# Acid Sulfate Soil Management Plan for Concord High School

5 Stanley Street, Concord NSW 2137







29 May 2023

Prepared for School Infrastructure NSW

Version: 2.0 Reference: 20220522

HEAD OFFICE: 13000 43684 (13000 iEnvi) PO Box 2303 Tingalpa QLD 4173

> iEnvironmental Australia Ptv I td ABN:65625493478 info@ienvi.com.au

Hendra QLD 4011



# **Document Record**

| Rev. | Date       | Reviewed By      | Action                | Issued To | Issue Date | Authorisation Signature |
|------|------------|------------------|-----------------------|-----------|------------|-------------------------|
| 0.1  | 1/05/2023  | Sukie Cho        | Draft Report Template |           |            |                         |
| 1.0  | 10/05/2023 | Michael Nicholls | Revisions and Final   | Client    | 23/05/2023 | 0 01                    |
| 2.0  | 29/05/2023 | SINSW            | Revised site address  | Client    | 29/05/2023 | M. L.                   |

| Main Author:              | Michael Nicholls  |  |  |
|---------------------------|---|--|--|
| Qualifications:           | >20 years, B Env Sc, CEnvP (No. 0831) SC Specialist (No. 40037) |  |  |
| Peer Reviewer:            | Jacqui Thompson   |  |  |
| Qualifications:           | > 12 years, Dip Ed  |  |  |
| Technical/Final Reviewer: | Michael Nicholls  |  |  |
| Qualifications:           | >20 years, B Env Sc, CEnvP (No. 0831) SC Specialist (No. 40037) |  |  |

| Document Title:                          | Acid Sulfate soil Management Plan for Concord High School   |  |  |
|--|---|--|--|
| Site Address:                            | 5 Stanley Street, Concord NSW 2137  |  |  |
| Site Lot and Plan:                       | 1/-/DP1114919 1/-/DP60167 19/-/DP8687 3/-/DP1114919 18/-/DP8687 20/-/DP8687 15/-/DP8687 2/-/DP1114919 |  |  |
| Central Site Coordinates EPSG:4283 GDA94 | -33.864108, 151.109308  |  |  |
| Approx. Site Size (Ha):                  | 3.38  |  |  |
| Remediation Location:                    | Concord High School - new development areas   |  |  |
| Approx. Area of Remediation (Ha):        | 3.38 (areas to be disturbed during development upgrades)  |  |  |
| Project Number:                          | 20220303  |  |  |
| Project Type:                            | Acid Sulfate Soil Management Plan   |  |  |
| Project Type Abbreviation:               | ASSMP   |  |  |
| Client Full Name:                        | School Infrastructure New South Wales   |  |  |
| Client Short Name:                       | SINSW   |  |  |
| Document Revision No.                    | 2.0   |  |  |

iEnvironmental Australia Pty Ltd ABN: 65 625 493 478



# **Table of Contents**

| 1 Executive Summary  | 8  |
|--|----|
| 2 Purpose  | 9  |
| 3 Introduction   | 9  |
| 3.1 Responsibilities for this ASSMP  | 10 |
| 3.2 Description of the Development   | 10 |
| 3.3 Scope of Work  | 10 |
| 3.4 Regulatory Guidelines for this ASSMP   | 11 |
| 4 Background   | 12 |
| 4.1 Site Identification  | 12 |
| 4.2 Site Description   | 12 |
| 4.3 Surrounding Land Use and Water Bodies  | 13 |
| 4.4 Future Land Use  | 13 |
| 4.5 Surface Water, Drainage and Flood Potential                                      | 13 |
| 4.6 Site Regional Geology and Hydrogeology   | 13 |
| 4.7 Site Hydrogeology and Groundwater Characteristics                                | 14 |
| 5 Description of Acid Sulfate Soil Condition   | 15 |
| 6 Management Activities  | 15 |
| 6.1 Construction Activities  | 15 |
| 6.2 Potential Environmental Impacts  | 15 |
| 7 Inspection, Maintenance, Environmental Sampling, Analysis and Reporting            | 16 |
| 7.1 Control Measures for Development Construction Activities within the PASSA        | 16 |
| 7.2 Excavated PASS Field Testing Requirements & Lime Application Rate                | 17 |
| 7.3 Management of Stockpiled Soils   | 18 |
| 7.4 Contingency Measures   | 19 |
| 7.4.1 Over-Exposure of Excavated Trenches, Pits and Stockpiled Material in the PASSA | 19 |
| 7.4.2 Acid Sulphate Soil Spill   | 19 |
| 7.4.3 Rainfall Inundating Stockpiles   | 19 |
| 7.4.4 Performance Criteria   | 20 |
| 7.4.5 Contingency Plan   | 21 |
| 7.5 Approvals and Compliance Requirements  | 22 |
| 7.5.1 Approval and Requirements for Works  | 22 |
| 7.6 Community Stakeholder Plan   | 22 |
| 7.7 Staged Progress Reporting  | 22 |
| 7.8 Ongoing Environmental Management Requirements                                    | 22 |
| 8 References   | 23 |
| 9 Limitations  | 25 |
| 10 Attachments   | 28 |



# **Abbreviations**

| Term                | Definition   |  |
|---------------------|--|--|
| AASS                | Actual Acid Sulfate Soil   |  |
| ACM                 | Asbestos containing material   |  |
| AHD                 | Australian Height Datum (metres above mean sea level)  |  |
| ARMCANZ             | Agriculture and Resource Management Council of Australia and New Zealand   |  |
| AS                  | Australian Standard  |  |
| Asbestos HSLs       | NEPM ASC/WA DoH Health screening levels for asbestos contamination in soil. NEPM ASC Schedule B1, Table 7  |  |
| ASLP                | Australian Standard Leaching Procedure (Australian Standards AS4439.2 and 44396.3)   |  |
| ASS                 | Acid Sulfate Soil  |  |
| ASSMP               | Acid Sulfate Soil Management Plan  |  |
| CEnvP               | Certified Environmental Practitioner   |  |
| CEnvP SC Specialist | Certified Environmental Practitioner Site Contamination Specialist   |  |
| COC                 | Chain of Custody   |  |
| CoCB                | City of Canada Bay   |  |
| CSM                 | Conceptual Site Model  |  |
| DP                  | Deposited Plan   |  |
| DQIs                | Data Quality Indicators  |  |
| DQOs                | Data Quality Objectives  |  |
| DSI                 | Detailed Site Investigation  |  |
| EIL(s)              | NEPM ASC Ecological Investigation Levels for selected metals and organic substances in the top 2 m of soil and are applicable for assessing risk to terrestrial ecosystems |  |
| EMP                 | Environmental Management Plan  |  |
| EPA                 | Environmental Protection Authority   |  |
| EPL                 | Environmental Protection Licence   |  |
| ESL(s)              | NEPM ASC Ecological Screening Levels   |  |
| GPR                 | Ground penetrating radar   |  |
| HESP                | Health and Environmental Safety Plan   |  |
| HIL(s)              | NEPM ASC Health Investigation Levels   |  |
| HSL(s)              | NEPM ASC Health Screening Levels (HSLs)  |  |
| iEnvi               | iEnvironmental Australia Pty Ltd   |  |
| JSEA                | Job Safety Environmental Analysis  |  |
| LAA                 | Licenced asbestos assessor   |  |
| mAHD                | Elevation in metres above seal level based on Australian Height Datum  |  |
| МВО                 | Monosulfidic black ooze  |  |
| mbgs                | metres below ground surface  |  |
| NATA                | National Association of Testing Authorities  |  |
| NEPC                | National Environment Protection Council  |  |
| NEPM ASC            | National Environment Protection (Assessment of Site Contamination) Measure 1999 (amended April 2013)   |  |



| Term       | Definition                                    |  |
|------------|---|--|
| NHMRC      | National Health and Medical Research Council  |  |
| PASS       | Potential Acid Sulfate Soil                   |  |
| PCoC       | Potential Contaminants of Concern             |  |
| PFAS       | Perfluoroalkyl and Polyfluoroalkyl Substances |  |
| PFOS       | Perfluorooctanesulfonic Acid                  |  |
| PID        | Photoionisation device                        |  |
| PPE        | Personal Protective Equipment                 |  |
| PSI        | Preliminary Site Investigation                |  |
| QAQC       | Quality Assurance and Quality Control         |  |
| RAP        | Remediation Action Plan                       |  |
| RPD        | Relative Percent Difference                   |  |
| SAQP       | Sampling and Analysis Quality Plan            |  |
| SINSW      | School Infrastructure New South Wales         |  |
| SWMS       | Safe Work Method Statement                    |  |
| TBC        | to be confirmed                               |  |
| the Client | School Infrastructure New South Wales         |  |
| the site   | 5 Stanley Street, Concord NSW 2137            |  |
| USCS       | Unified Soil Classification System            |  |



# 1 Executive Summary

iEnvironmental Australia Pty Ltd (iEnvi) was engaged by School Infrastructure New South Wales (SINSW; the Client) to complete this Acid Sulfate Soil Management Plan (ASSMP) relating to the management of actual acid sulfate soil (AASS) and potential acid sulfate soil (PASS) during upgrade development works at Concord High School, 5 Stanley Street, Concord NSW 2137 (the site; Concord HS).

Concord HS is located in a residential setting. Upgrades to the HS will include the demolition of old buildings and services, resurfacing and installation of new buildings and new underground services.

This ASSMP relates to soil in the eastern portion of the site (refer to Figures 2 and 3) that has the potential to contain acid sulfate soil (ASS). This area is referred to as the Potential Acid Sulfate Soil Area (PASSA).

Previous investigations have not detected acid sulfate soil, however soil at depth > 1.0 m depth near the eastern boundary of the site has the potential to be acid sulfate soil based on it overlapping the Acid Sulfate Soil Class 2 zone in the Canada Bay Local Environmental Plan 2013.

If this soil in the PASSA (Refer to Figures 2) is to be disturbed or exposed at > 1.0 m depth during development, the soil should be field tested by an environmental consultant for  $pH_f$  and  $pH_{fox}$  to determine the required management under this ASSMP.

A site remediation action plan (RAP) for management of soil during and after construction has additional soil and groundwater monitoring and testing requirements that should also be reviewed.

The ASS management strategies during construction will include:

- avoiding ASS disturbances, where possible
- field assessment and laboratory analysis of potential ASS materials excavated or exposed at > 1.0 m depth in the PASSA including soil and groundwater before disposal, or reuse
- treatment and contained storage of excavated ASS materials
- monitoring of groundwater in accordance with the RAP
- supervision by a suitably qualified environmental practitioner, should any excavation works > 1.0 m depth in the PASSA

The Client project manager, site construction manager and future construction workers should be aware of this ASSMP. Any workers or contractors conducting works that will penetrate the ground



surface at the site should be made aware of the responsibilities within this ASSMP. This ASSMP may need updating periodically as per the detailed requirements within.

The proposed development works will also be completed under a remediation action plan (RAP; iEnvi, 2023b) that has been prepared for the site.

### 2 Purpose

The purpose of this ASSMP is to provide safe management guidance of potential and actual acid sulfate soil (PASS/AASS) during the proposed development works.

The principal elements of this ASSMP include:

- review the conditions of the site at the time of preparation of this ASSMP, and the proposed development construction and disturbance of the site and how ASS may be disturbed during the process
- detail a method for soil management during development construction at the site
- detail a method for water monitoring during development construction at the site
- provide a plan for ongoing management of ASS at the site
- assign responsibilities for the implementation of this ASSMP
- provide a plan for underground excavation or works

### 3 Introduction

ASS are coastal and near-coastal soil, sediments or other materials containing iron sulphides. ASS is environmentally non-threatening when left undisturbed in anoxic or aqueous conditions, however, may pose risks when exposed to oxygen. Iron sulphides release sulfuric acid and soluble iron when oxidised, threatening natural and built environments as well as potentially mobilising additional pollutants within the soil.

ASS can be classified as either actual or potential acid sulfate soil (PASS); actual acid sulfate soil (AAS) is those that have been exposed to oxygen and produce sulfuric acid whereas PASS is those that can potentially produce sulfuric acid if exposed to oxygen.

Potential impacts from disturbance and oxidation of PASS may include:

- deoxygenation of waterways causing harm to of aquatic organisms
- acidification of soil, surface water and / or groundwater
- mobilisation of heavy metals in soil and metalloids into groundwater and/or surface water
- corrosion of structures



The soil in the PASSA is within the Acid Sulfate Soil Class 2 mapped zone in the Canada Bay Local Environmental Plan 2013.

Shallow soil (fill) in this area has been tested for ASS and found not to have ASS/PASS characteristics, however deeper soil has the potential to be ASS and require management. This should be confirmed in the PASSA by field tests by an environmental consultant for soil exposed or removed in the PASSA that is > 1.0 mbgs, which shall confirm the required management under this ASSMP.

### 3.1 Responsibilities for this ASSMP

The following Individuals are assigned to implementing this ASSMP until details are updated by addendum.

Table 1: Responsibilities for this ASSMP

| Person/Role                       | Responsibility   |  |  |
|-----------------------------------|--|--|--|
| School Infrastructure NSW (SINSW) | Engagement of all contractors and consultants for the works required.  |  |  |
| City of Canada Bay Council (CoCB) | Ensure all contractors and parties involved in the development works are aware of the requirements of this ASSMP.        |  |  |
| Remediation Contractors           | Treatment and safe excavation, movement and disposal of soil in accordance with the ASSMP.                               |  |  |
| Environmental Consultant          | Complete field sampling of ASS/PASS and advice on treatment rates to comply with this ASSMP and management requirements. |  |  |

This ASSMP will be effective from the date of this report, and ongoing until the development project is completed. All parties involved should review and sign the record that this ASSMP has been reviewed (Appendix A).

