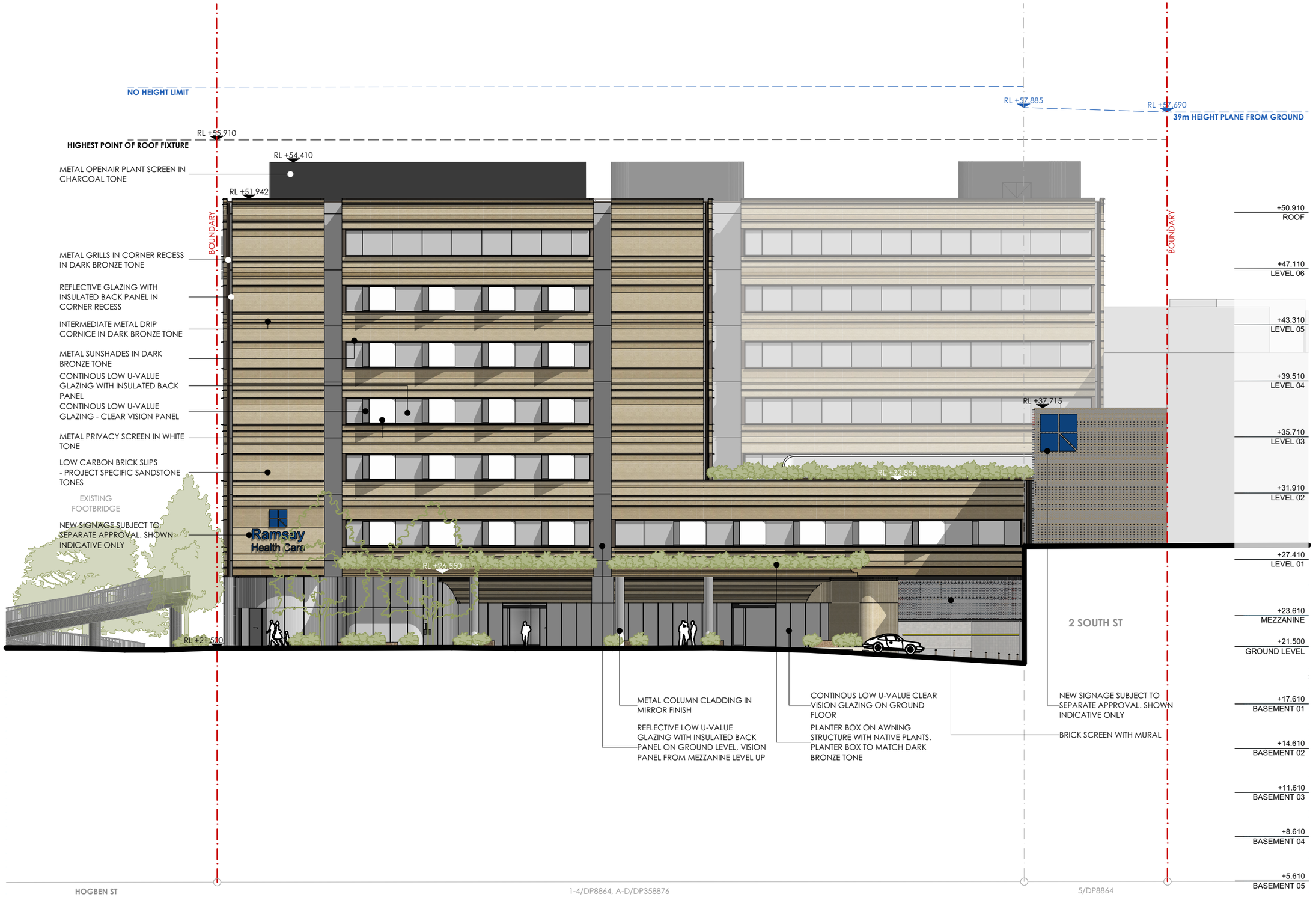
Akalan

SCALE 1:250 @A3
DRAWN BY TEAM
20mm ON ORIGINAL
APPROVED BY JF
PRINT DATE 10/20/2025

DRAWING
GENERAL ARRAGNEMENT ELEVATION: SITE B - BANK LN
ELEVATION EAST

PROJECT NUMBER
22505

DRAWING NUMBER
DA - 1401
ISSUE
G



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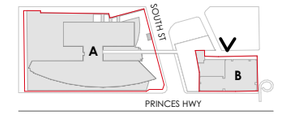

PROJECT
St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

SCALE 1:250 @A3
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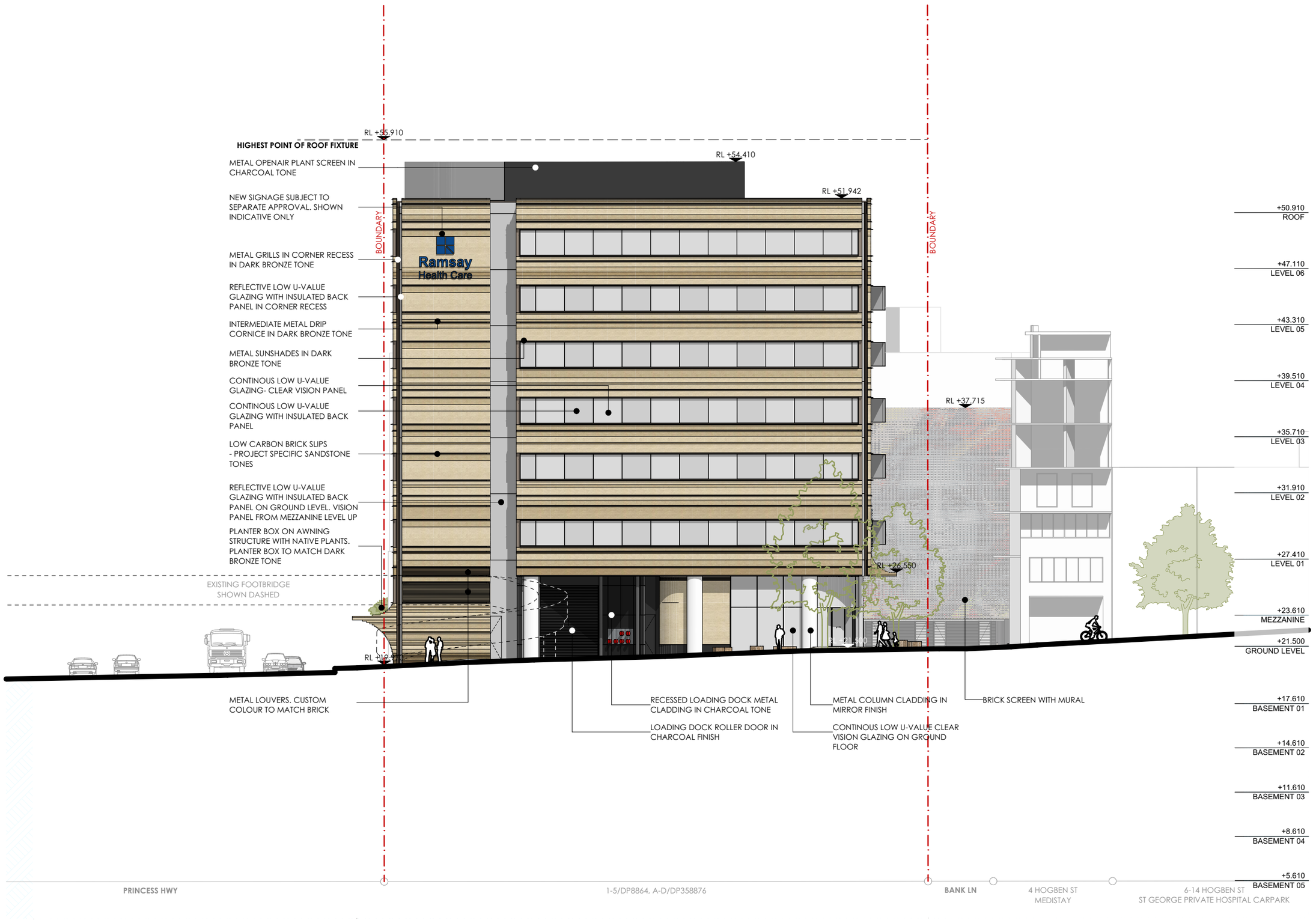
APPROVED BY JF

PRINT DATE
10/20/2025

DRAWING
GENERAL ARRAGNEMENT ELEVATION: SITE B - BANK LN
ELEVATION WEST

PROJECT NUMBER
22505

DRAWING NUMBER
DA - 1402
ISSUE
G



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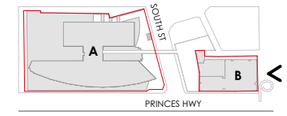

PROJECT
St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

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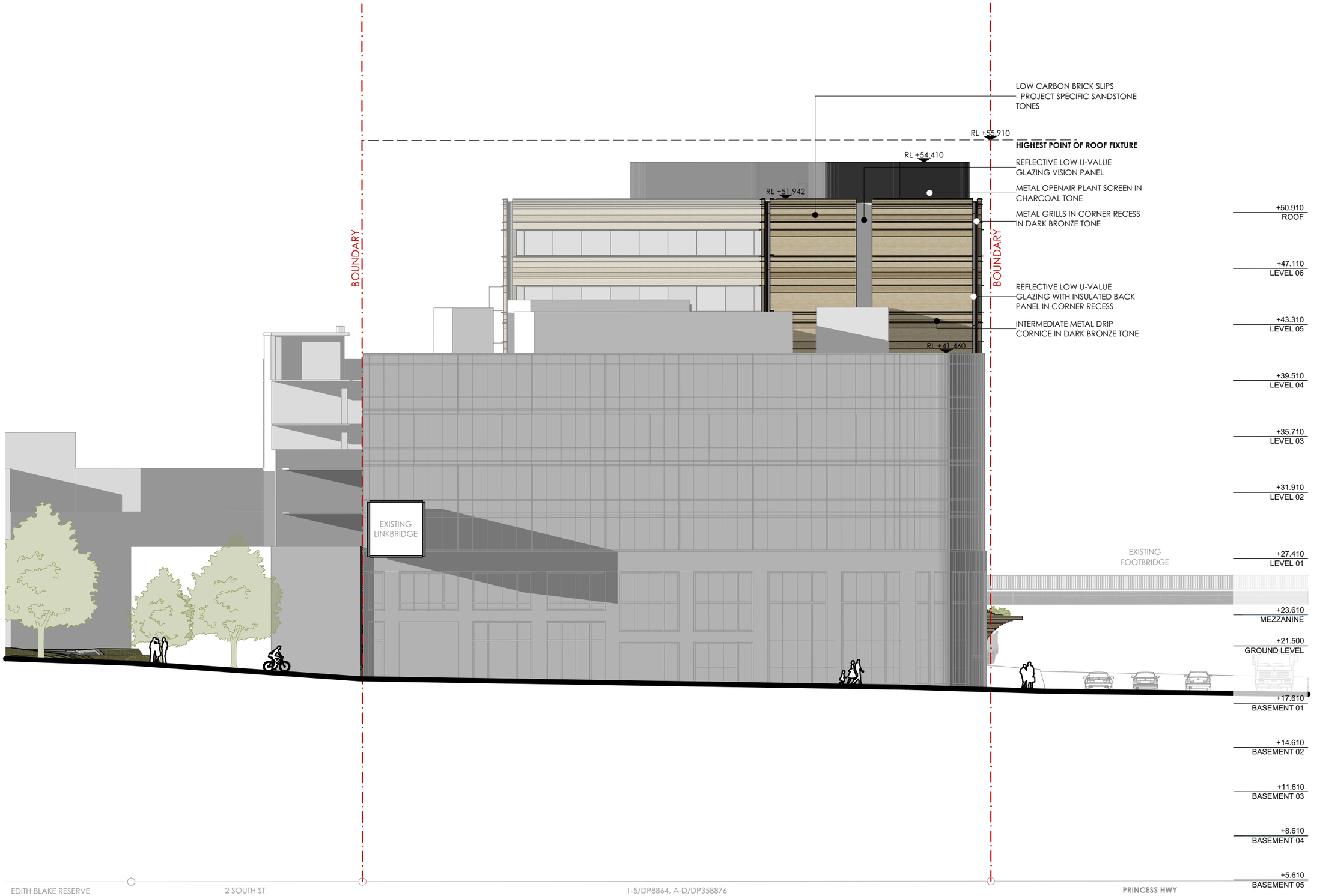
APPROVED BY JF

PRINT DATE
10/20/2025

DRAWING
GENERAL ARRAGNEMENT ELEVATION: SITE B - BANK LN
ELEVATION NORTH

PROJECT NUMBER
22505

DRAWING NUMBER
DA - 1403
ISSUE
G



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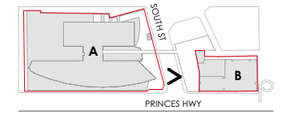

PROJECT
St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

SCALE 1:250 @A3
20mm ON ORIGINAL

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PRINT DATE
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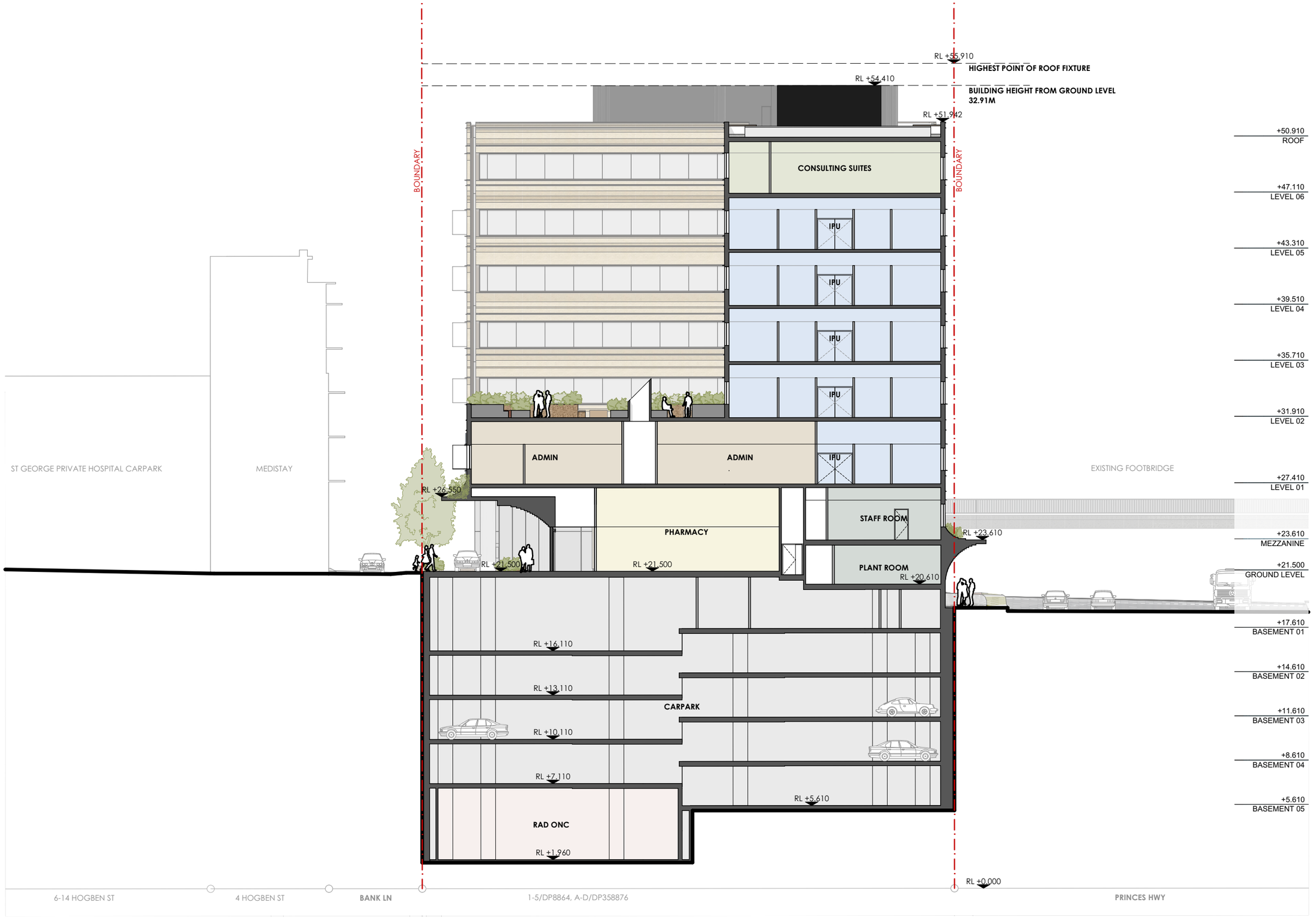
DRAWING
GENERAL ARRAGNEMENT ELEVATION: SITE B - BANK LN
ELEVATION SOUTH

PROJECT NUMBER
22505

DRAWING NUMBER
DA - 1404

ISSUE
G



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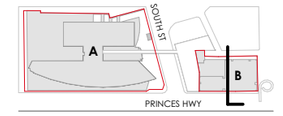

PROJECT

St George Private Hospital Expansion

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PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

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SCALE 1:250 @A3

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PRINT DATE 10/20/2025

DRAWING
GENERAL ARRANGEMENT SECTION: SITE B - BANK LN
SECTION A-A

PROJECT NUMBER **22505**

DRAWING NUMBER **DA - 1501**

ISSUE **G**

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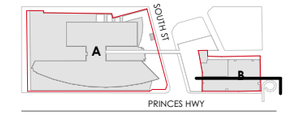

PROJECT

St George Private Hospital Expansion

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Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

SCALE 1:250 @A3

20mm ON ORIGINAL

DRAWN BY TEAM

APPROVED BY JF

PRINT DATE 10/20/2025

DRAWING
GENERAL ARRANGEMENT SECTION: SITE B - BANK LN
SECTION B-B

PROJECT NUMBER **22505**

DRAWING NUMBER **DA - 1502**

ISSUE **G**

01. BRICK CLADDING
LOW CARBON BRICK SLIPS
- PROJECT SPECIFIC SANDSTONE TONES

02. SUNSHADES/ INTERMEDIATE METAL DRIP CORNICE / RECESS METAL GRILLS
SATIN FINISH IN DARK BRONZE TONE

03. OPENAIR ROOF PLANT SCREEN / LOADING DOCK/ SUBSTATION
SATIN METAL FINISH IN CHARCOAL TONE

04. ABOVE GF GLAZING
CONTINOUS LOW U-VALUE GLAZING - CLEAR VISION PANEL OR WITH INSULATED BACK PANEL

05. RECESS GLAZING
REFLECTIVE LOW U-VALUE GLAZING WITH INSULATED BACK PANEL ON GROUND LEVEL / VISION PANEL FROM MEZZANINE LEVEL UP

06. GF GLAZING
CONTINOUS LOW U-VALUE CLEAR VISION GLAZING

07. PRIVACY SCREEN
METAL PRIVACY SCREEN IN WHITE TONE IN SATIN FINISH

08. PLANTING
PLANTER BOX ON AWNING STRUCTURE WITH NATIVE PLANTS. PLANTER BOX TO MATCH DARK BRONZE TONE

09. GF COLUMN CLADDING
METAL CLADDING IN MIRROR FINISH

10. PLANT ROOM BRICK SCREEN
BRICK SCREEN WITH MURAL

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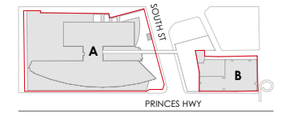

PROJECT
St George Private Hospital Expansion

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Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

DRAWN BY
TEAM

APPROVED BY
JF

PRINT DATE
10/20/2025

DRAWING
MATERIALITY: SITE B - BANK LN
MATERIALITY

PROJECT NUMBER
22505

DRAWING NUMBER
DA - 1601

ISSUE
G

LEVEL	USE
Roof	Open Air Plant Room / Solar Farm / Lift Over Run
Level 6	Consulting Suites / Open Air Plant Room
Level 5	IPU
Level 4	IPU
Level 3	IPU
Level 2	IPU / Roof Garden
Level 1	IPU / Admin / Bridge Link
Mezzanine	Kitchen / Staff Room / Pathology
Ground Floor	Entry Lobby / Café / Reception / Admin / Pharmacy / Medical Imaging Loading / Store / Plant Rooms
Basement Level 1	Parking / Store / OSD / Plant Rooms
Basement Level 2	Parking / Store
Basement Level 3	Parking / Store
Basement Level 4	Parking / Store
Basement Level 5	Oncology / Parking / Store

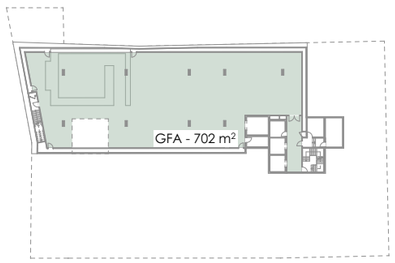
RL (m)	FLOOR TO FLOOR (m)
50.91	3.8
47.11	3.8
43.31	3.8
39.51	3.8
35.71	3.8
31.91	3.8
27.41	4.5
23.61	3.8
21.5	5.91
17.61	3/ 5.39 (Lower)
14.61	3
11.61	3
8.61	3
5.61	3 / 5.15 (Oncology)

GBA (sqm)	GFA (sqm)
1446	
1446	830
1446	1250
1446	1250
1446	1250
2020	1250
2020	1788
1777	647
1769	985
2220	
2220	
2220	
2220	
2017	702
25713	**9952**

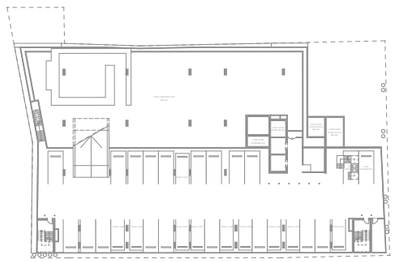
CAR PARK	BED COUNT
	33
	33
	33
	32
	24
37	
59	
59	
58	
28	
241	**155**

NOTE: GBA EXCLUDES GROUND FLOOR PORTE COCHERE AREA AND INCLUDES ROOF GARDEN ON LEVEL 1

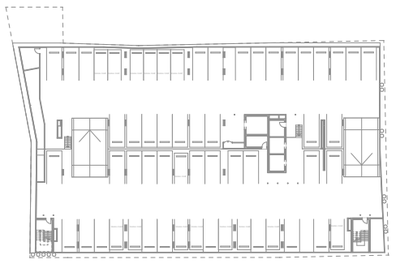
GFA DIAGRAM



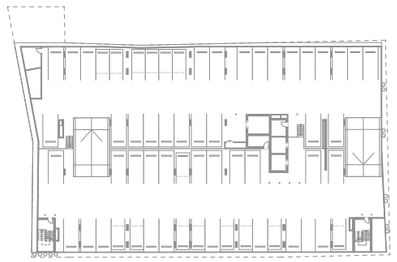
BASEMENT LEVEL 5 - LOWER DECK



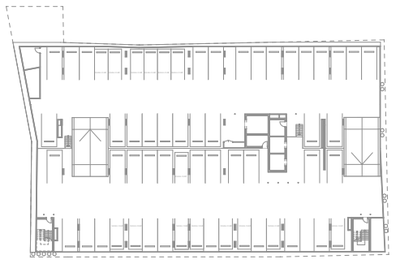
BASEMENT LEVEL 5 - UPPER DECK



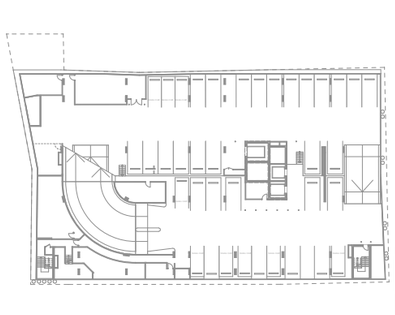
BASEMENT LEVEL 4



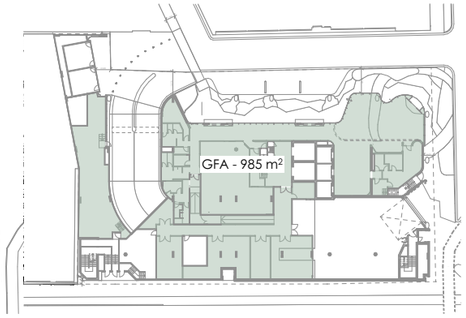
BASEMENT LEVEL 3



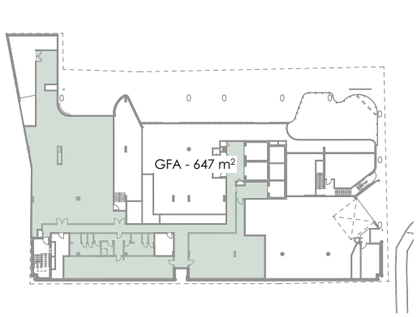
BASEMENT LEVEL 2



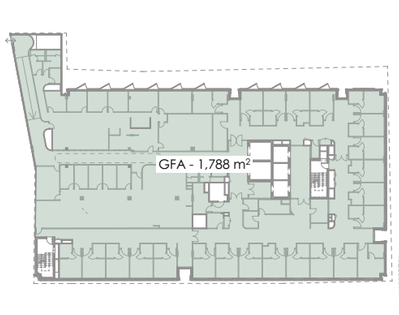
BASEMENT LEVEL 1



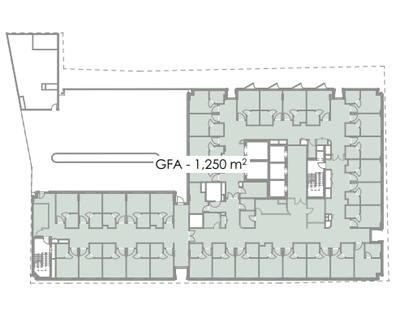
GROUND FLOOR



MEZZANINE



LEVEL 1



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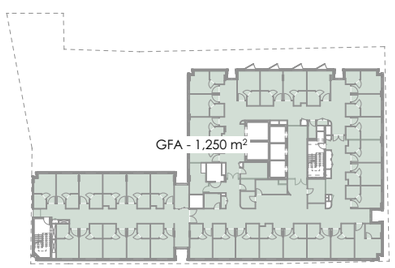

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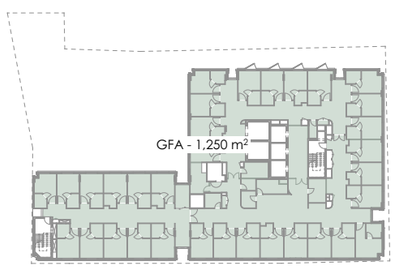

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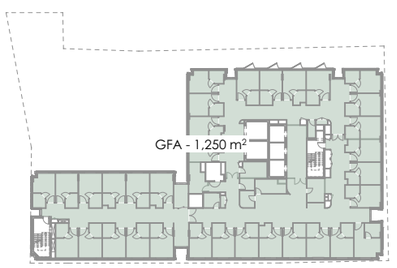

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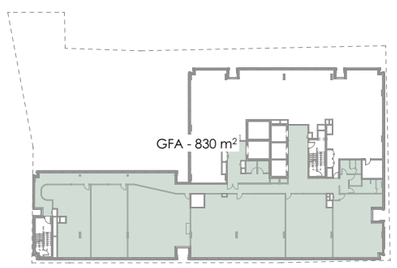
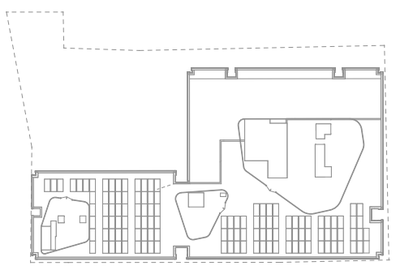


BASEMENT LEVEL 6



ROOF

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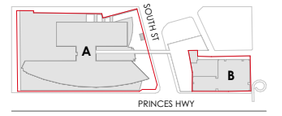


PROJECT

St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

DRAWN BY
TEAM

APPROVED BY
JF

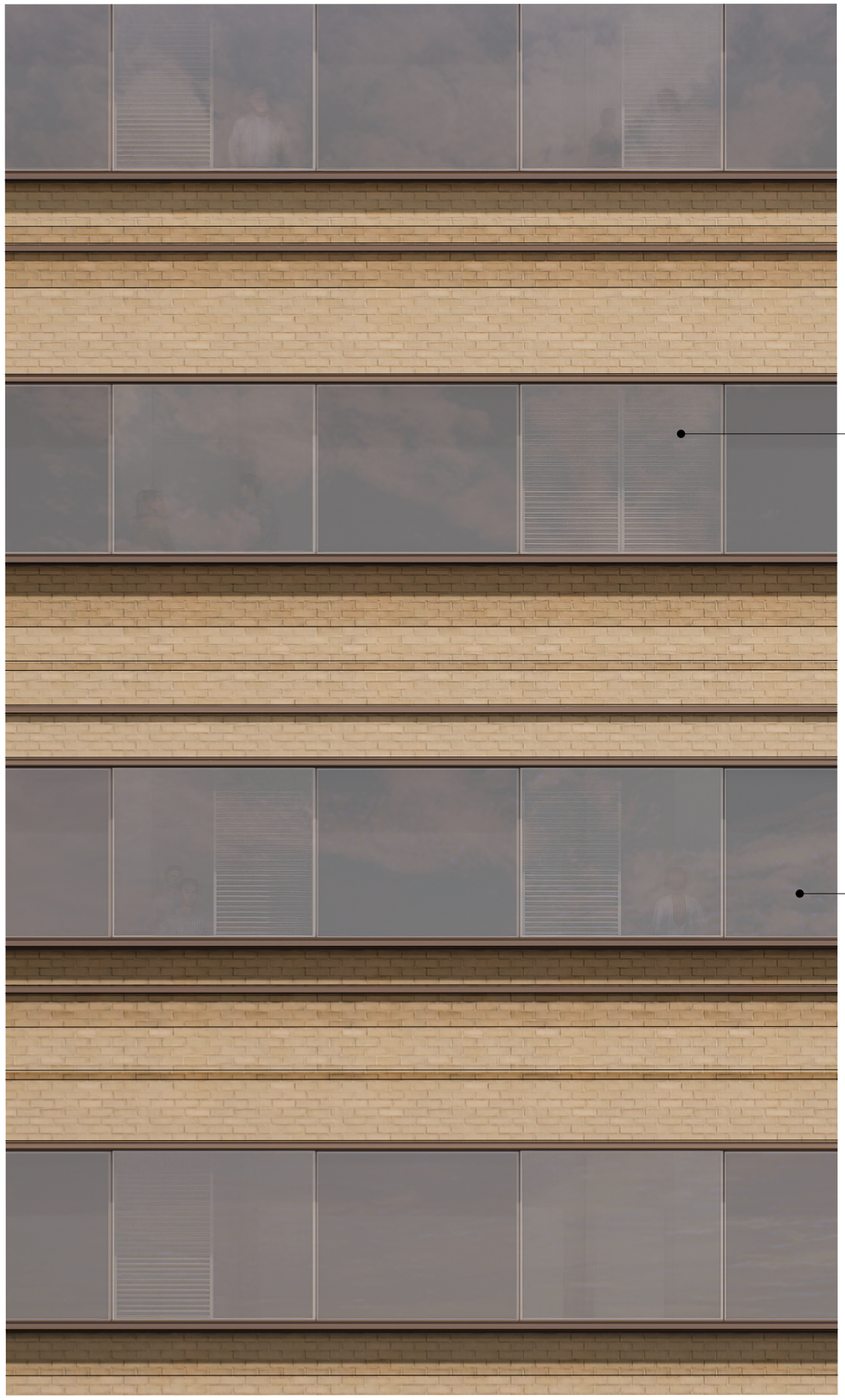
PRINT DATE
10/20/2025

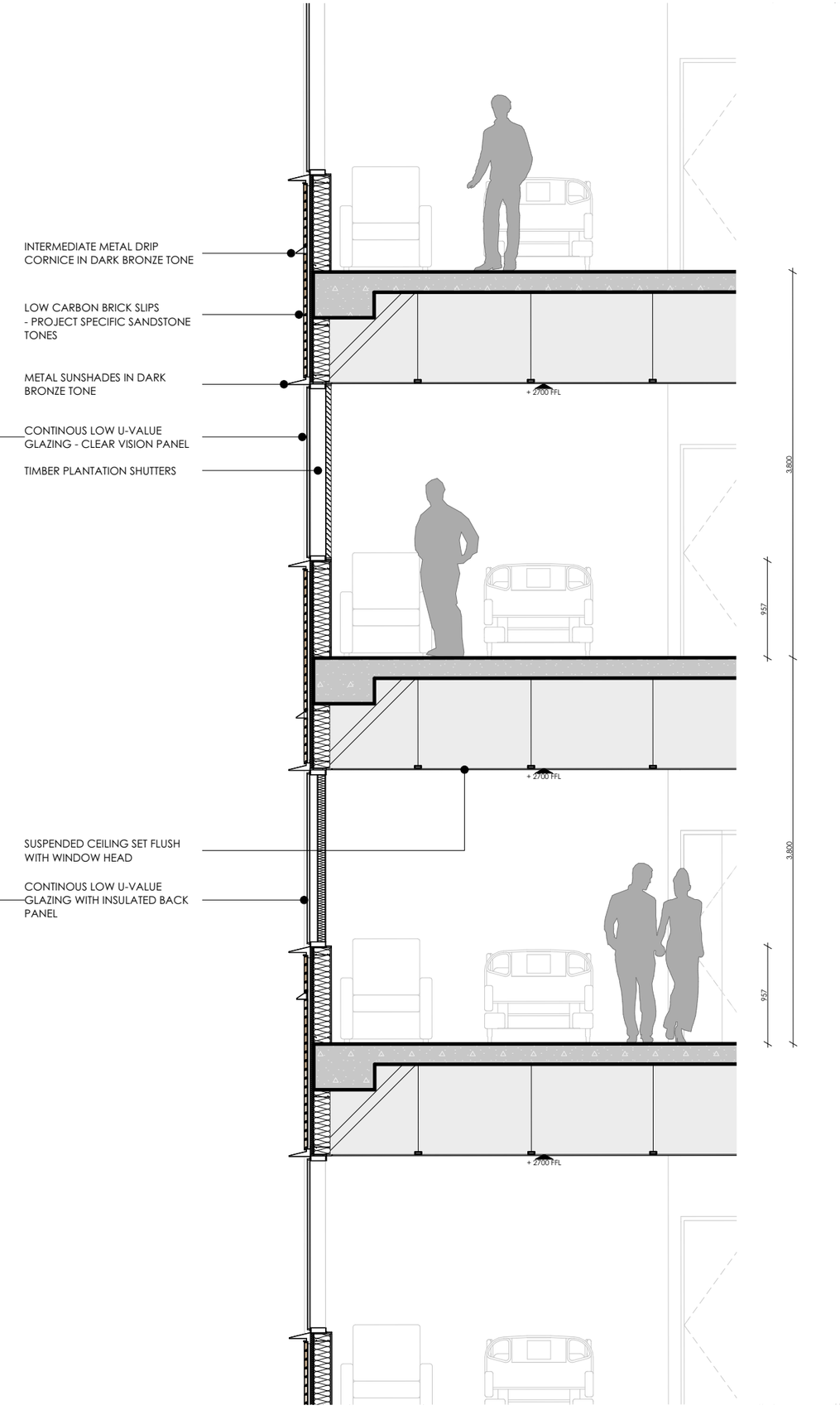
DRAWING
APPENDIX: SITE B - BANK LN
AREA SCHEDULE

PROJECT NUMBER
22505

DRAWING NUMBER
DA - 1701

ISSUE
G





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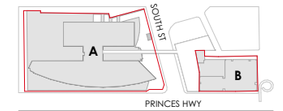


PROJECT

St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

DRAWN BY
TEAM

APPROVED BY
JF

PRINT DATE
10/20/2025

DRAWING
DETAIL: SITE B - BANK LN
FACADE DETAILS - TYPICAL

PROJECT NUMBER
22505

DRAWING NUMBER
DA - 1701

ISSUE
G

KEY

SITE BOUNDARY

EXISTING SHADOWS

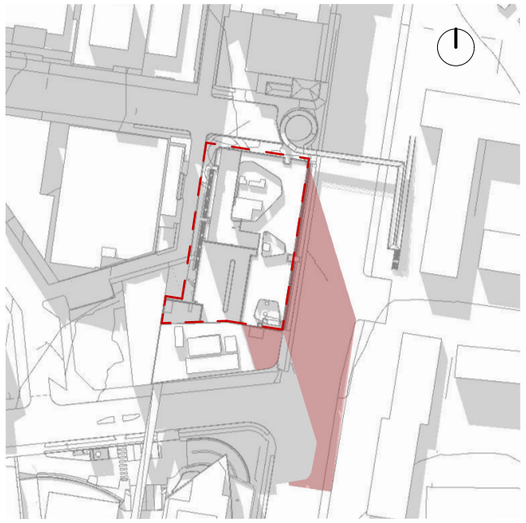
ADDITIONAL SHADOWS FROM PRPOSED DEVELOPMENT

9AM
JUNE 21ST

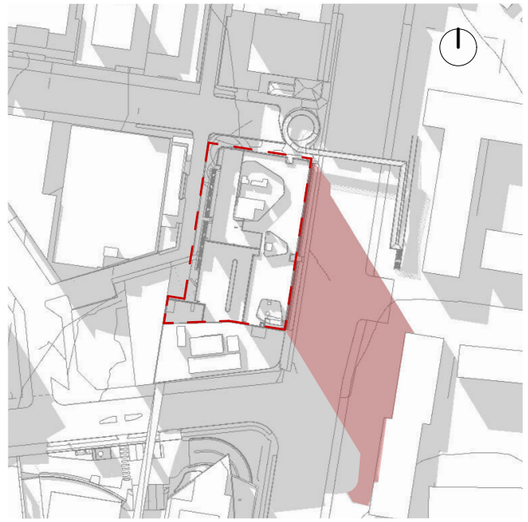
10AM
JUNE 21ST

11AM
JUNE 21ST

12 PM
JUNE 21ST



1 PM
JUNE 21ST



2PM
JUNE 21ST

3PM
JUNE 21ST

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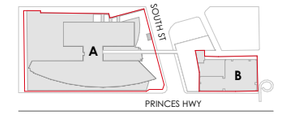

PROJECT

St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

DRAWN BY
TEAM

APPROVED BY
JF

PRINT DATE
10/20/2025

DRAWING
APPENDIX: SITE B - BANK LN
SHADOW DIAGRAM

PROJECT NUMBER
22505

DRAWING NUMBER
DA - 1702

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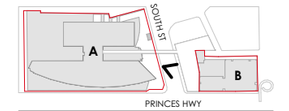

PROJECT

St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

SCALE
1:3.01 @A3

DRAWN BY
TEAM

20mm ON ORIGINAL

APPROVED BY
JF

PRINT DATE
10/20/2025

DRAWING
3D MONTAGE: : SITE A - SOUTH ST
3D MONTAGE

PROJECT NUMBER
22505

DRAWING NUMBER
DA - 2101

ISSUE
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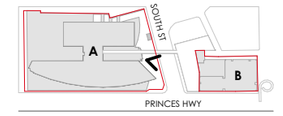


PROJECT
St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

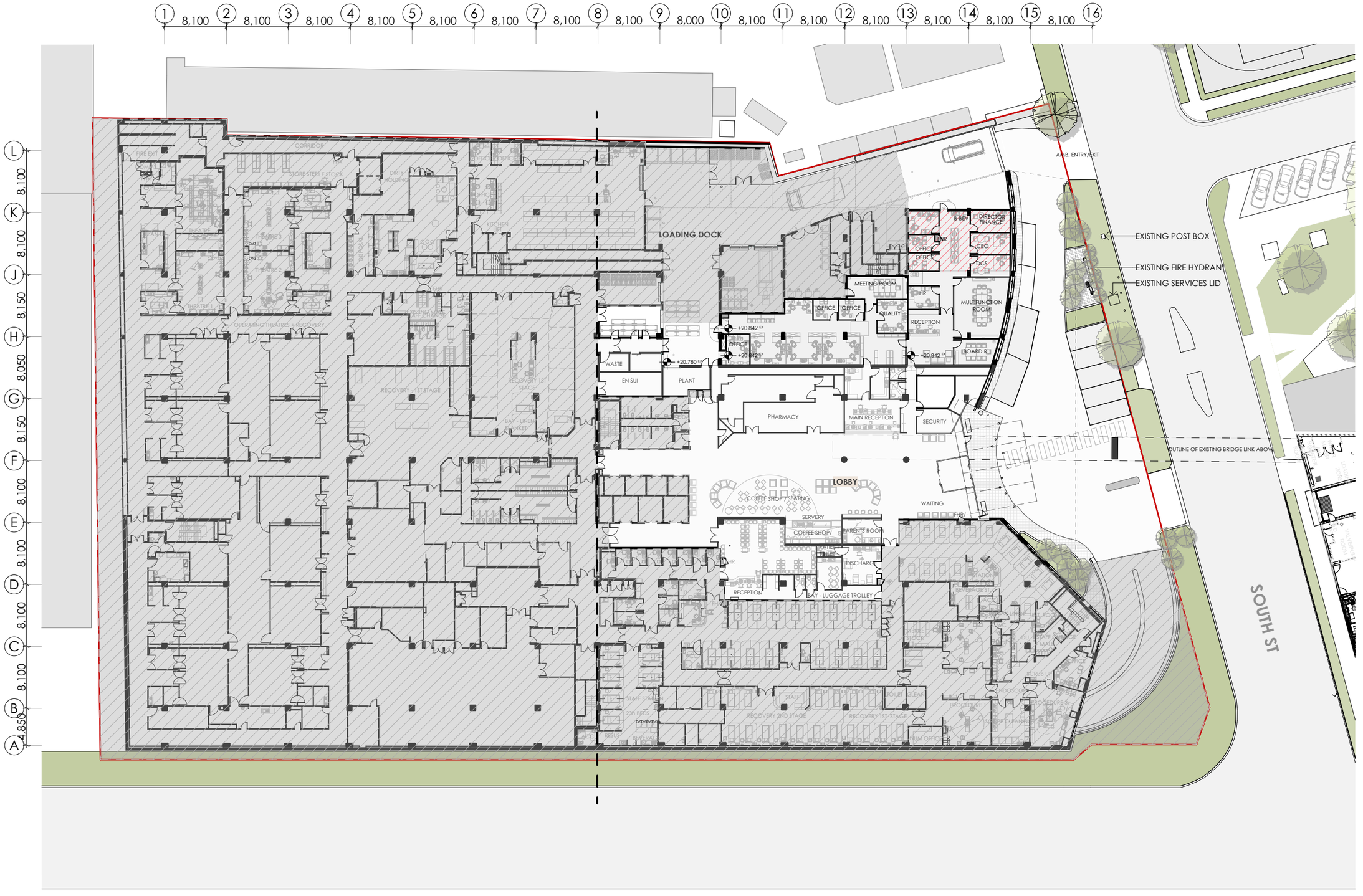
SCALE 1:3.10 @A3
DRAWN BY TEAM
20mm ON ORIGINAL
APPROVED BY JF