### 3.2 Description of the Development

In summary, the planned development works are outlined as:

- · demolition of some of the school buildings;
- construction of new buildings and associated structures;
- installation of underground services to connect to the new buildings; and
- landscaping per the design.

Concept design plans for the project are provided in Appendix G. An outline of where the PASS overlaps the current site and the development plan is provided in Figures 2 and 3.

### 3.3 Scope of Work

To achieve the objectives, the following scope of work was undertaken:



#### Information Review:

review of available environmental and construction plan information

### Acid Sulfate Soil Management Plan (ASSMP):

The ASSMP will include:

- the requirements for acid sulfate soil management during the planning, implementation, evaluation and construction activities
- the responsibilities for implementing the ASSMP
- the Project Delivery Standards (PDS) including environmental controls regarding acid sulfate soils to ensure that project objectives and targets are achieved
- an overview of the environmental monitoring programs and contingency plans and associated management actions
- review and sign off by a Certified Environmental Practitioner (Contaminated Sites Specialist) CEnvP SC Specialist

### 3.4 Regulatory Guidelines for this ASSMP

The preparation of this ASSMP was undertaken and should be implemented with reference to (but not limited to) the following legislation, regulatory guidance documents and standards:

- DSE VIC (2010) Victorian Best Practice Guidelines for Assessing and Managing Coastal Acid Sulfate Soils (October 2010) Department of Sustainability and Environment
- National Environmental Protection Council (NEPC) (2013). National Environment Protection (Assessment of Site Contamination) Measure 1999 (as amended April 2013)
- NHMRC & NRMMC (2011). Australian Drinking Water Guidelines (ADWG) National Health and Medical Research Council & Natural Resource Management Ministerial Council
- NSW Department of Agriculture (1998) Acid Sulfate Soils Manual Acid Sulfate Soil
   Management Advisory Committee
- NSW Department of Environment and Conservation (DEC) (2007) Guidelines for the Assessment and Management of Groundwater Contamination (March 2007)
- NSW Department of Urban Affairs and Planning (1998). Managing Land Contamination:
   Planning Guidelines: SEPP 55 Remediation of Land, (August 1998)
- NSW Environment Protection Authority (EPA) (2015). Guidelines on the Duty to Report Contamination under the Contaminated Land Management Act 1997 (July 2015)
- NSW Government (2013). Canada Bay Local Environmental Plan 2013
- NSW Office of Environment and Heritage (2011). Guidelines for Consultants Reporting on Contaminated Sites (2011). NSW Office of Environment and Heritage
- Standards Australia (2009) Piling Design and Installation AS 2159-2009 (November 2009)



- NSW EPA (2014). Waste Classification Guidelines Part 4: Acid Sulfate Soils (November 2014)
- NSW Acid Sulfate Soil Management Advisory Committee Acid Sulfate Soil Manual (August 1998)

### 4 Background

### 4.1 Site Identification

The following information summarises the identification of the site. The site location can be viewed in Figure 1, and site layout in Figure 2.

Table 2: Site Identification Details

| Site Address:                             | 5 Stanley Street, Concord NSW 2137  |  |  |
|---|---|--|--|
| Lot and DP Number:                        | Lots 1, 2 and 3, on DP1114919<br>Lot 1 on DP60167<br>Lots 15, 18, 19 and 20 on DP8687 |  |  |
| Site Size:                                | 3.38 Ha   |  |  |
| Property Owner:                           | Minister for Education  |  |  |
| Site Operator:                            | Education NSW (Concord High School)   |  |  |
| Site Use:                                 | Secondary School  |  |  |
| NEPM ASC Site Use Type:                   | recreational  |  |  |
| Future NEPM ASC Site Use Type:            | recreational  |  |  |
| Current and Recent Activities at Site:    | Secondary School  |  |  |
| Historical Activities at Site (if known): | tannery   |  |  |
| Futures Use (if known):                   | continuing use as a Secondary School  |  |  |
| Surrounding Land Use:                     | low density residential, recreational   |  |  |
| Local Government Area:                    | City of Canada Bay Council  |  |  |
| Current Zoning:                           | R3 - Medium Density Residential   |  |  |
| Nearest Capital/Major City:               | Sydney, NSW   |  |  |
| Distance from nearest CBD:                | 11 km W of Sydney, NSW  |  |  |
| Central Site Coordinates EPSG:4283 GDA94  | -33.86,4108, 151.109308   |  |  |
| Site Elevation (approximate)              | 5 mAHD  |  |  |

### 4.2 Site Description

The site is Concord HS, which is an operating secondary school owned by the Department of Education (Minister for Education).

An area in the east of the site (refer to Figures 2 and 3) may contain ASS below fill material. The site does have contaminated soil and groundwater that is considered safe if undisturbed and controlled under the Asbestos in Grounds Management Plan (WSP 2020).



Further information relating to the site and contaminated material are outlined in the RAP (iEnvi, 2023b).

### 4.3 Surrounding Land Use and Water Bodies

The site is zoned R3 - Medium Density Residential. Surrounding land use includes public recreation, and low density residential land use (refer to Figure 1). The surrounding land uses are described in the table below.

Table 3: Surrounding Land Use

| Direction  | Land Use or Activity  |  |  |
|--|---|--|--|
| North  | Site is bordered by Crane Street, followed by medium density residential dwellings.   |  |  |
| East Site is bordered by recreational land (Cintra Park, St Lukes Park) consisting of oval, hockey, netball and tennis facilities. This is followed by residential land use. |   |  |  |
| South  | Site is bordered by Stanley Street, followed by the southeastern portion of St Luke's Park, residential land use and Concord Oval.                          |  |  |
| West   | Site is bordered by residential dwellings, followed by Burwood Road, Concord Public School and residential land use.  |  |  |
| Nearest Surface<br>Water Bodies:   | The nearest surface water body is an unnamed concrete-lined stormwater canal 150 m east of the site which runs into Parramatta River, 600 m NE of the site. |  |  |

### 4.4 Future Land Use

The land use will continue as a High School.

### 4.5 Surface Water, Drainage and Flood Potential

The nearest (downgradient) surface water body likely to receive surface water or groundwater from the site is the concrete-lined stormwater canal located approximately 150 m east of the site. The canal flows into the Parramatta River 600 m northeast of the site. This eventually flows into the Sydney Harbour approximately 8 km northeast of the site.

The approximate average surface elevation at the site is 5 mAHD.

The site surface is relatively flat. However, the natural gradient in the area slopes gently from west to east/northeast.

The site is not within the flood hazard area identified by the City of Canada Bay.

### 4.6 Site Regional Geology and Hydrogeology

According to the Atlas of Australian Soils, the landscape and soil at the site are classified as:

 Kurosols - Gently rolling to rounded hilly country with some steep slopes and broad valleys: chief soils are hard acidic red soils with hard neutral and acidic yellow mottled



soils on lower slopes and in valleys. Associated are small areas of various soils including on some ridges, on some slopes, in saddles and some mid-slope positions, and some low-lying swampy areas of soils and soils with peaty surfaces.

The Atlas of Australian Acid Sulfate Soils predicts that while most of the site would be considered Class 5 Acid Sulfate Soils, the northeastern corner/eastern side of the site is classified as Class 2. This outlines that works below the natural ground surface may present an environmental risk and any works by which the water table is likely to be lowered present an environmental risk.

The underlying regional geology beneath the site is likely to consist of:

- Ashfield shale black to light grey shale and laminate from the Middle Triassic
- anthropogenic deposits (reclaimed estuarine areas) the natural surface elevation has been raised through infill activities over former estuarine swamps and subaqueous estuarine margins

The Hydrogeology Map of Australia Commonwealth of Australia (Geoscience Australia) describes aquifers in the area as porous, extensive aquifers of low to moderate productivity.

The groundwater flow direction is inferred to be towards the Parramatta River north west of the site, which may result in flow direction being influenced by tidal variation. The groundwater table was encountered at approximately 1.5 m to 3.0 m below level surfaces at the site.

Drilling indicated a general soil profile that included:

- 0 to 1.5 mbgs (and up to 3.5 mbgs): Sandy or silty clay FILL
- > 1.5 mbgs: grey and pale brown clays of medium plasticity NATURAL

### 4.7 Site Hydrogeology and Groundwater Characteristics

Previous investigations indicate the following hydrogeological and groundwater characteristics at the site:

- generally very low recharge in wells was observed during sampling and aquifer slug tests in the shallow clay aquifer;
- groundwater levels were approximately 1.8 to 3.8 metres below ground surface (mbgs) and ranged between 3 to 8 m AHD;
- based on the results of the level survey completed, the water level varied significantly with MW04 being an outlier and groundwater showing an east direction with a skew to the south east. The groundwater level gradient was calculated to be 0.004 (m<sub>v</sub>/m<sub>n</sub>);
- based on level survey data and accounting for known groundwater receptors to the east and northeast, the groundwater flow direction appeared to be to the east direction (refer to Figure 3). Previous hydraulic testing indicated groundwater horizontal velocity as 0.11 metres per year (m/year) toward the east. Based on the nearest surface water receptor (the Stormwater Canal to the east) being approximately 150 m east of the site, the



estimated timeframe for groundwater t:o migrate from the site to the nearest surface water body would be 1388.9 years.

### 5 Description of Acid Sulfate Soil Condition

No testing has confirmed the presence of ASS at the site, however, there is considered a potential of ASS to be present in the east of site which is located within the PASSA, an area of the site overlapping the Acid Sulfate Soil Class 2 zone in the Canada Bay Local Environmental Plan 2013 (refer to Figures 2 and 3).

### 6 Management Activities

The project involves the demolition of some existing buildings, the installation of new buildings and footings, and the placement of new underground services. More detail is provided in Section 3.2. An illustration on the proposed development area that overlaps the PASS is provided in Figure 3.

#### 6.1 Construction Activities

The following construction activities may potentially impact on any ASS soils that may occur in the PASSA:

- excavations of trenches for services
- deep excavation for levelling and moving soil
- · piling/footing excavations for building support
- groundwater dewatering

If any of the aforementioned activities are undertaken during the redevelopment works, the excavated soil should be assessed by a suitably qualified environmental practitioner to prevent any potentially adverse environmental impacts.

### 6.2 Potential Environmental Impacts

The following consequences need to be considered during construction in an ASS environment:

- exposure and oxidation of excavated PASS material and the consequent discharge of generated acid including acid leachate
- release of acidic subsurface water or acidification of groundwater during the excavation
- ongoing oxidation of exposed PASS and the consequent generation of acidic groundwater
- additional requirements for the management and disposal of excavated soil

Numerous aquatic and marine organisms are extremely sensitive to acid drainage, therefore as a result, acid leachates released may have serious environmental impacts including:



- dissolved metals in acid leachates can be poisonous to fish and aquatic plants and to both aquatic and terrestrial life forms
- sulphate salts released can increase the salinity of freshwater
- acidic sediment may fix phosphates and other nutrients which prevents their uptake by plants

To actively prevent and manage potential impacts, adequate assessment and appropriate management including monitoring programs will ensure such impacts will not occur. The risk of groundwater transport of released dissolved metal contaminants to the nearest surface water receptor is considered low (iEnvi, 2023a), however, groundwater is a protected beneficial use and it is an offence under the Contaminated Land Management Act 1997 to cause contamination of land.

# 7 Inspection, Maintenance, Environmental Sampling, Analysis and Reporting

The following risk and management controls have been identified for the proposed construction and future operation of the site relevant to PASS soils. At the site, topsoils are fill soils, which are underlain by light brown and grey clay soils that may be potentially PASS. The visual marker of soil colour will be the easiest way of managing potential risk.

# 7.1 Control Measures for Development Construction Activities within the PASSA

Risks and controls associated with ASS required during the development construction period within the PASSA are outlined in the table below.

Table 4: Identified ASS Risks at Site During Construction in the PASSA

| Activity / Risk   | Area/Volume Affected                            | Risk Identification   | Management to be Adopted  | Who is<br>Responsible   |
|---|---|---|---|---|
| Cut and Fill Disturbance<br>of Soil including<br>Pilings/Footings | All disturbed soils                             | PASS soil may oxidise and release metals  | Exposed and stockpiled soil to be tested for pH <sub>FOX</sub> and pH <sub>F</sub> and management to be applied in accordance with Table 5.   | Construction Operations Manager / Environmental Consultant          |
| General PASS<br>Management and<br>Compliance                      | All soil excavated or exposed.                  | Field testing and visual observation of red soil.   | In accordance with this ASSMP. A PASS validation report will be required at the end of each construction event with records of excavation, soil quality, testing, tracking and management, insitu dosing and final disposal location information. | Construction<br>Operations Manager /<br>Environmental<br>Consultant |
| Drainage from site  | Water draining during/after rainfall from site. | Turbid or discoloured water. Monitoring results triggering risk in accordance with Table 5. | In accordance with Table 5.   | Construction Operations Manager / Environmental Consultant          |



| Activity / Risk     | Area/Volume Affected                             | Risk Identification  | Management to be<br>Adopted | Who is<br>Responsible                                      |
|---------------------|--|--|-----------------------------|--|
| Groundwater quality | Groundwater on and offsite (within 50 m of site) | Monitoring results triggering risk in accordance with Table 5. | In accordance with Table 5. | Construction Operations Manager / Environmental Consultant |

# 7.2 Excavated PASS Field Testing Requirements & Lime Application Rate

Field testing and lime application, as well as soil tracking should be conducted by the Environmental Consultant.

Management of PASS should be conducted in accordance with this ASSMP, the Acid Sulfate Soil Manual (NSW EPA 1998) and Victorian Best Practice Guidelines for Assessing and Managing Coastal Acid Sulfate Soils (DSE VIC 2010).

Soil during excavation should be field tested for  $pH_{FOX}$  reactions which may indicate PASS, as well as  $pH_F$  which may detect ASS if oxidation has occurred by a suitably qualified environmental consultant..

PASS validation will need to be reported in the Validation Report to be completed in accordance with the RAP (iEnvi, 2023b) with records of excavation, soil quality, testing, tracking and management, insitu dosing and final disposal location information.

Table 5: Excavated PASS Field Testing and Lime Application Rate in the PASSA

| pH <sub>FOX</sub><br>Reaction<br>Rate* | Description*    | Risk Identification<br>(in addition to<br>pH <sub>FOX</sub> testing)   | kg lime/tonne soil or<br>kg lime/m³<br>Safety factor = 1.5^ | Additional Management  |
|--|-----------------|--|---|--|
| 0                                      | No reaction     | Exposed soils may oxidise and release metals.  | No treatment.   | General soil management as non-PASS Soil. Erosion controls (such as hay bales) to be placed around stockpiles.  Open excavations require no special management.  |
| 1                                      | Slight reaction | Exposed soils may oxidise and release metals.  Monosulfidic black oozes (MBO) are black or grey and gel-like. MBO cannot be stockpiled and should be immediately buried. | 1 (stockpile)  0.1 / m² of open excavation/exposed soil.    | Soil must be stockpiled or exposed for < 5 days duration. If >5 days, treat at the relevant liming dose. Minimise re-handling.  Exposed soil to be tracked with records of duration of exposure, management / lime application procedures used, as well as retesting for pH <sub>FOX</sub> and pH <sub>F</sub> prior to disposal or burial.  Erosion controls (such as hay bales) to be placed around stockpiles.  If building foundations or assets are to be placed in excavation (open for any duration), excavation wall and base soils require treatment by mixing lime at the relevant dose with excavator fork teeth of top 0.1 m of exposed soil prior to filling. |



| pH <sub>FOX</sub><br>Reaction | Description*   | Risk Identification (in addition to  | kg lime/tonne soil or<br>kg lime/m³                           | Additional Management   |
|-------------------------------|--|--|---|---|
| Rate*                         |  | pH <sub>FOX</sub> testing)   | Safety factor = 1.5^  |   |
| 2                             | Moderate<br>reaction   | Exposed soils may oxidise and release metals.  MBO are black or grey                                       | 1.5 (stockpile)  0.15 / m² of open excavation/exposed soil.   | Soil must be stockpiled or exposed for < 2.5 days duration. If >2.5 days, treat at the relevant liming dose. Minimise re-handling.  Exposed soil to be tracked with records of duration   |
|                               |  | and gel-like. MBO cannot be stockpiled and should be immediately buried.                                   |   | of exposure, management / lime application procedures used, as well as retesting for pH <sub>FOX</sub> and pH <sub>F</sub> prior to disposal or burial.   |
|                               |  |  |   | Erosion controls (such as hay bales) to be placed around stockpiles.  |
|                               |  |  |   | If building foundations or assets are to be placed in excavation (open for any duration), excavation wall and base soils require treatment by mixing lime at the relevant dose with excavator fork teeth of top 0.1 m of exposed soil prior to filling. |
| 3                             | High reaction  | Exposed soils may oxidise and release metals.  | 3 (stockpile)  0.3 / m² of open excavation/exposed soil.      | Soil must be stockpiled or exposed for < 18 hours duration. If >18 hours, treat at the relevant liming dose. Soil should be placed on HDPE liner so as not to impact soils below stockpile.   |
|                               |  | MBO are black or grey<br>and gel-like. MBO<br>cannot be stockpiled<br>and should be<br>immediately buried. |   | Exposed soil to be tracked with records of duration of exposure, management / lime application procedures used, as well as retesting for pH <sub>FOX</sub> and pH <sub>F</sub> prior to disposal or burial.   |
|                               |  |  |   | Erosion controls (such as hay bales) to be placed around stockpiles.  |
|                               |  |  |   | If building foundations or assets are to be placed in excavation (open for any duration), excavation wall and base soils require treatment by mixing lime at the relevant dose with excavator fork teeth of top 0.1 m of exposed soil prior to filling. |
| 4                             | Extreme reaction,<br>with gas<br>evolution and<br>heat generation<br>usually > 80°C) | Exposed soils may oxidise and release metals.  MBO are black or grey                                       | Requires sample laboratory analysis to determine liming rate. | Cover stockpile with HDPE liner, and treat or remove from site within 18 hours. Soil should not be double handled. Soil should be placed on HDPE liner so as not to impact soils below stockpile.   |
|                               |  | and gel-like. MBO cannot be stockpiled and should be immediately buried.                                   |   | Exposed soil to be tracked with records of duration of exposure, management / lime application procedures used, as well as retesting for pH <sub>FOX</sub> and pH <sub>F</sub> prior to disposal or burial.   |
|                               |  |  |   | Erosion controls (such as hay bales) to be placed around stockpiles.  |
|                               |  |  |   | If building foundations or assets are to be placed in excavation (open for any duration), excavation wall and base soils require treatment by mixing lime at the relevant dose with excavator fork teeth of top 0.1 m of exposed soil prior to filling  |

Notes:

### 7.3 Management of Stockpiled Soils

The duration of stockpiling should be minimised in accordance with Table 4.

<sup>\*</sup>Reaction Rates and Description per DSE VIC 2010, Table Appendix B2
^Liming rates and stockpile management from the Acid Sulfate Soil Management Manual and ESA report.
MBO: a category of acid sulfate soil, usually dark-grey to black in colour, that has a gel-like texture and is enriched by highly reactive iron monsulfides (FeS)

and should not be stockpiled.

Stockpiling that requires double handling should be managed as soil in the more sensitive category that is directly below the row based on pH<sub>FOX</sub> reaction in



Stockpiling that requires double handling should be managed with additional precautions to minimise oxidation of soil, and apply the more sensitive category that is directly below the row based on  $pH_{FOX}$  reaction in Table 4.

All stockpiles of soil excavated from >1.0 m depth within the PASSA should be managed by:

- minimising dust generation and sediment erosion by either cover and/or hay bale drainage filtering in accordance with the RAP
- daily monitoring of stockpiled materials (for pH<sub>F</sub> and pH<sub>FOX</sub>) may be conducted to identify any potential oxidation or acid generation of the stockpiled ASS/PASS
- it is very important to note that MBO (if encountered) cannot be stockpiled

### 7.4 Contingency Measures

The following contingency measures are to be implemented in the circumstance management procedures prove to be unsuccessful and acid leachate issues arise.

# 7.4.1 Over-Exposure of Excavated Trenches, Pits and Stockpiled Material in the PASSA

Treatment using lime sufficient to neutralise the total potential acidity of exposed material. A safety factor of 1.5 is included in the calculation of lime required which should ensure sufficient neutralising capacity should the excavation be open for greater than the planned period.

### 7.4.2 Acid Sulphate Soil Spill

Spillage of ASS should be collected and transferred to the designated stockpile storage area as soon as practicable to ensure surface soil or groundwater and surface water runoff is not adversely impacted.

### 7.4.3 Rainfall Inundating Stockpiles

Cover the stockpiles to prevent excessive rainfall accumulation, undertake water quality field readings and sampling for laboratory results to ensure water quality is suitable for discharge or requires treatment.



### 7.4.4 Performance Criteria

The following performance criteria should be evaluated throughout the project stages and records of performance against the criteria included in an end of construction validation report (refer to the RAP). This performance criteria applies to soil excavated at > 1.0 m depth from within the PASSA.

Table 6: ASSMP Performance Criteria

| Table 6:                                  | ASSIMP PETIO   | rmance Criteria  |  |  |
|---|--|--|--|--|
| Stage                                     | Item   | Controls to Be   | Records  | Performance Indicator  |
|   |  | Implemented  |  |  |
| 1. Pre-Construct ion                      | Surface water and groundwater quality baseline.  | Within 1 month of the start of construction groundwater sampling of all wells to be undertaken in accordance with NEPM ASC (NEPC 2013).  NATA accredited laboratories to be utilised.  CEnvP SC Specialist to review report.   | Baseline Water Quality<br>Letter Report required,<br>including all relevant<br>field records.  | Sampling conducted prior to construction activity in accordance with the RAP.      Controls all applied and sampling report confirming all relevant controls were put in place.      Baseline Water Quality Letter Report reviewed and signed by |
|   |  |  |  | CEnvP SC Specialist.   |
| 2. Pre-Construct                          | ASSMP reviewed by Construction Operations Manager and incorporated into Construction Environmental Management Plan (CEMP). | CEMP to refer to ASSMP.  ASSMP to be cited by Construction Ops Manager.  | Signed ASSMP review acknowledgement record.  | 2a. ASSMP reviewed and signed by Construction Manager and relevant field staff).   |
| 3. During construction daily              | Management of PASS   | Excavated soil volumes tracked and records logged.   | Soil tracking sheet<br>completed for each<br>major soil excavation or<br>movement (refer to<br>RAP).   | 3a. Soil tracking sheet completed daily for all major movements (refer to RAP)   |
| 4. During construction – Imported Fill    | Imported fill quality control  | Review fill supply report by<br>Environmental Consultant. Track<br>received material meets specified<br>material in supply report and is<br>tracked.   | Soil tracking sheet includes inspection of imported fill (refer to RAP).   | 6a. Soil tracking sheet completed daily for all major movements (refer to RAP).  Imported fill to be reviewed as compliant by Environmental Consultant.  |
| 5. During construction – Offsite Disposal | Compliant disposal of soil off site (if required)  | A soil waste classification report should be completed for the volumes of soil to be transported from site (this can include insitu sampling information).  Waste must be transported to a licensed facility. Soil must be manage in accordance with the NSW Waste Classification Guidelines including: Part 1: Classifying waste, Part 4: Acid sulfate soils and Addendum to Part 1: Classifying Waste. | Soil tracking sheet includes soil tracking of waste from site (refer to RAP).  Disposal certificates to be retained, and a copy of the waste receiving facility environmental license to be retained for inclusion in the Validation report. | 7a. Soil tracking sheet completed daily for all soil movements offsite (refer to RAP).  7b. Soil disposal records to be included in Validation report, and environmental licence of disposal facility.   |
| 6. Post<br>Construction                   | Environmental<br>Consultant Report   | Within 1 month after construction and post-construction validation report in accordance with NEPM ASC (NEPC 2013) is to be compiled by the Environmental Consultant to validate performance indicators have been met.  Reviewed and signed by a CEnvP SC Specialist.   | Validation Report including all environmental related records, evaluating compliance and performance.  | 8a. NEPM ASC (NEPC 2013) compliant Validation Report to be compiled by the Environmental Consultant to validate performance indicators have been met.  8b. Validation Report reviewed and signed by a CEnvP SC Specialist.                       |



| Stage                 | Item               | Controls to Be<br>Implemented   | Records  | Performance Indicator   |
|-----------------------|--------------------|---|--|---|
| 7. Future Use of Site | Management of PASS | Excavated soil volumes tracked and records logged by an engaged Environmental Consultant. | Environmental letter reports to document controls and monitoring compliance. | If ASS is confirmed, update this ASSMP for long term use at the site. |

### 7.4.5 Contingency Plan

The contingency plan summarised in the table below is to be implemented where performance criteria (per Table 6) are exceeded or not met.

Table 7: Contingency Plan

| Table 7:   | Contingency Plan   |   |  |
|--|--|---|--|
| Item   | Non-Compliance   | Contingency Controls to Be Implemented  | Records  |
| CP1. PASS<br>over-exposure<br>to air                       | PASS soil exposed to oxygen in exceedance of criteria in Table 5 or double handled.  | Soil should be retested, managed and treated with lime at the rate prescribed in the next more sensitive category in Table 5.   | Non-compliance to be recorded in accordance with RAP and letter report as well as records included final validation report.                |
| CP2. PASS<br>treatment in<br>excavation not<br>implemented | PASS soil in excavations was not treated with lime in accordance with lime application rates in Table 5 prior to backfill.                                 | Subject soil to be tested by the Environmental Consultant to determine whether ASS has been generated and poses a potential risk to buried infrastructure/assets, and whether re-excavation and treatment is required.  | Non-compliance to be recorded in accordance with RAP and letter report as well as records included final validation report.                |
| CP3. PASS<br>erosion during<br>rainfall                    | Sediment observed transported from site drainage.  | Rainfall drainage surface water sampling by an environmental consultant to be reported and compared to criteria in Table 4.  Sediment should be tested and if PASS/ASS is present, then sediment should be excavated and residual soil sampled to validate no residual PASS/ASS exposed to air. | Non-compliance to be recorded in accordance with the RAP and letter report as well as records included final validation report.            |
| CP4. Water<br>Quality                                      | Surface water or<br>groundwater quality<br>exceeds criteria in the<br>RAP during construction.   | The requirement for further investigation and delineation is to be assessed by the environmental consultant, and a Tier 1 or 2 risk assessment in accordance with NEPM ASC (NEPC 2013) may be necessary.  Sediment controls are reviewed and made compliant.                                    | Non-compliance to be recorded in with the RAP and letter report as well as records included final validation report.                       |
| CP5. Soil<br>Disposal from<br>Site                         | Soil non-compliant<br>disposal - not compliant<br>with Table 6<br>requirements .   | A review of soil disposal tracking, destination and risk should be undertaken by the Environmental Consultant, and further action should be assessed.   | Non-compliance to be recorded in accordance with the RAP and letter report as well as records included final validation report.            |
| CP6. Imported<br>Fill (soil)I                              | Soil that is<br>non-compliant with soil<br>quality reports provided,<br>or no imported fill soil<br>quality report is provided<br>per Table 6 requirements | A review of soil quality including sampling to determine soil quality at a frequency that complies with ASC NEPM. A review of soil quality to be undertaken by the Environmental Consultant, and further action should be assessed.   | Non-compliance to be recorded in accordance with the RAP. A soil investigation report should be conducted by the Environmental Consultant. |
| CP7.<br>Unexpected<br>finds or<br>contamination            | Unexpected, previously not characterised soil that is excavated or encountered and is not similar to known soil as described in the RAP.                   | A review of soil quality including sampling to determine soil quality at a frequency that complies with ASC NEPM. A review of soil management options to be undertaken by the Environmental Consultant, and further action should be assessed.  | Non-compliance to be recorded in accordance with the RAP. A soil investigation report should be conducted by the Environmental Consultant. |
| CP8. Water<br>Quality                                      | Post-construction groundwater quality exceeds criteria in the RAP at a risk threshold beyond previous reporting considerations.                            | The requirement for further investigation and delineation is to be assessed by the environmental consultant, and a Tier 1 or 2 risk assessment in accordance with NEPM ASC (NEPC 2013) may be necessary.  The risk should be assessed with consideration of seasonal variations.                | Risks and recommendations to<br>be included in<br>Post-Construction groundwater<br>monitoring event (GME) letter<br>report                 |



### 7.5 Approvals and Compliance Requirements

### 7.5.1 Approval and Requirements for Works

This ASSMP is to be reviewed and approved by SINSW. Prior to remedial works commencing notification to regulators will be required including CoCB.