PRINT DATE
10/20/2025

DRAWING
3D MONTAGE: : SITE A - SOUTH ST
3D MONTAGE

PROJECT NUMBER
22505

DRAWING NUMBER
DA - 2102
ISSUE
G



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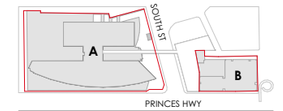

GENERAL LEGEND:

- REFER TO OTHER DRAWINGS OR OUT OF SCOPE
- SITE BOUNDARY LINE
- DEMOLITION SCOPE
- DASHED OUTLINE INDICATES EXTENT OF NEW DDA-COMPLIANT WORKS
- EXISTING WALLS AND STRUCTURE
- NEW WALLS AND STRUCTURE

PROJECT
St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

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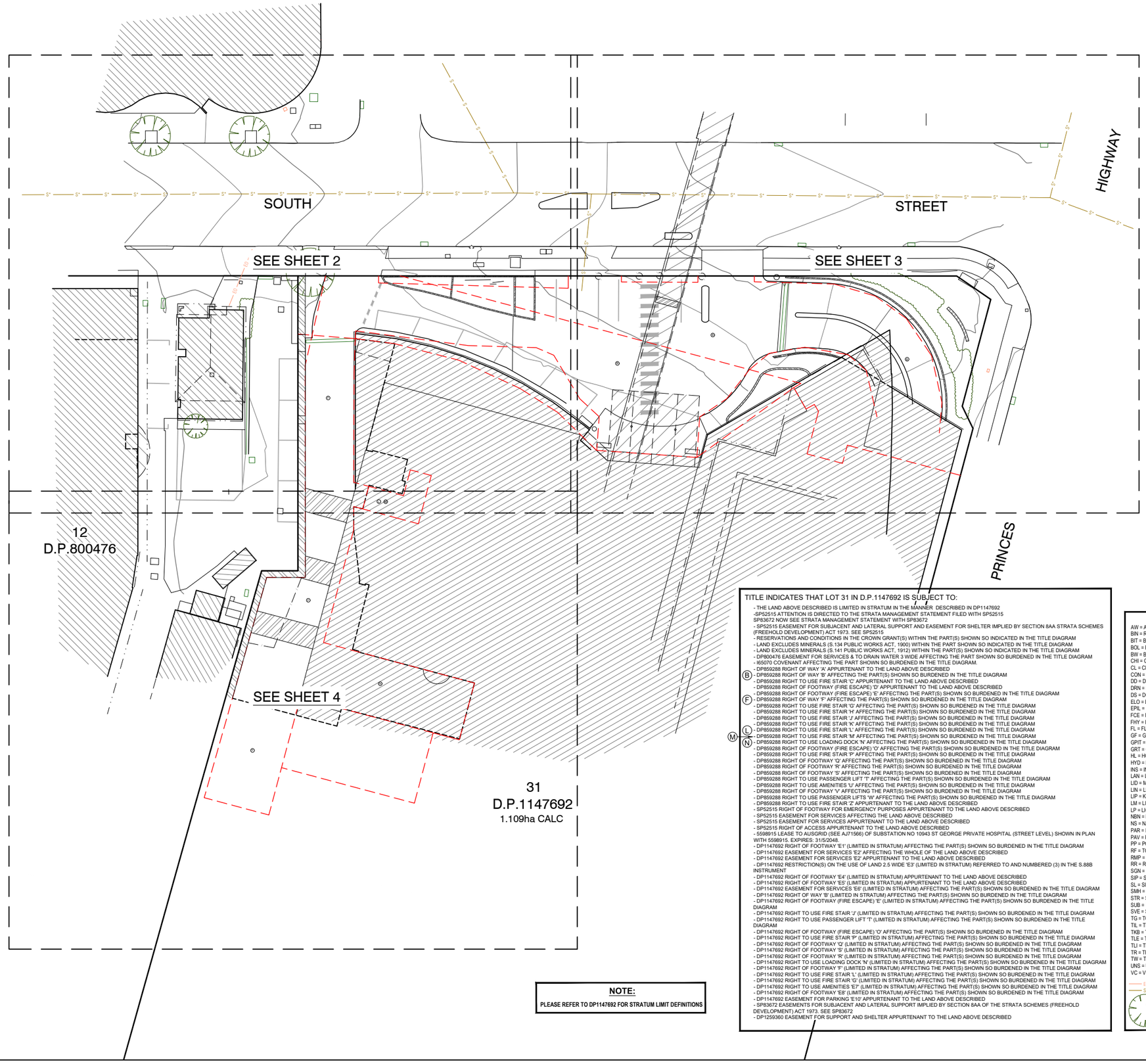
DRAWN BY TEAM
20mm ON ORIGINAL
APPROVED BY JF
PRINT DATE 10/20/2025
PROJECT NORTH

DRAWING
EXISTING: SITE A - SOUTH ST
SCOPE OF WORKS

PROJECT NUMBER
22505

DRAWING NUMBER
DA - 2201
ISSUE
G

A1



ABOUT 1°00'

APPROX. TRUE NORTH
MGA NORTH (PLAN)

NOTE:

PLEASE REFER TO DP1147692 FOR STRATUM LIMIT DEFINITIONS

TITLE INDICATES THAT LOT 31 IN D.P.1147692 IS SUBJECT TO:

- THE LAND ABOVE DESCRIBED IS LIMITED IN STRATUM IN THE MANNER DESCRIBED IN DP1147692
- SP52515 ATTENTION IS DIRECTED TO THE STRATA MANAGEMENT STATEMENT FILED WITH SP52515
- SP83672 NOW SEE STRATA MANAGEMENT STATEMENT WITH SP83672
- SP52515 EASEMENT FOR SUBJACENT AND LATERAL SUPPORT AND EASEMENT FOR SHELTER IMPLIED BY SECTION 8AA STRATA SCHEMES (FREEHOLD DEVELOPMENT) ACT 1973. SEE SP52515
- RESERVATIONS AND CONDITIONS IN THE CROWN GRANT(S) WITHIN THE PART(S) SHOWN SO INDICATED IN THE TITLE DIAGRAM
- LAND EXCLUDES MINERALS (S.134 PUBLIC WORKS ACT, 1900) WITHIN THE PART SHOWN SO INDICATED IN THE TITLE DIAGRAM
- LAND EXCLUDES MINERALS (S.141 PUBLIC WORKS ACT, 1912) WITHIN THE PART(S) SHOWN SO INDICATED IN THE TITLE DIAGRAM
- DP800476 EASEMENT FOR SERVICES & TO DRAIN WATER 3 WIDE AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM
- I650070 COVENANT AFFECTING THE PART SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP859288 RIGHT OF WAY 'A' APPURTENANT TO THE LAND ABOVE DESCRIBED
- (B) - DP859288 RIGHT OF WAY 'B' AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP859288 RIGHT TO USE FIRE STAIR 'C' APPURTENANT TO THE LAND ABOVE DESCRIBED
- DP859288 RIGHT OF FOOTWAY (FIRE ESCAPE) 'D' APPURTENANT TO THE LAND ABOVE DESCRIBED
- DP859288 RIGHT OF FOOTWAY (FIRE ESCAPE) 'E' AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- (F) - DP859288 RIGHT OF WAY 'F' AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP859288 RIGHT TO USE FIRE STAIR 'G' AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP859288 RIGHT TO USE FIRE STAIR 'H' AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP859288 RIGHT TO USE FIRE STAIR 'J' AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP859288 RIGHT TO USE FIRE STAIR 'K' AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- (L) - DP859288 RIGHT TO USE FIRE STAIR 'L' AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- (M) - DP859288 RIGHT TO USE FIRE STAIR 'M' AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- (N) - DP859288 RIGHT TO USE LOADING DOCK 'N' AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP859288 RIGHT OF FOOTWAY (FIRE ESCAPE) 'O' AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP859288 RIGHT TO USE FIRE STAIR 'P' AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP859288 RIGHT OF FOOTWAY 'Q' AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP859288 RIGHT OF FOOTWAY 'R' AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP859288 RIGHT OF FOOTWAY 'S' AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP859288 RIGHT TO USE PASSENGER LIFT 'T' AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP859288 RIGHT TO USE AMENITIES 'U' AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP859288 RIGHT OF FOOTWAY 'V' AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP859288 RIGHT TO USE PASSENGER LIFTS 'W' AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP859288 RIGHT TO USE FIRE STAIR 'Z' APPURTENANT TO THE LAND ABOVE DESCRIBED
- SP52515 RIGHT OF FOOTWAY FOR EMERGENCY PURPOSES APPURTENANT TO THE LAND ABOVE DESCRIBED
- SP52515 EASEMENT FOR SERVICES AFFECTING THE LAND ABOVE DESCRIBED
- SP52515 EASEMENT FOR SERVICES APPURTENANT TO THE LAND ABOVE DESCRIBED
- SP52515 RIGHT OF ACCESS APPURTENANT TO THE LAND ABOVE DESCRIBED
- 5598915 LEASE TO AUSGRID (SEE AJ71566) OF SUBSTATION NO 10943 ST GEORGE PRIVATE HOSPITAL (STREET LEVEL) SHOWN IN PLAN WITH 5598915. EXPIRES: 31/5/2048.
- DP1147692 RIGHT OF FOOTWAY 'E1' (LIMITED IN STRATUM) AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP1147692 EASEMENT FOR SERVICES 'E2' AFFECTING THE WHOLE OF THE LAND ABOVE DESCRIBED
- DP1147692 EASEMENT FOR SERVICES 'E2' APPURTENANT TO THE LAND ABOVE DESCRIBED
- DP1147692 RESTRICTION(S) ON THE USE OF LAND 2.5 WIDE 'E3' (LIMITED IN STRATUM) REFERRED TO AND NUMBERED (3) IN THE S.88B INSTRUMENT
- DP1147692 RIGHT OF FOOTWAY 'E4' (LIMITED IN STRATUM) APPURTENANT TO THE LAND ABOVE DESCRIBED
- DP1147692 RIGHT OF FOOTWAY 'E5' (LIMITED IN STRATUM) APPURTENANT TO THE LAND ABOVE DESCRIBED
- DP1147692 EASEMENT FOR SERVICES 'E6' (LIMITED IN STRATUM) AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP1147692 RIGHT OF WAY 'B' (LIMITED IN STRATUM) AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP1147692 RIGHT OF FOOTWAY (FIRE ESCAPE) 'E' (LIMITED IN STRATUM) AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP1147692 RIGHT TO USE FIRE STAIR 'J' (LIMITED IN STRATUM) AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP1147692 RIGHT TO USE PASSENGER LIFT 'T' (LIMITED IN STRATUM) AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP1147692 RIGHT OF FOOTWAY (FIRE ESCAPE) 'O' AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP1147692 RIGHT TO USE FIRE STAIR 'P' (LIMITED IN STRATUM) AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
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- DP1147692 RIGHT OF FOOTWAY 'R' (LIMITED IN STRATUM) AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP1147692 RIGHT TO USE LOADING DOCK 'N' (LIMITED IN STRATUM) AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP1147692 RIGHT OF FOOTWAY 'F' (LIMITED IN STRATUM) AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP1147692 RIGHT TO USE FIRE STAIR 'L' (LIMITED IN STRATUM) AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP1147692 RIGHT TO USE FIRE STAIR 'G' (LIMITED IN STRATUM) AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP1147692 RIGHT TO USE AMENITIES 'E7' (LIMITED IN STRATUM) AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP1147692 RIGHT OF FOOTWAY 'E8' (LIMITED IN STRATUM) AFFECTING THE PART(S) SHOWN SO BURDENED IN THE TITLE DIAGRAM
- DP1147692 EASEMENT FOR PARKING 'E10' APPURTENANT TO THE LAND ABOVE DESCRIBED
- SP83672 EASEMENTS FOR SUBJACENT AND LATERAL SUPPORT IMPLIED BY SECTION 8AA OF THE STRATA SCHEMES (FREEHOLD DEVELOPMENT) ACT 1973. SEE SP83672
- DP1259360 EASEMENT FOR SUPPORT AND SHELTER APPURTENANT TO THE LAND ABOVE DESCRIBED

LEGEND:

AW = AWNING
BIN = RUBBISH BIN
BIT = BITUMEN
BOL = BOLLARD
BW = BOTTOM WALL
CHI = CHIMNEY
CL = CENTRELINE
CON = CONCRETE
DD = DISH DRAIN
DRN = DRAIN
DS = DOOR SILL LEVEL
ELO = ELECTRICITY LINE OVERHEAD
EPIL = ELECTRICITY PILLAR
FCE = FENCE
FHY = FIRE HYDRANT
FL = FLOOR LEVEL
GF = GUTTER LEVEL
GPIT = GAS PIT
GRT = GRATE
HL = HOOD LEVEL
HYD = HYDRANT
INS = INSPECTION PIT
LAN = LANDING
LID = MISCELLANEOUS PIT LID
LIN = LINTEL
LIP = KERB LIP
LM = LINE MARKING
LP = LIGHT POLE
NBN = NBN PIT
NS = NATURAL SURFACE
PAR = PARAPET
PAV = PAVING
PP = POWER POLE
RF = TOP OF ROOF
RMP = RAMP
RR = ROOF RIDGE
SGN = SIGN
SIP = SEWER INSPECTION PIT
SL = SILL LEVEL
SMH = SEWER MAN HOLE
STR = STAIRS
SUB = ELECTRICITY SUBSTATION
SVE = SEWER VENT
TG = TOP OF GUTTER
TIL = TILE
TKB = TOP OF KERB
TLE = TREE LINE
TLI = TRAFFIC LIGHT
TR = TREE
TW = TOP OF WALL
UNS = UNDERSIDE LEVEL
VC = VEHICLE CROSSING

ED = ELECTRICITY OVERHEAD
S = SEWER UNDERGROUND

TREE
SPREAD-DIAMETER-HEIGHT
M = MULTIPLE TRUNKS

NOTES:

- **BOUNDARY IDENTIFICATION HAS BEEN UNDERTAKEN.**
- **WALL TO BOUNDARY DIMENSIONS SHOWN HEREON MUST NOT BE USED FOR CONSTRUCTION.**
- **IF CONSTRUCTION IS INTENDED TO BE UNDERTAKEN ON OR ADJACENT TO PROPERTY BOUNDARIES THE BOUNDARIES OF THE LAND MUST BE MARKED OR THE BUILDING SETOUT.**
- **THIS SURVEY IS FOR DESIGN PURPOSES OF THE SUBJECT LAND ONLY. THIS PLAN MUST NOT BE USED FOR ANY OTHER MATTER, PURPOSE OR CONSTRUCTION SETOUT.**
- TREE SIZES ARE ESTIMATES ONLY.
- THIS PLAN HAS BEEN PREPARED FOR THE EXCLUSIVE USE OF RAMSAY HEALTHCARE LIMITED C/O - AKALAN PROJECTS PTY LTD.
- RELATIONSHIP OF IMPROVEMENTS TO BOUNDARIES IS DIAGRAMMATIC ONLY. WHERE OFFSETS ARE CRITICAL THEY SHOULD BE CONFIRMED BY FURTHER SURVEY.
- EXCEPT WHERE SHOWN BY DIMENSION LOCATION OF DETAIL WITH RESPECT TO BOUNDARIES IS INDICATIVE ONLY.
- ONLY VISIBLE SERVICES HAVE BEEN LOCATED. UNDERGROUND SERVICES HAVE NOT BEEN LOCATED. BEFORE YOU DIG AUSTRALIA (www.byda.com.au) SHOULD BE USED AND A FULL UTILITY INVESTIGATION, INCLUDING A UTILITY LOCATION SURVEY, SHOULD BE UNDERTAKEN BEFORE CARRYING OUT ANY CONSTRUCTION ACTIVITY IN OR NEAR THE SURVEYED AREA.
- SEWER MAIN PLOTTED FROM SYDNEY WATER SEWER DIAGRAM. LOCATION SHOULD BE MARKED ON SITE IF CRITICAL.
- CRITICAL SPOT LEVELS SHOULD BE CONFIRMED WITH SURVEYOR.
- CONTOURS SHOWN DEPICT THE TOPOGRAPHY. THEY DO NOT REPRESENT THE EXACT LEVEL AT ANY PARTICULAR POINT. ONLY SPOT LEVELS SHOULD BE USED FOR CALCULATIONS OF QUANTITIES WITH CAUTION.
- CONTOUR INTERVAL - 0.5 metre. - SPOT LEVELS SHOULD BE ADOPTED.
- POSITION OF RIDGE LINES ARE DIAGRAMMATIC ONLY (NOT TO SCALE).
- THE INFORMATION IS ONLY TO BE USED AT A SCALE ACCURACY OF 1:100.
- DO NOT SCALE OFF THIS PLAN / FIGURED DIMENSIONS TO BE TAKEN IN PREFERENCE TO SCALED READINGS.
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- THIS NOTICE MUST NOT BE ERASED.

MARK REID
REGISTERED SURVEYOR BOSSI NUMBER 183

1	FIRST ISSUE	29/04/2025

BEFORE YOU DIG www.byda.com.au
Zero Damage - Zero Harm

0 2.5 5 7.5 10 12.5
SCALE 1:250

HORIZONTAL DATUM:
CO-ORDINATE SYSTEM: MGA GDA2020
MARKS ADOPTED: SSM 25191 & DP1147692

VERTICAL DATUM:
DATUM: AUSTRALIAN HEIGHT DATUM (AHD)
B.M. ADOPTED: SSM 25191
R.L. 19.826 (CLASS LB)
SOURCE: S.C.I.M.S. (8/04/2025)

CLIENT:

RAMSAY HEALTHCARE LIMITED C/O - AKALAN PROJECTS PTY LTD

LGA: GEORGES RIVER

BOUNDARY IDENTIFICATION AND DETAIL & LEVEL SURVEY OVER PART OF LOT 31 IN DP1147692 & LOT 12 IN D.P.800476 No.1A SOUTH STREET KOGARAH, NSW, 2217

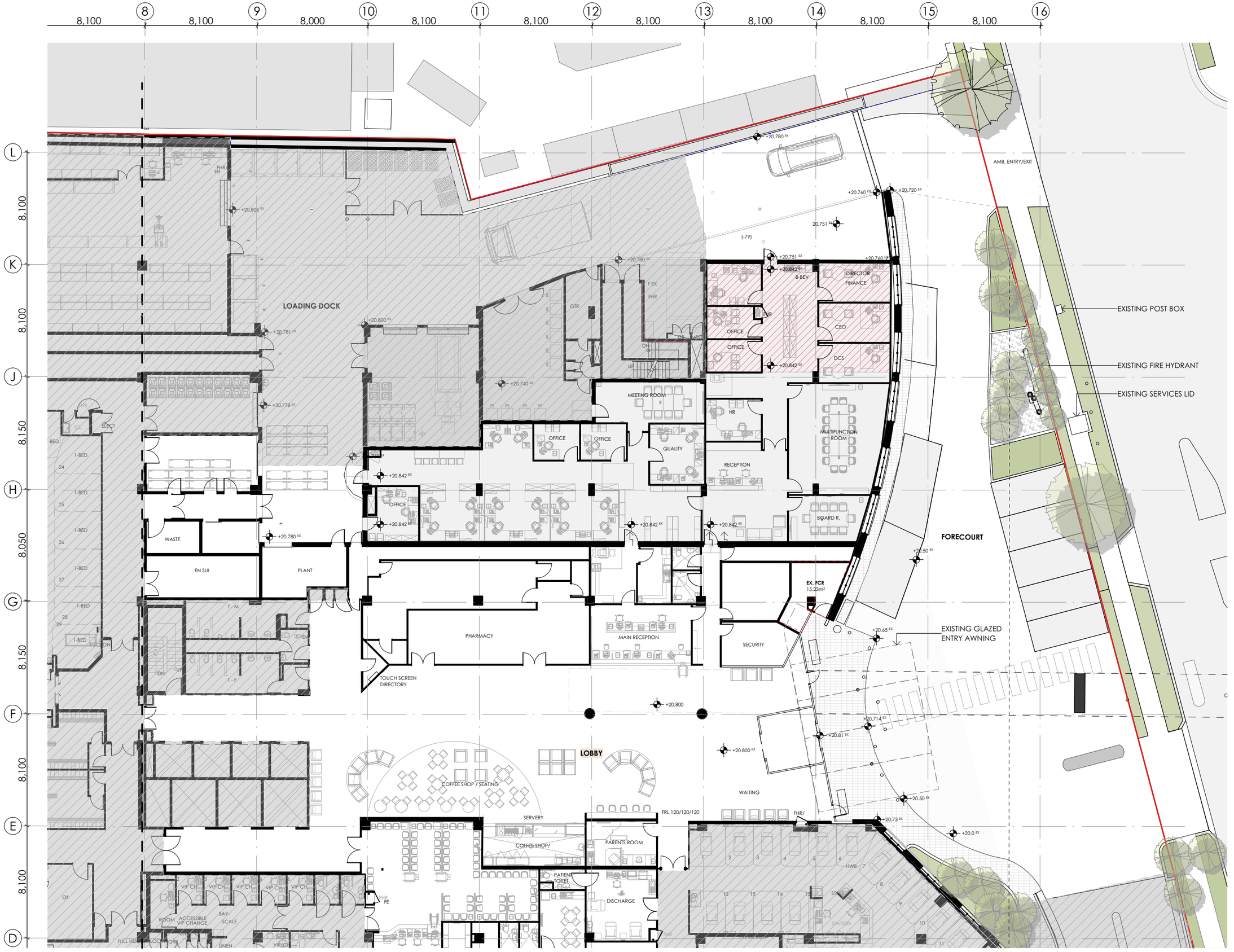
CMS SURVEYORS PTY LTD
ACN 096 240 201
PO Box 463 Dee Why, NSW, 2099
2/99A South Creek Road, Dee Why, NSW, 2099
☎ (02) 9971 4802
✉ info@cmssurveyors.com.au
www.cmssurveyors.com.au

SURVEYED	DRAWN	CHECKED	APPROVED
JM	GP	JM	RM

SURVEY INSTRUCTION	SCALE	DATE OF SURVEY
17006P	1:250@A1	9-10/04/2025

DRAWING NAME **17006Pdetail** SHEET 1 OF 4 ISSUE **1**

CAD FILE 17006Pdetail 1.dwg



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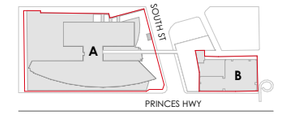

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- DEMOLITION SCOPE
- DASHED OUTLINE INDICATES EXTENT OF NEW DDA-COMPLIANT WORKS
- EXISTING WALLS AND STRUCTURE
- NEW WALLS AND STRUCTURE

PROJECT
St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

SCALE
1:250 @A3

20mm ON ORIGINAL

DRAWN BY
TEAM

APPROVED BY
JF

PRINT DATE
10/20/2025

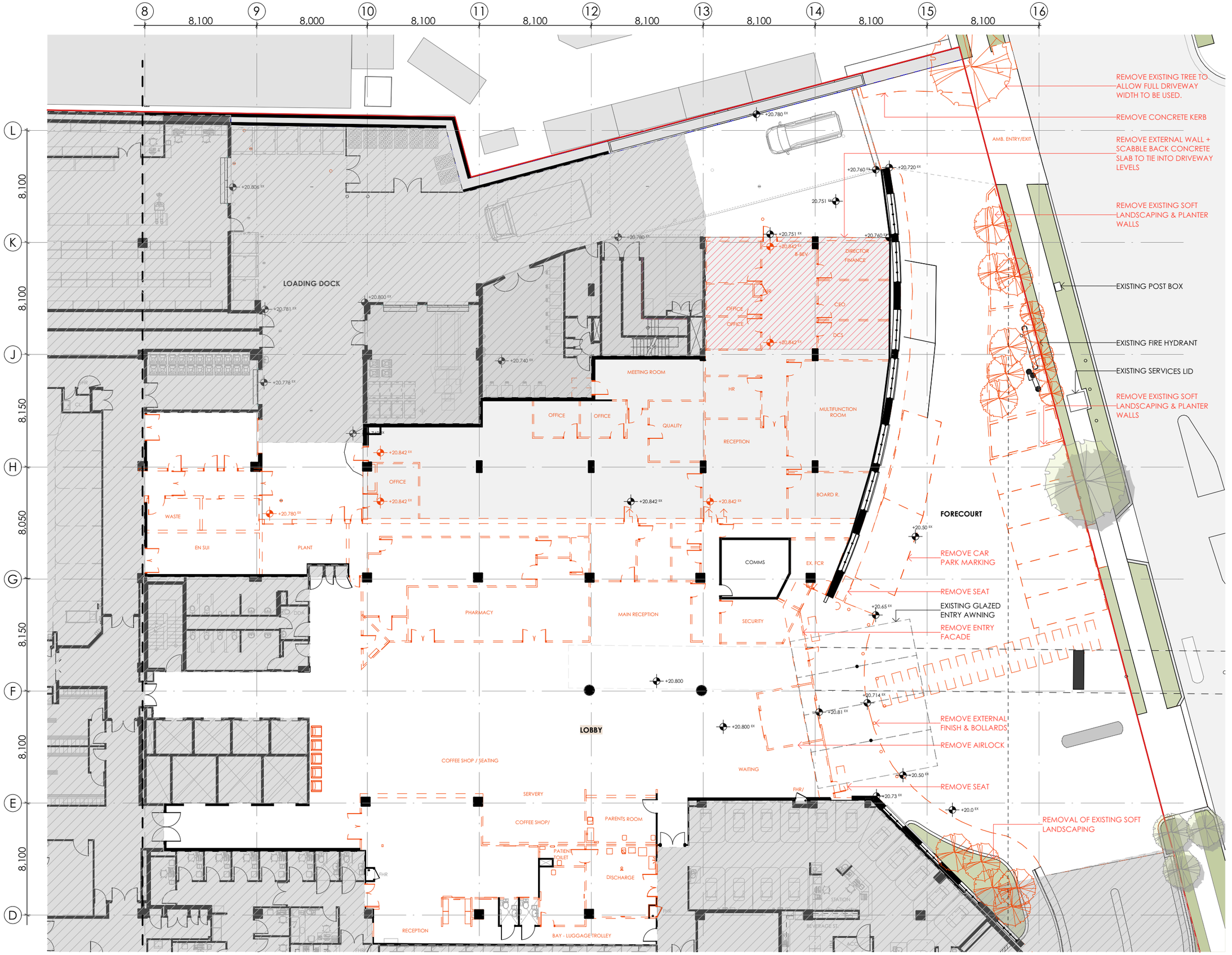
PROJECT NORTH

DRAWING
EXISTING: SITE A - SOUTH ST
EXISTING PLAN

PROJECT NUMBER
22505

DRAWING NUMBER
DA - 2203

ISSUE
G



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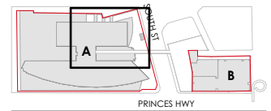

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- EXISTING WALLS AND STRUCTURE
- NEW WALLS AND STRUCTURE

PROJECT
St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

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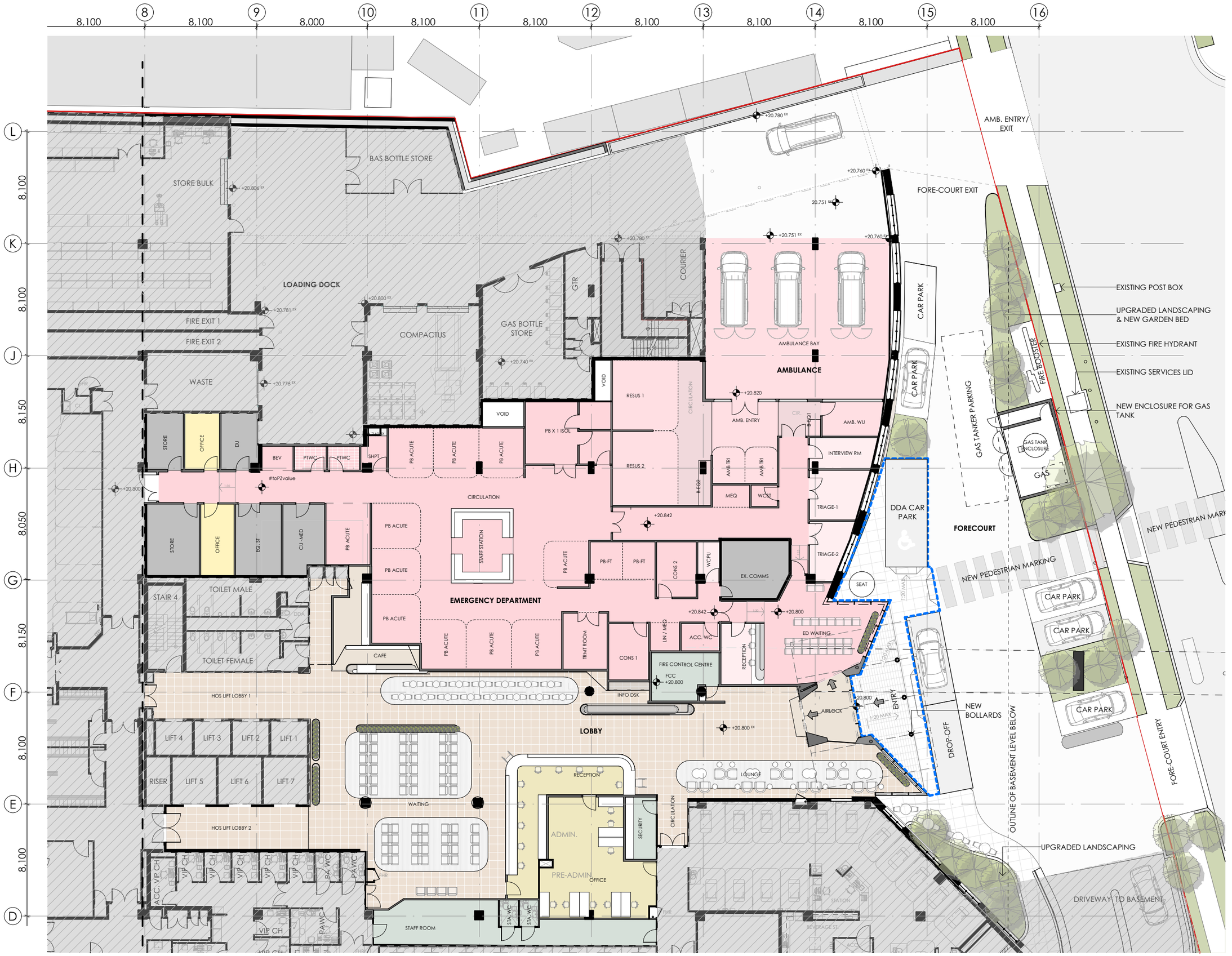
20mm ON ORIGINAL
APPROVED BY JF
PRINT DATE 10/20/2025
PROJECT NORTH

DRAWING
DEMOLITION: SITE A - SOUTH ST
DEMOLITION PLAN

PROJECT NUMBER
22505

DRAWING NUMBER
DA - 2301
ISSUE
G



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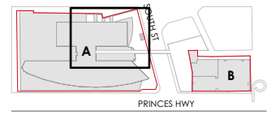

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- DEMOLITION SCOPE
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- EXISTING WALLS AND STRUCTURE
- NEW WALLS AND STRUCTURE

PROJECT

St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

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PRINT DATE 10/20/2025

PROJECT NORTH

DRAWING

GENERAL ARRANGEMENT PLAN: : SITE A - SOUTH ST

GROUND FLOOR PLAN

PROJECT NUMBER **22505**

DRAWING NUMBER **DA - 2401**

ISSUE **G**

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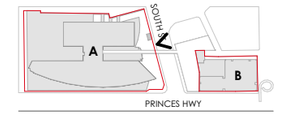

PROJECT

St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

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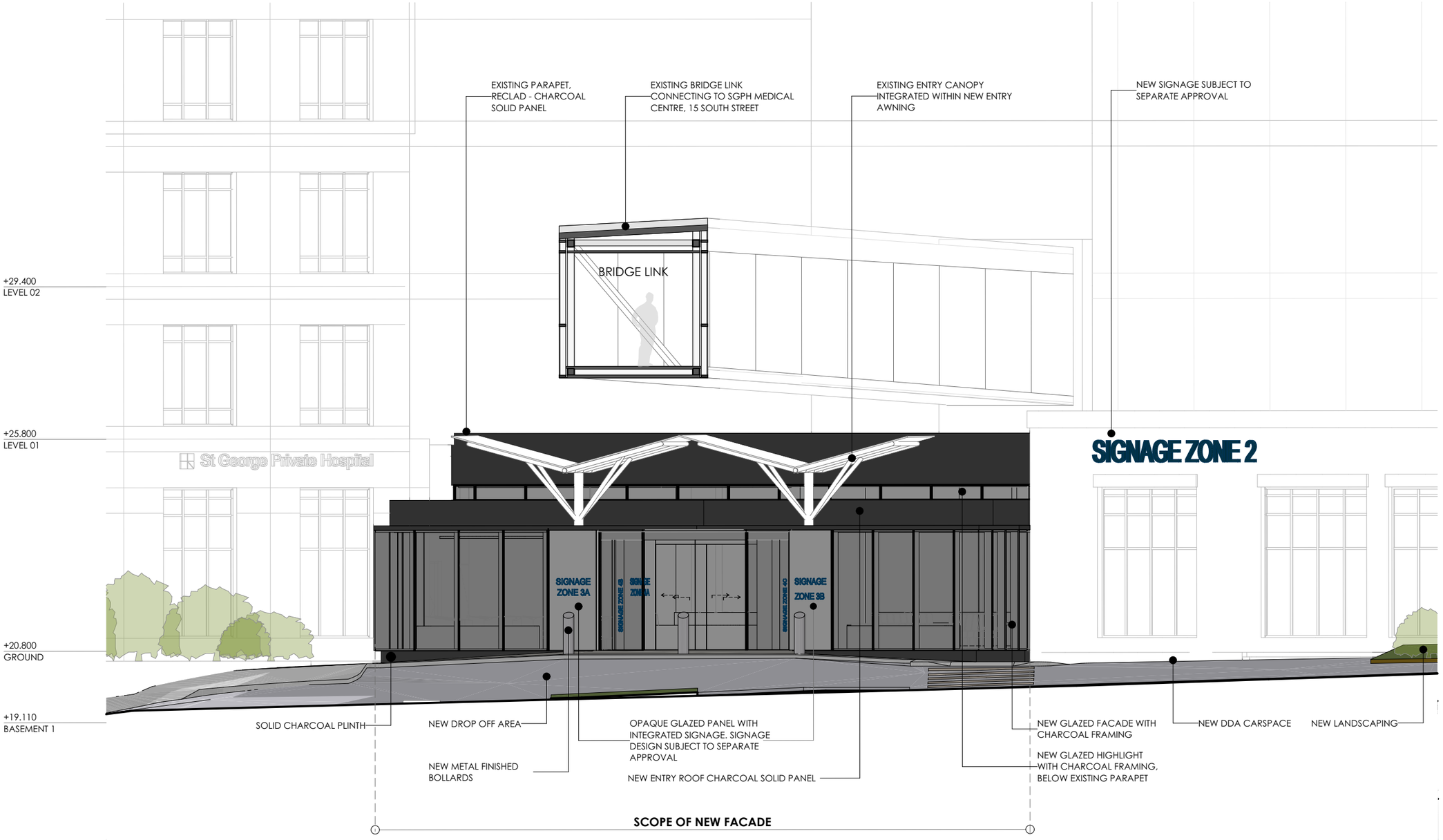
PRINT DATE 10/20/2025

DRAWING
GENERAL ARRANGEMENT ELEVATION: : SITE A - SOUTH ST
NORTH - FROM SOUTH ST

PROJECT NUMBER **22505**

DRAWING NUMBER **DA - 2501**

ISSUE **G**



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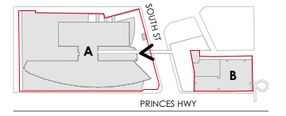

PROJECT
St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

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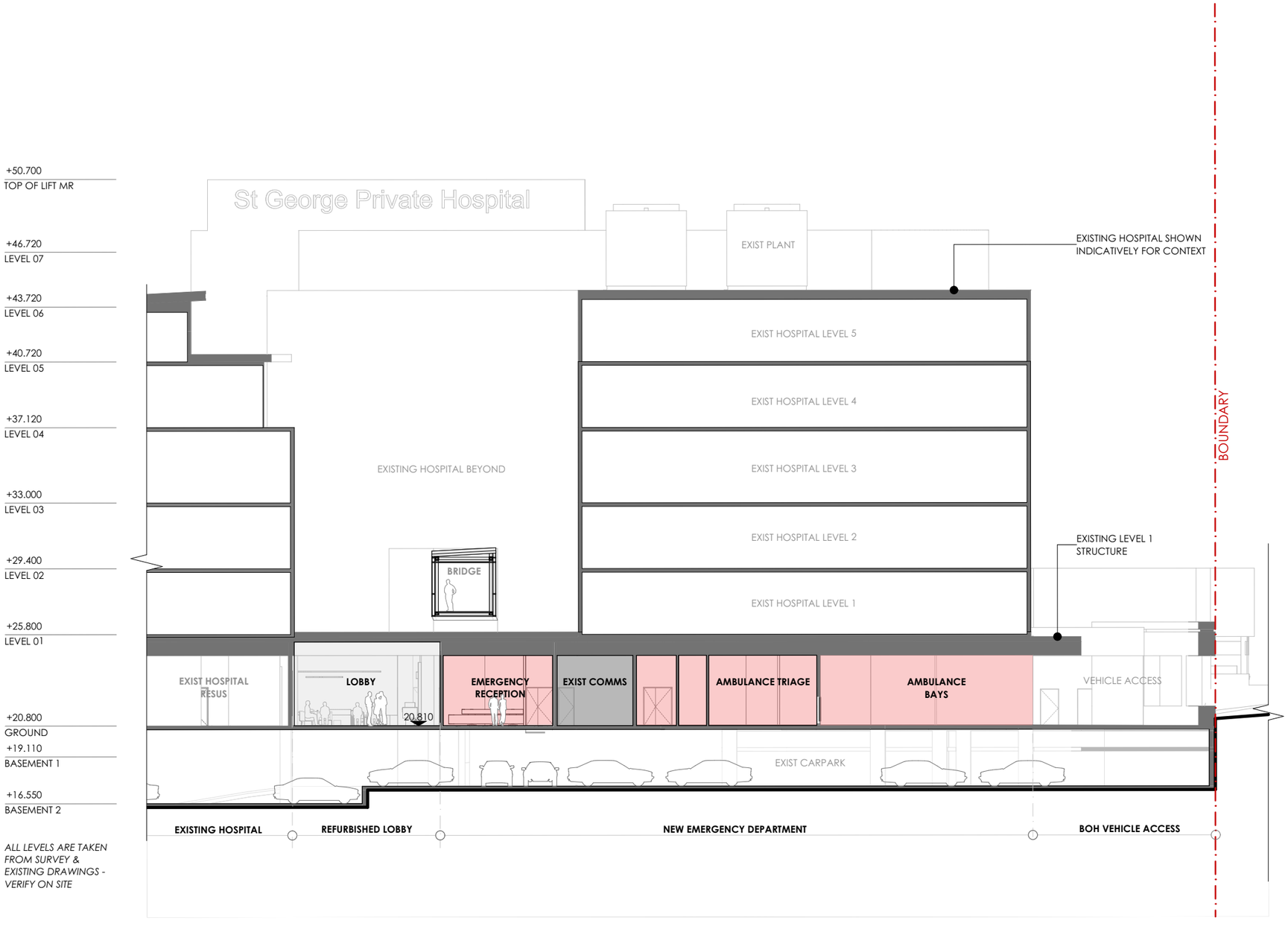
GENERAL ARRANGEMENT ELEVATION: : SITE A - SOUTH ST
NEW ENTRY - FROM FORECOURT

PROJECT NUMBER
22505

DRAWING NUMBER
DA - 2502
ISSUE
G



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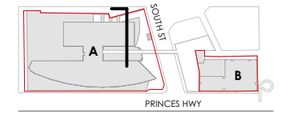