This ASSMP will be effective from the date of this report, and ongoing until the development project is completed. All parties involved should review and sign the record that this ASSMP has been reviewed (Appendix A).

### 7.6 Community Stakeholder Plan

This shall be managed in accordance with the RAP.

### 7.7 Staged Progress Reporting

CoCB will be in communication throughout the remediation activities with the Remediation Contractors and Consultants. A copy of witness and hold points and reporting requirements is outlined in the RAP.

### 7.8 Ongoing Environmental Management Requirements

Any ongoing requirements relating to acid sulfate soil management at the site should be outlined in the Validation Report by the environmental consultant.



### 8 References

NSW Acid Sulfate Soil Management Advisory Committee (ASSMAC) (1998). Acid Sulfate Soil Manual

ANZG (2018). Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Governments and Australian state and territory governments, Canberra ACT.

Aurecon (2021) Concord High School Waste Classification, Oval and part Gardens, 5 Stanley Street, Concord NSW 2137. 14 October 2021.

DSE VIC (2010) Victorian Best Practice Guidelines for Assessing and Managing Coastal Acid Sulfate Soils (October 2010) Department of Sustainability and Environment

EnHealth (2012). Environmental Health Risk Assessment: Guidelines for assessing human health risks from environmental hazards, Department of Health and Ageing and EnHealth Council, Commonwealth of Australia (2012).

iEnvi (2022a). Preliminary Site Investigation - Concord High School. iEnvironmental Australia Pty Ltd.

iEnvi (2022b). Detailed Site Investigation - Concord High School. iEnvironmental Australia Pty Ltd.

iEnvi (2022c). Groundwater and Hydrogeological Investigation - Concord High School. iEnvironmental Australia Pty Ltd.

iEnvi (2023a). Upgradient Groundwater Investigation - Concord High School. iEnvironmental Australia Pty Ltd.

iEnvi (2023b). Remediation Action Plan - Concord High School. iEnvironmental Australia Pty Ltd.

National Environmental Protection Council (NEPC) (2013). National Environment Protection(Assessment of Site Contamination) Measure 1999 (as amended April 2013).

NSW Department of Planning, Infrastructure and Environment (2021) Managing Land Contamination: Planning Guidelines: SEPP (Resilience and Hazards) (2021).

NSW EPA (1996). Protection of the Environment Operations (Waste) Regulation (1996).

NSW EPA (2014a). Waste Classification Guidelines (November 2014).

NSW EPA (2014b). The excavated natural material order 2014 ("the ENM Order"). Resource Recovery Order under Part 9, Clause 93 of the Protection of the Environment Operations (Waste) Regulation 2014.

NSW EPA (2015). Guidelines on the Duty to Report Contamination under the Contaminated and Management Act 1997 (July 2015).



NSW EPA (2017) Guidelines for the NSW Site Auditor Scheme (3rd Ed.) (2017).

NSW EPA (2020). Consultants Reporting on Contaminated Land. NSW Office of Environment and Heritage, April (2020).

NSW EPA (2022). Sampling Design Part 1 and 2 - Contaminated Land Guidelines (August 2022). WSP (2020). Concord High School. Asbestos In Grounds Management Plan.



### 9 Limitations

| Limitatio |  |  |
|-----------|--|--|
| Version   |  |  |
| 2.1       |  |  |

The conclusions and information presented in this document are relevant to the conditions of the site and the state of legislation currently enacted as at the date of this report. iEnvironmental Australia Pty Ltd (iEnvi) does not make any representations or warranties of the suitability and applicability of the conclusions in this report in the future, since potential changes in the condition of the site, applicable legislation and/or other future factors may affect the conclusions contained in this document.

iEnvi uses a degree of skill and care ordinarily exercised by reputable members of the industry practicing in the same or similar locality. Conclusions and information are based on representative samples and/or locations at the site, the frequency of those samples being in accordance with the usual levels of testing carried out for this type of investigation. Due to the inherent variability of soils and groundwater and the general environment, iEnvi cannot warrant that the whole overall condition of the site is identical or substantially like the representative samples. In addition, underground services locations, ground penetrating radar, field device readings and scans are inherently subject to variability and none are considered infallible, and only provide additional information with a margin of error that can be used for decision making. Due to this uncertainty, iEnvi cannot warrant and will not be liable for any decisions made relying on use of scanning or field devices.

The Client agrees that iEnvi shall not be liable for any damages or losses arising out of or in connection with this report, including, but not limited to:

- delays or disruptions at the sites;
- damage to the Client's site from iEnvi's collection of samples and data, to the extent that such damage is the type normally incurred when performing services of this nature;
- the actions, or inactions of third parties' using and/or accessing the sites;
- incurred by or threatened against any third-party, whatsoever;
- losses that occur as a result of the Client's delay or providing iEnvi inaccurate, incorrect, incomplete, faulty, false, fraudulent, and/or misleading information and/or not providing the required access to any sites;
- the Client's reliance on the quality, accuracy, or reliability of profiles, ratings, recommendations, and feedback (including their content, order, and display), or metrics found on, used on, or made available through iEnvi's report; and
- any use of the report in a manner or for a purpose that is not the listed purpose/objective
  in this report and/or strictly by the Client, as specified in this report.

The liability of iEnvi, its affiliates, licensors, and third-party service providers to the Client for any claim arising out of or in connection with this report shall not exceed the aggregate of any monies



paid by the Client in consideration of this report. These limitations will apply to any liability, arising from any cause of action whatsoever arising out of or in connection with this report, whether in contract, tort (including negligence), strict liability, or otherwise, even if advised of the possibility of such costs or damages and even if the limited remedies provided herein fail of their essential purpose. Some jurisdictions do not allow for all of the foregoing exclusions and limitations, so to that extent, some or all of these limitations and exclusions may not apply to the Client.

This report has been prepared exclusively for the Client mentioned in this report for the specific purpose to which it refers. No responsibility is accepted to any third party. The Client shall not, under any circumstances whatsoever, allow this report, or any part or reference thereto, to be published in any document, statement, or circular, nor in any communication with third parties without the specific prior written approval of iEnvi, which approval shall specifically authorise the form and context in which the report will appear.

This report and the information contained herein is and shall at all times remain the absolute Intellectual Property of iEnvi. iEnvi hereby grants to the Client a limited exclusive license to use this Report for the objectives/purposes outlined in this report only. The Client hereby acknowledges and agrees not to use this report for any purpose other than the Purpose, since iEnvi's reports insurance only includes insurance for the Client, and no third parties, for the objectives/purposes outlined in this report, unless otherwise agreed to by iEnvi in writing.

The Client shall not use this report for offering any goods or services, and shall not do any of the following without iEnvi's express prior written consent:

- sell, reproduce, distribute, modify, display, publicly perform, prepare derivative works based on, repost, or otherwise use any content of this report in any way for any public or commercial purpose;
- use any content of this report for any purpose except for the objectives/purposes outlined in this report and Client's own viewing;
- attempt to reverse engineer, modify, adapt, translate, prepare derivative works from, and/or decompile any part of the report unless expressly permitted by applicable law; or
- use the report in order to build a similar service or application, or publish any performance, or any benchmark test or analysis relating to the report.

iEnvi and its licensors retain all right, title, and interest in and to all Intellectual Property Rights related in and to this report. The logos and names are trademarks of iEnvi and may be registered in certain jurisdictions. All other product names, company names, marks, logos, and symbols on the report may be the trademarks of their respective owners. Except as expressly stated in this report, nothing in the report confers any license under any of iEnvi's or any third party's Intellectual Property Rights, whether by estoppel, implication, or otherwise.

For the purposes of this report, the term "Intellectual Property Rights" means all patent rights, copyright rights, mask work rights, moral rights, rights of publicity, trademark, trade dress and service mark rights, goodwill, trade secret rights and other intellectual property rights as may now exist or hereafter come into existence, and all applications therefore and registrations, renewals

Acid Sulfate Soil Management Plan for Concord High School 5 Stanley Street, Concord NSW 2137 Reference: 20220303



and extensions thereof, under the laws of any state, country, territory or other jurisdiction, and all other intellectual property as defined in article 2 of the convention establishing the World Intellectual Property Organisation 1967 and Intellectual Property has the corresponding meaning.

In addition to the above limitations, iEnvi's terms and conditions shall also apply to this report and all works undertaken by iEnvi. A copy of iEnvi's current terms and conditions, as amended from time to time, are provided in the following web link: <a href="https://www.ienvi.com.au/terms-and-conditions/">www.ienvi.com.au/terms-and-conditions/</a>.