PROJECT

St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

SCALE 1:250 @A3

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20mm ON ORIGINAL

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PRINT DATE 10/20/2025

DRAWING

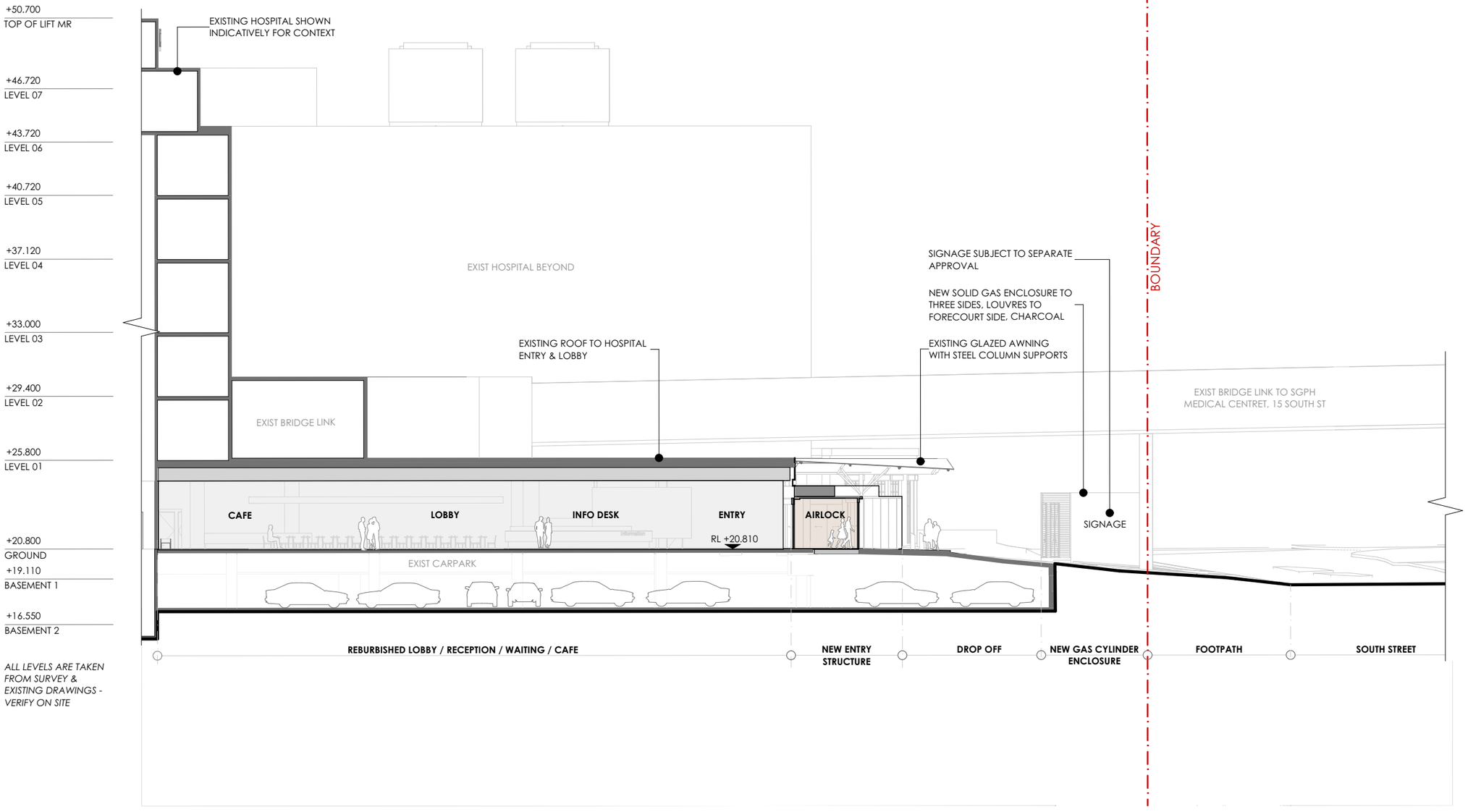
GENERAL ARRANGEMENT SECTION: : SITE A - SOUTH ST

SECTION A-A

PROJECT NUMBER **22505**

DRAWING NUMBER **DA - 2601**

ISSUE **G**



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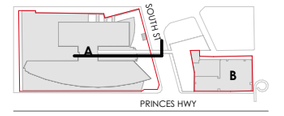

PROJECT

St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

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DRAWN BY TEAM
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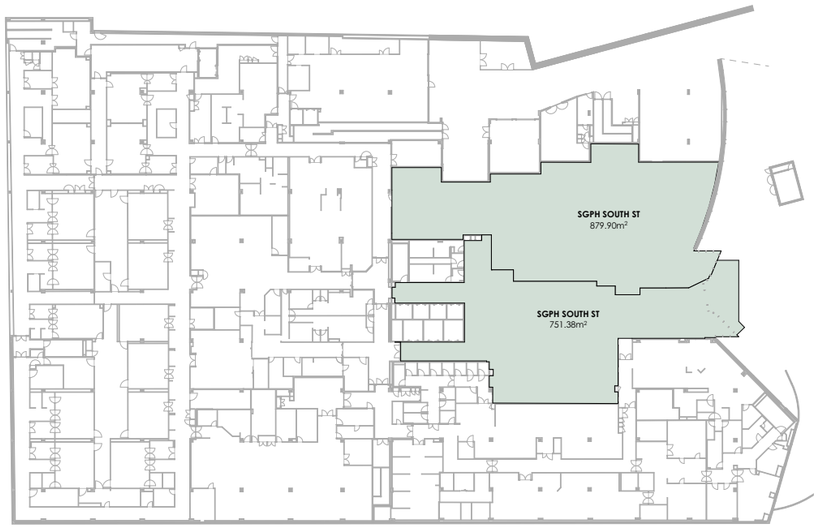
APPROVED BY JF

PRINT DATE 10/20/2025

DRAWING
GENERAL ARRANGEMENT SECTION: : SITE A - SOUTH ST
SECTION B-B

PROJECT NUMBER **22505**

DRAWING NUMBER **DA - 2602**
ISSUE **G**



1 AREA - GFA PLAN
SCALE - 1:1000

SOUTH ST SOA - GFA	
GFA	
SGPH SOUTH ST	1,631.28
	1,631.28 m²

2 AREA - SOA - GFA
SCALE -

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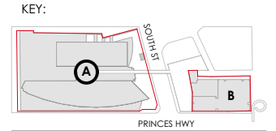

GENERAL LEGEND:

- REFER TO OTHER DRAWINGS OR OUT OF SCOPE
- SITE BOUNDARY LINE
- DEMOLITION SCOPE
- DASHED OUTLINE INDICATES EXTENT OF NEW DDA-COMPLIANT WORKS
- EXISTING WALLS AND STRUCTURE
- NEW WALLS AND STRUCTURE

PROJECT
St George Private Hospital Expansion

Site A: 1 South St, Kogarah NSW 2217
Site B: 119-129 Princes Hwy & 2 Hogben St, Kogarah NSW 2217

Located on Bidjigal Country

PHASE DESIGN DEVELOPMENT - SSDA

PROJECT MANAGER

Akalan

SCALE 1:1000 @A3
20mm ON ORIGINAL

DRAWN BY TEAM
APPROVED BY JF

PRINT DATE 10/20/2025

PROJECT NORTH

DRAWING
AREA SCHEDULE: SITE A - SOUTH ST
AREA SCHEDULES | SOUTH ST

PROJECT NUMBER
22505

DRAWING NUMBER **DA - 2901**
ISSUE **G**

APPENDIX D: DSI FIGURES, LOGS AND RESULTS (COFFEY, 2025D)

LEGEND

- Soil bore
- Groundwater monitoring well
- Site boundary
- Lot

SOURCE
Sampling location and site boundary from Tetra Tech Coffey.
Road and lot from NSW Government.
Aerial imagery from Nearmap (05/06/2025).

N

0 10 20 m

SCALE **1:500**
PAGE SIZE: **A3**
PROJECTION: **GDA2020 MGA Zone 56**

RAMSAY HEALTH CARE PTY LTD
C/O AKALAN PROJECTS LTD
ST GEORGE HOSPITAL (RHC) –
DETAILED SITE INVESTIGATION

FIGURE 3

DRAFT

Sampling location

TETRA TECH COFFEY

DATE: **14.08.25** PROJECT: **754-SYDGE381816** FILE: **381816_R02_F003_GIS**

SAVED BY: DANNY.UKANI | 14.08.25 6:06 PM
DOC REFERENCE: S:\GIS\381816_SYDGE_RAMSAYHEALTHCARE\1_RAMSAYHEALTHCARE\GIS\APRX\381816_R02_FIGS_A.APRX | LAYOUT:381816_R02_F003_GIS_1
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TETRA TECH COFFEY

Environmental Log - Borehole

Hole ID.	***BH101***
sheet:	1 of 1
project no.	***754-SYDGE381816***
client:	***Akalan Projects Pty Ltd***
date started:	***11 Aug 2025***
principal:	
date completed:	***11 Aug 2025***
project:	***St George Private Hospital***
logged by:	***SL***
location:	***Hogben Street, Kogarah NSW***
checked by:	

position: Not Specified | surface elevation: Not Specified | angle from horizontal: 90°

equipment type: | drilling fluid: | hole diameter :

drilling information						material substance					
method & support	water	samples & field tests	photoionization detector (ppmv)	RL (m)	depth (m)	graphic log	soil group symbol	material description **SOIL NAME**: plasticity or particle characteristics, colour, secondary and minor components	moisture condition	consistency / relative density	soil origin, structure and additional observations
HA N	Not Observed	BH101_0.0-0.1	0.5		0.0			**ASPHALT**.	D - M		**ASPHALT / ROADBASE**
		BH101_0.3-0.4	0.3					**FILL: Sandy CLAY**: pale brown, trace sandstone, gravel, brick fragments and tile fragments.			**FILL**
		BH1010_0.9-1.0	0.4		0.5			**SANDSTONE**: pale brown, weathered.	D - M		**NATURAL**
					1.0			Borehole BH101 terminated at 1.30 m Refusal			
					1.5						
					2.0						
					2.5						
					3.0						
					3.5						

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method
- AD auger drilling*
- HA hand auger
- MR mud rotary
- W washbore
- PT push tube
- HS hollow stem
- SS solid stem
- SD sonic drilling
- * bit shown by suffix e.g. AD/T
- B blank bit
- T TC bit
- V V bit

support
- M mud
- C casing
- N nill

water
- 10-Oct-12 water level on date shown
- water inflow
- water outflow

samples & field tests
- B bulk disturbed sample
- D disturbed sample
- E environmental sample
- SS split spoon sample
- U## undisturbed sample ##mm diameter
- WS water sample
- HB hammer bouncing
- N standard penetration test (SPT)
- N* SPT - sample recovered
- Nc SPT with solid cone
- R refusal

soil group symbol & material description
based on AS 1726:2017

moisture condition
- D dry
- M moist
- W wet
- Wp plastic limit
- Wl liquid limit

consistency / relative density
- VS very soft
- S soft
- F firm
- St stiff
- VSt very stiff
- H hard
- Fb friable
- VL very loose
- L loose
- MD medium dense
- D dense
- VD very dense

TETRA TECH COFFEY

Environmental Log - Borehole

Hole ID.	***BH102***
sheet:	1 of 1
project no.	***754-SYDGE381816***
client:	***Akalan Projects Pty Ltd***
date started:	***11 Aug 2025***
principal:	
date completed:	***11 Aug 2025***
project:	***St George Private Hospital***
logged by:	***SL***
location:	***Hogben Street, Kogarah NSW***
checked by:	

position: Not Specified | surface elevation: Not Specified | angle from horizontal: 90°

equipment type: | drilling fluid: | hole diameter :

drilling information						material substance					
method & support	water	samples & field tests	photoionization detector (ppmv)	RL (m)	depth (m)	graphic log	soil group symbol	material description **SOIL NAME**: plasticity or particle characteristics, colour, secondary and minor components	moisture condition	consistency / relative density	soil origin, structure and additional observations
HA N	Not Observed	BH102_0.0-0.1	0.6					**ASPHALT**.	D - M		**ASPHALT / ROADBASE**
								FILL: Sandy CLAY: pale brown, with sandstone, root fibre, gravel, brick fragments.			**FILL**
		BH102_0.4-0.5	0.8					**CONCRETE**: 100 mm thickness.			block of concrete in fill
					0.5			**FILL: Sandy CLAY**: pale brown, with sandstone, root fibre, gravel, brick fragments.	D - M		
								Sandy CLAY: pale brown.	M		**RESIDUAL**
					1.0			**SANDSTONE**: weathered rock.			
								Borehole BH102 terminated at 1.10 m Refusal			
					1.5						
					2.0						
					2.5						
					3.0						
					3.5						

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method
- AD auger drilling*
- HA hand auger
- MR mud rotary
- W washbore
- PT push tube
- HS hollow stem
- SS solid stem
- SD sonic drilling
- * bit shown by suffix e.g. AD/T
- B blank bit
- T TC bit
- V V bit

support
- M mud
- C casing
- N nill

water
- 10-Oct-12 water level on date shown
- water inflow
- water outflow

samples & field tests
- B bulk disturbed sample
- D disturbed sample
- E environmental sample
- SS split spoon sample
- U## undisturbed sample ##mm diameter
- WS water sample
- HB hammer bouncing
- N standard penetration test (SPT)
- N* SPT - sample recovered
- Nc SPT with solid cone
- R refusal

soil group symbol & material description
based on AS 1726:2017

moisture condition
- D dry
- M moist
- W wet
- Wp plastic limit
- Wl liquid limit

consistency / relative density
- VS very soft
- S soft
- F firm
- St stiff
- VSt very stiff
- H hard
- Fb friable
- VL very loose
- L loose
- MD medium dense
- D dense
- VD very dense

TETRA TECH COFFEY

Environmental Log - Borehole

Hole ID.	***BH103***
sheet:	1 of 1
project no.	***754-SYDGE381816***
client:	***Akalan Projects Pty Ltd***
date started:	***11 Aug 2025***
principal:	
date completed:	***11 Aug 2025***
project:	***St George Private Hospital***
logged by:	***SL***
location:	***Hogben Street, Kogarah NSW***
checked by:	

position: Not Specified | surface elevation: Not Specified | angle from horizontal: 90°

equipment type: | drilling fluid: | hole diameter :

drilling information | **material substance**

method & support	water	samples & field tests	photoionization detector (ppmv)	RL (m)	depth (m)	graphic log	soil group symbol	material description (SOIL NAME: plasticity or particle characteristics, colour, secondary and minor components)	moisture condition	consistency / relative density	soil origin, structure and additional observations
HA, N	Not Observed	BH103_0.0-0.2	0.6					**ASPHALT**.	D - M		**ASPHALT / ROADBASE**
								FILL: Sandy CLAY: pale brown, trace gravel, brick and concrete fragments, sandstone.			**FILL**
		BH103_0.5-0.6	0.8		0.5			**FILL: Gravelly SAND**: dark grey, trace gravel.			
		BH103_0.7-0.8	0.9					**Sandy CLAY**: pale brown mottled grey.	D - M		**RESIDUAL**
								SANDSTONE: weathered rock.			
					1.0			Borehole BH103 terminated at 0.95 m Refusal			
					1.5						
					2.0						
					2.5						
					3.0						
					3.5						

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method
- AD auger drilling*
- HA hand auger
- MR mud rotary
- W washbore
- PT push tube
- HS hollow stem
- SS solid stem
- SD sonic drilling
- * bit shown by suffix e.g. AD/T
- B blank bit
- T TC bit
- V V bit

support
- M mud
- C casing
- N nill

water
- 10-Oct-12 water level on date shown
- water inflow
- water outflow

samples & field tests
- B bulk disturbed sample
- D disturbed sample
- E environmental sample
- SS split spoon sample
- U## undisturbed sample ##mm diameter
- WS water sample
- HB hammer bouncing
- N standard penetration test (SPT)
- N* SPT - sample recovered
- Nc SPT with solid cone
- R refusal

soil group symbol & material description
based on AS 1726:2017

moisture condition
- D dry
- M moist
- W wet
- Wp plastic limit
- Wl liquid limit

consistency / relative density
- VS very soft
- S soft
- F firm
- St stiff
- VSt very stiff
- H hard
- Fb friable
- VL very loose
- L loose
- MD medium dense
- D dense
- VD very dense

TETRA TECH COFFEY

Environmental Log - Borehole

Hole ID.	***BH104***
sheet:	1 of 1
project no.	***754-SYDGE381816***
client:	***Akalan Projects Pty Ltd***
date started:	***11 Aug 2025***
principal:	
date completed:	***11 Aug 2025***
project:	***St George Private Hospital***
logged by:	***SL***
location:	***Hogben Street, Kogarah NSW***
checked by:	

position: Not Specified | surface elevation: Not Specified | angle from horizontal: 90°

equipment type: | drilling fluid: | hole diameter :

drilling information						material substance					
method & support	water	samples & field tests	photoionization detector (ppmv)	RL (m)	depth (m)	graphic log	soil group symbol	material description **SOIL NAME**: plasticity or particle characteristics, colour, secondary and minor components	moisture condition	consistency / relative density	soil origin, structure and additional observations
HA N	Not Observed	BH104_0.0-0.1	0.8					**ASPHALT**.	D - M		**ASPHALT / ROADBASE**
		BH104_0.2-0.3	0.6					**FILL: Sandy CLAY**: pale brown, trace terracotta, PVC, glass, gravel, brick fragments, metal, wires, plastic.			**FILL**
		BH104_0.6-0.7	0.6		0.5			**FILL: Gravelly SAND**: dark grey, trace terracotta, PVC, glass, gravel, brick fragments, metal, wires, plastic.			
		BH104_0.8-0.9	0.7					**Sandy CLAY**: grey, dark grey.	D - M		**NATURAL**
					1.0			**Sandy CLAY**: pale brown.			
					1.5						
								Borehole BH104 terminated at 1.65 m Refusal			
					2.0						
					2.5						
					3.0						
					3.5						

method
- AD auger drilling*
- HA hand auger
- MR mud rotary
- W washbore
- PT push tube
- HS hollow stem
- SS solid stem
- SD sonic drilling
- * bit shown by suffix e.g. AD/T
- B blank bit
- T TC bit
- V V bit

support
- M mud
- C casing
- N nill

water
- 10-Oct-12 water level on date shown
- water inflow
- water outflow

samples & field tests
- B bulk disturbed sample
- D disturbed sample
- E environmental sample
- SS split spoon sample
- U## undisturbed sample ##mm diameter
- WS water sample
- HB hammer bouncing
- N standard penetration test (SPT)
- N* SPT - sample recovered
- Nc SPT with solid cone
- R refusal

soil group symbol & material description
based on AS 1726:2017

moisture condition
- D dry
- M moist
- W wet
- Wp plastic limit
- Wl liquid limit

consistency / relative density
- VS very soft
- S soft
- F firm
- St stiff
- VSt very stiff
- H hard
- Fb friable
- VL very loose
- L loose
- MD medium dense
- D dense
- VD very dense

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TETRA TECH COFFEY

Environmental Log - Borehole

Hole ID.	***BH105***
sheet:	1 of 1
project no.	***754-SYDGE381816***
client:	***Akalan Projects Pty Ltd***
date started:	***11 Aug 2025***
principal:	
date completed:	***11 Aug 2025***
project:	***St George Private Hospital***
logged by:	***SL***
location:	***Hogben Street, Kogarah NSW***
checked by:	

position: Not Specified | surface elevation: Not Specified | angle from horizontal: 90°

equipment type: | drilling fluid: | hole diameter :

drilling information | **material substance**

method & support	water	samples & field tests	photoionization detector (ppmv)	RL (m)	depth (m)	graphic log	soil group symbol	material description (SOIL NAME: plasticity or particle characteristics, colour, secondary and minor components)	moisture condition	consistency / relative density	soil origin, structure and additional observations
HA, N	Not Observed	BH105_0.0-0.1	0.8					**ASPHALT**.	D - M		**ASPHALT / ROADBASE**
		BH105_0.2-0.3	0.7					**FILL: Sandy CLAY**: pale grey, reworked shale.			**FILL**
		BH105_0.4-0.5	0.6		0.5			**FILL: Sandy CLAY**: dark grey, reworked shale.			
		BH105_1.1-1.2			1.0			**Sandy CLAY**: pale brown.	D - M		**RESIDUAL**
					1.5			Borehole BH105 terminated at 1.50 m Refusal			
					2.0						
					2.5						
					3.0						
					3.5						

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method
- AD auger drilling*
- HA hand auger
- MR mud rotary
- W washbore
- PT push tube
- HS hollow stem
- SS solid stem
- SD sonic drilling
- * bit shown by suffix e.g. AD/T
- B blank bit
- T TC bit
- V V bit

support
- M mud
- C casing
- N nill

water
- 10-Oct-12 water level on date shown
- water inflow
- water outflow

samples & field tests
- B bulk disturbed sample
- D disturbed sample
- E environmental sample
- SS split spoon sample
- U## undisturbed sample ##mm diameter
- WS water sample
- HB hammer bouncing
- N standard penetration test (SPT)
- N* SPT - sample recovered
- Nc SPT with solid cone
- R refusal

soil group symbol & material description based on AS 1726:2017

moisture condition
- D dry
- M moist
- W wet
- Wp plastic limit
- Wl liquid limit

consistency / relative density
- VS very soft
- S soft
- F firm
- St stiff
- VSt very stiff
- H hard
- Fb friable
- VL very loose
- L loose
- MD medium dense
- D dense
- VD very dense

TETRA TECH COFFEY

Environmental Log - Borehole

Hole ID.	***BH106***
sheet:	1 of 1
project no.	***754-SYDGE381816***
client:	***Akalan Projects Pty Ltd***
date started:	***11 Aug 2025***
principal:	
date completed:	***11 Aug 2025***
project:	***St George Private Hospital***
logged by:	***SL***
location:	***Hogben Street, Kogarah NSW***
checked by:	

position: Not Specified | surface elevation: Not Specified | angle from horizontal: 90°

equipment type: | drilling fluid: | hole diameter :

drilling information | **material substance**

method & support	water	samples & field tests	photoionization detector (ppmv)	RL (m)	depth (m)	graphic log	soil group symbol	material description (SOIL NAME: plasticity or particle characteristics, colour, secondary and minor components)	moisture condition	consistency / relative density	soil origin, structure and additional observations
HA / N	Not Observed	BH106_0.0-0.1	0.6					**ASPHALT**.	D - M		**ASPHALT / ROADBASE**
		BH106_0.2-0.3 (DUP/TRIP)	0.8					**FILL: Sandy CLAY**: dark brown, trace tile, metal, gravel, rock.			**FILL**
		BH106_0.4-0.5	1.4					**FILL: Gravelly SAND**: rocks, trace sandstone.			
		BH106_0.5-0.6	1.4		0.5			**FILL: Sandy CLAY**: dark brown, trace sandstone.			
		BH106_0.6-0.7	0.9					**FILL: Sandy CLAY**: brown grey, sandstone.			
		BH106_1.2-1.3			1.0						
			1.2					Borehole BH106 terminated at 1.20 m Refusal			

1.5 2.0 2.5 3.0 3.5

method

AD	auger drilling*
HA	hand auger
MR	mud rotary
W	washbore
PT	push tube
HS	hollow stem
SS	solid stem
SD	sonic drilling
*	bit shown by suffix
e.g.	AD/T
B	blank bit
T	TC bit
V	V bit

support

M	mud
C	casing
N	nill

water

10-Oct-12 water level on date shown
water inflow
water outflow

samples & field tests

B	bulk disturbed sample
D	disturbed sample
E	environmental sample
SS	split spoon sample
U##	undisturbed sample ##mm diameter
WS	water sample
HB	hammer bouncing
N	standard penetration test (SPT)
N*	SPT - sample recovered
Nc	SPT with solid cone
R	refusal

soil group symbol & material description based on AS 1726:2017

moisture condition

D	dry
M	moist
W	wet
Wp	plastic limit
Wl	liquid limit

consistency / relative density

VS	very soft
S	soft
F	firm
St	stiff
VSt	very stiff
H	hard
Fb	friable
VL	very loose
L	loose
MD	medium dense
D	dense
VD	very dense

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TETRA TECH COFFEY

Environmental Log - Borehole

Hole ID.	***BH107***
sheet:	1 of 1
project no.	***754-SYDGE381816***
client:	***Akalan Projects Pty Ltd***
date started:	***11 Aug 2025***
principal:	
date completed:	***11 Aug 2025***
project:	***St George Private Hospital***
logged by:	***SL***
location:	***Hogben Street, Kogarah NSW***
checked by:	

position: Not Specified | surface elevation: Not Specified | angle from horizontal: 90°

equipment type: | drilling fluid: | hole diameter :

drilling information | **material substance**

method & support	water	samples & field tests	photoionization detector (ppmv)	RL (m)	depth (m)	graphic log	soil group symbol	material description (SOIL NAME: plasticity or particle characteristics, colour, secondary and minor components)	moisture condition	consistency / relative density	soil origin, structure and additional observations
HA, N	Not Observed	BH107_0.0-0.1	0.6					**ASPHALT**.	D - M		**ASPHALT / ROADBASE**
		BH107_0.2-0.3 (DUP/TRIP)	0.6					**FILL: Gravelly SAND**: with sandstone gravel, ironstone, tile fragments.			**FILL**
					0.5			**Sandy CLAY**: pale brown, trace root fibres.			
					1.0			**CL**: dark red, weathered.	D - M		**RESIDUAL**
								Borehole BH107 terminated at 1.00 m Refusal			
					1.5						
					2.0						
					2.5						
					3.0						
					3.5						

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method
- AD auger drilling*
- HA hand auger
- MR mud rotary
- W washbore
- PT push tube
- HS hollow stem
- SS solid stem
- SD sonic drilling
- * bit shown by suffix
- e.g. AD/T
- B blank bit
- T TC bit
- V V bit

support
- M mud
- C casing
- N nill

water
- 10-Oct-12 water level on date shown
- water inflow
- water outflow

samples & field tests
- B bulk disturbed sample
- D disturbed sample
- E environmental sample
- SS split spoon sample
- U## undisturbed sample ##mm diameter
- WS water sample
- HB hammer bouncing
- N standard penetration test (SPT)
- N* SPT - sample recovered
- Nc SPT with solid cone
- R refusal

soil group symbol & material description
based on AS 1726:2017

moisture condition
- D dry
- M moist
- W wet
- Wp plastic limit
- Wl liquid limit

consistency / relative density
- VS very soft
- S soft
- F firm
- St stiff
- VSt very stiff
- H hard
- Fb friable
- VL very loose
- L loose
- MD medium dense
- D dense
- VD very dense

TETRA TECH COFFEY

Environmental Log - Borehole

Hole ID.	**BH108**
sheet:	1 of 1
project no.	**754-SYDGE381816**
client:	**Akalan Projects Pty Ltd**
date started:	**11 Aug 2025**
principal:	
date completed:	**11 Aug 2025**
project:	**St George Private Hospital**
logged by:	**SL**
location:	**Hogben Street, Kogarah NSW**
checked by:	

position: Not Specified | surface elevation: Not Specified | angle from horizontal: 90°

equipment type: | drilling fluid: | hole diameter :

drilling information						material substance					
method & support	water	samples & field tests	photoionization detector (ppmv)	RL (m)	depth (m)	graphic log	soil group symbol	material description **SOIL NAME**: plasticity or particle characteristics, colour, secondary and minor components	moisture condition	consistency / relative density	soil origin, structure and additional observations
HA N	Not Observed	BH108_0.0-0.1	0.8					**ASPHALT**.			**ASPHALT / ROADBASE**
		BH108_0.1-0.2	0.9					**FILL: Sandy CLAY**: dark brown, trace gravel, brick fragments, tile fragments, terracotta.	D - M		**FILL**
								CONCRETE.			**CONCRETE SLAB**
		BH108_0.5-0.6	1.1		0.5			**FILL: Sandy CLAY**: dark brown, trace gravel, tile fragments, plastic debris, charcoal, ironstone fragments.	D - M		**FILL**
								Sandy CLAY: pale brown.	M		**RESIDUAL**
					1.0			Borehole BH108 terminated at 1.00 m Refusal			
					1.5						
					2.0						
					2.5						
					3.0						
					3.5						

CDF_0_10_00.4_LIBRARY.GLB rev:CDF_0_10_00.4 2021-09-30 Log COF BOREHOLE: ENVIRONMENTAL 754-SYDGE381816.GPJ <<DrawingFile>> 18/09/2025 09:37

method
- AD auger drilling*
- HA hand auger
- MR mud rotary
- W washbore
- PT push tube
- HS hollow stem
- SS solid stem
- SD sonic drilling
- * bit shown by suffix e.g. AD/T
- B blank bit
- T TC bit
- V V bit

support
- M mud
- C casing
- N nill

water
- 10-Oct-12 water level on date shown
- water inflow
- water outflow

samples & field tests
- B bulk disturbed sample
- D disturbed sample
- E environmental sample
- SS split spoon sample
- U## undisturbed sample ##mm diameter
- WS water sample
- HB hammer bouncing
- N standard penetration test (SPT)
- N* SPT - sample recovered
- Nc SPT with solid cone
- R refusal

soil group symbol & material description
based on AS 1726:2017

moisture condition
- D dry
- M moist
- W wet
- Wp plastic limit
- Wl liquid limit

consistency / relative density
- VS very soft
- S soft
- F firm
- St stiff
- VSt very stiff
- H hard
- Fb friable
- VL very loose
- L loose
- MD medium dense
- D dense
- VD very dense

TETRA TECH COFFEY

Environmental Log - Borehole

Hole ID.	***BH109***
sheet:	1 of 1
project no.	***754-SYDGE381816***
client:	***Akalan Projects Pty Ltd***
date started:	***11 Aug 2025***
principal:	
date completed:	***11 Aug 2025***
project:	***St George Private Hospital***
logged by:	***SL***
location:	***Hogben Street, Kogarah NSW***
checked by:	

position: Not Specified | surface elevation: Not Specified | angle from horizontal: 90°

equipment type: | drilling fluid: | hole diameter :

drilling information | **material substance**

method & support	water	samples & field tests	photoionization detector (ppmv)	RL (m)	depth (m)	graphic log	soil group symbol	material description **SOIL NAME**: plasticity or particle characteristics, colour, secondary and minor components	moisture condition	consistency / relative density	soil origin, structure and additional observations
HA, N	Not Observed	BH109_0.0-0.1	1					**ASPHALT**.			**ASPHALT / ROADBASE**
		BH109_0.3-0.4	0.6					**FILL: Sandy CLAY**: dark brown, trace gravel, terracotta, glass, tiles, brick fragments.	D		**FILL**
					0.5			**Sandy CLAY**: pale brown, trace root fibres.	D - M		**RESIDUAL**
					1.0			**SANDSTONE**: weathered.			
								Borehole BH109 terminated at 1.00 m Refusal			
					1.5						
					2.0						
					2.5						
					3.0						
					3.5						

CDF_0_10_00.4_LIBRARY.GLB rev:CDF_0_10_00.4 2021-09-30 Log COF BOREHOLE: ENVIRONMENTAL 754-SYDGE381816.GPJ <<DrawingFile>> 18/09/2025 09:37

method
- AD auger drilling*
- HA hand auger
- MR mud rotary
- W washbore
- PT push tube
- HS hollow stem
- SS solid stem
- SD sonic drilling
- * bit shown by suffix
- e.g. AD/T
- B blank bit
- T TC bit
- V V bit

support
- M mud
- C casing
- N nill

water
- 10-Oct-12 water level on date shown
- water inflow
- water outflow

samples & field tests
- B bulk disturbed sample
- D disturbed sample
- E environmental sample
- SS split spoon sample
- U## undisturbed sample ##mm diameter
- WS water sample
- HB hammer bouncing
- N standard penetration test (SPT)
- N* SPT - sample recovered
- Nc SPT with solid cone
- R refusal

soil group symbol & material description
based on AS 1726:2017

moisture condition
- D dry
- M moist
- W wet
- Wp plastic limit
- Wl liquid limit

consistency / relative density
- VS very soft
- S soft
- F firm
- St stiff
- VSt very stiff
- H hard
- Fb friable
- VL very loose
- L loose
- MD medium dense
- D dense
- VD very dense

TETRA TECH COFFEY

Environmental Log - Borehole

Hole ID.	***BH110***
sheet:	1 of 1
project no.	***754-SYDGE381816***
client:	***Akalan Projects Pty Ltd***
date started:	***11 Aug 2025***
principal:	
date completed:	***11 Aug 2025***
project:	***St George Private Hospital***
logged by:	***SL***
location:	***Hogben Street, Kogarah NSW***
checked by:	

position: Not Specified | surface elevation: Not Specified | angle from horizontal: 90°

equipment type: | drilling fluid: | hole diameter :

drilling information | **material substance**

method & support	water	samples & field tests	photoionization detector (ppmv)	RL (m)	depth (m)	graphic log	soil group symbol	material description **SOIL NAME**: plasticity or particle characteristics, colour, secondary and minor components	moisture condition	consistency / relative density	soil origin, structure and additional observations
HA, N	Not Observed	BH110_0.0-0.1			0.0			**ASPHALT**.			**ASPHALT / ROADBASE**
		BH110_0.3-0.4			0.5			**FILL: Sandy CLAY**: pale brown, trace tile fragment, concrete fragments, gravel.	D		**FILL**
					1.0			**Silty CLAY**: pale brown.	M		**RESIDUAL**
					1.5			**SANDSTONE**: weathered.			
								Borehole BH110 terminated at 1.50 m Refusal			
					2.0						
					2.5						
					3.0						
					3.5						

CDF_0_10_00.4_LIBRARY.GLB rev:CDF_0_10_00.4 2021-09-30 Log_COF BOREHOLE: ENVIRONMENTAL 754-SYDGE381816.GPJ <<DrawingFile>> 18/09/2025 09:37

method
- AD auger drilling*
- HA hand auger
- MR mud rotary
- W washbore
- PT push tube
- HS hollow stem
- SS solid stem
- SD sonic drilling
- * bit shown by suffix e.g. AD/T
- B blank bit
- T TC bit
- V V bit

support
- M mud
- C casing
- N nill

water
- 10-Oct-12 water level on date shown
- water inflow
- water outflow

samples & field tests
- B bulk disturbed sample
- D disturbed sample
- E environmental sample
- SS split spoon sample
- U## undisturbed sample ##mm diameter
- WS water sample
- HB hammer bouncing
- N standard penetration test (SPT)
- N* SPT - sample recovered
- Nc SPT with solid cone
- R refusal

soil group symbol & material description
based on AS 1726:2017

moisture condition
- D dry
- M moist
- W wet
- Wp plastic limit
- Wl liquid limit

consistency / relative density
- VS very soft
- S soft
- F firm
- St stiff
- VSt very stiff
- H hard
- Fb friable
- VL very loose
- L loose
- MD medium dense
- D dense
- VD very dense

TETRA TECH COFFEY

Engineering Log - Borehole

Borehole ID.	**BH01**
sheet:	1 of 4
project no.	**754-SYDGE381816**
client:	**Ramsay Health Care Pty Ltd c/o Akalan Project Pty Ltd**
date started:	**30 Apr 2025**
principal:	
date completed:	**30 Apr 2025**
project:	**St George Private Hospital**
logged by:	**RZ/EO**
location:	**Refer to Site Plan**
checked by:	**IG**

position: E: 327,832.40; N: 6,240,107.90 (GDA2020) | surface elevation: 21.09 m (AHD) | angle from horizontal: 90°

drill model: D-4T, Truck mounted | drilling fluid: Water | hole diameter : 52/120

drilling information | **material substance**

method & support	penetration 1 2 3	water	samples & field tests	RL (m)	depth (m)	graphic log	soil group symbol	material description (SOIL NAME: plasticity or particle characteristics, colour, secondary and minor components)	moisture condition	consistency / relative density	hand penetrometer (kPa) 100 200 300 400	soil origin, structure and additional observations
HA, C, AD/V		Not Observed	D	21	0.0			**ASPHALT CONCRETE**.	D			**FILL**
							SP	**FILL: Gravelly SAND**: fine to medium grained, brown-grey mottled red and pale grey, fine to medium grained, sub-angular to angular gravel, trace glass fragments.				
				20	1.0			**SAND**: fine to medium grained, brown to pale brown-grey. 1.0 m: becoming pale grey 1.2 m: becoming orange brown				**EXTREMELY WEATHERED MATERIAL** No SPT conducted due to shallow bedrock
								Borehole BH01 continued as cored hole				
				19	2.0							
				18	3.0							
				17	4.0							
				16	5.0							
				15	6.0							
				14	7.0							

CDF_0_10_00.4_LIBRARY 1.GLB rev:CDF_0_10_00.4 2021-09-30 Log COF BOREHOLE: NON CORED SGPH_GINT_16.06.2025.GPJ <<DrawingFile>> 03/09/2025 13:32

method
DT diatube
AD auger drilling*
AS auger screwing*
HA hand auger
W washbore
RR rock roller

* bit shown by suffix
e.g. AD/T
B blank bit
T TC bit
V V bit

support
M mud
C casing
N nil

penetration
1 2 3 no resistance ranging to refusal

water
10-Oct-12 water level on date shown
water inflow
water outflow

samples & field tests
B bulk disturbed sample
D disturbed sample
E environmental sample
SS split spoon sample
U## undisturbed sample ##mm diameter
HP hand penetrometer (kPa)
N standard penetration test (SPT)
N* SPT - sample recovered
Nc SPT with solid cone
VS vane shear; peak/remoulded (kPa)
R refusal
HB hammer bouncing

soil group symbol & material description
based on AS 1726:2017

moisture condition
D dry
M moist
W wet
Wp plastic limit
Wl liquid limit

consistency / relative density
VS very soft
S soft
F firm
St stiff
VSt very stiff
H hard
Fb friable
VL very loose
L loose
MD medium dense
D dense
VD very dense

TETRA TECH COFFEY

Engineering Log - Cored Borehole

Borehole ID.	**BH01**
sheet:	2 of 4
project no.	**754-SYDGE381816**
client:	**Ramsay Health Care Pty Ltd c/o Akalan Project Pty Ltd**
date started:	**30 Apr 2025**
principal:	
date completed:	**30 Apr 2025**
project:	**St George Private Hospital**
logged by:	**RZ/EO**
location:	**Refer to Site Plan**
checked by:	**IG**

position: E: 327,832.40; N: 6,240,107.90 (GDA2020) | surface elevation: 21.09 m (AHD) | angle from horizontal: 90°

drill model: D-4T, Truck mounted | drilling fluid: Water | hole diameter : 52/120

drilling information | **material substance** | **rock mass defects**

method & support	water	RL (m)	depth (m)	graphic log	material description **ROCK TYPE**: grain characterisics, colour, structure, minor components	weathering & alteration	estimated strength & Is50 (X = axial; O = diametral) VL L M H VH EH	samples, field tests & Is(50) (MPa) a = axial; d = diametral	core run & RQD	defect spacing (mm) 30 100 300 1000 3000	additional observations and defect descriptions (type, inclination, planarity, roughness, coating, thickness, other) particular / general
		21									
		20	1.0		started coring at 1.36m						
NMLC	Not Observed	19	2.0		**CLAYEY SAND**: fine to medium grained, pale grey mottled orange-brown and red.	RS					PT, 5°, PL, RO, Fe SN - Clay VN
					SANDSTONE: medium to coarse grained, red-brown and pale grey.	MW RS					PT, 5 - 10°, UN, RO, CN PT, 5°, PL, RO, Fe SN
					Silty CLAY: high plasticity, pale grey mottled dark grey, with bands of siltstone up to 50 mm. 2.30 to 2.40 m: becoming pale grey mottled dark grey and red				0%		
		18	3.0		**SILTSTONE**: dark grey, banded orange-brown, distinctly laminated at 5° to 10°.	HW					**CLASS IV HAWKESBURY SANDSTONE** Fracture zone, 30 mm SM, Clay, 70 mm PT, 5°, PL, RO, Fe SN PT, 10°, PL, RO, Fe SN JT, 40 - 85°, ST, RO, Fe SN - Clay PT, 15°, PL, RO, Fe SN SM, Clay, 35 mm SM, Clay, 35 mm PT, 15°, PL, RO, Fe healed
					SANDSTONE: medium to coarse grained, dark red-brown and orange-brown.						
		17	4.0		**SANDSTONE**: medium to coarse grained, dark red and orange-brown. 4.49 m: singular siltstone lamina	MW		d=0.42 a=0.63	84%		**CLASS III/II HAWKESBURY SANDSTONE** PT, 20°, PL, RO, Fe SN SM, Clay, 5 mm
		16	5.0		**SANDSTONE**: medium to coarse grained, pale grey, banded orange-brown grading to pale grey, indistinctly cross bedded at 5° - 10°. 5.12 m: no orange-brown bands	SW		d=0.67 a=0.55			PT, 5°, PL, RO, Fe SN PTx4, 5 - 10°, PL, Fe healed
						FR		d=0.87 a=1.08			SM, Clay, 5 mm
	14/05/25	15	6.0								
		14	7.0		7.46 to 7.50 m: with siltstone laminae			d=0.86 a=0.67	99%		PT, 10°, PL, RO, CN
								d=0.88			

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method
DT diatube
NMLC NMLC core (51.9 mm)
NQ wireline core (47.6mm)
HQ wireline core (63.5mm)
PQ wireline core (85.0mm)
RR rock roller

support
C casing M mud N none

water
10/10/12, water level on date shown
water inflow
complete drilling fluid loss
partial drilling fluid loss
25uL water pressure test result (lugeons) for depth interval shown

graphic log / core recovery
core recovered (graphic symbols indicate material)
no core recovered

core run & RQD
barrel withdrawn
RQD = Rock Quality Designation (%)

weathering & alteration*
RS residual soil
XW extremely weathered
HW highly weathered
MW moderately weathered
SW slightly weathered
FR fresh
*W replaced with A for alteration

strength
VL very low
L low
M medium
H high
VH very high
EH extremely high

defect type
PT parting
JT joint
SS sheared surface
SZ sheared zone
CO contact
CS crushed seam
SM seam

roughness
VR very rough
RO rough
SO smooth
POL polished
SL slickensided

planarity
PL planar
CU curved
UN undulating
ST stepped
IR Irregular

coating
CN clean
SN stained
VN veneer
CO coating

TETRA TECH COFFEY

Engineering Log - Cored Borehole

Borehole ID.	**BH01**
sheet:	3 of 4
project no.	**754-SYDGE381816**
client:	***Ramsay Health Care Pty Ltd c/o Akalan Project Pty Ltd***
date started:	***30 Apr 2025***
principal:	
date completed:	***30 Apr 2025***
project:	***St George Private Hospital***
logged by:	***RZ/EO***
location:	***Refer to Site Plan***
checked by:	***IG***

position: E: 327,832.40; N: 6,240,107.90 (GDA2020) | surface elevation: 21.09 m (AHD) | angle from horizontal: 90°

drill model: D-4T, Truck mounted | drilling fluid: Water | hole diameter : 52/120

drilling information | **material substance** | **rock mass defects**

method & support	water	RL (m)	depth (m)	graphic log	material description **ROCK TYPE**: grain characterisics, colour, structure, minor components	weathering & alteration	estimated strength & Is50 (X = axial; O = diametral) VL L M H VH EH	samples, field tests & Is(50) (MPa) a = axial; d = diametral	core run & RQD	defect spacing (mm) 30 100 300 1000 3000	additional observations and defect descriptions (type, inclination, planarity, roughness, coating, thickness, other) particular / general
NMLC	Not Observed	13			**SANDSTONE**: medium to coarse grained, pale grey, banded orange-brown grading to pale grey, indistinctly cross bedded at 5° - 10°. *(continued)*	FR		a=1.34	99%		**CLASS III/II HAWKESBURY SANDSTONE** PT, 5°, PL, RO, CN
		12	9.0		**SANDSTONE**: medium to coarse grained, pale grey, distinctly cross bedded at 5° - 15°.			d=1.45 a=2.51			PT, 5°, PL, RO, CN CS, 15 mm
		11	10.0		**SANDSTONE**: medium to coarse grained, dark grey speckled pale grey and pale brown, indistinctly cross bedded at 5° - 15°. **SANDSTONE**: medium to coarse grained, pale grey, distinctly cross bedded at 5° - 15°.			d=1.18 a=0.89	99%		SM, Clay, 10 mm PT, 5°, PL, RO, CN **CLASS I HAWKESBURY SANDSTONE**
		10	11.0					d=1.89 a=1.47			
		9	12.0					d=1.94 a=1.84			
		8	13.0					d=1.77 a=1.62	100%		
		7	14.0					d=2.09 a=1.31			
		6	15.0		14.84 m: siltstone nodule			d=0.76 a=2.05	100%		

CDF_0_10_00.4_LIBRARY 1.GLB rev:CDF_0_10_00.4 2021-09-30 Log COF BOREHOLE: CORED SGPH_GINT_16.06.2025.GPJ <<DrawingFile>> 03/09/2025 13:34

method
DT diatube
NMLC NMLC core (51.9 mm)
NQ wireline core (47.6mm)
HQ wireline core (63.5mm)
PQ wireline core (85.0mm)
RR rock roller

support
C casing M mud N none

water
10/10/12, water level on date shown
water inflow
complete drilling fluid loss
partial drilling fluid loss
25uL water pressure test result (lugeons) for depth interval shown

graphic log / core recovery
core recovered (graphic symbols indicate material)
no core recovered

core run & RQD
barrel withdrawn
RQD = Rock Quality Designation (%)

weathering & alteration*
RS residual soil
XW extremely weathered
HW highly weathered
MW moderately weathered
SW slightly weathered
FR fresh
*W replaced with A for alteration

strength
VL very low
L low
M medium
H high
VH very high
EH extremely high

defect type
PT parting
JT joint
SS sheared surface
SZ sheared zone
CO contact
CS crushed seam
SM seam

roughness
VR very rough
RO rough
SO smooth
POL polished
SL slickensided

planarity
PL planar
CU curved
UN undulating
ST stepped
IR Irregular

coating
CN clean
SN stained
VN veneer
CO coating

TETRA TECH COFFEY

Engineering Log - Cored Borehole

Borehole ID.	**BH01**
sheet:	4 of 4
project no.	**754-SYDGE381816**
client:	***Ramsay Health Care Pty Ltd c/o Akalan Project Pty Ltd***
date started:	**30 Apr 2025**
principal:	
date completed:	**30 Apr 2025**
project:	***St George Private Hospital***
logged by:	**RZ/EO**
location:	***Refer to Site Plan***
checked by:	**IG**

position: E: 327,832.40; N: 6,240,107.90 (GDA2020) | surface elevation: 21.09 m (AHD) | angle from horizontal: 90°

drill model: D-4T, Truck mounted | drilling fluid: Water | hole diameter : 52/120

drilling information				material substance					rock mass defects		
method & support	water	RL (m)	depth (m)	graphic log	material description **ROCK TYPE**: grain characterisics, colour, structure, minor components	weathering & alteration	estimated strength & Is50 (X = axial; O = diametral) VL L M H VH EH	samples, field tests & Is(50) (MPa) a = axial; d = diametral	core run & RQD	defect spacing (mm) 30 100 300 1000 3000	additional observations and defect descriptions (type, inclination, planarity, roughness, coating, thickness, other) particular / general
NMLC	Not Observed	5			15.90 to 16.04 m: fine to medium sandstone band, dark grey, trace siltstone **SANDSTONE**: medium to coarse grained, pale grey, distinctly cross bedded at 5° - 15°. *(continued)*	FR		d=0.35 a=0.64			**CLASS I HAWKESBURY SANDSTONE**
		4	17.0					d=1.24 a=1.16	100%		
		3	18.0					d=2.22 a=1.57			
		2	19.0		18.64 to 18.75 m: distinctly cross bedded at 10° - 15°			d=2.60 a=1.42	100%		
		1	20.0		19.65 to 19.80 m: turbulent bedding			d=1.91 a=2.14			
		0	21.0					d=1.47 a=1.61			
		-1	22.0					d=1.74 a=1.52	100%		
		-2	23.0		Borehole BH01 terminated at 23.10 m Target depth			d=1.16 a=1.29			

method
DT diatube
NMLC NMLC core (51.9 mm)
NQ wireline core (47.6mm)
HQ wireline core (63.5mm)
PQ wireline core (85.0mm)
RR rock roller

support
C casing M mud N none

water
10/10/12, water level on date shown
water inflow
complete drilling fluid loss
partial drilling fluid loss
25uL water pressure test result (lugeons) for depth interval shown

graphic log / core recovery
core recovered (graphic symbols indicate material)
no core recovered

core run & RQD
barrel withdrawn
RQD = Rock Quality Designation (%)

weathering & alteration*
RS residual soil
XW extremely weathered
HW highly weathered
MW moderately weathered
SW slightly weathered
FR fresh
*W replaced with A for alteration

strength
VL very low
L low
M medium
H high
VH very high
EH extremely high

defect type
PT parting
JT joint
SS sheared surface
SZ sheared zone
CO contact
CS crushed seam
SM seam

roughness
VR very rough
RO rough
SO smooth
POL polished
SL slickensided

planarity
PL planar
CU curved
UN undulating
ST stepped
IR Irregular

coating
CN clean
SN stained
VN veneer
CO coating

CDF_0_10_00.4_LIBRARY 1.GLB rev:CDF_0_10_00.4 2021-09-30 Log COF BOREHOLE: CORED SGPH_GINT_16.06.2025.GPJ <<DrawingFile>> 03/09/2025 13:34

TETRA TECH COFFEY

Piezometer Installation Log

Hole ID.	**BH01**
sheet:	1 of 1
project no.	**754-SYDGE381816**
client:	***Ramsay Health Care Pty Ltd c/o Akalan Project Pty Ltd***
principal:	
project:	***St George Private Hospital***
location:	***Refer to Site Plan***
date started:	***30 Apr 2025***
date completed:	***30 Apr 2025***
logged by:	***RZ/EO***
checked by:	***IG***

position: E: 327,832.40; N: 6,240,107.90 (GDA2020) | surface elevation: 21.09 m (AHD) | angle from horizontal: 90°

equipment type: D-4T, Truck mounted | drilling fluid: Water | hole diameter : 52/120

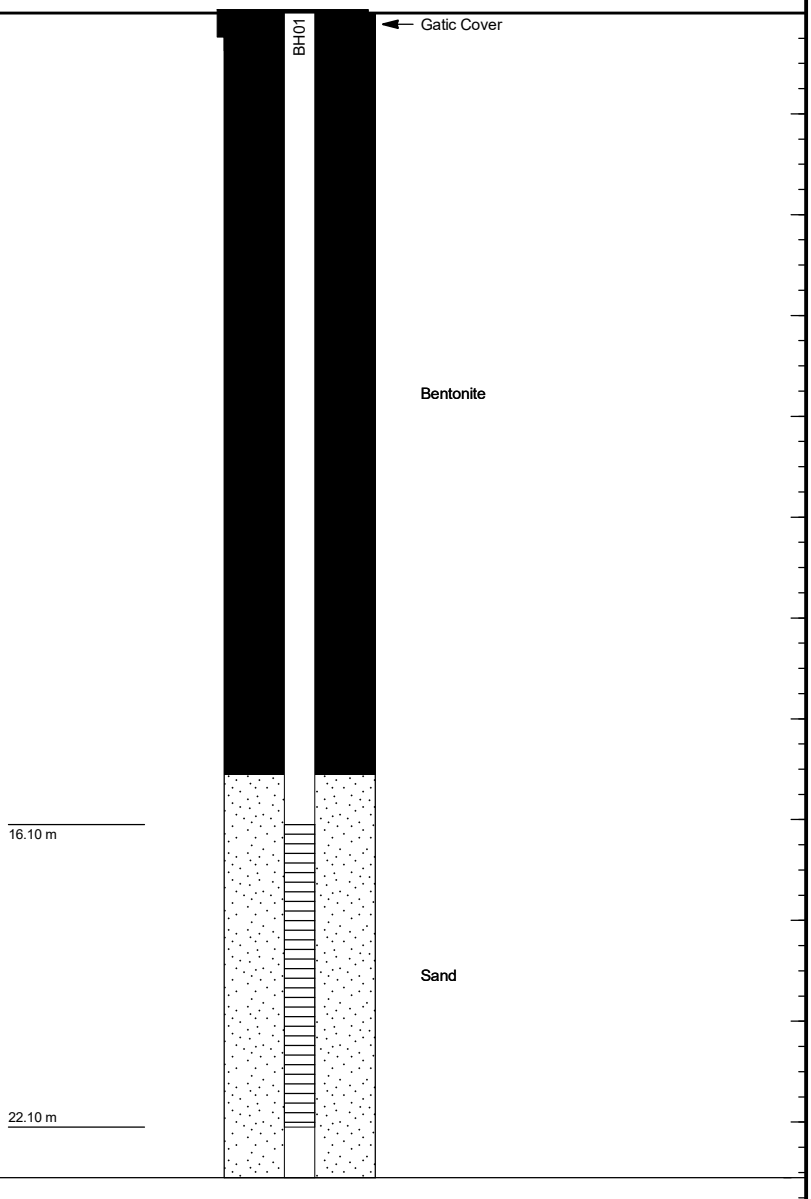
drilling information | **material substance** | **piezometer construction details**

method & support	water	RL (m)	depth (m)	graphic log	material description (refer to engineering log for full description)
HA	Not Observed	20			**FILL**
					EXTREMELY WEATHERED MATERIAL
			4		**CLASS IV HAWKESBURY SANDSTONE**
		16			**CLASS III/II HAWKESBURY SANDSTONE**
	14/05/25		8		
		12			
			12		**CLASS I HAWKESBURY SANDSTONE**
		8			
			16		
		4			
			20		
		0			

NMLC — HWT — C — D

completion details: Flush Gatic
pvc type: 50mm PVC Pipe
sand type: 1-2mm Sand
grout type: N/A

bore construction license: N/A
drilling company: Stratacore
driller: N/A
driller's permit no.: N/A



method & support
see engineering log for details

water
- 10-Oct-12, water level on date shown
- water inflow
- complete drilling fluid loss
- partial drilling fluid loss
- 25 water pressure test result (lugeons) for depth interval shown

graphic log / core recovery
- core recovered (graphic symbols indicate material)
- no core recovered

ID	type	installation date	development date	stickup (m)	tip depth (m)	water level (m)	Relative Levels (AHD) stickup	tip	water level
BH01	standpipe				23.10 m			-2.01	

CDF_0_10_00.4_LIBRARY 1.GLB rev:CDF_0_10_00.4 2021-09-30 Log COF PIEZOMETER ONE PAGE SUMMARY SGPH_GINT_16.06.2025.GPJ <<DrawingFile>> 03/09/2025 13:31

TETRA TECH COFFEY

Engineering Log - Borehole

Borehole ID.	**BH02**
sheet:	1 of 4
project no.	**754-SYDGE381816**
client:	**Ramsay Health Care Pty Ltd c/o Akalan Project Pty Ltd**
date started:	**29 Apr 2025**
principal:	
date completed:	**29 Apr 2025**
project:	**St George Private Hospital**
logged by:	**RZ/EO**
location:	**Refer to Site Plan**
checked by:	**IG**

position: E: 327,819.46; N: 6,240,067.43 (GDA2020) | surface elevation: 20.43 m (AHD) | angle from horizontal: 90°

drill model: Massenza MI2, Track mounted | drilling fluid: Water | hole diameter : 52/120

drilling information | **material substance**

method & support	penetration 1 2 3	water	samples & field tests	RL (m)	depth (m)	graphic log	soil group symbol	material description (SOIL NAME: plasticity or particle characteristics, colour, secondary and minor components)	moisture condition	consistency / relative density	hand penetrometer (kPa) 100 200 300 400	soil origin, structure and additional observations
HA, C, AD/T		Not Observed	D	20				**TOPSOIL: SILTY SAND**: fine to medium grained, dark brown, with organic matter, trace fine to medium grained, angular to sub-angular gravel, trace root fibres.	M			**FILL**
			SPT 2, 4, 23/149mm HB N*=R	19	1.0		SC	**FILL: Gravelly SAND**: fine to medium grained, dark brown, fine to medium grained, angular to sub-angular gravel. 0.5 to 0.6 m: orange-brown sand band **FILL: CLAYEY SAND**: fine to coarse grained, orange-brown, with fine grained gravel.		D	HP 130 kPa HP 130 kPa	
								CLAYEY SAND: medium to coarse grained, red grading to pale grey, mottled orange-brown, with silt, trace iron induration.				**EXTREMELY WEATHERED MATERIAL**
				18	2.0			Borehole BH02 continued as cored hole				
				17	3.0							
				16	4.0							
				15	5.0							
				14	6.0							
				13	7.0							

CDF_0_10_00.4_LIBRARY 1.GLB rev:CDF_0_10_00.4 2021-09-30 Log COF BOREHOLE: NON CORED SGPH_GINT_16.06.2025.GPJ <<DrawingFile>> 03/09/2025 13:32

method
DT diatube
AD auger drilling*
AS auger screwing*
HA hand auger
W washbore
RR rock roller

* bit shown by suffix
e.g. AD/T
B blank bit
T TC bit
V V bit

support
M mud
C casing
N nil

penetration
1 2 3 no resistance ranging to refusal

water
10-Oct-12 water level on date shown
water inflow
water outflow

samples & field tests
B bulk disturbed sample
D disturbed sample
E environmental sample
SS split spoon sample
U## undisturbed sample ##mm diameter
HP hand penetrometer (kPa)
N standard penetration test (SPT)
N* SPT - sample recovered
Nc SPT with solid cone
VS vane shear; peak/remouded (kPa)
R refusal
HB hammer bouncing

soil group symbol & material description
based on AS 1726:2017

moisture condition
D dry
M moist
W wet
Wp plastic limit
Wl liquid limit

consistency / relative density
VS very soft
S soft
F firm
St stiff
VSt very stiff
H hard
Fb friable
VL very loose
L loose
MD medium dense
D dense
VD very dense

TETRA TECH COFFEY

Engineering Log - Cored Borehole

Borehole ID.	**BH02**
sheet:	2 of 4
project no.	**754-SYDGE381816**
client:	**Ramsay Health Care Pty Ltd c/o Akalan Project Pty Ltd**
date started:	**29 Apr 2025**
principal:	
date completed:	**29 Apr 2025**
project:	**St George Private Hospital**
logged by:	**RZ/EO**
location:	**Refer to Site Plan**
checked by:	**IG**

position: E: 327,819.46; N: 6,240,067.43 (GDA2020) | surface elevation: 20.43 m (AHD) | angle from horizontal: 90°

drill model: Massenza MI2, Track mounted | drilling fluid: Water | hole diameter : 52/120

drilling information | **material substance** | **rock mass defects**

method & support	water	RL (m)	depth (m)	graphic log	material description **ROCK TYPE**: grain characterisics, colour, structure, minor components	weathering & alteration	estimated strength & Is50 (X = axial; O = diametral) VL L M H VH EH	samples, field tests & Is(50) (MPa) a = axial; d = diametral	core run & RQD	defect spacing (mm) 30 100 300 1000 3000	additional observations and defect descriptions (type, inclination, planarity, roughness, coating, thickness, other) particular / general
		20	1.0		started coring at 1.60m						
NMLC	Not Observed 14/05/25	19	2.0		**Sandy CLAY**: medium to high plasticity, orange-red mottled pale grey, medium to coarse grained sand.	RS - XW		d=0.14 a=0.13			**CLASS IV HAWKESBURY SANDSTONE**
		18			**SANDSTONE**: medium to coarse grained, orange-red speckled pale grey, distintly cross bedded at 15°-20°.	MW			88%		Fracture Zone, 80 mm
		17	3.0		**SANDSTONE**: medium to coarse grained, pale grey speckled pale red, distintly cross bedded at 10°-15°, shale laminations. 3.35 to 3.68 m: pale grey streaked red			d=0.16 a=0.20			SM, Clay, 10 mm
		16	4.0		4.20 to 4.45 m: pale grey streaked red			d=0.15 a=0.17			SM, Clay, 60 mm SM, Clay, 100 mm SM, Clay, 20 mm PT, 0 - 5°, UN, RO, Clay SN PT, 5 - 10°, PL, RO, CN SM, Clay, 10 mm
		15	5.0					d=0.02 a=0.06	65%		PT, 0 - 5°, UN, RO, Fe SN SM, Clay, 50 mm SM, Clay, 40 mm SM, Clay, 100 mm SM, Clay, 30 mm PT, 10°, PL, RO, X CO JT, 70°, PL, RO, CN JT, 70°, PL, RO, Fe SN PT, 0 - 10°, PL, RO, CN
		14	6.0		**SANDSTONE**: medium to coarse grained, pale grey, distintly cross bedded at 10°-15°, shale laminations. 6.19 to 6.61 m: sandy clay band, medium to high plasticity	SW		d=0.15 a=0.17			**CLASS III/II HAWKESBURY SANDSTONE**
		13	7.0		7.10 to 7.20 m: sandstone massive band			d=0.50 a=0.71	83%		SM, Clay, 50 mm
					7.80 to 8.10 m: flat bedded			d=0.94			

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method
DT diatube
NMLC NMLC core (51.9 mm)
NQ wireline core (47.6mm)
HQ wireline core (63.5mm)
PQ wireline core (85.0mm)
RR rock roller

support
C casing M mud N none

water
10/10/12, water level on date shown
water inflow
complete drilling fluid loss
partial drilling fluid loss
25uL water pressure test result (lugeons) for depth interval shown

graphic log / core recovery
core recovered (graphic symbols indicate material)
no core recovered

core run & RQD
barrel withdrawn
RQD = Rock Quality Designation (%)

weathering & alteration*
RS residual soil
XW extremely weathered
HW highly weathered
MW moderately weathered
SW slightly weathered
FR fresh
*W replaced with A for alteration

strength
VL very low
L low
M medium
H high
VH very high
EH extremely high

defect type
PT parting
JT joint
SS sheared surface
SZ sheared zone
CO contact
CS crushed seam
SM seam

roughness
VR very rough
RO rough
SO smooth
POL polished
SL slickensided

planarity
PL planar
CU curved
UN undulating
ST stepped
IR Irregular

coating
CN clean
SN stained
VN veneer
CO coating

TETRA TECH COFFEY

Engineering Log - Cored Borehole

Borehole ID.	**BH02**
sheet:	3 of 4
project no.	**754-SYDGE381816**
client:	***Ramsay Health Care Pty Ltd c/o Akalan Project Pty Ltd***
date started:	**29 Apr 2025**
principal:	
date completed:	**29 Apr 2025**
project:	***St George Private Hospital***
logged by:	**RZ/EO**
location:	***Refer to Site Plan***
checked by:	**IG**

position: E: 327,819.46; N: 6,240,067.43 (GDA2020) surface elevation: 20.43 m (AHD) angle from horizontal: 90°

drill model: Massenza MI2, Track mounted drilling fluid: Water hole diameter : 52/120

drilling information | **material substance** | **rock mass defects**

method & support	water	RL (m)	depth (m)	graphic log	material description (ROCK TYPE: grain characterisics, colour, structure, minor components)	weathering & alteration	estimated strength & Is50 (X = axial; O = diametral) VL L M H VH EH	samples, field tests & Is(50) (MPa) (a = axial; d = diametral)	core run & RQD	defect spacing (mm) 30 100 300 1000 3000	additional observations and defect descriptions (type, inclination, planarity, roughness, coating, thickness, other) particular / general
NMLC	Not Observed	12			**SANDSTONE**: medium to coarse grained, pale grey, distintly cross bedded at 10°-15°, shale laminations. *(continued)* 8.12 to 8.75 m: becoming pale grey flecked brown-orange and red	SW		a=1.09	83%		**CLASS III/II HAWKESBURY SANDSTONE** SM, Clay, 30 mm
			9.0			FR		d=1.12 a=0.86			
		11									
			10.0					d=1.45 a=1.06			**CLASS I HAWKESBURY SANDSTONE**
		10							100%		PTx2, 10°, PL, RO, CN
			11.0					d=0.92 a=1.21			
		9									
			12.0		11.82 to 12.30 m: massive			d=1.14 a=1.43			
		8									PT, 15°, PL, RO, CN Fracture zone, 160 mm
			13.0					d=1.25 a=1.86			PT, 5 - 10°, UN, RO, CN
		7							92%		
			14.0					d=1.71 a=2.14			
		6									
			15.0		14.90 to 15.40 m: massive			d=1.27 a=1.71			
		5							98%		SM, Clay, 20 mm
					15.90 to 15.94 m: 35mm shale band			d=0.97 a=0.80			

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method
DT diatube
NMLC NMLC core (51.9 mm)
NQ wireline core (47.6mm)
HQ wireline core (63.5mm)
PQ wireline core (85.0mm)
RR rock roller

support
C casing M mud N none

water
10/10/12, water level on date shown
water inflow
complete drilling fluid loss
partial drilling fluid loss
25uL water pressure test result (lugeons) for depth interval shown

graphic log / core recovery
core recovered (graphic symbols indicate material)
no core recovered

core run & RQD
barrel withdrawn
RQD = Rock Quality Designation (%)

weathering & alteration*
RS residual soil
XW extremely weathered
HW highly weathered
MW moderately weathered
SW slightly weathered
FR fresh
*W replaced with A for alteration

strength
VL very low
L low
M medium
H high
VH very high
EH extremely high

defect type
PT parting
JT joint
SS sheared surface
SZ sheared zone
CO contact
CS crushed seam
SM seam

roughness
VR very rough
RO rough
SO smooth
POL polished
SL slickensided

planarity
PL planar
CU curved
UN undulating
ST stepped
IR Irregular

coating
CN clean
SN stained
VN veneer
CO coating

TETRA TECH COFFEY

Engineering Log - Cored Borehole

Borehole ID.	**BH02**
sheet:	4 of 4
project no.	**754-SYDGE381816**
client:	***Ramsay Health Care Pty Ltd c/o Akalan Project Pty Ltd***
date started:	***29 Apr 2025***
principal:	
date completed:	***29 Apr 2025***
project:	***St George Private Hospital***
logged by:	***RZ/EO***
location:	***Refer to Site Plan***
checked by:	***IG***

position: E: 327,819.46; N: 6,240,067.43 (GDA2020) surface elevation: 20.43 m (AHD) angle from horizontal: 90°

drill model: Massenza MI2, Track mounted drilling fluid: Water hole diameter : 52/120

drilling information				material substance					rock mass defects		
method & support	water	RL (m)	depth (m)	graphic log	material description **ROCK TYPE**: grain characterisics, colour, structure, minor components	weathering & alteration	estimated strength & Is50 (X = axial; O = diametral) VL L M H VH EH	samples, field tests & Is(50) (MPa) a = axial; d = diametral	core run & RQD	defect spacing (mm) 30 100 300 1000 3000	additional observations and defect descriptions (type, inclination, planarity, roughness, coating, thickness, other) particular / general
NMLC	Not Observed	4	17.0		**SANDSTONE**: medium to coarse grained, pale grey, distintly cross bedded at 10°-15°, shale laminations. *(continued)*	FR		d=1.03 a=0.82	98%		PT, 10°, PL, RO, CN **CLASS I HAWKESBURY SANDSTONE** PT, 10°, PL, RO, CN SM, Clay, 25 mm PT, 5°, PL, RO, CN
		3	18.0					d=1.77 a=1.75			
		2	19.0					d=1.36 a=1.10	96%		SM, Clay, 20 mm PT, 5°, PL, RO, CN
		1	20.0					d=1.22 a=1.26			PT, 5°, UN, RO, Clay VN CS, Clay, 25 mm SM, Clay, 10 mm
		0	21.0					d=1.74 a=0.77 d=1.34 a=1.24			
		-1	22.0		21.60 to 22.30 m: with quartz inclusions				99%		SM, Clay, 20 mm
		-2	23.0					d=1.16 a=1.97	100% 0%		PT, 5°, PL, RO, CN NMLC drill bit was damaged. Drill swap to PCD. No core recovery.
		-3			Borehole BH02 terminated at 23.09 m Target depth						

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method
DT diatube
NMLC NMLC core (51.9 mm)
NQ wireline core (47.6mm)
HQ wireline core (63.5mm)
PQ wireline core (85.0mm)
RR rock roller

support
C casing M mud N none

water
10/10/12, water level on date shown
water inflow
complete drilling fluid loss
partial drilling fluid loss
25uL water pressure test result (lugeons) for depth interval shown

graphic log / core recovery
core recovered (graphic symbols indicate material)
no core recovered

core run & RQD
barrel withdrawn
RQD = Rock Quality Designation (%)

weathering & alteration*
RS residual soil
XW extremely weathered
HW highly weathered
MW moderately weathered
SW slightly weathered
FR fresh
*W replaced with A for alteration

strength
VL very low
L low
M medium
H high
VH very high
EH extremely high

defect type
PT parting
JT joint
SS sheared surface
SZ sheared zone
CO contact
CS crushed seam
SM seam

roughness
VR very rough
RO rough
SO smooth
POL polished
SL slickensided

planarity
PL planar
CU curved
UN undulating
ST stepped
IR Irregular

coating
CN clean
SN stained
VN veneer
CO coating

TETRA TECH COFFEY

Piezometer Installation Log

Hole ID.	**BH02**		
sheet:	1 of 1		
project no.	**754-SYDGE381816**		
client:	***Ramsay Health Care Pty Ltd c/o Akalan Project Pty Ltd***	date started:	***29 Apr 2025***
principal:		date completed:	***29 Apr 2025***
project:	***St George Private Hospital***	logged by:	***RZ/EO***
location:	***Refer to Site Plan***	checked by:	***IG***

position: E: 327,819.46; N: 6,240,067.43 (GDA2020) surface elevation: 20.43 m (AHD) angle from horizontal: 90°

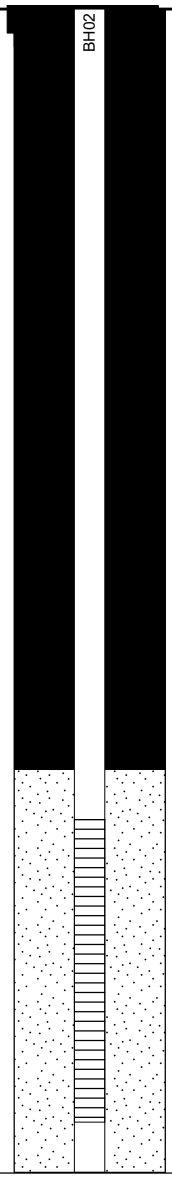
equipment type: Massenza MI2, Track mounted drilling fluid: Water hole diameter : 52/120

drilling information | **material substance** | **piezometer construction details**

completion details: Flush Gatic
pvc type: 50mm PVC Pipe
sand type: 1-2mm Sand
grout type: N/A

bore construction license: N/A
drilling company: Stratacore
driller: N/A
driller's permit no.: N/A

method & support	water	RL (m)	depth (m)	material description (refer to engineering log for full description)
HA, C, AD/T	Not Observed	20		**FILL**
				EXTREMELY WEATHERED MATERIAL
NMLC, HWT	14/05/25	16	4	**CLASS IV HAWKESBURY SANDSTONE**
		12	8	**CLASS III/II HAWKESBURY SANDSTONE**
		8	12	**CLASS I HAWKESBURY SANDSTONE**
		4	16	
		0	20	



method & support
see engineering log for details

water
- 10-Oct-12, water level on date shown
- water inflow
- complete drilling fluid loss
- partial drilling fluid loss
- 25 water pressure test result (lugeons) for depth interval shown

graphic log / core recovery
- core recovered (graphic symbols indicate material)
- no core recovered

ID	type	installation date	development date	stickup (m)	tip depth (m)	water level (m)	Relative Levels (AHD) stickup	tip	water level
BH02	standpipe				23.08 m			-2.65	

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TETRA TECH COFFEY

Engineering Log - Borehole

Borehole ID.	**BH03**
sheet:	1 of 4
project no.	**754-SYDGE381816**
client:	**Ramsay Health Care Pty Ltd c/o Akalan Project Pty Ltd**
date started:	**28 Apr 2025**
principal:	
date completed:	**28 Apr 2025**
project:	**St George Private Hospital**
logged by:	**RZ/EO**
location:	**Refer to Site Plan**
checked by:	**IG**

position: E: 327,845.22; N: 6,240,064.94 (GDA2020) | surface elevation: 20.01 m (AHD) | angle from horizontal: 90°

drill model: Massenza MI2, Track mounted | drilling fluid: Water | hole diameter : 52/120

drilling information | **material substance**

method & support	penetration 1 2 3	water	samples & field tests	RL (m)	depth (m)	graphic log	soil group symbol	material description (SOIL NAME: plasticity or particle characteristics, colour, secondary and minor components)	moisture condition	consistency / relative density	hand penetrometer (kPa)	soil origin, structure and additional observations
DT				20				**ASPHALT**.				**FILL**
HA		Not Observed	D					**FILL: Gravelly SAND**: fine to medium grained, dark brown-grey mottled dark grey and orange-yellow, gravel is fine to medium and angular to sub-angular, trace silt, trace glass fragments and 110mm length of rebar.	D - M			
			D	19	1.0		SP-SC	**FILL: CLAYEY SAND**: fine to medium grained, dark grey mottled pale brown-yellow, with silt, trace ironstone gravel.				
AD/T			SPT 2, 2, 4 N*=6				CL-CI	**Sandy CLAY**: medium to high plasticity, pale brown and orange mottled pale grey, sand is fine to medium grained, trace fine grained gravel. 1.7 m: becoming pale grey mottled red-brown	<Wp	St	HP 180 kPa HP 130 kPa HP 130 kPa	**RESIDUAL SOIL**
C				18	2.0			**SAND**: medium to coarse grained, pale red mottled brown.		D - VD		**EXTREMELY WEATHERED MATERIAL** At 2.20m: drilling resistance increased
			SPT 5/50mm HB N*=R					Borehole BH03 continued as cored hole				
				17	3.0							
				16	4.0							
				15	5.0							
				14	6.0							
				13	7.0							

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method
- DT diatube
- AD auger drilling*
- AS auger screwing*
- HA hand auger
- W washbore
- RR rock roller

* bit shown by suffix e.g. AD/T
- B blank bit
- T TC bit
- V V bit

support
- M mud
- C casing
- N nil

penetration
1 2 3 — no resistance ranging to refusal

water
- 10-Oct-12 water level on date shown
- water inflow
- water outflow

samples & field tests
- B bulk disturbed sample
- D disturbed sample
- E environmental sample
- SS split spoon sample
- U## undisturbed sample ##mm diameter
- HP hand penetrometer (kPa)
- N standard penetration test (SPT)
- N* SPT - sample recovered
- Nc SPT with solid cone
- VS vane shear; peak/remoulded (kPa)
- R refusal
- HB hammer bouncing

soil group symbol & material description based on AS 1726:2017

moisture condition
- D dry
- M moist
- W wet
- Wp plastic limit
- Wl liquid limit

consistency / relative density
- VS very soft
- S soft
- F firm
- St stiff
- VSt very stiff
- H hard
- Fb friable
- VL very loose
- L loose
- MD medium dense
- D dense
- VD very dense

TETRA TECH COFFEY

Engineering Log - Cored Borehole

Borehole ID.	**BH03**
sheet:	2 of 4
project no.	**754-SYDGE381816**
client:	**Ramsay Health Care Pty Ltd c/o Akalan Project Pty Ltd**
date started:	**28 Apr 2025**
principal:	
date completed:	**28 Apr 2025**
project:	**St George Private Hospital**
logged by:	**RZ/EO**
location:	**Refer to Site Plan**
checked by:	**IG**

position: E: 327,845.22; N: 6,240,064.94 (GDA2020) | surface elevation: 20.01 m (AHD) | angle from horizontal: 90°

drill model: Massenza MI2, Track mounted | drilling fluid: Water | hole diameter : 52/120

drilling information | **material substance** | **rock mass defects**

method & support	water	RL (m)	depth (m)	graphic log	material description **ROCK TYPE**: grain characterisics, colour, structure, minor components	weathering & alteration	estimated strength & Is50 (X = axial; O = diametral) VL L M H VH EH	samples, field tests & Is(50) (MPa) a = axial; d = diametral	core run & RQD	defect spacing (mm) 30 100 300 1000 3000	additional observations and defect descriptions (type, inclination, planarity, roughness, coating, thickness, other) particular / general
		20									
		19	1.0								
		18	2.0		started coring at 2.65m						
NMLC	I14/05/25rved	17	3.0		**CLAYEY SAND**: fine to coarse grained, pale brown.	XW					**CLASS IV HAWKESBURY SANDSTONE** SM, Clay, 20 mm
					SANDSTONE: medium to coarse grained, pale grey and orange-brown, speckled red, indistinctly cross bedded at 10° - 15°. 3.30 m: becoming red-purple mottled pale grey	MW		d=0.12 a=0.20	75%		
		16	4.0					d=0.26 a=0.33			SM, Clay, 80 mm PT, 10°, PL, Fe healed PT, 10°, PL, RO, Fe SN SM, Clay, 70 mm PT, 10°, PL, Clay, closed JT, 70°, PL, RO, CN
					SANDSTONE: medium to coarse grained, pale grey, bands of red and orange-brown, indistinctly cross bedded at 10° - 15°.	SW		d=0.15 a=0.14			Fracture Zone, Fe SN, 80 mm SM, Clay, 50 mm CS, 30 mm PT, 15°, PL, RO, Fe SN
		15	5.0								Fracture zone, Fe SN, 60 mm
											CLASS III/II HAWKESBURY SANDSTONE PT, 5°, PL, RO, CN PT, 5°, PL, RO, CN
		14	6.0					d=0.33 a=0.43	86%		PT, 0 - 5°, UN, RO, Clay CO - Fe SN SM, Clay, 20 mm
		13	7.0		7.08 m: becoming distinctly cross bedded at 10° - 15°			d=0.47 a=0.55			
								d=0.23	97%		

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method
DT diatube
NMLC NMLC core (51.9 mm)
NQ wireline core (47.6mm)
HQ wireline core (63.5mm)
PQ wireline core (85.0mm)
RR rock roller

support
C casing M mud N none

water
10/10/12, water level on date shown
water inflow
complete drilling fluid loss
partial drilling fluid loss
25uL water pressure test result (lugeons) for depth interval shown

graphic log / core recovery
core recovered (graphic symbols indicate material)
no core recovered

core run & RQD
barrel withdrawn
RQD = Rock Quality Designation (%)

weathering & alteration*
RS residual soil
XW extremely weathered
HW highly weathered
MW moderately weathered
SW slightly weathered
FR fresh
*W replaced with A for alteration

strength
VL very low
L low
M medium
H high
VH very high
EH extremely high

defect type
PT parting
JT joint
SS sheared surface
SZ sheared zone
CO contact
CS crushed seam
SM seam

roughness
VR very rough
RO rough
SO smooth
POL polished
SL slickensided

planarity
PL planar
CU curved
UN undulating
ST stepped
IR Irregular

coating
CN clean
SN stained
VN veneer
CO coating

TETRA TECH COFFEY

Engineering Log - Cored Borehole

Borehole ID.	**BH03**
sheet:	3 of 4
project no.	**754-SYDGE381816**
client:	***Ramsay Health Care Pty Ltd c/o Akalan Project Pty Ltd***
date started:	**28 Apr 2025**
principal:	
date completed:	**28 Apr 2025**
project:	***St George Private Hospital***
logged by:	**RZ/EO**
location:	***Refer to Site Plan***
checked by:	**IG**

position: E: 327,845.22; N: 6,240,064.94 (GDA2020) surface elevation: 20.01 m (AHD) angle from horizontal: 90°

drill model: Massenza MI2, Track mounted drilling fluid: Water hole diameter : 52/120

drilling information | **material substance** | **rock mass defects**

method & support	water	RL (m)	depth (m)	graphic log	material description **ROCK TYPE**: grain characterisics, colour, structure, minor components	weathering & alteration	estimated strength & Is50 (X = axial; O = diametral) VL L M H VH EH	samples, field tests & Is(50) (MPa) a = axial; d = diametral	core run & RQD	defect spacing (mm) 30 100 300 1000 3000	additional observations and defect descriptions (type, inclination, planarity, roughness, coating, thickness, other) particular / general
NMLC	Not Observed	12						a=0.29			SM, Clay, 90 mm **CLASS III/II HAWKESBURY SANDSTONE**
		11	9.0		**SANDSTONE**: medium to coarse grained, pale grey mottled orange-brown speckled red-purple, indistinctly cross bedded at 10° - 15°.	SW		d=1.21 a=1.12	97%		**CLASS I HAWKESBURY SANDSTONE** PT, 0 - 5°, UN, RO, CN
		10	10.0		**SANDSTONE**: medium to coarse grained, pale grey flecked orange-brown, grading to pale grey, distinctly cross bedded at 10° - 15°.	FR		d=1.07 a=1.62			PT, 5 - 10°, UN, RO, CN
		9	11.0					d=1.08 a=1.50			PT, 15°, PL, RO, CN SM, Clay, 5 mm
		8	12.0					d=1.69 a=1.59	97%		PT, 10°, PL, RO, X CO
		7	13.0		12.75 to 12.79 m: siltstone nodule, up to 40 mm thick 12.83 to 12.94 m: pale grey mottled orange-brown 13.18 to 13.25 m: siltstone lamination, distinctly laminated at 15°			d=1.36 a=2.44			PT, 5 - 15°, UN, RO, CN SM, Clay, 30 mm
		6	14.0		**SANDSTONE**: medium to coarse grained, pale grey, massive.			d=1.23 a=1.44			
		5	15.0		14.71 to 14.79 m: distinctly cross bedded at 0° - 10° band			d=1.34 a=1.61	100%		PT, 10°, PL, RO, CN PT, 5 - 10°, UN, RO, CN CS, 10 mm PT, 10°, PL, RO, CN PT, 10°, PL, RO, CN
					15.35 to 15.55 m: distinctly cross bedded at 10° - 15° band			d=1.26			

method
DT diatube
NMLC NMLC core (51.9 mm)
NQ wireline core (47.6mm)
HQ wireline core (63.5mm)
PQ wireline core (85.0mm)
RR rock roller

support
C casing M mud N none

water
10/10/12, water level on date shown
water inflow
complete drilling fluid loss
partial drilling fluid loss
25uL water pressure test result (lugeons) for depth interval shown

graphic log / core recovery
core recovered (graphic symbols indicate material)
no core recovered

core run & RQD
barrel withdrawn
RQD = Rock Quality Designation (%)

weathering & alteration*
RS residual soil
XW extremely weathered
HW highly weathered
MW moderately weathered
SW slightly weathered
FR fresh
*W replaced with A for alteration

strength
VL very low
L low
M medium
H high
VH very high
EH extremely high

defect type
PT parting
JT joint
SS sheared surface
SZ sheared zone
CO contact
CS crushed seam
SM seam

planarity
PL planar
CU curved
UN undulating
ST stepped
IR Irregular

roughness
VR very rough
RO rough
SO smooth
POL polished
SL slickensided

coating
CN clean
SN stained
VN veneer
CO coating

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TETRA TECH COFFEY

Engineering Log - Cored Borehole

Borehole ID.	**BH03**
sheet:	4 of 4
project no.	**754-SYDGE381816**
client:	***Ramsay Health Care Pty Ltd c/o Akalan Project Pty Ltd***
date started:	**28 Apr 2025**
principal:	
date completed:	**28 Apr 2025**
project:	***St George Private Hospital***
logged by:	**RZ/EO**
location:	***Refer to Site Plan***
checked by:	**IG**

position: E: 327,845.22; N: 6,240,064.94 (GDA2020) surface elevation: 20.01 m (AHD) angle from horizontal: 90°

drill model: Massenza MI2, Track mounted drilling fluid: Water hole diameter : 52/120

drilling information				material substance					rock mass defects		
method & support	water	RL (m)	depth (m)	graphic log	material description **ROCK TYPE**: grain characterisics, colour, structure, minor components	weathering & alteration	estimated strength & Is50 (X = axial; O = diametral) VL L M H VH EH	samples, field tests & Is(50) (MPa) a = axial; d = diametral	core run & RQD	defect spacing (mm) 30 100 300 1000 3000	additional observations and defect descriptions (type, inclination, planarity, roughness, coating, thickness, other) particular / general
NMLC	Not Observed	4			**SANDSTONE**: medium to coarse grained, pale grey, indistinctly cross bedded at 10° - 15°. *(continued)*	FR		a=0.68	100%		**CLASS I HAWKESBURY SANDSTONE**
		3	17.0					d=1.54 a=1.67			PT, 10°, PL, RO, Clay VN CS, 30 mm
		2	18.0					d=1.18 a=1.26	98%		PT, 15°, PL, RO, Clay CO SM, Clay, 60 mm
		1	19.0		18.80 m: becoming pale grey-yellow			d=0.81 a=1.23			
		0	20.0					d=1.53 a=1.71	100%		SM, Clay, 10 mm PT, 5 - 10°, UN, RO, CN
		-1	21.0					d=1.06 a=1.03			
		-2	22.0					d=1.41 a=1.76	100%		
		-3	23.0					d=0.68 a=1.22			
					23.20 m: medium vitrinite coal band Borehole BH03 terminated at 23.22 m Target depth						