# 10 Attachments

### **FIGURES**

- 1. Site Location
- 2. Site Layout
- 3. Overlay of Development Plan and PASSA

### **APPENDICES**

- A. Signed Record
- B. Soil Borelogs
- C. Previous Sampling Results Tables

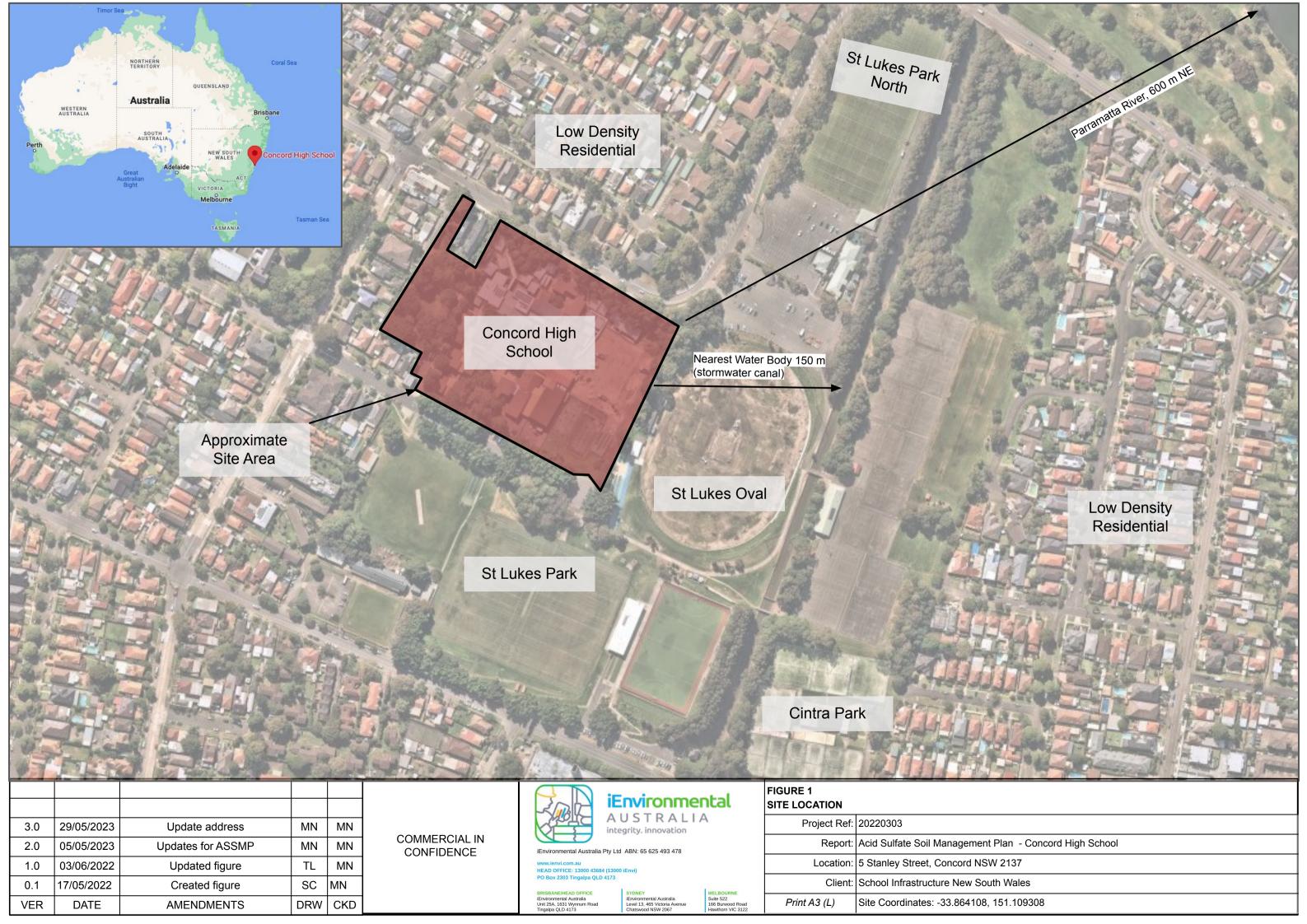


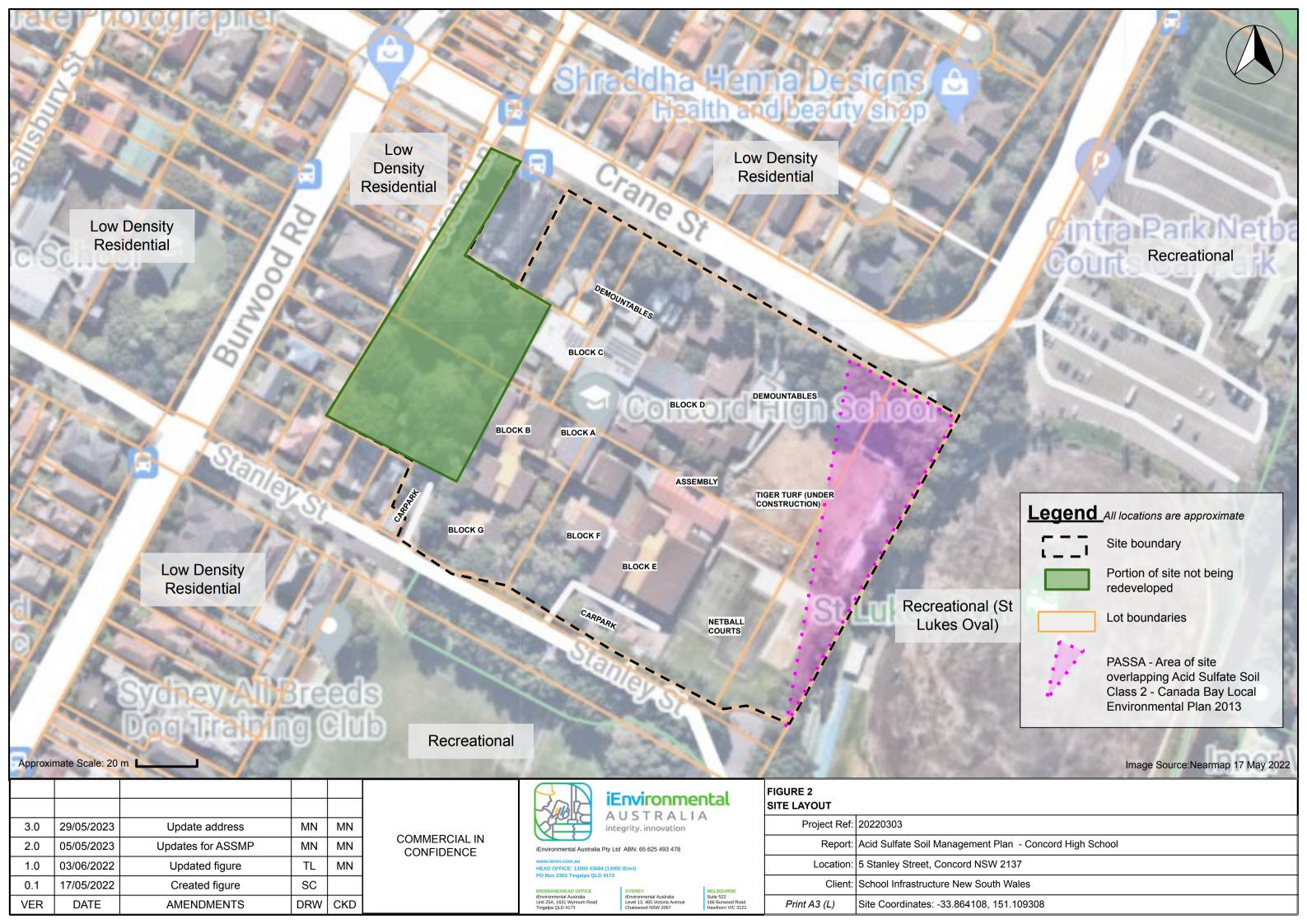
# **FIGURES**

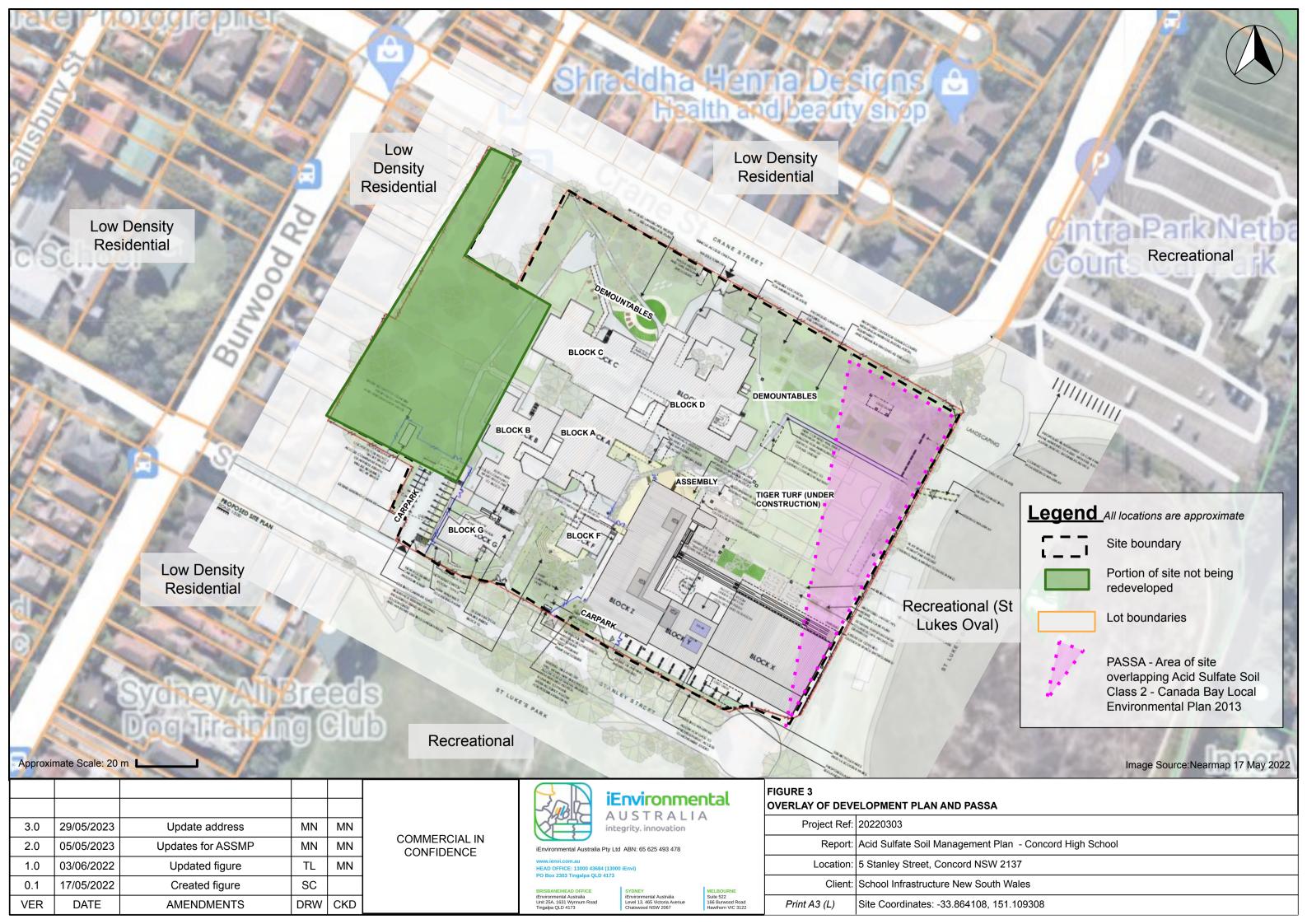
Figure 1. Site Location

Figure 2. Site Layout
Figure 3. Overlay of Development Plan and PASSA











# **APPENDICES**

# Appendix A. Signed Record





| Full Name | Company | Role     | Signature   |             |  |  |  |
|-----------|---------|----------|---|-------------|--|--|--|
|           |         |          | Signature<br>acknowledging that<br>ASSMP has been<br>reviewed | Signed Date |  |  |  |
|           |         |          |   |             |  |  |  |
|           |         |          |   |             |  |  |  |
|           |         |          |   |             |  |  |  |
|           |         |          |   |             |  |  |  |
|           |         |          |   |             |  |  |  |
|           |         |          |   |             |  |  |  |
|           |         |          |   |             |  |  |  |
|           |         |          |   |             |  |  |  |
|           |         |          |   |             |  |  |  |
|           |         |          |   |             |  |  |  |
|           |         |          |   |             |  |  |  |
|           |         |          |   |             |  |  |  |
|           |         |          |   |             |  |  |  |
|           |         |          |   |             |  |  |  |
|           |         |          |   |             |  |  |  |
|           |         |          |   |             |  |  |  |
|           |         |          |   |             |  |  |  |
|           |         |          |   |             |  |  |  |
|           |         |          |   |             |  |  |  |
|           | 1       | <u> </u> | <u> </u>  |             |  |  |  |





# Appendix B. Soil Borelogs



| iE           | Ξn   | Vi              |             |      | MV                    | <b>/</b> 0′ |   | Senio    | or Driller<br>Name:     | Nares<br>Chint<br>i | sh<br>halapud | Development l       | Purge (L)<br>nd notes: | 20            |
|--------------|--|-----------------|-------------|------|-----------------------|-------------|---|----------|-------------------------|---------------------|---------------|---------------------|------------------------|---------------|
|              |  |                 |             |      |                       |             | W Concord NSW, Concord HS PSI and DSI   | Da       | ate Start:              | 20/06               | 6/2022        | Groi<br>Encountere  | undwater<br>d (mbgs)   | 5.1           |
|              | Location: 5 Stanley Street, Concord NSW 2137 |                 |             |      |                       |             |   |          | Pate Finish: 20/06/2022 |                     | 6/2022        |                     | undwater               | 4.439         |
|              | Easting, Northing: -33.8643285, 151.1090737  |                 |             |      |                       |             |   | Screen   | Length<br>(m):          | -                   |               |                     | neter (m):             | 90 mm / 50 mm |
|              | Drilling                                     | g/Excavato      | or Comp     | any: | Structerre Cor        | nsulting E  | ngineers (NSW) Pty Ltd  | Surface  | e mAHD:                 |                     |               | Filter Pack Gr      | rain Diam<br>(m):      | 0.0           |
|              | Drill/Exc                                    | cavator Riç     | j Detail:   |      | Ute mounted           | drill rig   |   | Con      | npletion:               | stand<br>pipe v     | lation -      | Well Pipe material: |                        | PVC           |
| Depth (mbgs) | Elevation (mAHD)                             | Drilling Method | Graphic Log | nscs | Samples               | Analysed    | Material Description  | Moisture | -                       |                     | Well D        | liagram<br>licable) | PID (ppm)              | Odour         |
|              |  |                 |             |      |                       |             | Well stickup 0.9 m. Grass surface. (0 to 0 mbgs)  |          |                         |                     |               |                     |                        |               |
| 2            | 6.0  |                 |             | он   | MW01/0.2              | Y           | gravelly sandy CLAY: poorly sorted, high plasticity (dark), Dark Brown. Sampling through mounds (fill). FILL. (0 to 3.5 mbgs)   | М        |                         |                     |               | Slurry/<br>Cement   | 0.2                    | nil           |
| 4            |  | Flight<br>Auger |             | он   | MW01/1.5,<br>MW01/4.5 | Υ           | CLAY: well sorted, med plasticity (dark), Orange. Becoming drier with depth, becoming lower plasticity with depth, gradual colour change to grey with depth. NATURAL. (3.5 to 6 mbgs) | М        | ▼                       |                     |               | Sand                | 0.1                    | nil           |
| 7            | 7 1.0  |                 |             | CL   |                       | N           | CLAY: well sorted, low plasticity (light), Grey. weathered shale bedrock. NATURAL. (6 to 7.5 mbgs)  | SM       |                         |                     |               | Backfill            |                        | nil           |
|              | gged By:                                     | IW              |             |      | Checked By            |             | MN  |          |                         |                     |               |                     |                        |               |

Logged By: IW Checked By MN
mbgs = metres below ground surface. Moisture Description: D=dry, SM=slightly moist, M=moist, VM=very moist, W=wet/saturated
Disclaimer: This bore log is intended for environmental and not geotechnical purposes.
This Borelog Template is under Copyright of iEnvironmental Australia Pty Ltd 2022.

| iF                                      | -<br>-           | \/i             |             |       | MV   | /02        | 2  | Senio      | or Driller<br>Name: | Nares<br>Chinti                              | h<br>nalapud          | Development I                  | Purge (L)<br>nd notes: | 20            |
|---|------------------|-----------------|-------------|-------|--|------------|--|------------|---------------------|--|-----------------------|--------------------------------|------------------------|---------------|
|   | -11              |                 |             |       | ft: 20220303 - SINSW Concord NSW, Concord HS PSI and DSI |            |  |            |                     | t: 20/06/2022                                |                       | Grou<br>Encountere             | ındwater<br>d (mbgs)   | 3             |
|   |                  |                 | Locat       | ion:  | 5 Stanley  | Street,    | Concord NSW 2137   | Date Finis |                     |  | 2022                  |                                | ındwater               | 2.365         |
|   |                  | Eastin          | g, Nort     | hing: | -33.864444, 1  | 51.10914   | 42   | Screen     | Length<br>(m):      | -  |                       | Bore Diame                     |                        | 90 mm / 50 mm |
|   | Drilling         | g/Excavato      | r Comp      | any:  | Structerre Co  | nsulting E | ngineers (NSW) Pty Ltd   | Surface    | e mAHD:             | 1  |                       | Filter Pack Gr                 | ain Diam<br>(m):       | 0.0           |
|   |                  | cavator Rig     | ) Detail:   |       | Ute mounted  | drill rig  |  | Con        | mpletion:           | Monitor well install stand pipe version monu | ation -<br>up<br>vith | Well Pipe                      | material:              | PVC           |
| Depth (mbgs)                            | Elevation (mAHD) | Drilling Method | Graphic Log | nscs  | Samples  | Analysed   | Material Description   | Moisture   | Water Level         |  | Well D                | iagram<br>licable)             | PID (ppm)              | Odour         |
|   |                  |                 |             |       |  |            | Compacted sand surface. Well stick-up 0.455 m (0 to 0 mbgs)                                      |            |                     |  |                       |                                |                        |               |
| 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | 5.3              | Flight<br>Auger |             | OL    | MW02/0.2   | Y          | silty CLAY: well sorted, low plasticity (dark), Dark Brown. FILL. (0 to 3.2 mbgs)                | м          | ▼ ▽                 |  |                       | Slurry/<br>Cement<br>Bentonite | 0.1                    | nil           |
| 4                                       | 3.3              |                 |             | СН    | MW02/4.5   | Υ          | CLAY: well sorted, high plasticity (light), Grey-orange and Pale Brown. NATURAL. (3.2 to 6 mbgs) | м          |                     |  |                       | Sand                           | 0.1                    | nil           |

Logged By: IV Checked By MN
mbgs = metres below ground surface. Moisture Description: D=dry, SM=slightly moist, M=moist, VM=very moist, W=wet/saturated
Disclaimer: This bore log is intended for environmental and not geotechnical purposes.
This Borelog Template is under Copyright of iEnvironmental Australia Pty Ltd 2022.

| iF                  | -n   | vi              |             |       | MV            | /0:        | 3   | Senio    | or Driller<br>Name: | Nares<br>Chinth  | h<br>nalapud | Development a      | Purge (L)<br>nd notes: | 20            |
|---------------------|--|-----------------|-------------|-------|---------------|------------|---|----------|---------------------|--|--------------|--------------------|------------------------|---------------|
|                     |  |                 |             |       |               |            | W Concord NSW, Concord HS PSI and DSI   | Di       | ate Start:          | 20/06/   | 2022         | Gro<br>Encountere  | undwater<br>d (mbgs)   |               |
|                     | Location: 3 Stanley Street, Concord NSW 2137 |                 |             |       |               |            |   | Dat      | te Finish:          | 20/06/   | 2022         |                    | undwater               | 1.48          |
|                     |  | Eastin          | ng, Nort    | hing: | -33.8644741,  | 151.1089   | 789   | Screer   | Length<br>(m):      | -  |              | Bore Diame         |                        | 90 mm / 50 mm |
|                     | Drilling                                     | g/Excavato      | or Com      | oany: | Structerre Co | nsulting E | ingineers (NSW) Pty Ltd   | Surfac   | e mAHD:             | 7.9  |              | Filter Pack Gr     |                        | 0.0           |
|                     | Drill/Exc                                    | avator Riç      | g Detail    |       | Ute mounted   | drill rig  |   | Cor      | npletion:           | Monito<br>well<br>installa<br>gattic<br>cover/<br>box. | ation -      | Well Pipe          | material:              | PVC           |
| Depth (mbgs)        | Elevation (mAHD)                             | Drilling Method | Graphic Log | nscs  | Samples       | Analysed   | Material Description  | Moisture | Water Level         | v  | Vell D       | iagram<br>licable) | PID (ppm)              | Odour         |
|                     |  |                 |             | GW    |               | N          | Asphalt surface. Top of casing 0.07 mbgs. (0 to 0 mbgs)  gravelly GRAVEL: well sorted, loose, Asphalt and roadbase. Bitumen/roadbase FILL. (0 to 0.05 mbgs) | М        |                     |  |              |                    |                        | nil           |
|                     | 6.9  |                 |             | OL    | MW03/0.2      | Y          | sandy gravelly CLAY: poorly sorted, low plasticity (dark), Grey and Dark Brown. FILL. (0.05 to 1.8 mbgs)  | M        | •                   |  |              |                    | 0.1                    | nil           |
| 3 3 4 4 5 5 5 5 5 5 | 5.9  | Flight<br>Auger |             | он    | MW03/4.5      | Y          | CLAY: well sorted, med plasticity (dark), Reddish Brown. No GW inflow observed. Refusal at 5.1 mbgs NATURAL. (1.8 to 5.1 mbgs)                              | М        |                     |  |              | Bentonite  Sand    | 0.1                    | nil           |
|                     | ——————————————————————————————————————       | IM/             |             |       |               |            |   |          |                     |  |              |                    |                        |               |

Logged By: IW Checked By MN
mbgs = metres below ground surface. Moisture Description: D=dry, SM=slightly moist, M=moist, VM=very moist, W=wet/saturated
Disclaimer: This bore log is intended for environmental and not geotechnical purposes.
This Borelog Template is under Copyright of iEnvironmental Australia Pty Ltd 2022.

| iE           | En               | vi              |             |       | ВН                          | 01         |  | Senio    | or Driller<br>Name: | Naresh<br>Chintha<br>i | lapud | Development I         | Purge (L)<br>nd notes:     | -     |
|--------------|------------------|-----------------|-------------|-------|-----------------------------|------------|--|----------|---------------------|------------------------|-------|-----------------------|----------------------------|-------|
|              |                  | Pro             | oject l     | Ref:  | 20220303                    | - SINS     | W Concord NSW, Concord HS PSI and DSI  | Da       | ite Start:          | 21/06/2                | 022   | Grou<br>Encountere    | undwater<br>d (mbgs)<br>∇: | -     |
|              |                  |                 | Locat       | ion:  | 5 Stanley                   | Street,    | Concord NSW 2137   | Date     | e Finish:           | 21/06/2                | 022   | Grou<br>Stabilised (I | undwater<br>mbgs) ▼:       | -     |
|              |                  | Eastin          | g, Nort     | hing: | -33.863928, 1               | 51.10850   | 19   | Screen   | Length<br>(m):      | -                      |       | Bore Diame<br>Dian    | ter / Well<br>neter (m):   | 90 mm |
|              | Drilling         | g/Excavato      | r Comp      | any:  | Structerre Co               | nsulting E | ingineers (NSW) Pty Ltd  | Surface  | mAHD:               | 11.5                   |       | Filter Pack Gr        | ain Diam<br>(m):           | -     |
|              | Drill/Exc        | cavator Rig     | Detail:     |       | Ute mounted                 | drill rig  |  | Con      | npletion:           | Backfill               |       | Well Pipe             | material:                  | -     |
| Depth (mbgs) | Elevation (mAHD) | Drilling Method | Graphic Log | nscs  | Samples                     | Analysed   | Material Description   | Moisture | Water Level         |                        |       | agram<br>icable)      | PID (ppm)                  | Odour |
|              |                  |                 |             |       |                             |            | Grass surface. (0 to 0 mbgs)   |          |                     |                        |       |                       |                            |       |
| F            |                  | Hand<br>Auger   |             | OL    | BH01/0.2,<br>QS01,<br>QS01A | Y          | gravelly silty CLAY: poorly sorted, low plasticity (dark), Dark Brown. FILL. (0 to 0.3 mbgs) | М        |                     |                        |       | Backfill              | 0                          | nil   |
| -            |                  |                 |             |       |                             |            |  |          |                     |                        |       |                       |                            |       |

| iE                    | En               | vi              |             |       | ВН            | 02         |  | Senio    | or Driller<br>Name: | Naresh<br>Chintha<br>i | alapud | Development l        | Purge (L)<br>nd notes:     | -     |
|-----------------------|------------------|-----------------|-------------|-------|---------------|------------|--|----------|---------------------|------------------------|--------|----------------------|----------------------------|-------|
|                       |                  | Pro             | oject I     | Ref:  | 20220303      | - SINS     | W Concord NSW, Concord HS PSI and DSI  | Da       | ate Start:          | 21/06/2                | 2022   | Groi<br>Encountere   | undwater<br>d (mbgs)<br>∇: | -     |
|                       |                  |                 | Locati      | ion:  | 5 Stanley     | Street,    | Concord NSW 2137   | Dat      | e Finish:           | 21/06/2                | 2022   | Grou<br>Stabilised ( | undwater<br>mbgs) ▼:       | -     |
|                       |                  | Eastin          | ıg, Norti   | hing: | -33.8635049,  | 151.1078   | 139  | Screen   | Length<br>(m):      | -                      |        | Bore Diame           |                            | 90 mm |
|                       | Drilling         | g/Excavato      | or Comp     | any:  | Structerre Co | nsulting E | ingineers (NSW) Pty Ltd  | Surfac   | e mAHD:             | 14.4                   |        | Filter Pack Gr       |                            | -     |
|                       | Drill/Exc        | cavator Rig     | Detail:     |       | Ute mounted   | drill rig  |  | Con      | npletion:           | Backfill               |        | Well Pipe            | material:                  | -     |
| Depth (mbgs)          | Elevation (mAHD) | Drilling Method | Graphic Log | nscs  | Samples       | Analysed   | Material Description   | Moisture | Water Level         |                        |        | iagram<br>licable)   | PID (ppm)                  | Odour |
|                       | E                | Hand<br>Auger   |             | OL    | BH02/0.2      | Υ          | Grass surface. (0 to 0 mbgs)  gravelly silty CLAY: poorly sorted, low plasticity (dark), Dark Brown. FILL. (0 to 0.3 mbgs) | М        |                     | Н                      |        | Backfill             | 0                          | nil   |
| -<br>-<br>-<br>-<br>- | ged By:          | IW              |             |       | Checked By    |            | MN   |          |                     |                        |        |                      |                            |       |

| iE           | En               | vi              |             |       | BH            | 03         |  | Senio    | or Driller<br>Name: | Nares<br>Chinth | h<br>nalapud | Development I         | Purge (L)<br>nd notes:     | -     |
|--------------|------------------|-----------------|-------------|-------|---------------|------------|--|----------|---------------------|-----------------|--------------|-----------------------|----------------------------|-------|
|              |                  | Pro             | oject I     | Ref:  | 20220303      | - SINS     | W Concord NSW, Concord HS PSI and DSI  | Da       | ate Start:          | 21/06/          | 2022         | Grou<br>Encountere    | undwater<br>d (mbgs)<br>∇: | -     |
|              |                  |                 | Locati      | ion:  | 5 Stanley     | Street,    | Concord NSW 2137   | Date     | e Finish:           | 21/06/          | 2022         | Grou<br>Stabilised (I | undwater<br>mbgs) ▼:       | -     |
|              |                  | Eastin          | ıg, Norti   | hing: | -33.8634954,  | 151.1078   | 717  | Screen   | Length<br>(m):      | -               |              | Bore Diame<br>Dian    | ter / Well<br>neter (m):   | 90 mm |
|              | Drilling         | g/Excavato      | or Comp     | any:  | Structerre Co | nsulting E | ingineers (NSW) Pty Ltd  | Surface  | e mAHD:             | 14.2            |              | Filter Pack Gr        | ain Diam<br>(m):           | -     |
|              | Drill/Exc        | cavator Rig     | Detail:     |       | Ute mounted   | drill rig  |  | Con      | npletion:           | Backfi          | II           | Well Pipe             | material:                  | -     |
| Depth (mbgs) | Elevation (mAHD) | Drilling Method | Graphic Log | nscs  | Samples       | Analysed   | Material Description   | Moisture | Water Level         |                 |              | iagram<br>licable)    | PID (ppm)                  | Odour |
|              |                  |                 |             |       |               |            | Grass surface. (0 to 0 mbgs)   |          |                     |                 |              |                       |                            |       |
| F            |                  | Hand<br>Auger   |             | OL    | вн03/0.2      | Υ          | gravelly silty CLAY: poorly sorted, low plasticity (dark), Dark Brown. FILL. (0 to 0.3 mbgs) | М        |                     |                 |              | Backfill              | 0.1                        | nil   |
|              | ged By:          | IW              |             |       | Checked By    |            | MN   |          |                     |                 |              |                       |                            |       |