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method
DT diatube
NMLC NMLC core (51.9 mm)
NQ wireline core (47.6mm)
HQ wireline core (63.5mm)
PQ wireline core (85.0mm)
RR rock roller

support
C casing M mud N none

water
10/10/12, water level on date shown
water inflow
complete drilling fluid loss
partial drilling fluid loss
25uL water pressure test result (lugeons) for depth interval shown

graphic log / core recovery
core recovered (graphic symbols indicate material)
no core recovered

core run & RQD
barrel withdrawn
RQD = Rock Quality Designation (%)

weathering & alteration*
RS residual soil
XW extremely weathered
HW highly weathered
MW moderately weathered
SW slightly weathered
FR fresh
*W replaced with A for alteration

strength
VL very low
L low
M medium
H high
VH very high
EH extremely high

defect type
PT parting
JT joint
SS sheared surface
SZ sheared zone
CO contact
CS crushed seam
SM seam

roughness
VR very rough
RO rough
SO smooth
POL polished
SL slickensided

planarity
PL planar
CU curved
UN undulating
ST stepped
IR Irregular

coating
CN clean
SN stained
VN veneer
CO coating

TETRA TECH COFFEY

Piezometer Installation Log

Hole ID.	**BH03**
sheet:	1 of 1
project no.	**754-SYDGE381816**
date started:	**28 Apr 2025**
date completed:	**28 Apr 2025**
logged by:	**RZ/EO**
checked by:	**IG**

client: ***Ramsay Health Care Pty Ltd c/o Akalan Project Pty Ltd***

principal:

project: ***St George Private Hospital***

location: ***Refer to Site Plan***

position: E: 327,845.22; N: 6,240,064.94 (GDA2020) | surface elevation: 20.01 m (AHD) | angle from horizontal: 90°

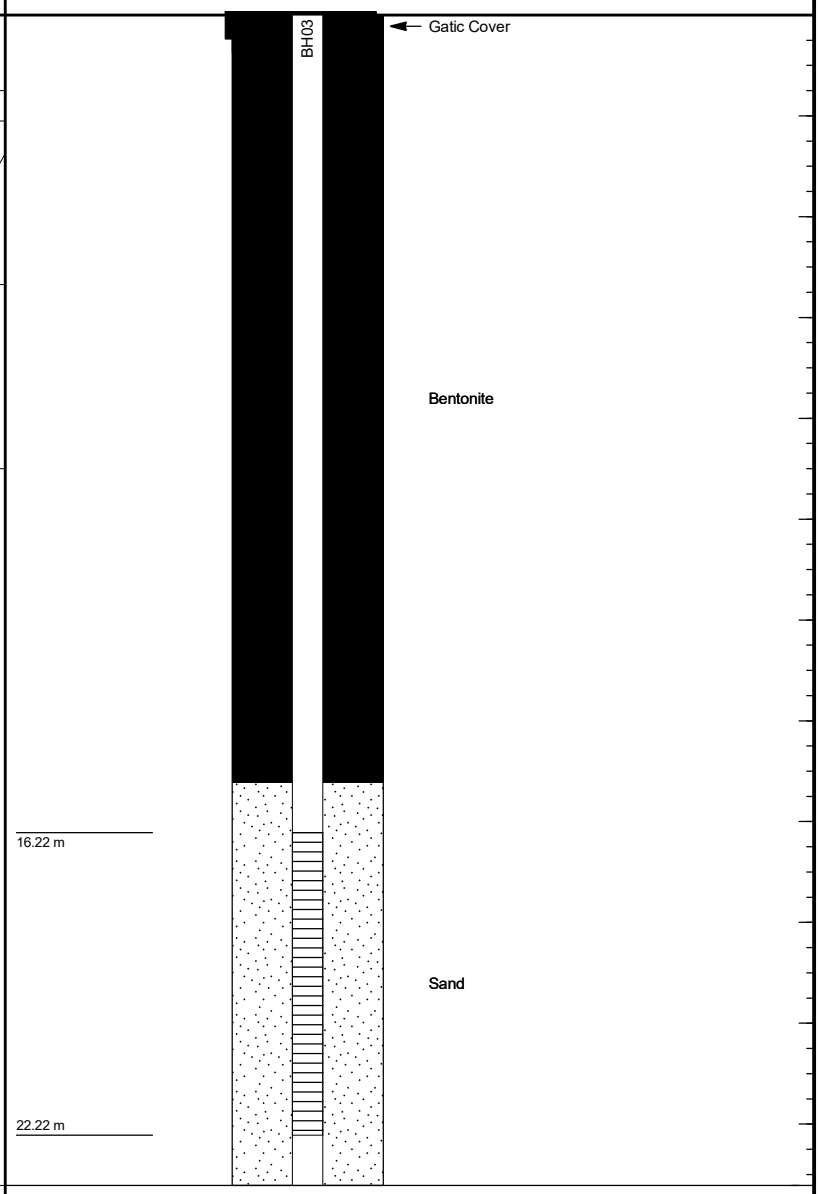
equipment type: Massenza MI2, Track mounted | drilling fluid: Water | hole diameter : 52/120

drilling information | **material substance** | **piezometer construction details**

completion details: Flush Gatic
pvc type: 50mm PVC Pipe
sand type: 1-2mm Sand
grout type: N/A

bore construction license: N/A
drilling company: Stratacore
driller: N/A
driller's permit no.: N/A

method & support	water	RL (m)	depth (m)	material description (refer to engineering log for full description)
HAD/T, AD/T, C	Not Observed	20		FILL
				RESDIUAL SOIL
				EXTREMELY WEATHERED MATERIAL
NMLC, HWT				CLASS IV HAWKESBURY SANDSTONE
	14/05/25	16	4	
				CLASS III/II HAWKESBURY SANDSTONE
		12	8	
				CLASS I HAWKESBURY SANDSTONE
		8	12	
		4	16	
		0	20	



method & support
see engineering log for details

water
- 10-Oct-12, water level on date shown
- water inflow
- complete drilling fluid loss
- partial drilling fluid loss
- 25 water pressure test result (lugeons) for depth interval shown

graphic log / core recovery
- core recovered (graphic symbols indicate material)
- no core recovered

ID	type	installation date	development date	stickup (m)	tip depth (m)	water level (m)	Relative Levels (AHD) stickup	tip	water level
BH03	standpipe				23.22 m			-3.21	

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SOIL DESCRIPTION EXPLANATION SHEET

DEFINITION:

In engineering terms soil includes every type of uncemented or partially cemented inorganic or organic material found in the ground. In practice, if the material can be remoulded or disaggregated by hand in its field condition or in water it is described as a soil. Other materials are described using rock description terms.

CLASSIFICATION SYMBOL & SOIL NAME

Soils are described in accordance with AS 1726:2017 as shown in the table on Sheet 2.

PARTICLE SIZE DEFINITIONS

Components	Subdivision	Size (mm)
Boulders Cobbles		>200 63 - 200
Gravel	Coarse Medium Fine	19 - 63 6.7 - 19 2.36 - 6.7
Sand	Coarse Medium Fine	0.6 - 2.36 0.210 - 0.6 0.075 - 0.21
Silt Clay		0.002 – 0.075 < 0.002

MOISTURE CONDITION

Coarse Grained Soil

Dry (D)	Non-cohesive and free-running
Moist (M)	Soil feels cool, darked in colour. Soil tends to stick together.
Wet (W)	As for moist, with free water forming when handled.

Fine Grained Soil

Moist, dry of plastic limit ($w<W_P$)	Hard and friable or powdery
Moist, near plastic limit ($w\approx W_P$)	Can be moulded at a moisture content approximately equal to the plastic limit.
Moist, wet of plastic limit ($w>W_P$)	Soils usually weakened and free water forms on hands when handling.
Wet, near liquid limit ($w\approx W_L$)	Near liquid limit.
Wet, wet of liquid limit ($w>W_L$)	Wet of liquid limit.

CONSISTENCY OF COHESIVE SOILS

Term (Abbreviation)	Indicative undrained shear strength s_u (kPa)	Field guide
Very Soft (VS)	<12	Soil exudes between fingers when squeezed in hand.
Soft (S)	12 – 25	Soil can be moulded by light finger pressure.
Firm (F)	25 – 50	Soil can be moulded by strong finger pressure.
Stiff (St)	50 – 100	Soil cannot be moulded by fingers.
Very Stiff (VSt)	100 – 200	Soil can be indented by thumb nail.
Hard (H)	>200	Soil can be indented with difficulty by thumb nail.
Friable (Fb)	–	Soil can be easily crumbled or broken into small pieces by hand.

RELATIVE DENSITY OF NON-COHESIVE SOILS

Term (Abbreviation)	Density index (%)
Very Loose (VL)	Less than 15
Loose (L)	15 – 35
Medium Dense (MD)	35 – 65
Dense (D)	65 – 85
Very Dense (VD)	Greater than 85

MINOR COMPONENTS

Term	Assessment Guide	Proportion of minor component in:
Trace	Presence just detectable by feel or eye, but soil properties little or no different to general properties of primary component.	Coarse grained soils: Fines - <5%, Accessory coarse fraction - <15% Fine grained soils: sand/gravel <15%
With	Presence easily detected by feel or eye, soil properties little different to general properties of primary component.	Coarse grained soils: Fines - 5 to 12%, Accessory coarse fraction – 15 to 30% Fine grained soils: sand/gravel 15 to 30%

SOIL STRUCTURE AND CEMENTATION

Zoning		Cementation	
Layer	Zone is continuous across exposure or sample.	Weakly cemented	Easily disaggregated by hand in air or water.
Lense	Discontinuous layer of different material, with lenticular shape.	Moderately cemented	Effort is required to disaggregate the soil by hand in air or water.
Pocket	Irregular inclusion of different material.		

GEOLOGICAL ORIGIN

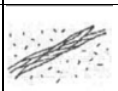
Residual soil	Structure and fabric of parent rock not visible.
Extremely weathered material	Structure and/or fabric of parent rock is visible.
Alluvial soil	Deposited by streams and rivers.
Estuarine soil	Deposited in coastal estuaries, including sediments carried by inflowing rivers and streams, or tidal currents.
Marine soil	Deposited in a marine environment
Lacustrine soil	Deposited in freshwater lakes
Aeolian soil	Carried and deposited by wind
Colluvial soil	Deposited on slopes (transported downslope by gravity, with or without assistance of water).
Topsoil	Mantle of surface or near surface material, often defined by high levels of organic material.
Fill	Any material which has been placed by anthropogenic processes. Fill may be significantly more variable between tested locations than naturally occurring soils.

SOIL CLASSIFICATION INCLUDING IDENTIFICATION AND DESCRIPTION

FIELD IDENTIFICATION PROCEDURES (Excluding particles larger than 63 mm and basing fractions on estimated mass)							GROUP SYMBOL	SOIL NAME
COARSE GRAINED SOIL More than 65% of materials less than 63 mm is larger than 0.075 mm	(A 0.075 mm particle is about the smallest particle visible to the naked eye)	GRAVEL More than half of coarse fraction is larger than 2.36 mm	CLEAN GRAVEL (Fines less than 5%)	Wide range in grain size and substantial amounts of all intermediate particle sizes, not enough fines to bind coarse grains, no dry strength.			GW	GRAVEL
				Predominantly one size or a range of sizes with some intermediate sizes missing, not enough fines to bind coarse grains, no dry strength.			GP	GRAVEL
			GRAVEL with FINES (Fines greater than 12%)	'Dirty' materials with excess of non-plastic fines (for identification procedures see ML below).			GM	Silty GRAVEL
				'Dirty' materials with excess of plastic fines (for identification procedures see CL below).			GC	Clayey GRAVEL
		SAND More than half of coarse fraction is smaller than 2.36	CLEAN SAND (Fines less than 5%)	Wide range in grain sizes and substantial amounts of all intermediate sizes, not enough fines to bind coarse grains, no dry strength.			SW	SAND
				Predominantly one size or a range of sizes with some intermediate sizes missing, not enough fines to bind coarse grains, no dry strength.			SP	SAND
			SAND with FINES (Fines greater than 12%)	'Dirty' materials with excess of non-plastic fines (for identification procedures see ML below).			SM	Silty SAND
				'Dirty' materials with excess of plastic fines (for identification procedures see CL below).			SC	Clayey SAND
FINE GRAINED SOIL More than 35% of material less than 63 mm is smaller than 0.075 mm			IDENTIFICATION PROCEDURES ON FRACTIONS <0.2 mm					
		SILT & CLAY Liquid limit less	DRY STRENGTH	DILATANCY	TOUGHNESS			
			None to low	Slow to rapid	Low		ML	SILT
			Medium to high	None to slow	Medium		CL, CI	CLAY
			Low to medium	Slow	Low		OL	Organic SILT
		SILT & CLAY Liquid limit	Low to medium	None to slow	Low to medium		MH	SILT
			High to very high	None	High		CH	CLAY
			Medium to high	None to very slow	Low to medium		OH	Organic CLAY
HIGHLY ORGANIC SOILS			Readily identified by colour, odour, spongy feel and frequently by fibrous texture.				PT	Peat

● Low plasticity – Liquid Limit W_L less than 35%. ● Medium plasticity –W_L between 35% and 50%. ● High plasticity – W_L greater than 50%.

COMMON DEFECTS IN SOIL

TERM	DEFINITION	DIAGRAM
Parting	A surface or crack across which the soil has little or no tensile strength. Parallel or sub parallel to layering (e g. bedding). May be open or closed.	
Fissure	A surface or crack across which the soil has little or no tensile strength but which is not parallel or sub parallel to layering. May be open or closed. May include desiccation cracks.	
Sheared Seam	Zone in clayey soil with roughly parallel near planar, curved or undulating boundaries containing closely spaced, smooth or slickensided, curved intersecting joints which divide the mass into lenticular or wedge shaped blocks.	
Sheared Surface	A near planar curved or undulating, smooth, polished or slickensided surface in clayey soil. The polished or slickensided surface indicates that movement (in many cases very little) has occurred along the defect	

TERM	DEFINITION	DIAGRAM
Softened Zone	A zone in clayey soil, usually adjacent to a defect in which the soil has a higher moisture content than elsewhere	
Tube	Tubular cavity. May occur singly or as one of a large number of separate or interconnected tubes. Walls often coated with clay or strengthened by denser packing of grains. May contain organic matter. Origins include root holes, animal burrows, tunnel erosion.	
Tube cast	An infilled tube. The infill may be uncemented or weakly cemented soil or have rock properties.	
Infilled Seam	Sheet or wall like body of soil substance or mass with roughly planar to irregular near parallel boundaries which cuts through a soil mass. Formed by infilling of open defects.	

ROCK DESCRIPTION EXPLANATION SHEET

The descriptive terms used by Tetra Tech Coffey are given below. They are broadly consistent with Australian Standard AS1726:2017.

DEFINITIONS: Rock material, defect, structure and rock mass are defined as follows:

Rock material	In engineering terms rock material is any naturally occurring aggregate of minerals and/or organic materials that cannot be disaggregated by hand in air or water without prior soaking. Rock material is intact rock that is bounded by defects. Material which can be disaggregated or remoulded should be described as a soil.
Defect	Discontinuity, fracture, break or void in the material or materials across which there is little or no tensile strength.
Structure	Nature and configuration of the different defects within the rock mass and their relationship with each other.
Rock mass	It is the entirety of the system formed by all of the rock material and all of the defects. That is, it is a body of material which is not effectively homogeneous.

MATERIAL DESCRIPTIVE TERMS:

Rock name	Simple rock names are used rather than precise geological classification.
Particle size	Grain size terms for sandstone are:
Coarse grained	Mainly 0.6mm to 2mm
Medium grained	Mainly 0.2mm to 0.6mm
Fine grained	Mainly 0.06mm (just visible) to 0.2mm
Fabric	When grains show an alignment, a preferred orientation or a layering (e.g. bedding or lamination for sedimentary rocks, and foliation or cleavage for metamorphic rocks) the terms used are:
Massive	No layering or penetrative fabric.
Indistinct	Layering or fabric just visible. Little effect on strength properties.
Distinct	Layering or fabric is easily visible. Rock may break more easily parallel to the fabric.

CLASSIFICATION OF MATERIAL WEATHERING

Term	Abbreviation	Definition
Residual Soil	**RS**	Material is weathered to such an extent that it has soil properties. Mass structure and material texture and fabric of original rock are no longer visible. Soil has not been significantly transported.
Extremely Weathered	**XW**	Material is weathered to such an extent that it has soil properties, i.e. it either disaggregates or can be remoulded in water. Mass structure and material texture and fabric of original rock are still visible.
Highly Weathered[1]	**HW**	The whole of the rock material is discoloured, usually by iron staining or bleaching to the extent that the colour of the original rock is not recognisable. Rock strength is significantly changed by weathering. Some primary minerals have weathered to clay minerals. Porosity may be increased by leaching or may be decreased due to the deposition of weathering products in pores.
Moderately Weathered[1]	**MW**	The whole of the rock material is discoloured, usually by iron staining or bleaching to the extent that the colour of the original rock is no longer recognisable. Little or no change of strength from fresh rock.
Slightly Weathered	**SW**	Rock is partially discoloured with staining or bleaching adjacent to defects, but shows little or no change of strength from fresh rock.
Fresh	**FR**	Rock shows no sign of decomposition of individual minerals or colour changes.

Notes on Weathering:

1. The term 'Distinctly Weathered' (DW) may be used where it is not practicable (or it is judged that there is no advantage in making such a distinction) to distinguish between 'Highly Weathered' and 'Moderately Weathered'. 'Distinctly Weathered' is defined as follows: 'Rock strength usually changed by weathering. The rock may be highly discoloured, usually by iron staining. Porosity may be increased by leaching, or may be decreased due to deposition of weathering products in pores'.
2. Where physical and chemical changes of the rock material are caused by hot gases or liquids at depth (process called alteration) the term 'altered' may be substituted for 'weathering' to give the abbreviations XA, HA, MA, SA and DA.

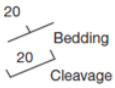
ROCK MATERIAL STRENGTH TERMS

Term (Abbreviation)	Guide to Strength: Point Load Strength Index, $I_{s(50)}$ (MPa)	Guide to Strength: Field Assessment
Very Low (VL)	0.03 - 0.1	Material crumbles under firm blows with sharp end of pick; can be peeled with a knife; too hard to cut a triaxial sample by hand; pieces up to 30mm thick can be broken by finger pressure.
Low (L)	0.1 - 0.3	Easily scored with a knife; indentations 1mm to 3mm show with firm bows of a pick point; has a dull sound under hammer. A piece of core 150mm long by 50mm diameter may be broken by hand. Sharp edges of core may be friable and break during handling.
Medium (M)	0.3 to 1.0	Readily scored with a knife; a piece of core 150mm long by 50mm diameter can be broken by hand with difficulty.
High (H)	1 to 3	A piece of core 150mm long by 50mm diameter cannot be broken by hand but can be broken by a pick with a single firm blow; rock rings under hammer.
Very High (VH)	3 to 10	Hand specimen breaks after more than one blow; rock rings under hammer.
Extremely High (EH)	More than 10	Specimen requires many blows with geological pick to break through intact material; rock rings under hammer.

Notes on Rock Material Strength:

1. Material with strength less than 'Very Low' should be described using soil characteristics.
2. The method of measuring the $I_{s(50)}$ should be in accordance with AS 4133.4.2.
3. The rock strength should be determined perpendicular to any anisotropy in the rock. High strength anisotropic rocks may readily break parallel to the planar anisotropy.
4. Although AS1726:2017 provides a basis for rock strength terms based on Unconfined Compressive Strength (UCS), the ratio between UCS and $I_{s(50)}$ may vary from less than 10 to over 30 depending on the rock type and overall strength. The UCS/$I_{s(50)}$ strength ratio should be determined for each rock material.
5. The rock strength classification using $I_{s(50)}$ above should be considered indicative only. The rock strength classified in accordance with AS1726:2017 may be higher or lower if UCS results are available.

COMMON ROCK DEFECT TYPES

Term	Definition	Diagram	Map Symbol	Graphic Log (Note 1)
Parting	A surface or crack across which the rock has little or no tensile strength. Parallel or sub-parallel to layering (e.g. bedding) or a planar anisotropy in the rock material (e.g. cleavage). May be open or closed.			
Joint	A surface or crack with no apparent shear displacement and across which the rock has little or no tensile strength, but which is not parallel or sub-parallel to layering or to planar anisotropy in the rock material. May be open or closed.			
Sheared Zone/Seam (Note 3)	Zone of rock material with roughly parallel near planar, curved or undulating boundaries cut by closely spaced joints, sheared surfaces or other defects. Some of the defects are usually curved and intersect to divide the mass into lenticular or wedge shaped blocks.			
Sheared Surface (Note 3)	A near planar, curved or undulating surface which is usually smooth, polished or slickensided and which shows evidence of shear displacement.			
Crushed Seam (Note 3)	Seam of soil material with roughly parallel almost planar boundaries, composed of disoriented, usually angular fragments of the host rock material which may be more weathered than the host rock. The seam has soil properties.			
Infilled Seam	Seam of soil material usually with distinct roughly parallel boundaries formed by the migration of soil into an open cavity or joint, infilled seams up to 1mm thick may be described as veneer or coating on a joint surface.			
Extremely Weathered Seam	Seam of soil material, often with gradational boundaries. Formed by weathering of the rock material in place.			

Notes on Defects:

1. Usually borehole logs show the true dip of defects, and face sketches and sections show the apparent dip.
2. Partings and joints are not usually shown on the graphic log unless considered significant.
3. Sheared zones/seams, sheared surfaces and crushed seams are generally faults in geological terms.

DEFECT SHAPE TERMS

Planar	The defect does not vary in orientation
Curved	The defect has a gradual change in orientation
Undulating	The defect has a wavy surface
Stepped	The defect has one or more well defined steps
Irregular	The defect has many sharp changes of orientation

Note: The assessment of defect shape is partly influenced by the scale of the observation.

DEFECT ROUGHNESS TERMS

Very Rough	Many large surface irregularities (amplitude generally more than 1mm). Feels like, or coarser than very coarse sand paper.
Rough	Many small surface irregularities (amplitude generally less than 1mm). Feels like fine to coarse sand paper.
Smooth	Smooth to touch. Few or no surface irregularities.
Polished	Shiny smooth surface.
Slickensided	Grooved or striated surface, usually polished.

DEFECT COATING TERMS

Clean	No visible coating.
Stained	No visible coating but surfaces are discoloured.
Veneer	A visible coating of soil or mineral, too thin to measure; may be patchy.
Coating	A visible coating up to 1mm thick. Thicker soil material should be described using appropriate defect terms (e g. infilled seam). Thicker rock strength material should be described as a vein.

DIMENSION OF DEFECTS

Spacing, length, openness and thickness

The spacing, length, aperture (openness), and seam thickness should generally be described directly in millimetres or metres.

Block Shape

Where it is considered significant, block shape (e.g. tabular, prismatic, columnar) should be described using the terms in Table 23 of AS 1726:2017.

Table D1: Well Gauging Summary

Date	Time	Well ID	Easting	Northing	TOC (mAHD)	Standing Water Level (mbTOC)	RWL (mAHD)	Depth to NAPL (mbTOC)	LNAPL thickness (mm)	Well Diameter	Top of Screen (mbTOC)	Screen length (m)	Total Depth (mbTOC)	Comments
11/08/2025	08:42	BH01	327832.397	6240107.898	14.812	6.351	8.461	-	-	50	16.10	6.0	21.83	Nil
11/08/2025	08:56	BH02	327819.456	6240067.429	16.62	5.024	11.596	-	-	50	16.08	6.0	23.1	Nil
11/08/2025	09:07	BH03	327845.274	6240064.543	14.976	5.033	9.943	-	-	50	16.22	6.0	23.32	Nil

Notes:
Coordinate System: GDA94 Z55
mbTOC: metres below Top of Casing
mAHD: metres Australian Height Datum
N.O.:No Odour
N.S.: No Sheen

Table D2: Groundwater Quality Summary

Date	Time	Well ID	Standing Water Level (mbTOC)	TOC Elevation (mAHD)	Water Elevation (mAHD)	Temperature C	Dissolved Oxygen (mg/L)	Electrical Conductivity (uS/cm)	pH	Redox (mV)	Adjusted Redox*	Clarity	Comments
11/08/2025	08:42	BH01	6.351	14.812	8.461	19.3	0.78	1097	6.15	-107.5	92.5	Slightly cloudy	Pale grey, slight sulphurous odour
11/08/2025	08:56	BH02	5.024	16.62	11.596	20.2	3.4	386.8	5.92	-19.8	180.2	Clear	No colour, no odour
11/08/2025	09:07	BH03	5.033	14.976	9.943	19.2	0.68	608	6.21	-27.2	172.8	Cloudy	Pale brown, no odour

*Redox readings were adjusted as per manufacturer's recommendation. For a YSI Quatro Pro Plus with 3.5M Ag/AgCl probe, 200mV was added to convert the readings into standard hydrogen electrode (SHE) reference electrode.

Table E1 - Summary of Soil Results - Site Suitability				Asbestos	Metals													
					Arsenic		Cadmium		Chromium		Copper		Mercury		Nickel		Nickel (filtered)	
				g/kg	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/L	
EQL				**0.1**	**2**	**0.001**	**0.4**	**0.0001**	**2**	**0.001**	**5**	**0.001**	**0.1**	**0.0001**	**2**	**0.001**	**0.001**	
CRCCARE 2011, Table B4: HSL-DIntrusive Maintenance Worker				-	-	-	-	-	-	-	-	-	-	-	-	-	-	
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil				-	3,000	-	900	-	-	-	240,000	-	730	-	6,000	-	-	
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay				-	-	-	-	-	-	-	-	-	-	-	-	-	-	
>=0m, <1m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	
>=1m, <2m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	
>=2m, <4m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	
>=4m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil				-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sample Type	Field ID	Date	Lab Report Number															
Normal	BH101_0-0.1	11 Aug 2025	ES2524646	**No asbestos detected**	-	-	-	-	-	-	-	-	-	-	-	-	-	
Normal	BH101_0.9-1.0	11 Aug 2025	ES2524646	-	<5	-	<1	-	**5**	-	<5	-	<0.1	-	<2	-	-	
Normal	BH102_0-0.1	11 Aug 2025	ES2524646	**No asbestos detected**	<5	-	<1	-	**7**	-	**93**	-	<0.1	-	**52**	-	-	
Normal	BH102_0.4-0.5	11 Aug 2025	ES2524646	**No asbestos detected**	**9**	-	<1	-	**18**	-	**41**	-	**0.1**	-	**12**	-	-	
Normal	BH103-0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Normal	BH103_0.1-0.2	11 Aug 2025	ES2524646	**No asbestos detected**	-	-	-	-	-	-	-	-	-	-	-	-	-	
Normal	BH103_0.7-0.8	11 Aug 2025	ES2524646	**No asbestos detected**	<5	-	<1	-	**10**	-	**15**	-	<0.1	-	**5**	-	-	
Normal	BH103-0.5-0.6	11 Aug 2025	ES2524646	**No asbestos detected**	**10**	-	<1	-	**22**	-	**1,010**	-	**2.1**	-	**36**	-	-	
Normal	BH104_0.2-0.3	11 Aug 2025	ES2524646	**No asbestos detected**	<5	-	<1	-	**16**	-	**32**	-	**0.3**	-	**17**	-	-	
Normal	BH104_0.3-0.4	11 Aug 2025	ES2524646	**No asbestos detected**	**7**	-	<1	-	**11**	-	**6**	-	<0.1	-	<2	-	-	
Normal	BH104_0.6-0.7	11 Aug 2025	ES2524646	**No asbestos detected**	-	-	-	-	-	-	-	-	-	-	-	-	-	
Normal	BH104_0.8-0.9	11 Aug 2025	ES2524646	-	<5	-	<1	-	**5**	-	<5	-	<0.1	-	<2	-	-	
Normal	BH105-1.1-1.2	11 Aug 2025	ES2524646	-	<5	-	<1	-	**11**	-	<5	-	<0.1	-	<2	-	-	
Normal	BH105_0.2-0.3	11 Aug 2025	ES2524646	**No asbestos detected**	**16**	-	<1	-	**9**	-	**87**	-	<0.1	-	**21**	-	-	
Normal	BH106_0.2-0.3	11 Aug 2025	ES2524646	**No asbestos detected**	**5**	-	<1	-	**11**	-	**56**	-	**0.1**	-	**15**	-	-	
Field_D	DUP2 Replicate of BH106/0.2-0.3	11 Aug 2025	ES2524646	-	**7**	-	<1	-	**19**	-	**46**	-	**0.1**	-	**15**	-	-	
Interlab_D	TRIP 2 Replicate of BH106/0.2-0.3	11 Aug 2025	1255551	-	**5.4**	-	<0.4	-	**17**	-	**140**	-	<0.1	-	**15**	-	-	
Normal	BH106_0.5-0.6	11 Aug 2025	ES2524646	**No asbestos detected**	**6**	-	<1	-	**13**	-	**12**	-	**0.3**	-	<2	-	-	
Normal	BH106_0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Normal	BH107_0-0.1	11 Aug 2025	ES2524646	**No asbestos detected**	<5	-	<1	-	**38**	-	**37**	-	**0.1**	-	**36**	-	-	
Normal	BH107_0.2-0.3	11 Aug 2025	ES2524646	**No asbestos detected**	<5	-	<1	-	**7**	-	**10**	-	**0.5**	-	**4**	-	-	
Normal	BH108_0.1-0.2	11 Aug 2025	ES2524646	**No asbestos detected**	<5	-	<1	-	**12**	-	**15**	-	**0.1**	-	**5**	-	-	
Normal	BH108_0.5-0.6	11 Aug 2025	ES2524646	**No asbestos detected**	**6**	-	<1	-	**13**	-	**6**	-	**0.1**	-	**3**	-	-	
Normal	BH109_0-0.1	11 Aug 2025	ES2524646	**No asbestos detected**	<5	-	<1	-	**115**	-	**30**	-	**0.1**	-	**101**	-	-	
Normal	BH109_0-0.1	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	
Normal	BH109_0.3-0.4	11 Aug 2025	ES2524646	**No asbestos detected**	<5	-	<1	-	**18**	-	**16**	-	**0.1**	-	**14**	-	-	
Normal	BH110_0.0-0.1	11 Aug 2025	ES2526307	**No asbestos detected**	<5	-	<1	-	**40**	-	**28**	-	**0.1**	-	**41**	-	-	
Normal	BH110_0.3-0.4	11 Aug 2025	ES2526307	**No asbestos detected**	<5	-	<1	-	**11**	-	**6**	-	<0.1	-	**4**	-	-	
Trip_B	Trip Blank	04 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Trip_B	Trip Blank	04 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Rinsate	Rinsate 1	11 Aug 2025	ES2524646	-	-	<0.001	-	<0.0001	-	<0.001	-	<0.001	-	<0.0001	-	<0.001	-	

Table E1 - Summary of Soil Results - Site Suitability																							
														BTEX									
				Silver		Lead		Lead (filtered)		Zinc		Benzene		Ethylbenzene		Toluene		Xylenes Total		Xylene (o)	
				mg/kg	mg/L	mg/kg	mg/L	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L		
EQL				**2**	**0.001**	**5**	**0.001**	**0.001**	**5**	**0.005**	**0.1**	**0.001**	**0.1**	**0.001**	**0.1**	**0.001**	**0.3**	**0.002**	**0.1**	**0.001**		
CRCCARE 2011, Table B4: HSL-DIntrusive Maintenance Worker				-	-	-	-	-	-	-	1,100	-	85,000	-	120,000	-	130,000	-	-	-		
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil				-	-	1,500	-	-	400,000	-	-	-	-	-	-	-	-	-	-	-		
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay				-	-	-	-	-	-	-	4 | 6 | 9 | 20	-	-	-	-	-	-	-	-	-		
>=0m, <1m				-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-		
>=1m, <2m				-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-		
>=2m, <4m				-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-		
>=4m				-	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-		
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Sample Type	Field ID	Date	Lab Report Number																			
Normal	BH101_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Normal	BH101_0.9-1.0	11 Aug 2025	ES2524646	<2	-	**14**	-	-	**6**	-	<0.2	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-		
Normal	BH102_0-0.1	11 Aug 2025	ES2524646	**5**	-	<5	-	-	**29**	-	<0.2	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-		
Normal	BH102_0.4-0.5	11 Aug 2025	ES2524646	<2	-	**111**	-	-	**112**	-	<0.2	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-		
Normal	BH103-0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	**0.5**	-	-	-	-	-	-	-	-	-	-	-	-		
Normal	BH103_0.1-0.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Normal	BH103_0.7-0.8	11 Aug 2025	ES2524646	<2	-	**15**	-	-	**28**	-	<0.2	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-		
Normal	BH103-0.5-0.6	11 Aug 2025	ES2524646	<2	-	**453**	-	-	**568**	-	<0.2	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-		
Normal	BH104_0.2-0.3	11 Aug 2025	ES2524646	<2	-	**157**	-	-	**239**	-	<0.2	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-		
Normal	BH104_0.3-0.4	11 Aug 2025	ES2524646	<2	-	**46**	-	-	**43**	-	<0.2	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-		
Normal	BH104_0.6-0.7	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Normal	BH104_0.8-0.9	11 Aug 2025	ES2524646	<2	-	**16**	-	-	**13**	-	<0.2	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-		
Normal	BH105-1.1-1.2	11 Aug 2025	ES2524646	<2	-	**8**	-	-	<5	-	<0.2	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-		
Normal	BH105_0.2-0.3	11 Aug 2025	ES2524646	<2	-	**47**	-	-	**194**	-	<0.2	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-		
Normal	BH106_0.2-0.3	11 Aug 2025	ES2524646	<2	-	**86**	-	-	**343**	-	<0.2	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-		
Field_D	DUP2 Replicate of BH106/0.2-0.3	11 Aug 2025	ES2524646	<2	-	**157**	-	-	**2,770**	-	<0.2	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-		
Interlab_D	TRIP 2 Replicate of BH106/0.2-0.3	11 Aug 2025	1255551	<2	-	**110**	-	-	**2,700**	-	<0.1	-	<0.1	-	<0.1	-	<0.3	-	<0.1	-		
Normal	BH106_0.5-0.6	11 Aug 2025	ES2524646	<2	-	**200**	-	-	**100**	-	<0.2	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-		
Normal	BH106_0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	**0.7**	-	-	-	-	-	-	-	-	-	-	-	-		
Normal	BH107_0-0.1	11 Aug 2025	ES2524646	<2	-	**134**	-	-	**102**	-	<0.2	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-		
Normal	BH107_0.2-0.3	11 Aug 2025	ES2524646	<2	-	**130**	-	-	**91**	-	<0.2	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-		
Normal	BH108_0.1-0.2	11 Aug 2025	ES2524646	<2	-	**112**	-	-	**75**	-	<0.2	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-		
Normal	BH108_0.5-0.6	11 Aug 2025	ES2524646	<2	-	**38**	-	-	**32**	-	<0.2	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-		
Normal	BH109_0-0.1	11 Aug 2025	ES2524646	<2	-	**49**	-	-	**64**	-	<0.2	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-		
Normal	BH109_0-0.1	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Normal	BH109_0.3-0.4	11 Aug 2025	ES2524646	<2	-	**61**	-	-	**89**	-	<0.2	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-		
Normal	BH110_0.0-0.1	11 Aug 2025	ES2526307	**3**	-	**157**	-	-	**92**	-	<0.2	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-		
Normal	BH110_0.3-0.4	11 Aug 2025	ES2526307	<2	-	**40**	-	-	**32**	-	<0.2	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-		
Trip_B	Trip Blank	04 Aug 2025	ES2524646	-	-	-	-	-	-	-	<0.2	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-		
Trip_B	Trip Blank	04 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	<0.001	-	<0.002	-	<0.002	-	<0.002	-	<0.002		
Rinsate	Rinsate 1	11 Aug 2025	ES2524646	-	<0.001	-	<0.001	-	-	<0.005	-	<0.001	-	<0.002	-	<0.002	-	<0.002	-	<0.002		

Table E1 - Summary of Soil Results - Site Suitability										Monocyclic Aromatic Hydrocarbons											
				Xylenes (m & p)		Total BTEX		Naphthalene (VOC)	Naphthalene (VOC)	1,2,4-Trimethylbenzene		1,3,5-Trimethylbenzene		n-Butylbenzene		iso-Propylbenzene (cumene)		n-Propylbenzene		sec-Butylbenzene	
				mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L
EQL				**0.2**	**0.002**	**0.2**	**0.001**	**0.5**	**0.005**	**0.5**	**0.001**	**0.5**	**0.001**	**0.5**	**0.005**	**0.5**	**0.001**	**0.5**	**0.005**	**0.5**	**0.005**
CRCCARE 2011, Table B4: HSL-DIntrusive Maintenance Worker				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=0m, <1m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=1m, <2m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=2m, <4m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=4m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample Type	Field ID	Date	Lab Report Number																		
Normal	BH101_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH101_0.9-1.0	11 Aug 2025	ES2524646	<0.5	-	<0.2	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH102_0-0.1	11 Aug 2025	ES2524646	<0.5	-	<0.2	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH102_0.4-0.5	11 Aug 2025	ES2524646	<0.5	-	<0.2	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103-0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103_0.1-0.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103_0.7-0.8	11 Aug 2025	ES2524646	<0.5	-	<0.2	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103-0.5-0.6	11 Aug 2025	ES2524646	<0.5	-	<0.2	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.2-0.3	11 Aug 2025	ES2524646	<0.5	-	<0.2	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.3-0.4	11 Aug 2025	ES2524646	<0.5	-	<0.2	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.6-0.7	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.8-0.9	11 Aug 2025	ES2524646	<0.5	-	<0.2	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH105-1.1-1.2	11 Aug 2025	ES2524646	<0.5	-	<0.2	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH105_0.2-0.3	11 Aug 2025	ES2524646	<0.5	-	<0.2	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH106_0.2-0.3	11 Aug 2025	ES2524646	<0.5	-	<0.2	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Field_D	DUP2 Replicate of BH106/0.2-0.3	11 Aug 2025	ES2524646	<0.5	-	<0.2	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Interlab_D	TRIP 2 Replicate of BH106/0.2-0.3	11 Aug 2025	1255551	<0.2	-	-	-	<0.5	-	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	-	-
Normal	BH106_0.5-0.6	11 Aug 2025	ES2524646	<0.5	-	<0.2	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH106_0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH107_0-0.1	11 Aug 2025	ES2524646	<0.5	-	<0.2	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH107_0.2-0.3	11 Aug 2025	ES2524646	<0.5	-	<0.2	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH108_0.1-0.2	11 Aug 2025	ES2524646	<0.5	-	<0.2	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH108_0.5-0.6	11 Aug 2025	ES2524646	<0.5	-	<0.2	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH109_0-0.1	11 Aug 2025	ES2524646	<0.5	-	<0.2	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH109_0-0.1	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH109_0.3-0.4	11 Aug 2025	ES2524646	<0.5	-	<0.2	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH110_0.0-0.1	11 Aug 2025	ES2526307	<0.5	-	<0.2	-	<1	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH110_0.3-0.4	11 Aug 2025	ES2526307	<0.5	-	<0.2	-	<1	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Trip_B	Trip Blank	04 Aug 2025	ES2524646	<0.5	-	<0.2	-	<1	-	-	-	-	-	-	-	-	-	-	-	-	-
Trip_B	Trip Blank	04 Aug 2025	ES2524646	-	<0.002	-	<0.001	-	<0.005	-	-	-	-	-	-	-	-	-	-	-	-
Rinsate	Rinsate 1	11 Aug 2025	ES2524646	-	<0.002	-	<0.001	-	<0.005	-	<0.005	-	<0.005	-	<0.005	-	<0.005	-	<0.005	-	<0.005