| iE                    | En               | vi              |             |       | ВН                | 04         |  | Senio    | or Driller<br>Name: | Naresh<br>Chintha | ı<br>alapud | Development I         | Purge (L)<br>nd notes:     | -     |
|-----------------------|------------------|-----------------|-------------|-------|-------------------|------------|--|----------|---------------------|-------------------|-------------|-----------------------|----------------------------|-------|
|                       |                  | Pro             | oject F     | Ref:  | 20220303          | - SINS     | W Concord NSW, Concord HS PSI and DSI  | Da       | ate Start:          | 21/06/2           | 2022        | Grou<br>Encountere    | undwater<br>d (mbgs)<br>∇: | -     |
|                       |                  |                 | Locati      | on:   | 5 Stanley         | Street,    | Concord NSW 2137   | Dat      | e Finish:           | 21/06/2           | 2022        | Grou<br>Stabilised (I | undwater<br>mbgs) ▼:       | -     |
|                       |                  | Eastin          | ıg, Norti   | ning: | -33.8637828,      | 151.1087   | 546  | Screen   | Length<br>(m):      | -                 |             | Bore Diame            |                            | 90 mm |
|                       | Drilling         | g/Excavato      | or Comp     | any:  | Structerre Co     | nsulting E | ingineers (NSW) Pty Ltd  | Surfac   | e mAHD:             | 10.4              |             | Filter Pack Gr        |                            | -     |
|                       | Drill/Exc        | cavator Rig     | Detail:     |       | Ute mounted       | drill rig  |  | Con      | npletion:           | Backfil           | ı           | Well Pipe             | material:                  | -     |
| Depth (mbgs)          | Elevation (mAHD) | Drilling Method | Graphic Log | nscs  | Samples           | Analysed   | Material Description   | Moisture | Water Level         |                   |             | iagram<br>licable)    | PID (ppm)                  | Odour |
| _                     | E                | Hand<br>Auger   |             | CL    | BH04/0.2,<br>QS02 | Υ          | Grass surface. (0 to 0 mbgs)  gravelly CLAY: well sorted, low plasticity (light), Brown or Pale Brown. FILL. (0 to 0.3 mbgs) | SM       |                     |                   |             | Backfill              | 0                          | nil   |
| -<br>-<br>-<br>-<br>- | ged By:          | IW              |             |       | Checked By        |            | MN   |          |                     |                   |             |                       |                            |       |

| iE           | En               | vi              |             |       | ВН             | 05         |   | Senio    | or Driller<br>Name: | Naresh<br>Chintha<br>i | alapud | Development I         | Purge (L)<br>nd notes:     | -     |
|--------------|------------------|-----------------|-------------|-------|----------------|------------|---|----------|---------------------|------------------------|--------|-----------------------|----------------------------|-------|
|              |                  | Pro             | oject I     | Ref:  | 20220303       | - SINS     | W Concord NSW, Concord HS PSI and DSI   | Da       | ate Start:          | 21/06/2                | 2022   | Grou<br>Encountere    | undwater<br>d (mbgs)<br>∇: | -     |
|              |                  |                 | Locati      | ion:  | 5 Stanley      | Street,    | Concord NSW 2137  | Date     | e Finish:           | 21/06/2                | 2022   | Grou<br>Stabilised (I | undwater<br>mbgs) ▼:       | -     |
|              |                  | Eastin          | ıg, Norti   | hing: | 33.8644148, 1  | 151.10935  | 507   | Screen   | Length<br>(m):      | -                      |        | Bore Diame<br>Dian    | ter / Well<br>neter (m):   | 90 mm |
|              | Drilling         | g/Excavato      | or Comp     | any:  | Structerre Cor | nsulting E | ngineers (NSW) Pty Ltd  | Surface  | e mAHD:             | 6.6                    |        | Filter Pack Gr        | ain Diam<br>(m):           | -     |
|              | Drill/Exc        | cavator Rig     | Detail:     |       | Ute mounted    | drill rig  |   | Con      | npletion:           | Backfill               |        | Well Pipe             | material:                  | -     |
| Depth (mbgs) | Elevation (mAHD) | Drilling Method | Graphic Log | nscs  | Samples        | Analysed   | Material Description  | Moisture | Water Level         |                        |        | iagram<br>licable)    | PID (ppm)                  | Odour |
|              | F                | Hand<br>Auger   |             | он    | вно5/0.2       | Υ          | Grass surface. (0 to 0 mbgs)  gravelly CLAY: well sorted, med plasticity (dark), Dark Brown/Grey. FILL. (0 to 0.3 mbgs) | М        |                     |                        |        | Backfill              | 0.2                        | nil   |
|              | ged By:          | IW              |             |       | Checked By     |            | MN  |          |                     |                        |        |                       |                            |       |

| iE           | En               | vi              |             |       | BH            | 06         |  | Senio    | or Driller<br>Name: | Naresi<br>Chinth | n<br>alapud | Development I        | Purge (L)<br>nd notes:     | -     |
|--------------|------------------|-----------------|-------------|-------|---------------|------------|--|----------|---------------------|------------------|-------------|----------------------|----------------------------|-------|
|              |                  | Pro             | oject I     | Ref:  | 20220303      | - SINS     | W Concord NSW, Concord HS PSI and DSI  | Da       | ate Start:          | 21/06/           | 2022        | Grou<br>Encountere   | undwater<br>d (mbgs)<br>∇: | -     |
|              |                  |                 | Locati      | ion:  | 5 Stanley     | Street,    | Concord NSW 2137   | Date     | e Finish:           | 21/06/           | 2022        | Grou<br>Stabilised ( | undwater<br>mbgs) ▼:       | -     |
|              |                  | Eastin          | ıg, Norti   | hing: | 33.8640844,   | 151.1083   | 907  | Screen   | Length<br>(m):      | -                |             | Bore Diame<br>Dian   | ter / Well<br>neter (m):   | 90 mm |
|              | Drilling         | g/Excavato      | or Comp     | any:  | Structerre Co | nsulting E | ngineers (NSW) Pty Ltd   | Surface  | e mAHD:             | 10.4             |             | Filter Pack Gr       | ain Diam<br>(m):           | -     |
|              | Drill/Exc        | cavator Rig     | Detail:     |       | Ute mounted   | drill rig  |  | Con      | npletion:           | Backfi           | I           | Well Pipe            | material:                  | -     |
| Depth (mbgs) | Elevation (mAHD) | Drilling Method | Graphic Log | nscs  | Samples       | Analysed   | Material Description   | Moisture | Water Level         |                  |             | iagram<br>licable)   | PID (ppm)                  | Odour |
|              |                  |                 |             |       |               |            | Grass surface. (0 to 0 mbgs)   |          |                     |                  |             |                      |                            |       |
| F            | E                | Hand<br>Auger   |             | OL    | вн06/0.2      | Y          | gravelly silty CLAY: poorly sorted, low plasticity (dark), Dark Brown. FILL. (0 to 0.3 mbgs) | М        |                     |                  |             | Backfill             | 0.1                        | nil   |
|              | ged By:          | IW              |             |       | Checked By    |            | MN   |          |                     |                  |             |                      |                            |       |

| iE           | En               | vi              |             |       | ВН            | 07         |  | Senio    | or Driller<br>Name: | Naresh<br>Chintha | alapud | Development I         | Purge (L)<br>nd notes:     | -     |
|--------------|------------------|-----------------|-------------|-------|---------------|------------|--|----------|---------------------|-------------------|--------|-----------------------|----------------------------|-------|
|              |                  |                 |             |       |               |            | W Concord NSW, Concord HS PSI and DSI  | Da       | ate Start:          | 21/06/2           | 2022   | Grou<br>Encountere    | undwater<br>d (mbgs)<br>V: | -     |
|              |                  |                 | Locati      | on:   | 5 Stanley     | Street,    | Concord NSW 2137   | Date     | e Finish:           | 21/06/2           | 2022   | Grou<br>Stabilised (I | undwater<br>mbgs) ▼:       | -     |
|              |                  | Eastin          | ıg, Norti   | ning: | 33.8640844,   | 151.10839  | 907  | Screen   | Length<br>(m):      | -                 |        | Bore Diame<br>Dian    | ter / Well<br>neter (m):   | 90 mm |
|              | Drilling         | g/Excavato      | or Comp     | any:  | Structerre Co | nsulting E | ingineers (NSW) Pty Ltd  | Surface  | e mAHD:             | 10.4              |        | Filter Pack Gr        | ain Diam<br>(m):           | -     |
|              | Drill/Exc        | cavator Rig     | Detail:     |       | Ute mounted   | drill rig  |  | Con      | npletion:           | Backfil           |        | Well Pipe             | material:                  | -     |
| Depth (mbgs) | Elevation (mAHD) | Drilling Method | Graphic Log | nscs  | Samples       | Analysed   | Material Description   | Moisture | Water Level         |                   |        | iagram<br>licable)    | PID (ppm)                  | Odour |
|              |                  |                 |             |       |               |            | Grass surface. (0 to 0 mbgs)   |          |                     |                   |        |                       |                            |       |
| -            |                  | Hand<br>Auger   |             | OL    | ВН07/0.2      | Y          | gravelly silty CLAY: poorly sorted, low plasticity (dark), Dark Brown. FILL. (0 to 0.3 mbgs) | М        |                     |                   |        | Backfill              | 0                          | nil   |
|              |                  |                 |             |       |               |            |  |          |                     |                   |        |                       |                            |       |

| iE           | En               | vi              |             |       | BH            | 08         |  | Senio    | or Driller<br>Name: | Nares<br>Chinth | h<br>nalapud | Development I         | Purge (L)<br>nd notes:     | -     |
|--------------|------------------|-----------------|-------------|-------|---------------|------------|--|----------|---------------------|-----------------|--------------|-----------------------|----------------------------|-------|
|              |                  | Pro             | oject F     | Ref:  | 20220303      | - SINS     | W Concord NSW, Concord HS PSI and DSI  | Da       | ate Start:          | 21/06           | 2022         | Grou<br>Encountere    | undwater<br>d (mbgs)<br>∇: | -     |
|              |                  |                 | Locati      | ion:  | 5 Stanley     | Street,    | Concord NSW 2137   | Dat      | e Finish:           | 21/06           | 2022         | Grou<br>Stabilised (I | undwater<br>mbgs) ▼:       | -     |
|              |                  | Eastin          | ıg, Norti   | hing: | 33.864444, 15 | 51.10914   | 12   | Screen   | Length<br>(m):      | -               |              | Bore Diame<br>Dian    | ter / Well<br>neter (m):   | 90 mm |
|              | Drilling         | g/Excavato      | or Comp     | any:  | Structerre Co | nsulting E | ngineers (NSW) Pty Ltd   | Surface  | e mAHD:             | 7.3             |              | Filter Pack Gr        | ain Diam<br>(m):           | -     |
|              | Drill/Exc        | cavator Rig     | Detail:     |       | Ute mounted   | drill rig  |  | Con      | npletion:           | Backfi          | ill          | Well Pipe             | material:                  | -     |
| Depth (mbgs) | Elevation (mAHD) | Drilling Method | Graphic Log | nscs  | Samples       | Analysed   | Material Description   | Moisture | Water Level         |                 |              | iagram<br>licable)    | PID (ppm)                  | Odour |
|              |                  |                 |             |       |               |            | Grass surface. (0 to 0 mbgs)   |          |                     |                 |              |                       |                            |       |
| F            |                  | Hand<br>Auger   |             | CL    | вн08/0.2      | Υ          | gravelly CLAY: well sorted, low plasticity (light), Brown or Pale Brown. FILL. (0 to 0.3 mbgs) | SM       |                     |                 |              | Backfill              | 0                          | nil   |
|              | ged By:          | IW              |             |       | Checked By    |            | MN   |          |                     |                 |              |                       |                            |       |

| iE           | En               | vi              |             |       | ВН            | 09         |   | Senio    | or Driller<br>Name: | Nares<br>Chinti | sh<br>nalapud | Development a       | Purge (L)<br>nd notes:     | -     |
|--------------|------------------|-----------------|-------------|-------|---------------|------------|---|----------|---------------------|-----------------|---------------|---------------------|----------------------------|-------|
|              |                  | Pro             | oject I     | Ref:  | 20220303      | - SINS     | W Concord NSW, Concord HS PSI and DSI   | Da       | ate Start:          | 21/06           | /2022         | Gro<br>Encountere   | undwater<br>d (mbgs)<br>∇: | -     |
|              |                  |                 | Locati      | ion:  | 5 Stanley     | Street,    | Concord NSW 2137  | Date     | e Finish:           | 21/06           | /2022         | Gro<br>Stabilised ( | undwater<br>mbgs) ▼:       | -     |
|              |                  | Eastin          | ng, Norti   | hing: | 33.8644448,   | 151.10914  | 147   | Screen   | Length<br>(m):      | -               |               | Bore Diame<br>Diar  | ter / Well<br>neter (m):   | 90 mm |
|              | Drilling         | g/Excavato      | or Comp     | any:  | Structerre Co | nsulting E | ngineers (NSW) Pty Ltd  | Surface  | e mAHD:             | 7.3             |               | Filter Pack Gr      | ain Diam<br>(m):           | -     |
|              | Drill/Exc        | cavator Rig     | g Detail:   |       | Ute mounted   | drill rig  |   | Con      | npletion:           | Backf           | ill           | Well Pipe           | material:                  | -     |
| Depth (mbgs) | Elevation (mAHD) | Drilling Method | Graphic Log | nscs  | Samples       | Analysed   | Material Description  | Moisture | Water Level         |                 |               | liagram<br>licable) | PID (ppm)                  | Odour |
|              |                  | Hand<br>Auger   |             | ОН    | вно9/0.2      | Y          | In planter bed. Sampled 0.2 m below geotextile fabric @ 0.3 m. (0 to 0 mbgs)  sandy CLAY: well sorted, med plasticity (dark), Dark brown and Grey. Geotextile fabric at 0.3 mbgs. FILL. (0 to 0.5 mbgs) | М        |                     |                 |               | Backfill            | 0                          | nil   |
|              | ged By:          | IW              |             |       | Checked By    |            | MN  |          |                     |                 |               |                     |                            |       |