Table E1 - Summary of Soil Results - Site Suitability

				tert-Butylbenzene		Styrene		p-Isopropyltoluene		p-Isopropyltoluene		Benzo(a)pyrene TEQ (LOR)	Benzo(a)pyrene TEQ calc (Half)	Benzo(a)pyrene TEQ calc (Zero)		Anthracene		Pyrene		Benzo(g,h,i)perylene		Indeno(1,2,3-c,d)pyrene	
				mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/kg	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L
EQL				**0.5**	**0.005**	**0.5**	**0.001**	**0.5**	**0.005**	**0.5**	**0.5**	**0.5**	**0.5**	**0.0005**	**0.5**	**0.001**	**0.5**	**0.001**	**0.5**	**0.001**	**0.5**	**0.001**	
CRCCARE 2011, Table B4: HSL-DIntrusive Maintenance Worker				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil				-	-	-	-	-	-	-	40	40	40	-	-	-	-	-	-	-	-	-	
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
>=0m, <1m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
>=1m, <2m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
>=2m, <4m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
>=4m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sample Type	Field ID	Date	Lab Report Number																				
Normal	BH101_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Normal	BH101_0.9-1.0	11 Aug 2025	ES2524646	-	-	-	-	-	-	**1.2**	**0.6**	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH102_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	**1.2**	**0.6**	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH102_0.4-0.5	11 Aug 2025	ES2524646	-	-	-	-	-	-	**1.2**	**0.9**	**0.6**	-	<0.5	-	**1.1**	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH103-0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103_0.1-0.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103_0.7-0.8	11 Aug 2025	ES2524646	-	-	-	-	-	-	**1.2**	**0.6**	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH103-0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	**1.2**	**0.6**	<0.5	-	<0.5	-	**0.9**	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH104_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	**1.7**	**1.4**	**1.1**	-	<0.5	-	**1.9**	-	**0.6**	-	<0.5	-	<0.5	-
Normal	BH104_0.3-0.4	11 Aug 2025	ES2524646	-	-	-	-	-	-	**1.2**	**0.6**	<0.5	-	<0.5	-	**0.6**	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH104_0.6-0.7	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.8-0.9	11 Aug 2025	ES2524646	-	-	-	-	-	-	**1.2**	**0.6**	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH105-1.1-1.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	**1.2**	**0.6**	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH105_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	**1.2**	**0.6**	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH106_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	**1.2**	**0.9**	**0.6**	-	<0.5	-	**1.1**	-	<0.5	-	<0.5	-	<0.5	-
Field_D	DUP2 Replicate of BH106/0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	**1.6**	**1.3**	**1.0**	-	<0.5	-	**1.2**	-	**0.6**	-	<0.5	-	<0.5	-
Interlab_D	TRIP 2 Replicate of BH106/0.2-0.3	11 Aug 2025	1255551	-	-	<0.5	-	-	-	**1.2**	**0.6**	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH106_0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	**2.0**	**1.7**	**1.4**	-	<0.5	-	**2.0**	-	**0.8**	-	**0.6**	-	<0.5	-
Normal	BH106_0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH107_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	**1.7**	**1.5**	**1.2**	-	<0.5	-	**1.2**	-	**0.8**	-	**0.6**	-	<0.5	-
Normal	BH107_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	**1.2**	**0.9**	**0.6**	-	<0.5	-	**0.7**	-	**0.5**	-	<0.5	-	<0.5	-
Normal	BH108_0.1-0.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	**1.2**	**0.6**	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH108_0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	**1.2**	**0.6**	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH109_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	**1.2**	**0.6**	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH109_0-0.1	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH109_0.3-0.4	11 Aug 2025	ES2524646	-	-	-	-	-	-	**1.2**	**0.6**	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH110_0.0-0.1	11 Aug 2025	ES2526307	<0.5	-	<0.5	-	<0.5	-	**1.4**	**1.1**	**0.8**	-	<0.5	-	**0.9**	-	**0.7**	-	<0.5	-	<0.5	-
Normal	BH110_0.3-0.4	11 Aug 2025	ES2526307	<0.5	-	<0.5	-	<0.5	-	**1.2**	**0.6**	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Trip_B	Trip Blank	04 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trip_B	Trip Blank	04 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rinsate	Rinsate 1	11 Aug 2025	ES2524646	-	<0.005	-	<0.005	-	<0.005	-	-	-	-	<0.0005	-	<0.0010	-	<0.0010	-	<0.0010	-	<0.0010	

Table E1 - Summary of Soil Results - Site Suitability				Polycyclic Aromatic Hydrocarbons																	
				Benzo(b+j)fluoranthene		Fluoranthene		Benzo(k)fluoranthene		Acenaphthylene		Chrysene		Benzo(a) pyrene		Dibenz(a,h)anthracene		Benz(a)anthracene		Acenaphthene	
				mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L
EQL				**0.5**	**0.001**	**0.5**	**0.001**	**0.5**	**0.001**	**0.5**	**0.001**	**0.5**	**0.001**	**0.5**	**0.0005**	**0.5**	**0.001**	**0.5**	**0.001**	**0.5**	**0.001**
CRCCARE 2011, Table B4: HSL-DIntrusive Maintenance Worker				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=0m, <1m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=1m, <2m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=2m, <4m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=4m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample Type	Field ID	Date	Lab Report Number																		
Normal	BH101_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH101_0.9-1.0	11 Aug 2025	ES2524646	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH102_0-0.1	11 Aug 2025	ES2524646	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH102_0.4-0.5	11 Aug 2025	ES2524646	**0.7**	-	**1.2**	-	<0.5	-	<0.5	-	<0.5	-	**0.5**	-	<0.5	-	**0.5**	-	<0.5	-
Normal	BH103-0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103_0.1-0.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103_0.7-0.8	11 Aug 2025	ES2524646	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH103-0.5-0.6	11 Aug 2025	ES2524646	<0.5	-	**0.9**	-	**0.5**	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH104_0.2-0.3	11 Aug 2025	ES2524646	**1.1**	-	**1.7**	-	<0.5	-	<0.5	-	**0.6**	-	**0.9**	-	<0.5	-	**0.9**	-	<0.5	-
Normal	BH104_0.3-0.4	11 Aug 2025	ES2524646	<0.5	-	**0.7**	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH104_0.6-0.7	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.8-0.9	11 Aug 2025	ES2524646	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH105-1.1-1.2	11 Aug 2025	ES2524646	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH105_0.2-0.3	11 Aug 2025	ES2524646	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH106_0.2-0.3	11 Aug 2025	ES2524646	**0.7**	-	**1.1**	-	<0.5	-	<0.5	-	<0.5	-	**0.5**	-	<0.5	-	<0.5	-	<0.5	-
Field_D	DUP2 Replicate of BH106/0.2-0.3	11 Aug 2025	ES2524646	**1.0**	-	**1.2**	-	<0.5	-	<0.5	-	<0.5	-	**0.8**	-	<0.5	-	**0.6**	-	<0.5	-
Interlab_D	TRIP 2 Replicate of BH106/0.2-0.3	11 Aug 2025	1255551	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH106_0.5-0.6	11 Aug 2025	ES2524646	**1.9**	-	**2.2**	-	**0.7**	-	**0.7**	-	**0.9**	-	**1.0**	-	<0.5	-	**1.2**	-	<0.5	-
Normal	BH106_0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH107_0-0.1	11 Aug 2025	ES2524646	**1.9**	-	**1.2**	-	**0.6**	-	<0.5	-	**0.9**	-	**0.8**	-	<0.5	-	**1.1**	-	<0.5	-
Normal	BH107_0.2-0.3	11 Aug 2025	ES2524646	**0.8**	-	**0.7**	-	<0.5	-	<0.5	-	<0.5	-	**0.5**	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH108_0.1-0.2	11 Aug 2025	ES2524646	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH108_0.5-0.6	11 Aug 2025	ES2524646	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH109_0-0.1	11 Aug 2025	ES2524646	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH109_0-0.1	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH109_0.3-0.4	11 Aug 2025	ES2524646	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH110_0.0-0.1	11 Aug 2025	ES2526307	**0.8**	-	**0.9**	-	<0.5	-	<0.5	-	**0.6**	-	**0.7**	-	<0.5	-	**0.5**	-	<0.5	-
Normal	BH110_0.3-0.4	11 Aug 2025	ES2526307	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Trip_B	Trip Blank	04 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trip_B	Trip Blank	04 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rinsate	Rinsate 1	11 Aug 2025	ES2524646	-	<0.0010	-	<0.0010	-	<0.0010	-	<0.0010	-	<0.0010	-	<0.0005	-	<0.0010	-	<0.0010	-	<0.0010

Table E1 - Summary of Soil Results - Site Suitability												Total Recoverable Hydrocarbons									
				Phenanthrene		Fluorene		PAHs (Sum of total)		Naphthalene	Naphthalene	F1 (C6-C10)		F1 (C6-C10) less BTEX		F2 (C10-C16 Hydrocarbons)		F3 (C16-C34 Hydrocarbons)		C34-C40	
				mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L
EQL				**0.5**	**0.001**	**0.5**	**0.001**	**0.5**	**0.0005**	**0.5**	**0.001**	**10**	**0.02**	**10**	**0.02**	**50**	**0.05**	**100**	**0.1**	**100**	**0.1**
CRCCARE 2011, Table B4: HSL-DIntrusive Maintenance Worker				-	-	-	-	-	-	29,000	-	-	-	82,000	-	62,000	-	85,000	-	120,000	-
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil				-	-	-	-	4,000	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay				-	-	-	-	-	-	-	-	-	-	310 | 480	-	-	-	-	-	-	-
>=0m, <1m				-	-	-	-	-	-	-	-	-	-	310	-	-	-	-	-	-	-
>=1m, <2m				-	-	-	-	-	-	-	-	-	-	480	-	-	-	-	-	-	-
>=2m, <4m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=4m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil				-	-	-	-	-	-	-	-	800	-	-	-	1,000	-	5,000	-	10,000	-
Sample Type	Field ID	Date	Lab Report Number																		
Normal	BH101_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH101_0.9-1.0	11 Aug 2025	ES2524646	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<10	-	<10	-	<50	-	<100	-	<100	-
Normal	BH102_0-0.1	11 Aug 2025	ES2524646	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<10	-	<10	-	<50	-	<100	-	<100	-
Normal	BH102_0.4-0.5	11 Aug 2025	ES2524646	**0.6**	-	<0.5	-	**4.6**	-	<0.5	-	<10	-	<10	-	<50	-	<100	-	<100	-
Normal	BH103-0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103_0.1-0.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103_0.7-0.8	11 Aug 2025	ES2524646	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<10	-	<10	-	<50	-	<100	-	<100	-
Normal	BH103-0.5-0.6	11 Aug 2025	ES2524646	**0.6**	-	<0.5	-	**2.9**	-	<0.5	-	<10	-	<10	-	<50	-	**220**	-	<100	-
Normal	BH104_0.2-0.3	11 Aug 2025	ES2524646	**0.7**	-	<0.5	-	**8.4**	-	<0.5	-	<10	-	<10	-	<50	-	<100	-	<100	-
Normal	BH104_0.3-0.4	11 Aug 2025	ES2524646	<0.5	-	<0.5	-	**1.3**	-	<0.5	-	<10	-	<10	-	<50	-	<100	-	<100	-
Normal	BH104_0.6-0.7	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.8-0.9	11 Aug 2025	ES2524646	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<10	-	<10	-	<50	-	<100	-	<100	-
Normal	BH105-1.1-1.2	11 Aug 2025	ES2524646	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<10	-	<10	-	<50	-	<100	-	<100	-
Normal	BH105_0.2-0.3	11 Aug 2025	ES2524646	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<10	-	<10	-	<50	-	<100	-	<100	-
Normal	BH106_0.2-0.3	11 Aug 2025	ES2524646	**0.5**	-	<0.5	-	**3.9**	-	<0.5	-	<10	-	<10	-	<50	-	<100	-	<100	-
Field_D	DUP2 Replicate of BH106/0.2-0.3	11 Aug 2025	ES2524646	<0.5	-	<0.5	-	**5.4**	-	<0.5	-	<10	-	<10	-	<50	-	<100	-	<100	-
Interlab_D	TRIP 2 Replicate of BH106/0.2-0.3	11 Aug 2025	1255551	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<20	-	<20	-	<50	-	<100	-	<100	-
Normal	BH106_0.5-0.6	11 Aug 2025	ES2524646	**0.8**	-	<0.5	-	**12.8**	-	<0.5	-	<10	-	<10	-	<50	-	**110**	-	<100	-
Normal	BH106_0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH107_0-0.1	11 Aug 2025	ES2524646	<0.5	-	<0.5	-	**9.1**	-	<0.5	-	<10	-	<10	-	<50	-	**120**	-	**110**	-
Normal	BH107_0.2-0.3	11 Aug 2025	ES2524646	<0.5	-	<0.5	-	**3.2**	-	<0.5	-	<10	-	<10	-	<50	-	<100	-	<100	-
Normal	BH108_0.1-0.2	11 Aug 2025	ES2524646	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<10	-	<10	-	<50	-	<100	-	<100	-
Normal	BH108_0.5-0.6	11 Aug 2025	ES2524646	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<10	-	<10	-	<50	-	<100	-	<100	-
Normal	BH109_0-0.1	11 Aug 2025	ES2524646	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<10	-	<10	-	<50	-	<100	-	<100	-
Normal	BH109_0-0.1	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH109_0.3-0.4	11 Aug 2025	ES2524646	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<10	-	<10	-	<50	-	**110**	-	**100**	-
Normal	BH110_0.0-0.1	11 Aug 2025	ES2526307	<0.5	-	<0.5	-	**5.1**	-	<0.5	-	<10	-	<10	-	<50	-	**120**	-	<100	-
Normal	BH110_0.3-0.4	11 Aug 2025	ES2526307	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<10	-	<10	-	<50	-	<100	-	<100	-
Trip_B	Trip Blank	04 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	<10	-	<10	-	-	-	-	-	-	-
Trip_B	Trip Blank	04 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	<0.02	-	<0.02	-	-	-	-	-	-
Rinsate	Rinsate 1	11 Aug 2025	ES2524646	-	<0.0010	-	<0.0010	-	<0.0005	-	<0.0010	-	<0.02	-	<0.02	-	<0.1	-	<0.1	-	<0.1

Table E1 - Summary of Soil Results - Site Suitability																							
									Total Petroleum Hydrocarbons														
				C10 - C40 (Sum of total)		F2 C10-C16 (minus Naphthalene)		F2 C10-C16 (minus Naphthalene)		C6 - C9		C10 - C14		C15 - C28		C29-C36		+C10 - C36 (Sum of total)		+C10 - C36 (Sum of total)		1,1,1,2-tetrachloroethane		1,1,1-trichloroethane	
				mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L
EQL				**50**	**0.1**	**50**	**0.05**	**10**	**0.02**	**20**	**0.05**	**50**	**0.1**	**50**	**0.05**	**50**	**0.05**	**50**	**0.05**	**0.5**	**0.001**	**0.5**	**0.001**
CRCCARE 2011, Table B4: HSL-DIntrusive Maintenance Worker				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=0m, <1m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=1m, <2m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=2m, <4m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=4m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample Type	Field ID	Date	Lab Report Number																				
Normal	BH101_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH101_0.9-1.0	11 Aug 2025	ES2524646	<50	-	<50	-	<10	-	<50	-	<100	-	<100	-	<100	-	<50	-	-	-	-	-
Normal	BH102_0-0.1	11 Aug 2025	ES2524646	<50	-	<50	-	<10	-	<50	-	<100	-	<100	-	<100	-	<50	-	-	-	-	-
Normal	BH102_0.4-0.5	11 Aug 2025	ES2524646	<50	-	<50	-	<10	-	<50	-	<100	-	<100	-	<100	-	<50	-	-	-	-	-
Normal	BH103-0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103_0.1-0.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103_0.7-0.8	11 Aug 2025	ES2524646	<50	-	<50	-	<10	-	<50	-	<100	-	<100	-	<50	-	-	-	-	-	-	-
Normal	BH103-0.5-0.6	11 Aug 2025	ES2524646	**220**	-	<50	-	<10	-	<50	-	**150**	-	**110**	-	**260**	-	-	-	-	-	-	-
Normal	BH104_0.2-0.3	11 Aug 2025	ES2524646	<50	-	<50	-	<10	-	<50	-	<100	-	<100	-	<50	-	-	-	-	-	-	-
Normal	BH104_0.3-0.4	11 Aug 2025	ES2524646	<50	-	<50	-	<10	-	<50	-	<100	-	<100	-	<50	-	-	-	-	-	-	-
Normal	BH104_0.6-0.7	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.8-0.9	11 Aug 2025	ES2524646	<50	-	<50	-	<10	-	<50	-	<100	-	<100	-	<50	-	-	-	-	-	-	-
Normal	BH105-1.1-1.2	11 Aug 2025	ES2524646	<50	-	<50	-	<10	-	<50	-	<100	-	<100	-	<50	-	-	-	-	-	-	-
Normal	BH105_0.2-0.3	11 Aug 2025	ES2524646	<50	-	<50	-	<10	-	<50	-	<100	-	<100	-	<50	-	-	-	-	-	-	-
Normal	BH106_0.2-0.3	11 Aug 2025	ES2524646	<50	-	<50	-	<10	-	<50	-	<100	-	<100	-	<50	-	-	-	-	-	-	-
Field_D	DUP2 Replicate of BH106/0.2-0.3	11 Aug 2025	ES2524646	<50	-	<50	-	<10	-	<50	-	<100	-	<100	-	<50	-	-	-	-	-	-	-
Interlab_D	TRIP 2 Replicate of BH106/0.2-0.3	11 Aug 2025	1255551	<100	-	<50	-	<20	-	<20	-	<50	-	<50	-	<50	-	-	-	<0.5	-	<0.5	-
Normal	BH106_0.5-0.6	11 Aug 2025	ES2524646	**110**	-	<50	-	<10	-	<50	-	<100	-	<100	-	<50	-	-	-	-	-	-	-
Normal	BH106_0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH107_0-0.1	11 Aug 2025	ES2524646	**230**	-	<50	-	<10	-	<50	-	<100	-	**100**	-	**100**	-	-	-	-	-	-	-
Normal	BH107_0.2-0.3	11 Aug 2025	ES2524646	<50	-	<50	-	<10	-	<50	-	<100	-	<100	-	<50	-	-	-	-	-	-	-
Normal	BH108_0.1-0.2	11 Aug 2025	ES2524646	<50	-	<50	-	<10	-	<50	-	<100	-	<100	-	<50	-	-	-	-	-	-	-
Normal	BH108_0.5-0.6	11 Aug 2025	ES2524646	<50	-	<50	-	<10	-	<50	-	<100	-	<100	-	<50	-	-	-	-	-	-	-
Normal	BH109_0-0.1	11 Aug 2025	ES2524646	<50	-	<50	-	<10	-	<50	-	<100	-	<100	-	<50	-	-	-	-	-	-	-
Normal	BH109_0-0.1	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH109_0.3-0.4	11 Aug 2025	ES2524646	**210**	-	<50	-	<10	-	<50	-	<100	-	<100	-	<50	-	-	-	-	-	-	-
Normal	BH110_0.0-0.1	11 Aug 2025	ES2526307	**120**	-	<50	-	<10	-	<50	-	<100	-	<100	-	<50	-	<0.5	-	<0.5	-		
Normal	BH110_0.3-0.4	11 Aug 2025	ES2526307	<50	-	<50	-	<10	-	<50	-	<100	-	<100	-	<50	-	<0.5	-	<0.5	-		
Trip_B	Trip Blank	04 Aug 2025	ES2524646	-	-	-	-	<10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trip_B	Trip Blank	04 Aug 2025	ES2524646	-	-	-	-	-	<0.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rinsate	Rinsate 1	11 Aug 2025	ES2524646	-	<0.1	-	<0.1	-	<0.02	-	<0.05	-	<0.1	-	<0.05	-	<0.05	-	<0.005	-	<0.005		

Table E1 - Summary of Soil Results - Site Suitability

				1,1,2,2-tetrachloroethane		1,1-dichloroethane		1,1-dichloroethene		1,1-dichloropropene		1,2,3-trichloropropane		1,2-dibromo-3-chloropropane		1,2-dichloroethane		1,2-dichloropropane		1,1,2-trichloroethane	
				mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L
EQL				**0.5**	**0.001**	**0.5**	**0.001**	**0.5**	**0.001**	**0.5**	**0.005**	**0.5**	**0.001**	**0.5**	**0.005**	**0.5**	**0.001**	**0.5**	**0.001**	**0.5**	**0.001**
CRCCARE 2011, Table B4: HSL-DIntrusive Maintenance Worker				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=0m, <1m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=1m, <2m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=2m, <4m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=4m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample Type	Field ID	Date	Lab Report Number																		
Normal	BH101_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH101_0.9-1.0	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH102_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH102_0.4-0.5	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103-0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103_0.1-0.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103_0.7-0.8	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103-0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.3-0.4	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.6-0.7	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.8-0.9	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH105-1.1-1.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH105_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH106_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field_D	DUP2 Replicate of BH106/0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interlab_D	TRIP 2 Replicate of BH106/0.2-0.3	11 Aug 2025	1255551	<0.5	-	<0.5	-	<0.5	-	-	-	<0.5	-	-	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH106_0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH106_0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH107_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH107_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH108_0.1-0.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH108_0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH109_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH109_0-0.1	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH109_0.3-0.4	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH110_0.0-0.1	11 Aug 2025	ES2526307	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH110_0.3-0.4	11 Aug 2025	ES2526307	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Trip_B	Trip Blank	04 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trip_B	Trip Blank	04 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rinsate	Rinsate 1	11 Aug 2025	ES2524646	-	<0.005	-	<0.005	-	<0.005	-	<0.005	-	<0.005	-	<0.005	-	<0.005	-	<0.005	-	<0.005

Table E1 - Summary of Soil Results - Site Suitability				Chlorinated Hydrocarbons																	
				2,2-dichloropropane		Bromochloromethane		Bromodichloromethane		Bromoform		Carbon tetrachloride		Chlorodibromomethane		Chloroethane		1,3-dichloropropane		Chloroform	
				mg/kg	mg/L	mg/L	mg/kg	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L
EQL				**0.5**	**0.005**	**0.001**	**0.5**	**0.5**	**0.001**	**0.5**	**0.001**	**0.5**	**0.001**	**0.5**	**0.001**	**0.5**	**0.005**	**0.5**	**0.001**	**0.5**	**0.005**
CRCCARE 2011, Table B4: HSL-DIntrusive Maintenance Worker				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=0m, <1m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=1m, <2m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=2m, <4m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=4m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample Type	Field ID	Date	Lab Report Number																		
Normal	BH101_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH101_0.9-1.0	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH102_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH102_0.4-0.5	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103-0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103_0.1-0.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103_0.7-0.8	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103-0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.3-0.4	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.6-0.7	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.8-0.9	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH105-1.1-1.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH105_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH106_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field_D	DUP2 Replicate of BH106/0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interlab_D	TRIP 2 Replicate of BH106/0.2-0.3	11 Aug 2025	1255551	-	-	-	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH106_0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH106_0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH107_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH107_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH108_0.1-0.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH108_0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH109_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH109_0-0.1	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH109_0.3-0.4	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH110_0.0-0.1	11 Aug 2025	ES2526307	<0.5	-	-	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<5	-	<0.5	-	<0.5	-
Normal	BH110_0.3-0.4	11 Aug 2025	ES2526307	<0.5	-	-	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<5	-	<0.5	-	<0.5	-
Trip_B	Trip Blank	04 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trip_B	Trip Blank	04 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rinsate	Rinsate 1	11 Aug 2025	ES2524646	-	<0.005	-	-	-	<0.005	-	<0.005	-	<0.005	-	<0.005	-	<0.05	-	<0.005	-	<0.005

Table E1 - Summary of Soil Results - Site Suitability

				Chloromethane		cis-1,2-dichloroethene		cis-1,3-dichloropropene		Dibromomethane		Dichloromethane		Hexachlorobutadiene		Tetrachloroethene		trans-1,2-dichloroethene		trans-1,3-dichloropropene	
				mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/L	mg/kg	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L
EQL				**0.5**	**0.005**	**0.5**	**0.001**	**0.5**	**0.001**	**0.5**	**0.001**	**0.005**	**0.5**	**0.5**	**0.005**	**0.5**	**0.001**	**0.5**	**0.001**	**0.5**	**0.001**
CRCCARE 2011, Table B4: HSL-DIntrusive Maintenance Worker				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=0m, <1m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=1m, <2m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=2m, <4m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=4m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample Type	Field ID	Date	Lab Report Number																		
Normal	BH101_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH101_0.9-1.0	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH102_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH102_0.4-0.5	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103-0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103_0.1-0.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103_0.7-0.8	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103-0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.3-0.4	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.6-0.7	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.8-0.9	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH105-1.1-1.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH105_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH106_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field_D	DUP2 Replicate of BH106/0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interlab_D	TRIP 2 Replicate of BH106/0.2-0.3	11 Aug 2025	1255551	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	-	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH106_0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH106_0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH107_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH107_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH108_0.1-0.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH108_0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH109_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH109_0-0.1	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH109_0.3-0.4	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH110_0.0-0.1	11 Aug 2025	ES2526307	<5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH110_0.3-0.4	11 Aug 2025	ES2526307	<5	-	<0.5	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Trip_B	Trip Blank	04 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trip_B	Trip Blank	04 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rinsate	Rinsate 1	11 Aug 2025	ES2524646	-	<0.05	-	<0.005	-	<0.005	-	<0.005	-	-	-	<0.005	-	<0.005	-	<0.005	-	<0.005

Table E1 - Summary of Soil Results - Site Suitability										Semivolatile Organic Compounds													
				Trichloroethene		Vinyl chloride		Vic EPA IWRG 621 Chlorinated hydrocarbons (Total)*	Vic EPA IWRG 621 Other cl hydrocarbons (Total)*	1,2-Dichlorobenzene		1,3-Dichlorobenzene		1,4-Dichlorobenzene		1,2,4-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,3-Trichlorobenzene		Acetone	
				mg/kg	mg/L	mg/kg	mg/L	mg/L	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/L	mg/kg
EQL				**0.5**	**0.001**	**0.5**	**0.005**	**0.005**	**0.005**	**0.5**	**0.001**	**0.5**	**0.001**	**0.5**	**0.001**	**0.5**	**0.005**	**0.5**	**0.005**	**0.005**	**0.5**
CRCCARE 2011, Table B4: HSL-DIntrusive Maintenance Worker				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=0m, <1m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=1m, <2m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=2m, <4m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=4m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample Type	Field ID	Date	Lab Report Number																		
Normal	BH101_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH101_0.9-1.0	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH102_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH102_0.4-0.5	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103-0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103_0.1-0.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103_0.7-0.8	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103-0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.3-0.4	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.6-0.7	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.8-0.9	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH105-1.1-1.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH105_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH106_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field_D	DUP2 Replicate of BH106/0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interlab_D	TRIP 2 Replicate of BH106/0.2-0.3	11 Aug 2025	1255551	<0.5	-	<0.5	-	<0.5	<0.5	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	-	<0.5
Normal	BH106_0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH106_0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH107_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH107_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH108_0.1-0.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH108_0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH109_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH109_0-0.1	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH109_0.3-0.4	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH110_0.0-0.1	11 Aug 2025	ES2526307	<0.5	-	<5	-	-	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	-
Normal	BH110_0.3-0.4	11 Aug 2025	ES2526307	<0.5	-	<5	-	-	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	-
Trip_B	Trip Blank	04 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trip_B	Trip Blank	04 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rinsate	Rinsate 1	11 Aug 2025	ES2524646	-	<0.005	-	<0.05	-	-	-	<0.005	-	<0.005	-	<0.005	-	<0.005	-	<0.005	-	-

Table E1 - Summary of Soil Results - Site Suitability				1,4-Dichloro-2-Butene [cis]		1,4-Dichloro-2-Butene [trans]		2-Butanone (MEK)		1,2-Dibromoethane		4-Chlorotoluene		4-Methyl-2-pentanone (MIBK)		2-Chlorotoluene		2-Hexanone (MBK)		Bromobenzene	
				mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L
EQL				**0.5**	**0.005**	**0.5**	**0.005**	**0.5**	**0.005**	**0.5**	**0.001**	**0.5**	**0.001**	**0.5**	**0.005**	**0.5**	**0.005**	**5**	**0.05**	**0.5**	**0.001**
CRCCARE 2011, Table B4: HSL-DIntrusive Maintenance Worker				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=0m, <1m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=1m, <2m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=2m, <4m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=4m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample Type	Field ID	Date	Lab Report Number																		
Normal	BH101_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH101_0.9-1.0	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH102_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH102_0.4-0.5	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103-0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103_0.1-0.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103_0.7-0.8	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103-0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.3-0.4	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.6-0.7	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.8-0.9	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH105-1.1-1.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH105_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH106_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Field_D	DUP2 Replicate of BH106/0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Interlab_D	TRIP 2 Replicate of BH106/0.2-0.3	11 Aug 2025	1255551	-	-	-	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	-	-	-	-	<0.5	-
Normal	BH106_0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH106_0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH107_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH107_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH108_0.1-0.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH108_0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH109_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH109_0-0.1	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH109_0.3-0.4	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH110_0.0-0.1	11 Aug 2025	ES2526307	<0.5	-	<0.5	-	<5	-	<0.5	-	<0.5	-	<5	-	<0.5	-	<5	-	<0.5	-
Normal	BH110_0.3-0.4	11 Aug 2025	ES2526307	<0.5	-	<0.5	-	<5	-	<0.5	-	<0.5	-	<5	-	<0.5	-	<5	-	<0.5	-
Trip_B	Trip Blank	04 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trip_B	Trip Blank	04 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rinsate	Rinsate 1	11 Aug 2025	ES2524646	-	<0.005	-	<0.005	-	<0.05	-	<0.005	-	<0.005	-	<0.05	-	<0.005	-	<0.05	-	<0.005

Table E1 - Summary of Soil Results - Site Suitability				Volatile Organic Compounds																			
				Bromomethane		Carbon disulfide		Chlorobenzene		Dichlorodifluoromethane		Formaldehyde		pH (Final)	TCLP Fluid	Total MAH		Allyl chloride		Iodomethane	
				mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	pH Unit	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/kg	mg/L
EQL				**0.5**	**0.005**	**0.5**	**0.001**	**0.5**	**0.001**	**0.5**	**0.005**	**1**	**0.1**	**0.1**	**1**	**0.003**	**0.5**	**0.001**	**0.5**	**0.5**	**0.001**
CRCCARE 2011, Table B4: HSL-DIntrusive Maintenance Worker				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=0m, <1m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=1m, <2m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=2m, <4m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
>=4m				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil				-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample Type	Field ID	Date	Lab Report Number																		
Normal	BH101_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH101_0.9-1.0	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
Normal	BH102_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
Normal	BH102_0.4-0.5	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
Normal	BH103-0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	**5.2**	**1**	-	-	-	-	-	-
Normal	BH103_0.1-0.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103_0.7-0.8	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
Normal	BH103-0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
Normal	BH104_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
Normal	BH104_0.3-0.4	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
Normal	BH104_0.6-0.7	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.8-0.9	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
Normal	BH105-1.1-1.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
Normal	BH105_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
Normal	BH106_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
Field_D	DUP2 Replicate of BH106/0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
Interlab_D	TRIP 2 Replicate of BH106/0.2-0.3	11 Aug 2025	1255551	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<1	-	-	-	-	<0.5	-	<0.5	<0.5	-
Normal	BH106_0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
Normal	BH106_0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	**5.1**	**1**	-	-	-	-	-	-
Normal	BH107_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
Normal	BH107_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
Normal	BH108_0.1-0.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
Normal	BH108_0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
Normal	BH109_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
Normal	BH109_0-0.1	11 Aug 2025	ES2526307	-	-	-	-	-	-	-	-	-	-	**6.0**	**1**	-	-	-	-	-	-
Normal	BH109_0.3-0.4	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	<1	-	-	-	-	-	-	-	-	-
Normal	BH110_0.0-0.1	11 Aug 2025	ES2526307	<5	-	<0.5	-	<0.5	-	<5	-	<1	-	-	-	-	-	-	-	<0.5	-
Normal	BH110_0.3-0.4	11 Aug 2025	ES2526307	<5	-	<0.5	-	<0.5	-	<5	-	<1	-	-	-	-	-	-	-	<0.5	-
Trip_B	Trip Blank	04 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Trip_B	Trip Blank	04 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rinsate	Rinsate 1	11 Aug 2025	ES2524646	-	<0.05	-	<0.005	-	<0.005	-	<0.05	-	<0.1	-	-	-	-	-	-	-	<0.005

Table E1 - Summary of Soil Results - Site Suitability										
				Pentachloroethane		Trichlorofluoromethane		Vinyl acetate	Vinyl acetate	
				mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	
EQL				**0.5**	**0.005**	**0.5**	**0.005**	**5**	**0.05**	
CRCCARE 2011, Table B4: HSL-DIntrusive Maintenance Worker				-	-	-	-	-	-	
NEPM 2013 Table 1A(1) HILs Comm/Ind D Soil				-	-	-	-	-	-	
NEPM 2013 Table 1A(3) Comm/Ind D Soil HSL for Vapour Intrusion, Clay				-	-	-	-	-	-	
>=0m, <1m				-	-	-	-	-	-	
>=1m, <2m				-	-	-	-	-	-	
>=2m, <4m				-	-	-	-	-	-	
>=4m				-	-	-	-	-	-	
NEPM 2013 Table 1B(7) Management Limits Comm / Ind, Fine Soil				-	-	-	-	-	-	
Sample Type	Field ID	Date	Lab Report Number							
Normal	BH101_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	
Normal	BH101_0.9-1.0	11 Aug 2025	ES2524646	-	-	-	-	-	-	
Normal	BH102_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	
Normal	BH102_0.4-0.5	11 Aug 2025	ES2524646	-	-	-	-	-	-	
Normal	BH103-0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	-	-	
Normal	BH103_0.1-0.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	
Normal	BH103_0.7-0.8	11 Aug 2025	ES2524646	-	-	-	-	-	-	
Normal	BH103-0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	
Normal	BH104_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	
Normal	BH104_0.3-0.4	11 Aug 2025	ES2524646	-	-	-	-	-	-	
Normal	BH104_0.6-0.7	11 Aug 2025	ES2524646	-	-	-	-	-	-	
Normal	BH104_0.8-0.9	11 Aug 2025	ES2524646	-	-	-	-	-	-	
Normal	BH105-1.1-1.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	
Normal	BH105_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	
Normal	BH106_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	
Field_D	DUP2 Replicate of BH106/0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	
Interlab_D	TRIP 2 Replicate of BH106/0.2-0.3	11 Aug 2025	1255551	-	-	<0.5	-	-	-	
Normal	BH106_0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	
Normal	BH106_0.5-0.6	11 Aug 2025	ES2526307	-	-	-	-	-	-	
Normal	BH107_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	
Normal	BH107_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	
Normal	BH108_0.1-0.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	
Normal	BH108_0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	
Normal	BH109_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	
Normal	BH109_0-0.1	11 Aug 2025	ES2526307	-	-	-	-	-	-	
Normal	BH109_0.3-0.4	11 Aug 2025	ES2524646	-	-	-	-	-	-	
Normal	BH110_0.0-0.1	11 Aug 2025	ES2526307	<0.5	-	<5	-	<5	-	
Normal	BH110_0.3-0.4	11 Aug 2025	ES2526307	<0.5	-	<5	-	<5	-	
Trip_B	Trip Blank	04 Aug 2025	ES2524646	-	-	-	-	-	-	
Trip_B	Trip Blank	04 Aug 2025	ES2524646	-	-	-	-	-	-	
Rinsate	Rinsate 1	11 Aug 2025	ES2524646	-	<0.005	-	<0.05	-	<0.05	

Table E3 - Summary of Soil Results - Waste Classification				Asbestos	Metals								
					Arsenic	Cadmium	Chromium	Copper	Mercury	Nickel	Nickel (filtered)	Silver
				g/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/L	mg/kg
EQL				**0.1**	**2**	**0.4**	**2**	**5**	**0.1**	**2**	**0.001**	**2**
NSW 2014 General Solid Waste CT1 (No Leaching)				-	100	20	-	-	4	40	-	100
NSW 2014 General Solid Waste SCC1 (with leached)				-	500	100	-	-	50	1,050	-	180
NSW 2014 General Solid Waste TCLP1 (leached)				-	-	-	-	-	-	-	2	-
NSW 2014 Restricted Solid Waste CT2 (No Leaching)				-	400	80	-	-	16	160	-	400
NSW 2014 Restricted Solid Waste SCC2 (with leached)				-	2,000	400	-	-	200	4,200	-	720
NSW 2014 Restricted Solid Waste TCLP2 (leached)				-	-	-	-	-	-	-	8	-
Natural - Predicted Ambient Background Concentrations					18		165	40		56		
Sample Type	Field ID	Date	Lab Report Number									
Fill												
Normal	BH101_0-0.1	11 Aug 2025	ES2524646	**No asbestos detected**	-	-	-	-	-	-	-	-
Normal	BH102_0-0.1	11 Aug 2025	ES2524646	**No asbestos detected**	<5	<1	**7**	**93**	<0.1	**52**	-	**5**
Normal	BH102_0.4-0.5	11 Aug 2025	ES2524646	**No asbestos detected**	**9**	<1	**18**	**41**	**0.1**	**12**	-	<2
Normal	BH103_0.1-0.2	11 Aug 2025	ES2524646	**No asbestos detected**	-	-	-	-	-	-	-	-
Normal	BH103-0.5-0.6	11 Aug 2025	ES2524646	**No asbestos detected**	**10**	<1	**22**	**1,010**	**2.1**	**36**	-	<2
Normal	BH104_0.2-0.3	11 Aug 2025	ES2524646	**No asbestos detected**	<5	<1	**16**	**32**	**0.3**	**17**	-	<2
Normal	BH104_0.3-0.4	11 Aug 2025	ES2524646	**No asbestos detected**	**7**	<1	**11**	**6**	<0.1	<2	-	<2
Normal	BH104_0.6-0.7	11 Aug 2025	ES2524646	**No asbestos detected**	-	-	-	-	-	-	-	-
Normal	BH105_0.2-0.3	11 Aug 2025	ES2524646	**No asbestos detected**	**16**	<1	**9**	**87**	<0.1	**21**	-	<2
Normal	BH106_0.2-0.3	11 Aug 2025	ES2524646	**No asbestos detected**	**5**	<1	**11**	**56**	**0.1**	**15**	-	<2
Field_D	DUP2 Replicate of BH106/0.2-0.3	11 Aug 2025	ES2524646	-	**7**	<1	**19**	**46**	**0.1**	**15**	-	<2
Interlab_D	TRIP 2 Replicate of BH106/0.2-0.3	11 Aug 2025	1255551	-	**5.4**	<0.4	**17**	**140**	<0.1	**15**	-	<2
Normal	BH106_0.5-0.6	11 Aug 2025	ES2524646	**No asbestos detected**	**6**	<1	**13**	**12**	**0.3**	<2	-	<2
Normal	BH107_0-0.1	11 Aug 2025	ES2524646	**No asbestos detected**	<5	<1	**38**	**37**	**0.1**	**36**	-	<2
Normal	BH107_0.2-0.3	11 Aug 2025	ES2524646	**No asbestos detected**	<5	<1	**7**	**10**	**0.5**	**4**	-	<2
Normal	BH108_0.1-0.2	11 Aug 2025	ES2524646	**No asbestos detected**	<5	<1	**12**	**15**	**0.1**	**5**	-	<2
Normal	BH108_0.5-0.6	11 Aug 2025	ES2524646	**No asbestos detected**	**6**	<1	**13**	**6**	**0.1**	**3**	-	<2
Normal	BH109_0-0.1	11 Aug 2025	ES2524646	**No asbestos detected**	<5	<1	**115**	**30**	**0.1**	**101**	<0.1	<2
Normal	BH109_0.3-0.4	11 Aug 2025	ES2524646	**No asbestos detected**	<5	<1	**18**	**16**	**0.1**	**14**	-	<2
Normal	BH110_0.0-0.1	11 Aug 2025	ES2526307	**No asbestos detected**	<5	<1	**40**	**28**	**0.1**	**41**	-	**3**
Normal	BH110_0.3-0.4	11 Aug 2025	ES2526307	**No asbestos detected**	<5	<1	**11**	**6**	<0.1	**4**	-	<2
Natural												
Normal	BH101_0.9-1.0	11 Aug 2025	ES2524646	-	<5	<1	**5**	<5	<0.1	<2	-	<2
Normal	BH103_0.7-0.8	11 Aug 2025	ES2524646	**No asbestos detected**	<5	<1	**10**	**15**	<0.1	**5**	-	<2
Normal	BH104_0.8-0.9	11 Aug 2025	ES2524646	-	<5	<1	**5**	<5	<0.1	<2	-	<2
Normal	BH105-1.1-1.2	11 Aug 2025	ES2524646	-	<5	<1	**11**	<5	<0.1	<2	-	<2

Statistics												
Minimum Concentration												
Minimum Detect												
Maximum Concentration												
Maximum Detect												
Average Concentration *												
Median Concentration *												
Standard Deviation *												
95% UCL (Student's-t) *												
* A Non Detect Multiplier of 0.5 has been applied.												

Table E3 - Summary of Soil Results - Waste Classification							BTEX							
				Lead		Zinc	Benzene	Ethylbenzene	Toluene	Xylenes Total	Xylene (o)	Xylenes (m & p)	Total BTEX	Naphthalene (VOC)
				mg/kg	mg/L	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
EQL				**5**	**0.001**	**5**	**0.1**	**0.1**	**0.1**	**0.3**	**0.1**	**0.2**	**0.2**	**0.5**
NSW 2014 General Solid Waste CT1 (No Leaching)				100	-	-	10	600	288	1,000	-	-	-	-
NSW 2014 General Solid Waste SCC1 (with leached)				1,500	-	-	18	1,080	518	1,800	-	-	-	-
NSW 2014 General Solid Waste TCLP1 (leached)				-	5	-	-	-	-	-	-	-	-	-
NSW 2014 Restricted Solid Waste CT2 (No Leaching)				400	-	-	40	2,400	1,152	4,000	-	-	-	-
NSW 2014 Restricted Solid Waste SCC2 (with leached)				6,000	-	-	72	4,320	2,073	7,200	-	-	-	-
NSW 2014 Restricted Solid Waste TCLP2 (leached)				-	20	-	-	-	-	-	-	-	-	-
Natural - Predicted Ambient Background Concentrations				29		62	<EQL	<EQL	<EQL	<EQL	<EQL	<EQL	<EQL	
Sample Type	Field ID	Date	Lab Report Number											
Fill														
Normal	BH101_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-
Normal	BH102_0-0.1	11 Aug 2025	ES2524646	<5	-	**29**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1
Normal	BH102_0.4-0.5	11 Aug 2025	ES2524646	**111**	-	**112**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1
Normal	BH103_0.1-0.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103-0.5-0.6	11 Aug 2025	ES2524646	**453**	0.5	**568**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1
Normal	BH104_0.2-0.3	11 Aug 2025	ES2524646	**157**	-	**239**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1
Normal	BH104_0.3-0.4	11 Aug 2025	ES2524646	**46**	-	**43**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1
Normal	BH104_0.6-0.7	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-
Normal	BH105_0.2-0.3	11 Aug 2025	ES2524646	**47**	-	**194**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1
Normal	BH106_0.2-0.3	11 Aug 2025	ES2524646	**86**	-	**343**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1
Field_D	DUP2 Replicate of BH106/0.2-0.3	11 Aug 2025	ES2524646	**157**	-	**2,770**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1
Interlab_D	TRIP 2 Replicate of BH106/0.2-0.3	11 Aug 2025	1255551	**110**	-	**2,700**	<0.1	<0.1	<0.1	<0.3	<0.1	<0.2	-	<0.5
Normal	BH106_0.5-0.6	11 Aug 2025	ES2524646	**200**	0.7	**100**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1
Normal	BH107_0-0.1	11 Aug 2025	ES2524646	**134**	-	**102**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1
Normal	BH107_0.2-0.3	11 Aug 2025	ES2524646	**130**	-	**91**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1
Normal	BH108_0.1-0.2	11 Aug 2025	ES2524646	**112**	-	**75**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1
Normal	BH108_0.5-0.6	11 Aug 2025	ES2524646	**38**	-	**32**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1
Normal	BH109_0-0.1	11 Aug 2025	ES2524646	**49**	-	**64**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1
Normal	BH109_0.3-0.4	11 Aug 2025	ES2524646	**61**	-	**89**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1
Normal	BH110_0.0-0.1	11 Aug 2025	ES2526307	**157**	-	**92**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1
Normal	BH110_0.3-0.4	11 Aug 2025	ES2526307	**40**	-	**32**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1
Natural														
Normal	BH101_0.9-1.0	11 Aug 2025	ES2524646	**14**	-	**6**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1
Normal	BH103_0.7-0.8	11 Aug 2025	ES2524646	**15**	-	**28**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1
Normal	BH104_0.8-0.9	11 Aug 2025	ES2524646	**16**	-	**13**	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1
Normal	BH105-1.1-1.2	11 Aug 2025	ES2524646	**8**	-	<5	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.2	<1

Statistics														
Minimum Concentration														
Minimum Detect														
Maximum Concentration														
Maximum Detect														
Average Concentration *														
Median Concentration *														
Standard Deviation *														
95% UCL (Student's-t) *														
* A Non Detect Multiplier of 0.5 has been applied.														

Table E3 - Summary of Soil Results - Waste Classification				Monocyclic	Polycyclic	Total Petroleum									
				Styrene	Benzo(a) pyrene	C6 - C9	+C10 - C36 (Sum of total)	1,1,1,2-tetrachloroethane	1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1-dichloroethene	1,2-dichloroethane	
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/L
EQL				**0.5**	**0.5**	**10**	**50**	**0.5**	**0.5**	**0.5**	**0.5**	**0.5**	**0.001**
NSW 2014 General Solid Waste CT1 (No Leaching)				60	0.8	650	10,000	200	600	26	14	10	-
NSW 2014 General Solid Waste SCC1 (with leached)				108	10	6,500	10,000	360	1,080	46.8	0.7	0.5	-
NSW 2014 General Solid Waste TCLP1 (leached)				-	-	-	-	-	-	-	-	-	0.5
NSW 2014 Restricted Solid Waste CT2 (No Leaching)				240	3.2	2,600	40,000	800	2,400	104	56	40	-
NSW 2014 Restricted Solid Waste SCC2 (with leached)				432	23	2,600	40,000	1,440	4,320	187.2	100	72	-
NSW 2014 Restricted Solid Waste TCLP2 (leached)				-	-	-	-	-	-	-	-	-	2
Natural - Predicted Ambient Background Concentrations					<EQL	<EQL	<EQL						
Sample Type	Field ID	Date	Lab Report Number										
Fill													
Normal	BH101_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-
Normal	BH102_0-0.1	11 Aug 2025	ES2524646	-	<0.5	<10	<50	-	-	-	-	-	-
Normal	BH102_0.4-0.5	11 Aug 2025	ES2524646	-	**0.5**	<10	<50	-	-	-	-	-	-
Normal	BH103_0.1-0.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-
Normal	BH103-0.5-0.6	11 Aug 2025	ES2524646	-	<0.5	<10	**260**	-	-	-	-	-	-
Normal	BH104_0.2-0.3	11 Aug 2025	ES2524646	-	**0.9**	<10	<50	-	-	-	-	-	-
Normal	BH104_0.3-0.4	11 Aug 2025	ES2524646	-	<0.5	<10	<50	-	-	-	-	-	-
Normal	BH104_0.6-0.7	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-
Normal	BH105_0.2-0.3	11 Aug 2025	ES2524646	-	<0.5	<10	<50	-	-	-	-	-	-
Normal	BH106_0.2-0.3	11 Aug 2025	ES2524646	-	**0.5**	<10	<50	-	-	-	-	-	-
Field_D	DUP2 Replicate of BH106/0.2-0.3	11 Aug 2025	ES2524646	-	**0.8**	<10	<50	-	-	-	-	-	-
Interlab_D	TRIP 2 Replicate of BH106/0.2-0.3	11 Aug 2025	1255551	<0.5	<0.5	<20	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-
Normal	BH106_0.5-0.6	11 Aug 2025	ES2524646	-	**1.0**	<10	<50	-	-	-	-	-	-
Normal	BH107_0-0.1	11 Aug 2025	ES2524646	-	**0.8**	<10	**100**	-	-	-	-	-	-
Normal	BH107_0.2-0.3	11 Aug 2025	ES2524646	-	**0.5**	<10	<50	-	-	-	-	-	-
Normal	BH108_0.1-0.2	11 Aug 2025	ES2524646	-	<0.5	<10	<50	-	-	-	-	-	-
Normal	BH108_0.5-0.6	11 Aug 2025	ES2524646	-	<0.5	<10	<50	-	-	-	-	-	-
Normal	BH109_0-0.1	11 Aug 2025	ES2524646	-	<0.5	<10	<50	-	-	-	-	-	-
Normal	BH109_0.3-0.4	11 Aug 2025	ES2524646	-	<0.5	<10	<50	-	-	-	-	-	-
Normal	BH110_0.0-0.1	11 Aug 2025	ES2526307	<0.5	**0.7**	<10	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-
Normal	BH110_0.3-0.4	11 Aug 2025	ES2526307	<0.5	<0.5	<10	<50	<0.5	<0.5	<0.5	<0.5	<0.5	-
Natural													
Normal	BH101_0.9-1.0	11 Aug 2025	ES2524646	-	<0.5	<10	<50	-	-	-	-	-	-
Normal	BH103_0.7-0.8	11 Aug 2025	ES2524646	-	<0.5	<10	<50	-	-	-	-	-	-
Normal	BH104_0.8-0.9	11 Aug 2025	ES2524646	-	<0.5	<10	<50	-	-	-	-	-	-
Normal	BH105-1.1-1.2	11 Aug 2025	ES2524646	-	<0.5	<10	<50	-	-	-	-	-	-

Statistics													
Minimum Concentration					0.5								
Minimum Detect					0.5								
Maximum Concentration					1								
Maximum Detect					1								
Average Concentration *					0.42								
Median Concentration *					0.25								
Standard Deviation *					0.25								
95% UCL (Student's-t) *					0.511								
* A Non Detect Multiplier of 0.5 has been applied.													

Table E3 - Summary of Soil Results - Waste Classification				Chlorinated Hydrocarbons											
				1,1,2-trichloroethane		Carbon tetrachloride		Chloroform		Dichloromethane		Tetrachloroethene		Trichloroethene	
				mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/L	mg/kg	mg/kg	mg/L	mg/kg	mg/L
EQL				**0.5**	**0.001**	**0.5**	**0.001**	**0.5**	**0.005**	**0.005**	**0.5**	**0.5**	**0.001**	**0.5**	**0.001**
NSW 2014 General Solid Waste CT1 (No Leaching)				24	-	10	-	120	-	-	172	14	-	10	-
NSW 2014 General Solid Waste SCC1 (with leached)				43.2	-	18	-	126	-	-	8.6	25.2	-	18	-
NSW 2014 General Solid Waste TCLP1 (leached)				-	1.2	-	5	-	6	8.6	-	-	0.7	-	0.5
NSW 2014 Restricted Solid Waste CT2 (No Leaching)				96	-	40	-	480	-	-	688	56	-	40	-
NSW 2014 Restricted Solid Waste SCC2 (with leached)				172.8	-	72	-	864	-	-	1,240	100.8	-	72	-
NSW 2014 Restricted Solid Waste TCLP2 (leached)				-	4.8	-	2	-	24	34.4	-	-	2.8	-	2
Natural - Predicted Ambient Background Concentrations															
Sample Type	Field ID	Date	Lab Report Number												
Fill															
Normal	BH101_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH102_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH102_0.4-0.5	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103_0.1-0.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103-0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.3-0.4	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.6-0.7	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH105_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH106_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-
Field_D	DUP2 Replicate of BH106/0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-
Interlab_D	TRIP 2 Replicate of BH106/0.2-0.3	11 Aug 2025	1255551	<0.5	-	<0.5	-	<0.5	-	-	<0.5	<0.5	-	<0.5	-
Normal	BH106_0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH107_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH107_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH108_0.1-0.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH108_0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH109_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH109_0.3-0.4	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH110_0.0-0.1	11 Aug 2025	ES2526307	<0.5	-	<0.5	-	<0.5	-	-	-	<0.5	-	<0.5	-
Normal	BH110_0.3-0.4	11 Aug 2025	ES2526307	<0.5	-	<0.5	-	<0.5	-	-	-	<0.5	-	<0.5	-
Natural															
Normal	BH101_0.9-1.0	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH103_0.7-0.8	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.8-0.9	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-
Normal	BH105-1.1-1.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-	-	-

Statistics															
Minimum Concentration															
Minimum Detect															
Maximum Concentration															
Maximum Detect															
Average Concentration *															
Median Concentration *															
Standard Deviation *															
95% UCL (Student's-t) *															
* A Non Detect Multiplier of 0.5 has been applied.															

Table E3 - Summary of Soil Results - Waste Classification						Semivolatile Organic Compounds				Volatile Organic Compounds			
				Vinyl chloride		1,2-Dichlorobenzene		1,4-Dichlorobenzene		2-Butanone (MEK)		Chlorobenzene	
				mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L	mg/kg	mg/L
EQL				**0.5**	**0.005**	**0.5**	**0.001**	**0.5**	**0.001**	**0.5**	**0.005**	**0.5**	**0.001**
NSW 2014 General Solid Waste CT1 (No Leaching)				4	-	86	-	150	-	4,000	-	2,000	-
NSW 2014 General Solid Waste SCC1 (with leached)				7.2	-	4.3	-	7.5	-	7,200	-	3,600	-
NSW 2014 General Solid Waste TCLP1 (leached)				-	0.2	-	4.3	-	7.5	-	200	-	100
NSW 2014 Restricted Solid Waste CT2 (No Leaching)				16	-	344	-	600	-	16,000	-	8,000	-
NSW 2014 Restricted Solid Waste SCC2 (with leached)				28.8	-	620	-	1,080	-	28,800	-	14,400	-
NSW 2014 Restricted Solid Waste TCLP2 (leached)				-	0.8	-	17.2	-	30	-	800	-	400
Natural - Predicted Ambient Background Concentrations													
Sample Type	Field ID	Date	Lab Report Number										
Fill													
Normal	BH101_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-
Normal	BH102_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-
Normal	BH102_0.4-0.5	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-
Normal	BH103_0.1-0.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-
Normal	BH103-0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.3-0.4	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.6-0.7	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-
Normal	BH105_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-
Normal	BH106_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-
Field_D	DUP2 Replicate of BH106/0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-
Interlab_D	TRIP 2 Replicate of BH106/0.2-0.3	11 Aug 2025	1255551	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-
Normal	BH106_0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-
Normal	BH107_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-
Normal	BH107_0.2-0.3	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-
Normal	BH108_0.1-0.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-
Normal	BH108_0.5-0.6	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-
Normal	BH109_0-0.1	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-
Normal	BH109_0.3-0.4	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-
Normal	BH110_0.0-0.1	11 Aug 2025	ES2526307	<5	-	<0.5	-	<0.5	-	<5	-	<0.5	-
Normal	BH110_0.3-0.4	11 Aug 2025	ES2526307	<5	-	<0.5	-	<0.5	-	<5	-	<0.5	-
Natural													
Normal	BH101_0.9-1.0	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-
Normal	BH103_0.7-0.8	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-
Normal	BH104_0.8-0.9	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-
Normal	BH105-1.1-1.2	11 Aug 2025	ES2524646	-	-	-	-	-	-	-	-	-	-

Statistics													
Minimum Concentration													
Minimum Detect													
Maximum Concentration													
Maximum Detect													
Average Concentration *													
Median Concentration *													
Standard Deviation *													
95% UCL (Student's-t) *													
* A Non Detect Multiplier of 0.5 has been applied.													

Table E3: Summary of Groundwater Results				Metals							
				Arsenic	Cadmium	Chromium	Copper	Mercury	Nickel	Silver	Lead
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL				**0.001**	**0.0001**	**0.001**	**0.001**	**0.0001**	**0.001**	**0.001**	**0.001**
ANZG Marine Water Toxicant DGVs LOSP 95% (June 2025)				-	0.0055	-	0.0013	0.0004	0.07	0.0014	0.0044
NEPM 2013 Table 1C GILs, Marine Waters				-	0.0007	-	0.0013	0.0001	0.007	0.0014	0.0044
Sample Type	Field ID	Date	Lab Report Number								
Normal	BH01	11 Aug 2025	ES2524646	**0.004**	<0.0001	**0.029**	**0.033**	<0.0001	**0.041**	<0.001	**0.010**
Field_D	DUP1 Repliate of BH01	11 Aug 2025	ES2524646	**0.003**	<0.0001	**0.022**	**0.027**	<0.0001	**0.025**	<0.001	**0.008**
Interlab_D	TRIP 1 Replicate of BH01	11 Aug 2025	1255551	<0.001	<0.0002	**0.008**	**0.002**	<0.0001	**0.025**	<0.005	**0.002**
Normal	BH02	11 Aug 2025	ES2524646	<0.001	<0.0001	<0.001	**0.025**	<0.0001	**0.014**	<0.001	**0.002**
Normal	BH03	11 Aug 2025	ES2524646	**0.003**	<0.0001	**0.009**	**0.058**	<0.0001	**0.017**	<0.001	**0.018**

Table E3: Summary of Groundwater Results					BTEX								
				Zinc	Benzene	Ethylbenzene	Toluene	Xylenes Total	Xylene (o)	Xylenes (m & p)	Total BTEX	Naphthalene (VOC)
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL				**0.005**	**0.001**	**0.001**	**0.001**	**0.002**	**0.001**	**0.002**	**0.001**	**0.005**
ANZG Marine Water Toxicant DGVs LOSP 95% (June 2025)				0.008	0.7	0.08	0.18	-	-	-	-	0.07
NEPM 2013 Table 1C GILs, Marine Waters				0.015	0.5	-	-	-	-	-	-	-
Sample Type	Field ID	Date	Lab Report Number									
Normal	BH01	11 Aug 2025	ES2524646	**0.139**	<0.001	<0.002	**0.005**	<0.002	<0.002	<0.002	**0.005**	<0.005
Field_D	DUP1 Repliate of BH01	11 Aug 2025	ES2524646	**0.105**	<0.001	<0.002	**0.004**	<0.002	<0.002	<0.002	**0.004**	<0.005
Interlab_D	TRIP 1 Replicate of BH01	11 Aug 2025	1255551	**0.096**	<0.001	<0.001	**0.007**	<0.003	<0.001	<0.002	-	<0.01
Normal	BH02	11 Aug 2025	ES2524646	**0.069**	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.005
Normal	BH03	11 Aug 2025	ES2524646	**0.249**	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.005

Table E3: Summary of Groundwater Results				Monocyclic Aromatic Hydrocarbons							
				1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	n-Butylbenzene	iso-Propylbenzene (cumene)	n-Propylbenzene	sec-Butylbenzene	tert-Butylbenzene	Styrene
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL				**0.001**	**0.001**	**0.005**	**0.001**	**0.005**	**0.005**	**0.005**	**0.001**
ANZG Marine Water Toxicant DGVs LOSP 95% (June 2025)				-	-	-	0.03	-	-	-	-
NEPM 2013 Table 1C GILs, Marine Waters				-	-	-	-	-	-	-	-
Sample Type	Field ID	Date	Lab Report Number								
Normal	BH01	11 Aug 2025	ES2524646	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Field_D	DUP1 Repliate of BH01	11 Aug 2025	ES2524646	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Interlab_D	TRIP 1 Replicate of BH01	11 Aug 2025	1255551	<0.001	<0.001	-	<0.001	-	-	-	<0.001
Normal	BH02	11 Aug 2025	ES2524646	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Normal	BH03	11 Aug 2025	ES2524646	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Table E3: Summary of Groundwater Results											
				p-Isopropyltoluene	Benzo(a)pyrene TEQ calc (Zero)	Anthracene	Pyrene	Benzo(g,h,i)perylene	Indeno(1,2,3-c,d)pyrene	Benzo(b+j)fluoranthene	Fluoranthene
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL				**0.005**	**0.0005**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**
ANZG Marine Water Toxicant DGVs LOSP 95% (June 2025)				-	-	0.0004	-	-	-	-	0.0014
NEPM 2013 Table 1C GILs, Marine Waters				-	-	-	-	-	-	-	-
Sample Type	Field ID	Date	Lab Report Number								
Normal	BH01	11 Aug 2025	ES2524646	<0.005	<0.0005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Field_D	DUP1 Repliate of BH01	11 Aug 2025	ES2524646	<0.005	<0.0005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Interlab_D	TRIP 1 Replicate of BH01	11 Aug 2025	1255551	-	-	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Normal	BH02	11 Aug 2025	ES2524646	<0.005	<0.0005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Normal	BH03	11 Aug 2025	ES2524646	<0.005	<0.0005	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010

Table E3: Summary of Groundwater Results				Polycyclic Aromatic Hydrocarbons							
				Benzo(k)fluoranthene	Acenaphthylene	Chrysene	Benzo(a) pyrene	Dibenz(a,h)anthracene	Benz(a)anthracene	Acenaphthene	Phenanthrene
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL				**0.001**	**0.001**	**0.001**	**0.0005**	**0.001**	**0.001**	**0.001**	**0.001**
ANZG Marine Water Toxicant DGVs LOSP 95% (June 2025)				-	-	-	0.0002	-	-	-	0.002
NEPM 2013 Table 1C GILs, Marine Waters				-	-	-	-	-	-	-	-
Sample Type	Field ID	Date	Lab Report Number								
Normal	BH01	11 Aug 2025	ES2524646	<0.0010	<0.0010	<0.0010	<0.0005	<0.0010	<0.0010	<0.0010	<0.0010
Field_D	DUP1 Repliate of BH01	11 Aug 2025	ES2524646	<0.0010	<0.0010	<0.0010	<0.0005	<0.0010	<0.0010	<0.0010	<0.0010
Interlab_D	TRIP 1 Replicate of BH01	11 Aug 2025	1255551	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Normal	BH02	11 Aug 2025	ES2524646	<0.0010	<0.0010	<0.0010	<0.0005	<0.0010	<0.0010	<0.0010	<0.0010
Normal	BH03	11 Aug 2025	ES2524646	<0.0010	<0.0010	<0.0010	<0.0005	<0.0010	<0.0010	<0.0010	<0.0010

Table E3: Summary of Groundwater Results												
							Total Recoverable Hydrocarbons					
				Fluorene	PAHs (Sum of total)	Naphthalene	F1 (C6-C10)	F1 (C6-C10) less BTEX	F2 (C10-C16 Hydrocarbons)	F3 (C16-C34 Hydrocarbons)	C34-C40
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL				**0.001**	**0.0005**	**0.001**	**0.02**	**0.02**	**0.05**	**0.1**	**0.1**
ANZG Marine Water Toxicant DGVs LOSP 95% (June 2025)				-	-	0.07	-	-	-	-	-
NEPM 2013 Table 1C GILs, Marine Waters				-	-	0.05	-	-	-	-	-
Sample Type	Field ID	Date	Lab Report Number								
Normal	BH01	11 Aug 2025	ES2524646	<0.0010	<0.0005	<0.0010	<0.02	<0.02	<0.1	<0.1	<0.1
Field_D	DUP1 Repliate of BH01	11 Aug 2025	ES2524646	<0.0010	<0.0005	<0.0010	<0.02	<0.02	<0.1	<0.1	<0.1
Interlab_D	TRIP 1 Replicate of BH01	11 Aug 2025	1255551	<0.001	<0.001	<0.001	<0.02	<0.02	<0.05	<0.1	<0.1
Normal	BH02	11 Aug 2025	ES2524646	<0.0010	<0.0005	<0.0010	<0.02	<0.02	<0.1	<0.1	<0.1
Normal	BH03	11 Aug 2025	ES2524646	<0.0010	<0.0005	<0.0010	<0.02	<0.02	<0.1	<0.1	<0.1

Table E3: Summary of Groundwater Results						Total Petroleum Hydrocarbons					
				C10 - C40 (Sum of total)	F2 C10-C16 (minus Naphthalene)	C6 - C9	C10 - C14	C15 - C28	C29-C36	+C10 - C36 (Sum of total)	1,1,1,2-tetrachloroethane
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL				**0.1**	**0.05**	**0.02**	**0.05**	**0.1**	**0.05**	**0.05**	**0.001**
ANZG Marine Water Toxicant DGVs LOSP 95% (June 2025)				-	-	-	-	-	-	-	-
NEPM 2013 Table 1C GILs, Marine Waters				-	-	-	-	-	-	-	-
Sample Type	Field ID	Date	Lab Report Number								
Normal	BH01	11 Aug 2025	ES2524646	<0.1	<0.1	<0.02	<0.05	<0.1	<0.05	<0.05	<0.005
Field_D	DUP1 Repliate of BH01	11 Aug 2025	ES2524646	<0.1	<0.1	<0.02	<0.05	<0.1	<0.05	<0.05	<0.005
Interlab_D	TRIP 1 Replicate of BH01	11 Aug 2025	1255551	<0.1	<0.05	<0.02	<0.05	<0.1	<0.1	<0.1	<0.001
Normal	BH02	11 Aug 2025	ES2524646	<0.1	<0.1	<0.02	<0.05	<0.1	<0.05	<0.05	<0.005
Normal	BH03	11 Aug 2025	ES2524646	<0.1	<0.1	<0.02	<0.05	<0.1	<0.05	<0.05	<0.005

Table E3: Summary of Groundwater Results				1,1,1-trichloroethane	1,1,2,2-tetrachloroethane	1,1-dichloroethane	1,1-dichloroethene	1,1-dichloropropene	1,2,3-trichloropropane	1,2-dibromo-3-chloropropane	1,2-dichloroethane
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL				**0.001**	**0.001**	**0.001**	**0.001**	**0.005**	**0.001**	**0.005**	**0.001**
ANZG Marine Water Toxicant DGVs LOSP 95% (June 2025)				0.27	0.4	-	0.7	-	-	-	1.9
NEPM 2013 Table 1C GILs, Marine Waters				-	-	-	-	-	-	-	-
Sample Type	Field ID	Date	Lab Report Number								
Normal	BH01	11 Aug 2025	ES2524646	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Field_D	DUP1 Repliate of BH01	11 Aug 2025	ES2524646	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Interlab_D	TRIP 1 Replicate of BH01	11 Aug 2025	1255551	<0.001	<0.001	<0.001	<0.001	-	<0.001	-	<0.001
Normal	BH02	11 Aug 2025	ES2524646	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Normal	BH03	11 Aug 2025	ES2524646	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005

Table E3: Summary of Groundwater Results				Chlorinated Hydrocarbons							
				1,2-dichloropropane	1,1,2-trichloroethane	2,2-dichloropropane	Bromochloromethane	Bromodichloromethane	Bromoform	Carbon tetrachloride	Chlorodibromomethane
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL				**0.001**	**0.001**	**0.005**	**0.001**	**0.001**	**0.001**	**0.001**	**0.001**
ANZG Marine Water Toxicant DGVs LOSP 95% (June 2025)				0.9	1.9	-	-	-	-	0.24	-
NEPM 2013 Table 1C GILs, Marine Waters				-	1.9	-	-	-	-	-	-
Sample Type	Field ID	Date	Lab Report Number								
Normal	BH01	11 Aug 2025	ES2524646	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005
Field_D	DUP1 Repliate of BH01	11 Aug 2025	ES2524646	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005
Interlab_D	TRIP 1 Replicate of BH01	11 Aug 2025	1255551	<0.001	<0.001	-	<0.001	<0.001	<0.001	<0.001	<0.001
Normal	BH02	11 Aug 2025	ES2524646	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005
Normal	BH03	11 Aug 2025	ES2524646	<0.005	<0.005	<0.005	-	<0.005	<0.005	<0.005	<0.005

Table E3: Summary of Groundwater Results				Chloroethane	1,3-dichloropropane	Chloroform	Chloromethane	cis-1,2-dichloroethene	cis-1,3-dichloropropene	Dibromomethane	Dichloromethane
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL				**0.005**	**0.001**	**0.005**	**0.005**	**0.001**	**0.001**	**0.001**	**0.005**
ANZG Marine Water Toxicant DGVs LOSP 95% (June 2025)				-	1.1	0.77	-	-	-	-	4
NEPM 2013 Table 1C GILs, Marine Waters				-	-	-	-	-	-	-	-
Sample Type	Field ID	Date	Lab Report Number								
Normal	BH01	11 Aug 2025	ES2524646	<0.05	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	-
Field_D	DUP1 Repliate of BH01	11 Aug 2025	ES2524646	<0.05	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	-
Interlab_D	TRIP 1 Replicate of BH01	11 Aug 2025	1255551	<0.005	<0.001	**0.006**	<0.005	<0.001	<0.001	<0.001	<0.005
Normal	BH02	11 Aug 2025	ES2524646	<0.05	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	-
Normal	BH03	11 Aug 2025	ES2524646	<0.05	<0.005	<0.005	<0.05	<0.005	<0.005	<0.005	-

Table E3: Summary of Groundwater Results				Hexachlorobutadiene	Tetrachloroethene	trans-1,2-dichloroethene	trans-1,3-dichloropropene	Trichloroethene	Vinyl chloride
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL				**0.005**	**0.001**	**0.001**	**0.001**	**0.001**	**0.005**
ANZG Marine Water Toxicant DGVs LOSP 95% (June 2025)				-	0.07	-	-	0.33	0.1
NEPM 2013 Table 1C GILs, Marine Waters				-	-	-	-	-	-
Sample Type	Field ID	Date	Lab Report Number						
Normal	BH01	11 Aug 2025	ES2524646	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05
Field_D	DUP1 Repliate of BH01	11 Aug 2025	ES2524646	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05
Interlab_D	TRIP 1 Replicate of BH01	11 Aug 2025	1255551	-	<0.001	<0.001	<0.001	<0.001	<0.005
Normal	BH02	11 Aug 2025	ES2524646	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05
Normal	BH03	11 Aug 2025	ES2524646	<0.005	<0.005	<0.005	<0.005	<0.005	<0.05

Table E3: Summary of Groundwater Results				Semivolatile Organic Compounds							
				1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,2,4-Trichlorobenzene	1,2,3-Trichlorobenzene	Acetone	1,4-Dichloro-2-Butene [cis]	1,4-Dichloro-2-Butene [trans]
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL				**0.001**	**0.001**	**0.001**	**0.005**	**0.005**	**0.005**	**0.005**	**0.005**
ANZG Marine Water Toxicant DGVs LOSP 95% (June 2025)				-	-	-	0.08	-	-	-	-
NEPM 2013 Table 1C GILs, Marine Waters				-	-	-	0.02	-	-	-	-
Sample Type	Field ID	Date	Lab Report Number								
Normal	BH01	11 Aug 2025	ES2524646	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005
Field_D	DUP1 Repliate of BH01	11 Aug 2025	ES2524646	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005
Interlab_D	TRIP 1 Replicate of BH01	11 Aug 2025	1255551	<0.001	<0.001	<0.001	-	-	<0.005	-	-
Normal	BH02	11 Aug 2025	ES2524646	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005
Normal	BH03	11 Aug 2025	ES2524646	<0.005	<0.005	<0.005	<0.005	<0.005	-	<0.005	<0.005

Table E3: Summary of Groundwater Results				Volatile Organic Compounds								
				2-Butanone (MEK)	1,2-Dibromoethane	4-Chlorotoluene	4-Methyl-2-pentanone (MIBK)	2-Chlorotoluene	2-Hexanone (MBK)	Bromobenzene	Bromomethane	Carbon disulfide
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL				**0.005**	**0.001**	**0.001**	**0.005**	**0.005**	**0.05**	**0.001**	**0.005**	**0.001**
ANZG Marine Water Toxicant DGVs LOSP 95% (June 2025)				-	-	-	-	-	-	-	-	-
NEPM 2013 Table 1C GILs, Marine Waters				-	-	-	-	-	-	-	-	-
Sample Type	Field ID	Date	Lab Report Number									
Normal	BH01	11 Aug 2025	ES2524646	<0.05	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.05	<0.005
Field_D	DUP1 Repliate of BH01	11 Aug 2025	ES2524646	<0.05	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.05	<0.005
Interlab_D	TRIP 1 Replicate of BH01	11 Aug 2025	1255551	<0.005	<0.001	<0.001	<0.005	-	-	<0.001	<0.005	**0.005**
Normal	BH02	11 Aug 2025	ES2524646	<0.05	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.05	<0.005
Normal	BH03	11 Aug 2025	ES2524646	<0.05	<0.005	<0.005	<0.05	<0.005	<0.05	<0.005	<0.05	<0.005

Table E3: Summary of Groundwater Results												
				Chlorobenzene	Dichlorodifluoromethane	Formaldehyde	Total MAH	Allyl chloride	Iodomethane	Pentachloroethane	Trichlorofluoromethane	Vinyl acetate
				mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL				**0.001**	**0.005**	**0.1**	**0.003**	**0.001**	**0.001**	**0.005**	**0.005**	**0.05**
ANZG Marine Water Toxicant DGVs LOSP 95% (June 2025)				0.055	-	-	-	-	-	0.08	-	-
NEPM 2013 Table 1C GILs, Marine Waters				-	-	-	-	-	-	-	-	-
Sample Type	Field ID	Date	Lab Report Number									
Normal	BH01	11 Aug 2025	ES2524646	<0.005	<0.05	**5.3**	-	-	<0.005	<0.005	<0.05	<0.05
Field_D	DUP1 Repliate of BH01	11 Aug 2025	ES2524646	<0.005	<0.05	**5.1**	-	-	<0.005	<0.005	<0.05	<0.05
Interlab_D	TRIP 1 Replicate of BH01	11 Aug 2025	1255551	<0.001	<0.005	**2.0**	**0.007**	<0.001	<0.001	-	<0.005	-
Normal	BH02	11 Aug 2025	ES2524646	<0.005	<0.05	**0.5**	-	-	<0.005	<0.005	<0.05	<0.05
Normal	BH03	11 Aug 2025	ES2524646	<0.005	<0.05	**0.3**	-	-	<0.005	<0.005	<0.05	<0.05

APPENDIX E: DATA QUALITY OBJECTIVES AND DATA QUALITY INDICATORS

1. APPENDIX D: DATA QUALITY OBJECTIVES & DATA QUALITY INDICATORS

1.1 DATA QUALITY OBJECTIVES

As stated in Section 18 of Appendix B of Schedule B2 of the National Environment Protection (Assessment of Site Contamination) Measure 1999 ('ASC NEPM') (NEPC, 2013), the DQO process is a seven-step iterative planning approach used to define the type, quantity and quality of data needed to support decisions relating to the environmental condition of a site.

The seven-step DQO process to be adopted for remediation and validation works are presented in the Table F1.

Table F1: Data Quality Objectives

DQO Step	DQO Detail
1. State the problem	Akalan Projects Pty Ltd (AP) are developing the site for the proposed expansion of the St George Private Hospital. Previous investigations have identified potentially contaminated fill which requires remediation / management. The objectives of the RAP: • Establish remediation goals and outline a preferred strategy that will mitigate contamination risks and facilitate redevelopment of the site for its intended use; • Provide procedures and plans for implementation of the proposed remedial works; and • Outline minimum controls appropriate for the proposed remedial works in a manner that reduce adverse effects on worker health and the environment.
2. Identify the decision	The key decisions are: • Have the current and historic uses of the site resulted in unacceptable levels of contamination? If so, has the identified contamination at the site been remediated and / or managed to a level suitable for the proposed land use? • Have surplus soil materials removed from site been disposed to a landfill lawfully licenced to receive such material? • Has imported material been validated as suitable for the proposed land use? • Is the site suitable or can it be made suitable?
3. Identify inputs to the decision	The primary inputs required to make the above decisions will be as follows: • Information from the contamination assessment and waste classification investigation, • Procedures within the RAP outlining the nature and likely extent of impacted materials requiring remediation. • Visual observations. • Photographs. • Laboratory analytical results for imported material and/or VENM/ENM certificates. • Topographical survey data and site plans. • Waste disposal dockets and truck registers. • Import material information.
4. Define the boundaries of the study	The boundary of the site is defined within the Figures in Appendix B.

5. Develop a decision rule	Has fieldwork been carried out in accordance with current industry practice, Coffey Standard Operating Procedures (SOPs) and relevant guidelines? • If Yes; then this is an indicator that the generated data is suitable and reliable for the purpose of the assessment. • If No; then data may not be suitable and reliable for the purpose of the assessment. In this case: ○ Assess the potential impact of the non-conformance on data quality and reject data that may not be reliable. The parameters of interest are the concentrations of the COPC identified in Table 2. The action levels are the Validation Criteria provided in Section 6.7. The decision statements are: ***Health Risk from potential soil contamination:*** Validation sampling is required, the following decision statements are applicable: • "The 95% Upper Confidence Limits (or UCL) concentrations of COPC in the fill materials and natural soils are to be less than the health based assessment criteria". • Where 95% UCL concentration are more than the health based assessment criteria then further assessment and/or management would be required. This could include assessing individual results and/or undertaking a Tier 2 risk assessment. • Where data sets are not sufficiently populated to calculate a 95% UCL then individual results are to be less than the health based assessment criteria. Where individual concentrations are more than the health based assessment criteria then further assessment and/or management would be required. This could include assessing individual results and/or undertaking a Tier 2 risk assessment. • Where the 95% UCL can be calculated, the 95% UCLs are to be less than the health based assessment criteria and no individual results in the data set are to be greater than 250% of the assessment criteria; and the standard deviation of the data set is to be within 50% of the assessment criteria. • Where the 95% UCL is more than the assessment criteria then further assessment and/or management would normally be required. ***Health risks from Asbestos in soil:*** Asbestos has not been identified within fill material at the site, however if unexpected finds of asbestos are encountered, then the following decision statements are applicable: • Visual observation of presence of asbestos in the form of ACM during the proposed contamination assessment and waste classification investigation will be undertaken. • Should asbestos ACM be observed then site specific factors will be considered and an approach for further investigation will be assessed. This could include adoption of amended ASC NEPM and WA Department of Health (DoH) (2009) methodology for calculation of % asbestos. • Should evidence of AF and/or FA be observed then criteria (and methodology) in the amended ASC NEPM and WA DoH (2009) will be adopted. ***Health and environmental risks from potential groundwater contamination:*** Current data at the site shows further assessment regarding the potential risk to human health during the construction and post construction phases from formaldehyde, and potentially chloroform and carbon disulphide, is required. If additional unexpected groundwater contamination is identified the following decision statements are applicable: • Groundwater data shall be compared directly to health and environmental based assessment criteria outlined within Section 6.7. Where individual concentrations are more than the health/environmental assessment criteria, further assessment and/or management would be required. This could include assessing individual results and/or undertaking a Tier 2 risk assessment. ***Imported Soil:*** Imported soil will be required to be ENM or VENM and have appropriate certification in accordance with the NSW EPA ENM/VENM exemption and order. If a certificate cannot be provided or the integrity of the certificate is questionable, then a visual inspection and sampling of

	the proposed material will be undertaken at the source. VENM assessment at the source would also be subject to a site history assessment to check whether any activities (historic or current) undertaken at the site may potentially have caused contamination of the source material.
6. Acceptable limits on decision error	There are two types of decision errors: • Sampling errors, which occur when the samples collected are not representative of the conditions within the investigation area; and • Measurement errors, which occur during sample collection, handling, preparation, analysis and data reduction. The null hypothesis for this study is: • 'The site is contaminated and thus not suitable for use' These errors may lead the decision maker to make the following errors: • Deciding that the soil/groundwater is not contaminated and, therefore, the site is suitable for the proposed commercial use when the reverse is true; and • Deciding that the soil/groundwater is contaminated and, therefore, the site is not suitable for the proposed commercial use when the reverse is true. An assessment will be made as to the likelihood of a decision error being made based on the results of a QA/QC assessment and the closeness of the data to assessment criteria. Additionally, statistical methods such as 95% Upper Confidence Limit (UCL) calculations may be utilised, where applicable.
7. Optimise the design for obtaining data	Our scope outlined in the following section represents an optimised approach for obtaining the data. The proposed methodology, presented in the RAP and other relevant reports, will be reviewed at critical times during the project and amended where necessary based on site conditions, professional judgement and liaison with the client.

1.2 DATA QUALITY INDICATORS

1.2.1 QUALITY CONTROL

The recommendations of this procedure are based on the guidelines presented in:

- NEPM [the National Environment Protection (Assessment of Site Contamination) Measure 1999;
- AS4482.1 Guide to the sampling and investigation of potentially contaminated soil, Part 1: Non Volatile and Semi-volatile Substances; and
- WA Department of Health (2021) Guidelines for the Assessment, Remediation and Management of Asbestos Contaminated Sites in Western Australia (WA DoH, 2021).

1.2.2 FIELD QUALITY CONTROL SAMPLES

Samples will be collected by competent field personnel experienced in sampling materials with ACM and AF, and contaminated sites.

Field quality control samples will be analysed for the analytes tested in the primary samples. Table F2 provides a summary of the field quality control samples to be collected.

Table F2: Field Quality Control Samples

Sample Type	Comments
Intra-laboratory duplicates	Intra-laboratory field duplicates will be collected and analysed at a minimum frequency of one sample per twenty samples collected (5%). The analytical results of the duplicate samples will be compared to assess the precision of the sampling protocol and to provide an indication of variation in the sample source. Repeatability will be assessed by calculating the relative percentage difference (RPD) between the primary and duplicate results. Potential causes of variability will be reviewed where the RPD is greater than: – 30% where the concentration is >20 x the laboratory limit of reporting (LOR) – 50% where the concentration is 10-20 the LOR – No limit where the concentration is <10 x the LOR.
Inter-laboratory duplicates	Inter-laboratory field duplicates will be collected at a frequency of one sample per twenty samples collected (5%). The analytical results of the duplicate samples will be compared to assess the precision of the sampling protocol, provide an indication of variation in the sample source and to assess the accuracy of analysis. Reproducibility will be assessed by calculating the relative percentage difference (RPD) between the primary and duplicate sample results.
Rinsate blanks	Rinsate samples will be prepared in the field using empty bottles and the laboratory provided rinsate water. These samples will be a check of field decontamination procedures. A rinsate sample will be collected and analysed for each day field work is carried out, where non-disposable sampling equipment is used. Results should not be above the laboratory LOR for all analytes.
Trip blanks	Trip blanks will be prepared by the laboratory and will be a check on sample contamination originating from sample transport, shipping and site conditions. The blank will remain with the sample containers during sampling and during the return trip to the laboratory. The blanks will not be opened. Upon return to the laboratory the blank sample will be analysed as any other field sample. A trip blank will be used and analysed for each day of field work. Results should not be above the laboratory LOR for all analytes.
Trip spikes	Trip spikes will be prepared by the laboratory and will be a check on sample preservation methods for volatile analytes. Trip spikes will be used at a rate of one sample per day of field work, including when undertaking groundwater sampling.

1.2.3 LABORATORY QA/QC

The analytical laboratories will undertake their own quality control which will included:

- Laboratory analysis of samples will be undertaken by laboratories using NATA accredited methods; and
- Laboratory analysis will include reagent blanks, spike samples, duplicate spikes, matrix spikes, and surrogates spikes and duplicates to assess the laboratory quality control.

Exceedances of laboratory control duplicates will be discussed in the validation report.

1.2.4 DATA QUALITY INDICATORS

Data Quality Indicators (DQIs) will be used to show that the DQOs had been met. DQIs for the project will be based on the field and laboratory considerations in Section 19.6 of ASC NEPM Schedule B2 Appendix B, which included:

- Completeness – A measure of the amount of useable data (expressed as %) from a data collection activity;
- Comparability – The confidence (expressed qualitatively) that data may be considered to be equivalent for each sampling and analytical event;
- Representativeness – The confidence (expressed qualitatively) that data are representative of each media present on the Site;
- Precision – A quantitative measure of the variability (or reproducibility) of data;
- Accuracy – A quantitative measure of the closeness of reported data to the true value; and

This QA review will include a check of performance against the DQIs. The DQIs adopted for this investigation and means by which they will be assessed are discussed in the following tables.

Table F3: DQI Completeness

DQI	Field Considerations	DQI Criteria	Laboratory Considerations	DQI Criteria
Completeness	Critical locations sampled.	Samples will be collected from nominated locations with no deviation from the sampling plan, without reasonable justification.	Critical samples analysed according to sampling plan.	Samples analysed for COPCs described in Section 3 of the RAP.
	Samples collected.	Samples will be collected in accordance with Coffey's standard operating procedures (SOPs) during the assessment.	Identified COPCs included.	Samples analysed for COPCs described in Section 3 of the RAP.
	SOPs appropriate and complied with.	No departure from Coffey SOPs without reasonable justification.	Appropriate methods and LORs	Samples analysed by NATA accredited laboratories, for the analyses to be performed and appropriate methods used. LORs less than the assessment criteria.
	Experienced sampler.	Experienced Coffey Environmental Scientists complete the sampling.	Sample documentation complete.	Chain of custody (COC) returned, signed and dated by laboratory. NATA endorsed laboratory certificates completed in accordance with Schedule B3 of the ASC NEPM. Field logs completed in accordance with Coffey SOPs. Field data and calibration certificates provided for the equipment used.
	Correct Documentation.	Samples handled and transported under appropriate COC documentation. Coffey to keep the original COC documentation. Sample Receipt Notifications (SRN) from the laboratory reviewed to assess that samples received cool and in good condition. Current calibration certificates provided for the equipment used.	Sample holding times were complied with.	Samples analysed within holding times specified in Schedule B3 of the ASC NEPM.

Table F4: DQI Comparability

DQI	Field Considerations	DQI Criteria	Laboratory Considerations	DQI Criteria
Comparability	Same SOPs used on each occasion.	Coffey SOPs implemented.	Same sample analytical methods used.	The same NATA accredited laboratories used to undertake analyses of primary, duplicate and triplicate samples collected. The laboratories use the same analytical methods for each sample and for each analytical parameter. Field data and calibration certificates provided for the equipment used.
	Experienced sampler.	Experienced Coffey Environmental Scientists to complete the sampling.	Same sample LORs.	
	Climatic conditions (temperature, rainfall, wind etc.)	Coffey will attempt to sample in similar climatic conditions where practicable.	Same laboratories.	
	Same types of samples collected	Samples collected in the appropriate laboratory supplied container specific to the analyses performed.	Same units.	

Table F5: DQI Representativeness

DQI	Field Considerations	DQI Criteria	Laboratory Considerations	DQI Criteria
Representativeness	Appropriate media sampled according to sample plan.	Samples collected and analysed in accordance with Coffey's SOPs.	Appropriate media sampled.	Collected samples analysed by NATA accredited laboratories. Field data and calibration certificates provided for the equipment used.
	All media identified in sample plan.	Samples collected and analysed in accordance with Coffey's SOPs.	-	-
	SOPs appropriate and complied.	Coffey's SOPs implemented.	Analysis of field duplicates and triplicates.	Laboratory duplicates analysed in general accordance with ASC NEPM. Duplicate and triplicate samples collected and analysed.

Table F6: DQI Precision

DQI	Field Considerations	DQI Criteria	Laboratory Considerations	DQI Criteria
Precision	Appropriate SOPs complied with.	Coffey's SOPs implemented.	Analysis of laboratory duplicates.	RPD values for laboratory duplicates and recovery of matrix spikes should be within acceptable ranges. Field data and calibration certificates provided for the equipment used.
	Analysis of field duplicates	As for laboratory considerations.	Analysis of field duplicates.	Duplicates analysed at a frequency of greater than one intra laboratory duplicate and one inter laboratory triplicate sample per 20 primary samples. RPD calculated and compared to relevant acceptance criteria. Coffey adopts 30% for concentrations more than 10 times the LOR and 50% for concentrations less than 10 times the LOR (Standards Australia, 1999)

Table F7: DQI Accuracy

DQI	Field Considerations	DQI Criteria	Laboratory Considerations	DQI Criteria
Accuracy	Appropriate SOP complied with.	Coffey SOPs implemented.	Same sample analytical methods used.	The same NATA accredited laboratories used to undertake analyses of primary, duplicate and triplicate samples collected. The laboratories use the same analytical methods for each sample and for each analytical parameter. Field data and calibration certificates provided for the equipment used.
	Trip blanks.	Trip blank sample collected using laboratory supplied distilled water.	Field blanks.	A laboratory prepared trip blank included for each day of field work where volatile compounds are requested for analysis (as defined in AS4482.2-1999 and Schedule B2 in the ASC NEPM). Analysis of the trip blank included TRH F1 and BTEX.
	Trip Spikes.	Trip spike prepared by the laboratory and carried into the field and transported with samples to the laboratory.	Method blank.	Method blanks analysed as recommended in Schedule B3 of the ASC NEPM. Results should be less than LOR. Where method blanks are in excess of the LORs, justification for the use of such data is to be provided or additional analysis is to be considered.
	Rinsate sample	Where reusable sampling equipment is used, a rinsate sample is collected using laboratory supplied distilled water. If rinsate sampling is not completed, justification to be provided.	-	-
	-	-	Laboratory duplicate and Matrix spike.	RPD values for laboratory control duplicates and recovery of matrix spikes should be within acceptance limits.

APPENDIX F: HMS REPORT (ESP (2025)

HAZARDOUS MATERIALS SURVEY

for

Akalan Projects Pty Ltd

St George Private Hospital

1 South Street

Kogarah NSW 2217

Job Number: J50644 **Date:** 15/07/2025

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Disclaimer:

All works carried out in preparing this report have been conducted on a fully professional basis with due care and attention utilising ESP professional knowledge and understanding of relevant and current National and State Standards, Compliance Codes, Regulations and Acts. The findings of this report represent the professional opinion of the current workplace situation from experienced technicians, professional scientists, and HS&E consultants.

This report should not be used as a contractual document. ESP does not provide any warranty, assurance or accept any liability as to the suitability of the report, or information contained in the report, as a contractual document. The use of the report as a contractual document is at the legal risk of the client.

This report relates to specific conditions existing at the time of undertaking monitoring work. Current or future conditions of the areas monitored may not be able to be assumed or inferred from information contained in this report.

This document must be read in its entirety and in conjunction with the attached reports, measurements, and analytical results where they are provided.

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Executive Summary

On 7th July 2025, ESP Environmental & Safety Professionals (ESP) undertook a Hazardous Materials Survey (HMS) of the proposed Demolition of 1 South Street Kogarah, St George Private Hospital NSW 2217 to determine the presence and condition of hazardous building materials.

The survey was authorised by Akalan Projects Pty Ltd (the contractor client) and was conducted by appropriately qualified ESP consultants.

The site inspection included a visual inspection and sampling of suspected asbestos containing materials (ACM) where practicable.

For the purposes of this report, hazardous materials are limited to Asbestos, Synthetic Mineral Fibre (SMF), Polychlorinated Biphenyls (PCB's), Lead in Paint and Ozone Depleting Substances (ODS) and Dangerous Goods.

Summary of Findings

A summary of findings is provided in Table 1 below.

Table 1 Summary of Hazardous Materials Survey

HAZARDOUS MATERIALS IDENTIFIED	INTERNAL	EXTERNAL
ACM - Friable Asbestos	**No**	**No**
ACM - Bonded Asbestos	**No**	**Yes**
SMF - Synthetic Mineral Fibre	**Yes**	**No**
LEAD in paint	**No**	**No**
PCB's - Polychlorinated Biphenyls	**No**	**No**
ODS - Ozone depleting substance	**No**	**No**
Dangerous Goods	**No**	**No**

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1.0 Introduction

ESP was engaged by Akalan Projects (the contractor client) to undertake a Hazardous Materials Survey (HMS) of the redundant building at 1 South Street Kogarah NSW 2217, to determine the presence and condition of hazardous building materials.

The results of the HMS are provided in a tabular format which is designed to provide readily available information about the presence of hazardous materials in the premises. To this report, hazardous materials are limited to:

- Asbestos Containing Material (ACM)
- Synthetic Mineral Fibre (SMF)
- Polychlorinated Biphenyls (PCB's)
- Lead Containing Paint (LCB)
- Ozone depleting substance (ODS) within air-conditioning units and chillers, and
- Dangerous goods

This HMS has been developed in accordance with New South Wales (NSW) state legislation, industry standards, codes of practice and guidance documents for the management of hazardous materials in workplaces.

Photographs recorded during the HMS are to be used as reference only.

2.0 Objectives & Scope of Survey

The purpose of the HMS was to identify the presence of hazardous materials in the above-mentioned area of the premises and to prepare a register of hazardous materials identified during the survey.

To accomplish this objective, the HMS specifies work practices and procedures to:

- Identify hazardous materials within the building.
- Provide a qualitative risk assessment of the hazardous materials identified.
- Provide recommendations on control measures.
- Prepare a hazardous material register to address legislative compliance.

The survey work and production of this report have been undertaken with consideration of the requirements of:

- NSW Work Health and Safety Regulation 2017,
- SafeWork NSW Code of Practice: How to Manage and Control Asbestos in The Workplace, 2022,
- SafeWork NSW Code of Practice: How to Safely Remove Asbestos, 2022.

No one section or part of a section of this report is to be taken as giving an overall idea of this report. Each section is to be read in conjunction with the whole of this report, including the appendices and attachments.

3.0 Legislation

The HMS has been developed in accordance with the following legislation, industry standards, codes of practice and guidance documents, other reference documents are stated throughout the HMS.

- NSW Work Health and Safety Act 2011
- NSW Work Health and Safety Regulation 2017
- How to Manage Asbestos in the Workplace Code of Practice 2022
- How to Safely Remove Asbestos Code of Practice 2022
- Australian Standard (AS) 2601-2001 The demolition of structures
- Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres [NOHSC:3003(2005)]
- AS 4964-2004 Method for the qualitative identification of asbestos in bulk samples
- AS 2985-2009 Workplace atmospheres - Method for sampling and gravimetric determination of respirable dust
- AS 3640-2009 Workplace atmospheres - Method for sampling and gravimetric determination of inhalable dust
- Code of Practice for the Safe Use of Synthetic Mineral Fibres [NOHSC:2006(1990)]
- Polychlorinated Biphenyls Management Plan Revised Edition April 2003, published by the Australian and New Zealand Environment and Conservation Council (ANZECC)
- ANZECC Identification of PCB-containing Capacitor's information booklet – 1997
- AS 4361.2 – 1998 Guide to Lead Paint Management – Part 2: Residential and Commercial Buildings
- Code of Practice for the Control and Safe Use of Inorganic Lead at Work [NOHSC:2015(1994)]
- NSW Protection of the Environment Operations Act 1997
- NSW Protection of the Environment Operations (Waste) Regulation 1996
- Commonwealth Ozone Protection and Synthetic Greenhouse Gas Management Regulation 1995
- Australian Chlorofluorocarbon Management Strategy October 2001
- Australia and New Zealand Refrigerant Handling Code of Practice 2007 Part 1 – Self-Contained Low Charge System
- Australia New Zealand Refrigerant Handling Code of Practice 2007 Part 2 – Systems Other than Self-Contained Low Charge System
- Code of Practice for the Control of Workplace Hazardous Substances 2006
- Australia/New Zealand Standard (A/NZ) 4360:2004 Risk Management
- AS 1319-1994 Safety signs for the Occupational Environment
- AS/NZS 60335.269 – 2003 Household and similar electrical appliances – safety – requirements for wet and dry vacuum cleaners, including power brush for industrial and commercial use.
- AS 4260 – 1997 High efficiency particulate air filters (HEPA) classification, construction, and performance
- AS/NZS 1716 – 2012 Respiratory Protective Devices, and
- AS/NZS 1715 – 2009 Selection, use and maintenance of respiratory equipment.

4.0 Risk Assessments and Hazard Ratings

4.1 Risk Assessment Factors for ACM

- Demolition/refurbishment works that are likely to disturb the ACMs.
- The condition of the ACMs. Materials in a poorer condition will pose a higher risk of generating airborne asbestos fibre. Surface treatment of the materials (i.e. painting) is also considered.
- The friability of the ACMs is considered. A material's friability represents how easily it can be pulverised. Asbestos product types are generally classified as friable or non-friable, however, severely deteriorated/weathered non-friable materials may be considered friable under certain circumstances; and
- The accessibility/disturbance potential for each ACM is considered. To determine this potential, the following is considered.
- The frequency that the area containing the material is entered.
- The height at which the material is located.
- Processes that occur in the material's location (i.e. forklift use)
- Maintenance activities (i.e. servicing of plant and equipment, general housekeeping –cleaning or painting of surfaces etc.)
- Barriers that prevent the material from being disturbed (i.e. carpet over asbestos-containing flooring), and
- Airflow within the area containing the material.

These factors, as listed above, are used to determine the risk status for each ACM identified during the assessment.

The purpose of the risk assessment is to establish the relative ability of ACMs at the Site to release asbestos fibres into the atmosphere and the likelihood that this will lead to airborne asbestos fibre exposure.

A simple four parameter algorithm is used to assess the risk the likely magnitude of release from the material, given a standard disturbance. This is evaluated using four categories: high, medium, low, and very low. Where these factors have indicated that there is a possibility of exposure to airborne fibres, appropriate recommendations for sealing, encapsulation or removal of the ACMs are made.

4.1.1 Condition

The condition of ACMs identified during the assessment is reported as being either good, fair, or poor.

- ***Good*** refers to material that is in sound condition with no or very minor damage or deterioration.
- ***Fair*** refers to a material with some areas of damage or deterioration.
- ***Poor*** refers to a material that is extensively damaged or deteriorated.

4.1.2 Friability

The friability of ACMs describes the ease in which the material can be pulverized by hand, which in turn, can increase the likelihood to release airborne asbestos fibres.

- ***Friable*** asbestos can be crumbled, pulverised, or reduced to powder fibre particles by hand pressure when in a dry state increasing the risk of asbestos fibre release.
- ***Non-friable*** asbestos, also known as bonded asbestos, is typically comprised of asbestos fibres tightly bound in a non-asbestos matrix.

4.1.3 Accessibility/Disturbance Potential

Accessibility/disturbance potential of ACMs can be classified as being low, medium, or high.

- ***Low*** accessibility describes ACMs that have very little, or no activity being conducted in the immediate area with the potential to disturb the materials. Low accessibility is considered as monthly occupancy, or less, of the area containing the materials, or the materials are inaccessible due to its height or are enclosed.
- ***Medium*** accessibility describes ACMs that have moderate activity being conducted in the immediate area with the potential to disturb the materials. Medium accessibility is considered weekly access or occupancy of the areas containing the materials.
- ***High*** accessibility describes ACMs that have regular activity in the immediate area with the potential to disturb the materials.

4.1.4 Risk Status

The risk factors described above are used to grade the potential health risk rating posed by the presence of ACMs. These risk ratings are described below:

- A ***low*** risk describes an ACMs that poses a negligible or low risk to occupants of the area due to the materials being one which doesn't readily release fibres unless significantly disturbed. 'Low risk' usually applies to non-friable ACMs in at least average condition, or materials with no or low accessibility to the area containing them.
- A ***medium*** risk describes ACMs that pose a moderate risk due to the materials' condition or composition and the activity conducted in the area. 'Medium risk' usually applies to non-friable ACMs in a state of minor deterioration and in moderate to high activity area, or its apples to accessible friable ACMs in good condition.
- A ***high*** risk describes ACMs that pose a high health risk to personnel or the public in the material. Immediate action is required to restrict access to the areas to reduce the potential of fibre release. Furthermore, a plan for decontamination and remedial works is required to address the high risk of the material. Materials with a high-risk ranking will be given a 'Priority 1' recommendation to manage the ACMs and reduce the risk.

4.1.5 Priority Rating System for Control Recommendations

The following schedule of risk status priority rating is adopted to assist the site controller in the programming of the management, removal, or encapsulation of the ACMs at the Site.

Priority 1: Hazard with High-Risk Potential

Status: - ACMs that are either damaged or are being exposed to continual disturbance. Due to these conditions, there is an increased potential for exposure and/or transfer of asbestos fibre to other parts of the property if unrestricted use of the area containing the material is allowed.

Recommendation: - If the ACMs is in a poor/unstable condition and accessible with a risk to health from exposure, then immediate access restrictions to the immediate area should be applied, air monitoring should be considered, and removal is recommended as soon as practicable using an appropriately licenced asbestos removalist.

Priority 2: Hazard with Medium-Risk Potential

Status: - ACMs with a medium potential for disturbance due to the following conditions:

- Material has been disturbed or damaged and in its current condition, while not posing an immediate risk, is unstable.
- The material is accessible and can, when disturbed, present a short-term exposure risk.
- The material could pose an exposure risk if workers are in proximity.

Recommendation: - If the ACMs is easily accessible but in a stable condition, removal is preferred. Nevertheless, if removal is not immediately practicable, short-term control measures (i.e. restrict access, sealing, enclosure etc.) may be employed until removal can be facilitated as soon as is practical (<3 months).

Priority 3: Hazard with Low-Risk Potential

Status: - ACMs with a low potential for disturbance due to the following conditions:

- The condition of any friable asbestos-containing building material is stable and has a low potential for disturbance i.e. is encased in metal cladding.
- The ACM is in a non-friable condition; however, further disturbance or damage is unlikely other than during maintenance or service and the material therefore does not present an exposure risk unless cut, drilled, sanded, or otherwise abraded.

Recommendation: - Minor health risks if the material is left undisturbed under the control of an asbestos management plan. The site controller should consider organising the removal or encapsulation of the damaged non-friable ACM within a practically achievable scheduled timeframe.

These ACMs should be left in present condition, with ongoing maintenance and periodic inspection if they are to remain in-situ.

Priority 4: Hazard with Negligible (very low) Risk Potential

Status: - ACMs of a non-friable form and in good condition. It is highly unlikely that the materials can be disturbed under normal circumstances, even if they were subjected to minor disturbance, they pose a minor health risk.

Recommendation: - These ACMs should be left in a good and stable condition, with ongoing maintenance and periodic inspection. It is advisable that any remaining ACMs or presumptions should be labelled (with a warning against disturbing the materials), and regularly inspected to ensure they are not deteriorating resulting in a potential risk to health.

LOW	ACM is stable and effectively sealed against fibre dispersion to the atmosphere. Health risk is negligible if left undisturbed and under the control of an asbestos management plan.
MEDIUM	ACM is identified, whilst not seen at present as a substantial risk. Materials are in areas that are subject to potential deterioration or disturbance and possible future risk. Appropriate abatement measures should be taken as soon as possible. Until then, appropriate labelling and effective use of an asbestos management plan is seen, as necessary.
HIGH	ACM is in a damaged/poor condition or friable and exposed state, such that asbestos fibres are being or are likely to be released to the atmosphere. Potential health risk. The immediate removal of this asbestos containing material is recommended with isolation by signage, barriers and management control until removal is completed.

5.0 Limitations

ESP *note* that this HMS is not to be used as a hazardous materials management plan (HMMP) as it would require additional information such as intrusive sampling of all materials, risk assessment, training, consultation, risk control measures and documented safe working practices and procedures [refer to relevant Safe Work Australia (SWA) formerly NOHSC codes of practice and guidance materials on asbestos and Australian Standard AS 2601 - 2001: Demolition of Structures].

ESP *note* that no inspection can be regarded as absolute and that partial or total demolition/refurbishment of structures may reveal instances of ACM in – situ, which were not discovered during this initial inspection, including beneath existing floor coverings, behind ceiling and wall linings, areas like ceiling spaces where access was inaccessible, not available, or not provided at time of inspection. Refer to recommendations regarding a destructive audit prior to demolition works.

This HMS does not report on the presence or otherwise of deleterious dust, debris, and crumbling's within the building/structures (i.e. ceiling spaces, exposed roof structure, duct, and wall cavities etc.). All dust, debris and crumbling's in this environment have the potential to contain asbestos and other particulates such as lead and should be considered in a HMMP when impacting on the building elements/surfaces.

This HMS was undertaken only in those areas where access was available and does not generally include sub floor areas where access is typically restricted or not practicably available. Where observation would necessitate demolition or damage to wall cladding, floor covering, coatings and plant etc., only limited inspection was made.

Some areas of the building may contain concealed pipework that may be lagged in asbestos containing material which could not be accessed or sampled at the time of this inspection.

Materials, which are also not generally accessed for reasons of safety or because of difficulty of access, include light fittings and electrical backing boards.

Limitations apply to the analytical methods used when identifying asbestos fibres in samples. NATA supports this claim by stating that in materials such as vinyl floor tiles, mastics, sealants, putties, and epoxy resins it is extremely difficult to detect the presence of asbestos. This is due to the low grade, small amount, small length and/or diameter of asbestos fibres present in the material.

Measurements and quantities mentioned in this report are approximate only.

This survey does not report on potential underground or in - ground/soil hazards or potentially hazardous substances arising from or used in the workplace at the premises.

6.0 Hazardous Materials Information

6.1 Asbestos and its Uses

Asbestos is defined as the fibrous form of mineral silicates. There are two major groups of asbestos:

- ***Serpentine*** group of minerals: **chrysotile** (white asbestos) ; and
- ***Amphibole*** group of minerals: **amosite** (brown asbestos), **crocidolite** (blue asbestos) and within, less commercially used forms including actinolite, tremolite and anthophyllite.

Asbestos minerals can be split into elongated long fibres that are strong, flexible and heat resistant. Because of these characteristics, asbestos has been historically used for a wide range of manufactured goods, mostly in building materials, friction products, heat-resistant fabrics, gaskets, and coatings.

6.2 Types of Asbestos Containing Materials

ACMs can be classified into two main groups, **friable** and **non-friable**.

ACMs considered to be **friable** can be crumbled, pulverised, or reduced to powder by hand pressure when dry. Friable ACMs are considered higher risk materials as they are more readily damaged, and thus have a greater potential to release fibres into the air.

All other ACM are **non-friable** and are generally considered to be 'low' risk if properly handled. Non-friable ACM are bound in a matrix such as cement (e.g., cement sheeting) or various resin/binders (e.g. vinyl floor tiles).

The following table details the common materials found in the two groups:

Table 3: Types of Asbestos Containing Materials

Friable	Non-Friable (bonded)
• Sprayed or trowelled materials applied to ceilings, walls, and other surfaces for fire-rating purposes. This material is often referred to as 'limpet asbestos'. • Insulation on pipes, boilers, tanks, ducts etc. which is often referred to as asbestos lagging. • Paper products, millboard in electrical switchboards or underlying lining for linoleum or vinyl floor coverings. • Textiles, braided asbestos, rope, tape, etc. • Millboard from inside auxiliary switchboxes/fuse boards or air-conditioning reheat boxes.	• Cementitious products, i.e., cement-like or concrete-like products (e.g. 'fibro' and 'Super Six roofing' – see description below). • Vinyl tiles, vinyl flooring mastic and associated adhesives. Compounds, gaskets, and mastic from mechanical fittings. • Electrical switchboards containing compressed tar mounting boards, cement sheeting. • Roofing sealants, bituminous membranes, tar composites and similar materials.

7.0 Hazardous Materials Personal Protective Equipment (PPE)

During hazardous materials abatement works, PPE must be worn by the licenced contractor, the hygienist and other personnel who are required to enter the hazardous material removal area.

The following PPE must be used, as a minimum:

Table 5: Types of Hazardous Materials PPE

PPE	Picture
Half faced respirator with a P2 particulate filter cartridge to be used for non-friable/bonded asbestos removal works. Respirators must comply with AS/NZS 1715 – 2009 Selection, use and maintenance of respiratory equipment.	
Full faced respirator with a P2/P3 particulate filter cartridge to be used for friable asbestos removal works. Respirators must comply with AS/NZS 1715 – 2009 Selection, use and maintenance of respiratory equipment.	
Disposable coveralls rated Type 5 or equivalent. e.g., Tyvek	
Disposable Gloves	
Disposable Booties	

It is important to note that the disposable coveralls, booties, and gloves are one use only and must be disposed of as hazardous waste after each use. Respirators need to be decontaminated. Cartridge should be inspected and replaced as required dependent upon type and duration of usage.

8.0 Uncovering of Suspected Hazardous Materials

It is possible that hazardous materials, which may be concealed within inaccessible areas/voids, may not have been located during previous surveys. Such inaccessible areas fall into several categories as outlined in **Table 6** below.

Table 6: Examples of inaccessible areas
Underneath the concrete slab of all building structures at the Site.
Exposed soils surrounding the building structures of the Site.
Energised services, gas, electrical, pressurised vessel, and chemical lines.
Height restricted areas above 2.7m or any area deemed inaccessible without the use of specialised access equipment.
Within cavities that cannot be accessed by the means of a manhole or inspection hatch.
Within voids or internal areas of plant, equipment, air-conditioning ducts etc.
Within service shafts, ducts etc., concealed within the building structure.
Within those areas accessible only by dismantling equipment.
Within totally inaccessible areas such as voids and cavities present but intimately concealed within the building structure.
All areas outside the Scope of Work.

Without substantial demolition of a building, it is not possible to guarantee that every hazardous material has been identified.

If the sample returns a positive result, then the material should be removed by an appropriately licenced removal contractor. If the material is to remain in situ, the hazardous materials register, and report should be updated to reflect the new findings.

If the sample returns a negative result, the hazardous materials register, and report should be updated to reflect the new findings and works can continue as normal.

9.0 Abbreviations & Glossary

ACM: Asbestos Containing Material.

Asbestos containing material: (ACM) means any material or object that contains asbestos.

Atmospheric Monitoring: means the measurement of the concentration of hazardous substances in the air of the workplace over a specified period.

Asbestos: means the fibrous form of the mineral silicates belonging to the serpentine and amphibole groups of rock-forming minerals and includes actinolite, amosite (brown asbestos), anthophyllite, crocidolite (blue asbestos), chrysotile (white asbestos), tremolite, or any material containing one or more of the mineral silicates belonging to the serpentine and amphibole groups.

Amosite: Brown or Grey Asbestos.

Bonded asbestos material: Means any material (other than friable asbestos material) that contains asbestos.

CFCS: Corrugated Fibrous Cement Sheeting.

Chrysotile: White Asbestos.

Crocidolite: Blue Asbestos.

Class AS1 licence means a licence issued by SafeWork NSW which allows the holder to remove friable asbestos-containing material and non-friable asbestos-containing material as specified in the licence.

Class AS2 licence means a licence issued by SafeWork NSW which allows the holder to remove non-friable asbestos-containing material as specified in the licence.

Consultation: means the sharing of information and exchange of views between managers, workers and/or their representative(s) on health and safety issues. It includes the opportunity to contribute to decision making in a timely fashion to resolve hazardous substance risks.

Deemed to Contain: Item not tested but based upon materials properties, age, etc. It is presumed to contain asbestos.

Dust and Debris means visible particles, fragments, or chunks of material, large and heavy enough to have settled in the work area, that are likely to have originated from ACM.

External: Refers to the top or outside of roof sheeting or the outside of building/wall sheeting.

Exposure: means contact that may occur between a hazardous substance and an individual. Exposure commonly occurs through 3 main routes – injection, inhalation, and skin contact. Routes of entry may include through the eyes, ears or other body cavities and surfaces.

Exposure Standard: relates to the airborne concentration of individual chemical substances in a worker's breathing zone, which, according to current knowledge, should neither impair the health of nor cause undue discomfort to nearly all workers. National exposure standards are found in the document Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC: 1003(1995)]. Refer to Safe Work Australia for amendments of this Standard for various substances between 1997 and 2005.

FFCS: Flat Fibrous Cement Sheeting.

Friable asbestos material means, when dry, may be crumbled, pulverised, or reduced to powder by hand pressure, or because of a work process becomes such that it may be crumbled, pulverised, or reduced to powder by hand pressure.

Hazard: is anything that has the potential to result in harm to a person.

High risk situation: Where there is some likelihood of access to hazardous materials, wherein a person may be placed at risk.

HMMP: Hazardous Material Management Plan.

HMS: Hazardous Material Survey.

Internal: Refers to the underside of roof sheeting, or the inside of building/wall sheeting.

Leave in situ: ACM identified but is in good condition, bonded and poses low risk to human health.

NAD: No Asbestos Detected.

NATA: National Association of Testing Authorities.

NOHSCH : National Occupational Health and Safety Commission.

WH&S: Work Health and Safety.

PCB's: Poly Chlorinated Biphenyls.

PDS: Pre-Demolition Survey.

Practicable: having regard to:

- The severity of the hazard or risk in question
- The state of knowledge about the hazard or risk
- The availability and suitability of ways to remove or mitigate that hazard or risk; and
- The cost of removing or mitigating that hazard or risk.

Risk: is the likelihood that harm will occur.

Safety Data Sheet (SDS): is a document which a manufacturer or importer must prepare, amend, provide, and review that describes the properties and uses of chemicals (which may be hazardous substances and/or dangerous goods). An MSDS must state the product name; identify ingredients, chemical and physical properties, health hazard information, precautions for safe use and handling, and the manufacturers or importer's name and Australian contact details.

SMF: Synthetic Mineral Fibre.

STEL: Short Term Exposure Level.

TWA8: Time Weighed Average - 8 hour.

VFC: Vinyl Floor Covering.

VFT: Vinyl Floor Tiles.

REGISTER OF HAZARDOUS MATERIALS

Client: Akalan Projects Pty Ltd
Survey Address: 1 South Street Kogarah NSW 2217
Description: Proposed demolition

Photo No	Sample No	Location / Room	Surface Description	Material Description	Material Status	Friable/ Non-Friable	Condition	R Ra
1		External	Entry ceiling	Flat Fibro Cement Sheeting	**Chrysotile asbestos detected**	Non-friable	Good	L
5 & 6		Internal ground floor	Electrical Backing Board	Zelemite	**Deemed to contain asbestos**	Non-friable	Good	L
28		Internal level 1	Electrical Backing Board	Zelemite	**Deemed to contain asbestos**	Non-friable	Good	L
29		Internal level 1	floor covering	VFC	**No asbestos detected**	Not applicable	(Good)	N appli

NOTE: Refer to 8 RISK ASSESSMENT CRITERIA for Condition and Risk Rating information in HMS

Appendix 2. Photographs

Photo 1
Front Entry ceiling – FFCS (Pacific Hwy east side)
Chrysotile asbestos detected

Photo 2
External East Side
Brick, metal roof

Photo 3
Northwest warehouse driveway entry
Cement render on brick, metal roof

Photo 4
Roof
Metal Corrugated and Clip Lock Decking

Photo 5
Ground Floor Electrical backing board
Deemed to contain asbestos

Photo 6
Ground Floor Electrical backing board
Deemed to contain asbestos

Photo 7
Basement workshop
Floor Ceramic Tiles on Concrete, Walls Brick, ceiling plaster

Photo 8
Stairwell infill panels
Timber
Part ceiling Canite/Masonite

Photo 9
Stairwell infill panels
Timber
Part ceiling plaster

Photo 10
Stairwell infill panels
Timber
Part ceiling plaster

Photo 11
Old lights – Deemed PCB's
Ceiling plaster

Photo 12
Toilet floors concrete
Walls and ceiling concrete

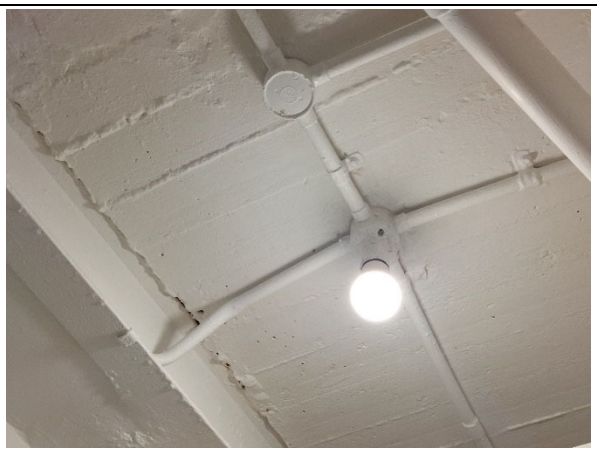


Photo 13
Toilet
Walls and ceiling concrete

Photo 14
Washroom / 2nd toilet
Toilet floors concrete
Walls and ceiling concrete

Photo 15
Washroom / 2nd toilet
Toilet floors concrete
Walls and ceiling concrete

Photo 16
Washroom / 2nd toilet
Toilet floors concrete
Walls and ceiling concrete

Photo 17
Electrical box – new type

Photo 18
Front stairwell - metal

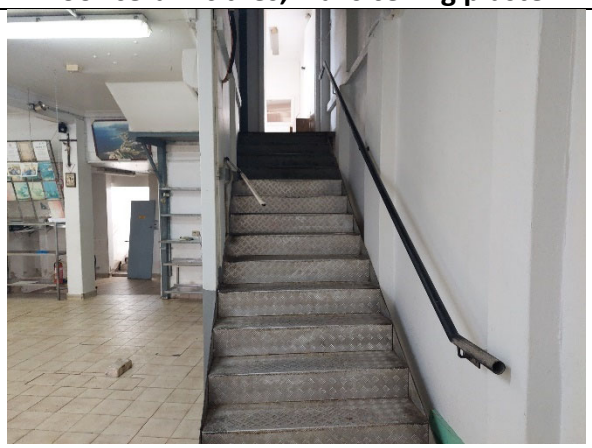
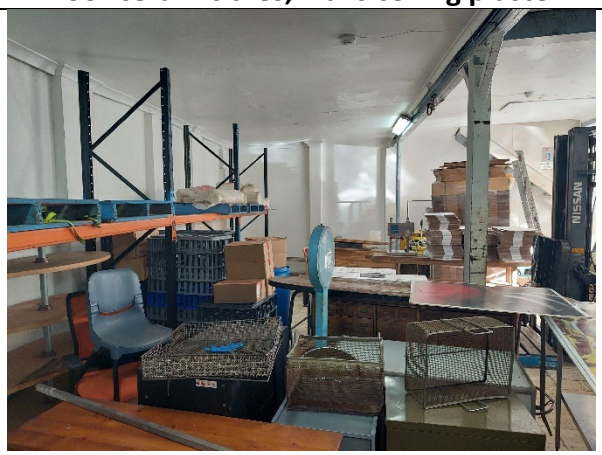
 Photo 19 **Exit to level one** **Floor ceramic tiles, walls ceiling plaster**	 **Photo 20** **Ceiling** **Canite softboard**
 **Photo 21** **Exit to level one – stairwell - metal** **Floor ceramic tiles, walls ceiling plaster**	 **Photo 22** **Level one** **Floor ceramic tiles, walls ceiling plaster**
 **Photo 23** **Level one** **Floor ceramic tiles, walls ceiling plaster**	 **Photo 24** **Level one** **Floor ceramic tiles, walls ceiling plaster**

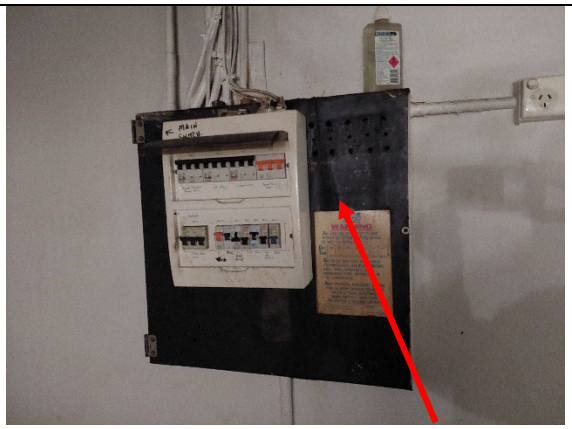
 Photo 25 **Level one** **Floor concrete walls ceiling plaster**	 **Photo 26** **Level one Oven area - Metal** **Floor ceramic tiles, walls ceiling plaster**
 Photo 27 **Level one Oven area - Metal** **Floor ceramic tiles, walls ceiling plaster**	 **Photo 28** **Level one Oven area – Elec Backing Board** **Deemed to contain asbestos**
 Photo 29 **Level one Oven area** **Floor VFC**	 **Photo 30** **Level one office space** **Floor VFC, walls ceiling plastic coated sheeting**

Photo 31
Level one office space
Floor VFC, walls ceiling plastic coated sheeting

Photo 32
Level one office space ceilings
ceiling plastic coated sheeting

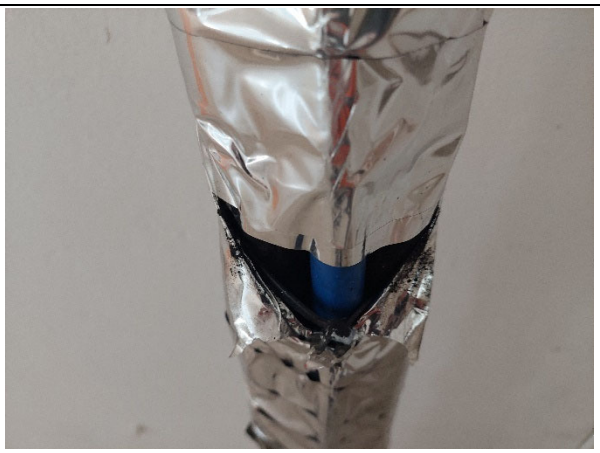


Photo 33
Pipework
foil clad neoprene isulation

Photo 34
Level one office air con ductwork
Metal

Photo 35
Level one office space
Walls plaster,ceiling plastic coated sheeting

Photo 36
Level one office space ceiling duct work
Metal

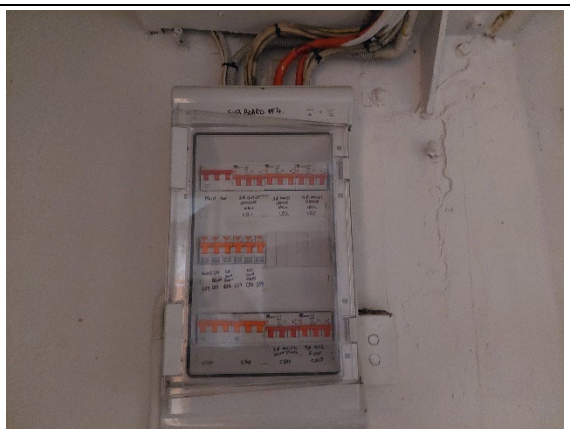
<table>
<tr>
<td>
Photo 37
Level one office space mini boilers
Possible inter SMF</td>
<td> 
Photo 38
Level one office space Elec Backing board
New Type</td>
</tr>
<tr>
<td>
Photo 39
Rear driveway – Bitumen on concrete</td>
<td>
Photo 40
Rear driveway – Bitumen on concrete</td>
</tr>
<tr>
<td>

Photo 41
Rear driveway – Bitumen on concrete</td>
<td>
Photo 42
Carpark Bitumen</td>
</tr>
<tr>
<td colspan="2">Carpark space - Bitumen</td>
</tr>
</table>

Appendix 3 - LABORATORY REPORT

A division of Enviro-Net Australia Pty. Ltd.
ABN 39 067 499 389 ACN 067 499 389 NATA Reg. 3110
www.environet.com.au
Email: esp@esplabs.com.au

Melbourne Laboratory
Unit 2/2B Parker Street
Footscray, Victoria 3011
Ph: (03) 9688 8000

ASBESTOS IDENTIFICATION REPORT

Date: 10 July 2025

ESP Job Number: J50644

Customer: Akalan Projects Pty Ltd

Address: Suite 202, 84 Alexander Street, Crows Nest, NSW, 2065

Attention: Julian Gadd

Reference: –

Site Address: 1 South Street, Kogarah, NSW, 2217

Sampled By: ESP – Derek Torrance

Date Sampled: 7 July 2025

Date Analysed: 10 July 2025

Test Method: Qualitative identification of asbestos types in bulk samples by polarised light microscopy, including dispersion staining and trace analysis, with a calculated practical detection limit of 0.01 %, using methodology in accordance with AS 4964 and ESP in-house Method No. 2.

ESP Lab No.	Sample location (if provided) and sample description	Result	Notes
E89208	1: Upper Level Floor – Vinyl material (70 x 60 x 2mm)	No asbestos detected	~

The results contained in this report relate only to the sample(s) submitted for testing.

Notes:

~ As noted in AS 4964, asbestos may be difficult to detect in materials of this type. Therefore, confirmation by another analytical technique is advised.
^ Soil samples exceeding 100 g are examined for fibrous material, and sub-sampled to approximately 40 g using an approved sub-sampling technique (ISO 23909). Sub-sampling may limit the likelihood of detection of asbestos in the sample.
# Mineral fibres of unknown type were detected using polarized light microscopy including dispersion staining. The fibres detected may or may not be asbestos fibres. To confirm the identities of the fibres, another independent analytical technique is required.
+ Dimensions in the 'Result' column indicate the approximate total dimensions of the asbestos fibres/bundles of the preceding type of asbestos.
α Samples of dust collected using adhesive tape, swabs or wipes fall outside the definition of a bulk sample and therefore are not covered under the scope of AS 4964. NATA accreditation does not cover the performance of this service.

Approved Identifier: Ross Cooper
Approved Signatory: Ross Cooper

Accreditation No. 3110

NATA Accredited Laboratory
Accredited for compliance with ISO/IEC-17025 - Testing

	TITLE: Site Map 1 - Satellite **SITE:** 1 South St Kogarah NSW 2282 **CLIENT**: Akalan Projects Pty Ltd	**Job Number:** J50644 **Survey Date:** 7th July 2025	**LEGEND** **Survey Areas (Approx)**