| iE           | En               | vi              |             |       | ВН            | 10         |  | Senio    | or Driller<br>Name: | Nares<br>Chinth | h<br>nalapud | Development I        | Purge (L)<br>nd notes:     | -     |
|--------------|------------------|-----------------|-------------|-------|---------------|------------|--|----------|---------------------|-----------------|--------------|----------------------|----------------------------|-------|
|              |                  | Pro             | oject I     | Ref:  | 20220303      | - SINS     | W Concord NSW, Concord HS PSI and DSI  | Da       | ate Start:          | 21/06           | 2022         | Grou<br>Encountere   | indwater<br>d (mbgs)<br>∇: | -     |
|              |                  |                 | Locati      | ion:  | 5 Stanley     | Street,    | Concord NSW 2137   | Date     | e Finish:           | 21/06           | 2022         | Grou<br>Stabilised ( | ındwater<br>mbgs) ▼:       | -     |
|              |                  | Eastin          | g, Norti    | hing: | 33.864444, 15 | 51.10914   | 12   | Screen   | Length<br>(m):      | -               |              | Bore Diame<br>Dian   | ter / Well<br>neter (m):   | 90 mm |
|              | Drilling         | g/Excavato      | r Comp      | oany: | Structerre Co | nsulting E | ngineers (NSW) Pty Ltd   | Surface  | e mAHD:             | 7.3             |              | Filter Pack Gr       | ain Diam<br>(m):           | -     |
|              | Drill/Exc        | cavator Rig     | Detail:     |       | Ute mounted   | drill rig  |  | Con      | npletion:           | Backfi          | ill          | Well Pipe            | material:                  | -     |
| Depth (mbgs) | Elevation (mAHD) | Drilling Method | Graphic Log | nscs  | Samples       | Analysed   | Material Description   | Moisture | Water Level         |                 |              | iagram<br>licable)   | PID (ppm)                  | Odour |
|              |                  |                 | 1/3////3//  |       |               |            | Grass surface. (0 to 0 mbgs)   |          |                     |                 |              |                      |                            |       |
| F            |                  | Flight<br>Auger |             | он    | BH10/0.2      | Y          | gravelly CLAY: well sorted, med plasticity (dark), Dark Brown. FILL. (0 to 0.3 mbgs) | М        |                     |                 |              | Backfill             | 0.1                        | nil   |
|              | ged By:          | IW              |             |       | Checked By    |            | MN   |          |                     |                 |              |                      |                            |       |

|               | Er               |                 |             |          | BH<br>20220303 |            | W Concord NSW, Concord HS PSI and DSI  |          | or Driller<br>Name: | i      | nalapud | Grou<br>Encountere   | undwater d (mbgs)        | -     |
|---------------|------------------|-----------------|-------------|----------|----------------|------------|--|----------|---------------------|--------|---------|----------------------|--------------------------|-------|
|               |                  |                 | Loca        | tion:    | 5 Stanley      | Street,    | Concord NSW 2137   | Dat      | e Finish:           | 21/06/ | /2022   | Grou<br>Stabilised ( | undwater<br>mbgs) ▼:     | -     |
|               |                  | Eas             | ting, Nor   | thing:   | 33.864444, 15  | 51.109144  | 12   | Screen   | Length<br>(m):      | -      |         | Bore Diame<br>Dian   | ter / Well<br>neter (m): | 90 mm |
|               | Drilli           | ng/Excav        | ator Com    | pany:    | Structerre Co  | nsulting E | ngineers (NSW) Pty Ltd   | Surfac   | e mAHD:             | 7.3    |         | Filter Pack Gr       | ain Diam<br>(m):         | -     |
|               | Drill/E          | xcavator        | Rig Detai   | l:       | Ute mounted    | drill rig  |  | Con      | npletion:           | Backfi | ill     | Well Pipe            | material:                | -     |
| Don'th (mbge) | Elevation (mAHD) | Drilling Method | Graphic Log | nscs     | Samples        | Analysed   | Material Description   | Moisture | Water Level         |        |         | Diagram<br>Dicable)  | PID (ppm)                | Odour |
|               | •                |                 |             |          |                |            | Grass surface. (0 to 0 mbgs)   |          |                     |        |         |                      |                          |       |
|               |                  |                 |             | OL       | BH11/0.2       | Υ          | gravelly CLAY: well sorted, low plasticity (dark), Dark Brown. FILL. (0 to 1 mbgs)     | м        |                     |        |         |                      | 0.1                      | nil   |
|               | 1 6.             | 3               |             | sw       |                |            | SAND: well sorted, very loose, Yellow. Fine to medium grain FILL. (1 to 1.1 mbgs)      | М        | 1                   |        |         |                      | 0                        | nil   |
| E             | E                | Flight          |             | OL       |                |            | gravelly CLAY: well sorted, low plasticity (dark), Dark Brown. FILL. (1.1 to 1.5 mbgs) | М        |                     |        |         | Backfill             | 0.1                      | nil   |
|               | 2 5.             | Auge            |             | SM       | BH11/2.5       | Y          | silty gravelly SAND: poorly sorted, loose, Black. FILL. (1.5 to 3 mbgs)                |          |                     |        |         | Backilli             | 0.1                      | nil   |
| 4             | ogged By:        | IW              |             | <u> </u> | Checked By     |            | MN   | I        | I                   |        |         | 1                    |                          |       |

Logged By: IW Checked By MN
mbgs = metres below ground surface. Moisture Description: DNO
plicalimer: This bore log is intended for environmental and not geotechnical purposes.
This Borelog Template is under Copyright of iEnvironmental Australia Pty Ltd 2022.

| i            | Ξn               | Vi              |             |      | BH             | 12         |  | Senio    | or Driller<br>Name: | Nares<br>Chint<br>i | sh<br>halapud |                      | nd notes:                  | -     |
|--------------|------------------|-----------------|-------------|------|----------------|------------|--|----------|---------------------|---------------------|---------------|----------------------|----------------------------|-------|
|              |                  |                 |             |      |                |            | W Concord NSW, Concord HS PSI and DSI  | Da       | ate Start:          | 21/06               | /2022         | Groi<br>Encountere   | undwater<br>d (mbgs)<br>∇: | -     |
|              |                  |                 | Locati      | on:  | 5 Stanley      | Street,    | Concord NSW 2137   | Dat      | te Finish:          | 21/06               | /2022         | Grou<br>Stabilised ( | undwater<br>mbgs) ▼:       | -     |
|              |                  | Eastir          | ng, North   | ing: | 33.864444, 15  | 1.109144   | 12   | Screer   | n Length<br>(m):    | -                   |               | Bore Diame<br>Dian   | ter / Well<br>neter (m):   | 90 mm |
|              | Drilling         | g/Excavate      | or Comp     | any: | Structerre Cor | nsulting E | ngineers (NSW) Pty Ltd   | Surfac   | e mAHD:             | 7.3                 |               | Filter Pack Gr       | ain Diam<br>(m):           | -     |
|              | Drill/Exc        | cavator Ri      | g Detail:   |      | Ute mounted    | drill rig  |  | Cor      | mpletion:           | Backf               | fill          | Well Pipe            | material:                  | -     |
| Depth (mbgs) | Elevation (mAHD) | Drilling Method | Graphic Log | USCS | Samples        | Analysed   | Material Description   | Moisture | Water Level         |                     |               | iagram<br>licable)   | PID (ppm)                  | Odour |
|              |                  |                 |             |      |                |            | Compacted sand. (0 to 0 mbgs)  |          |                     |                     |               |                      |                            |       |
|              | 1 6.3            |                 |             | он   | вн12/0.2       | Υ          | gravelly CLAY: well sorted, med plasticity (dark), Dark Brown. FILL. (0 to 1.8 mbgs) | М        |                     |                     |               | Backfill             | 0.2                        | nil   |
|              | 5.3              |                 |             | СН   | BH12/2.5       | Y          | sandy CLAY: well sorted, high plasticity (light), Yellow. FILL. (1.8 to 3 mbgs)      | VM       |                     |                     |               |                      | 0.1                        | nil   |
| Loc          | gged By:         | IW              |             |      | Checked By     |            | MN   |          |                     |                     |               |                      |                            |       |

| iE           | Ξn               | Vi              |             |       | BH             | 13         |  | Senio    | or Driller<br>Name: | Nares<br>Chint<br>i | h<br>nalapud |                      | ind notes:                  | -     |
|--------------|------------------|-----------------|-------------|-------|----------------|------------|--|----------|---------------------|---------------------|--------------|----------------------|-----------------------------|-------|
|              |                  | Pro             | oject F     | Ref:  | 20220303       | - SINS     | W Concord NSW, Concord HS PSI and DSI  | Da       | ate Start:          | 21/06               | /2022        | Grou<br>Encountere   | undwater<br>ed (mbgs)<br>▽: | -     |
|              |                  |                 | Locati      | on:   | 5 Stanley      | Street,    | Concord NSW 2137   | Dat      | te Finish:          | 21/06               | /2022        | Grou<br>Stabilised ( | undwater<br>mbgs) ▼:        | -     |
|              |                  | Eastin          | ng, North   | ning: | 33.864444, 15  | 1.109144   | 12   | Screer   | n Length<br>(m):    | -                   |              | Bore Diame<br>Dian   | eter / Well<br>neter (m):   | 90 mm |
|              | Drilling         | g/Excavato      | or Comp     | any:  | Structerre Cor | nsulting E | ngineers (NSW) Pty Ltd   | Surfac   | e mAHD:             | 7.3                 |              | Filter Pack Gr       | rain Diam<br>(m):           | -     |
|              | Drill/Exc        | cavator Rig     | g Detail:   |       | Ute mounted    | drill rig  |  | Cor      | mpletion:           | Backf               | ill          | Well Pipe            | material:                   | -     |
| Depth (mbgs) | Elevation (mAHD) | Drilling Method | Graphic Log | nscs  | Samples        | Analysed   | Material Description   | Moisture | Water Level         |                     |              | iagram<br>licable)   | PID (ppm)                   | Odour |
|              |                  |                 |             |       |                |            | Grass cover. (0 to 0 mbgs)   |          |                     |                     |              |                      |                             |       |
| 1            | 1 6.3            |                 |             | он    | вн13/0.2       | Υ          | gravelly CLAY: well sorted, med plasticity (dark), Dark Brown. FILL. (0 to 1.8 mbgs)                     | М        |                     |                     |              | Backfill             | 0.2                         | nil   |
| 2            | 5.3              |                 |             | CL    | вн13/2.5       | γ          | sandy CLAY: well sorted, low plasticity (light), White with Pale Brown Streaks. NATURAL. (1.8 to 3 mbgs) | VM       |                     |                     |              |                      | 0.3                         | nil   |
|              | gged By:         | IW              |             | _     | Checked By     |            | MN   | <u> </u> |                     |                     |              |                      |                             |       |

| iE           | Project Ref: 20220303 - SIN  Location: 5 Stanley Street  Easting, Northing: 33.864444, 151.109 |  |  |   |          | 14         |   | Senior   | or Driller<br>Name: | Naresh<br>Chintha<br>i | ı<br>alapud | Development I         | Purge (L)<br>and notes:   | -     |
|--------------|--|--|--|---|----------|------------|---|----------|---------------------|------------------------|-------------|-----------------------|---------------------------|-------|
|              |  | Project Ref: 20220303 - S  Location: 5 Stanley Stre  Easting, Northing: 33.864444, 151.10  Prilling/Excavator Company: Structerre Consult  III/Excavator Rig Detail: Ute mounted drill in the second of the second o |  |   |          |            | W Concord NSW, Concord HS PSI and DSI   | Da       | ate Start:          | 21/06/2                | 2022        | Encountere            | ▼:                        | -     |
|              |  | Project Ref: 20220303 - S  Location: 5 Stanley Street Easting, Northing: 33.864444, 151.10  Orilling/Excavator Company: Structerre Consult  III/Excavator Rig Detail: Ute mounted drill reference of the consult of the  |  |   |          | Street,    | Concord NSW 2137  | Date     | e Finish:           | 21/06/2                | 2022        | Grou<br>Stabilised (I | undwater<br>mbgs) ▼:      | -     |
|              |  | Project Ref: 20220303 - S  Location: 5 Stanley Stre  Easting, Northing: 33.864444, 151.10  ng/Excavator Company: Structerre Consult  ccavator Rig Detail: Ute mounted drill of the company |  |   |          | 51.10914   | 42  | Screen   | Length<br>(m):      | -                      |             | Bore Diame<br>Dian    | eter / Well<br>meter (m): | 90 mm |
|              | Drilling   | g/Excavato   | Location: 5 Stanley Str  Location: 5 Str  Location: 5 Stanley Str  Loca |   |          | nsulting E | ngineers (NSW) Pty Ltd  | Surface  | e mAHD:             | 7.3                    |             | Filter Pack Gr        | rain Diam<br>(m):         | -     |
|              | Drill/Exc  | cavator Rig  | Detail:  | pject Ref: 20220303 - cocation: 5 Stanley S g, Northing: 33.864444, 151 r Company: Structerre Cons Detail: Ute mounted dr  BD J J G G G G G G G G G G G G G G G G G |          |            |   | Com      | npletion:           | Backfill               |             | Well Pipe             | material:                 | -     |
| Depth (mbgs) | Elevation (mAHD)   | Drilling Method  | Location: 5 Stanley Starting, Northing: 33.864444, 151.  avator Company: Structerre Consist Rig Detail: Ute mounted driver and the starting of |   |          |            | Material Description  | Moisture | Water Level         |                        |             | iagram<br>licable)    | PID (ppm)                 | Odour |
|              |  |  |  |   |          |            | Compacted sand. (0 to 0 mbgs)   |          |                     |                        |             |                       |                           |       |
| $\Box$       |  |  |  | ОН  | BH14/0.2 | Υ          | sandy CLAY: well sorted, med plasticity (dark), Brown. FILL. (0 to 0.1 mbgs)  | M        |                     |                        |             |                       | 0.1                       | nil   |
| , ,          |  |  |  | •   |          |            |   |          | 1 .                 | 1 1                    | 1 1         |                       |                           | 1 1   |
|              |  |  |  | ОН  | BH14/1.0 | Y          | gravelly sandy CLAY: poorly sorted, med plasticity (dark), Dark Brown and Dark Grey. refusal at 1.0 mbgs. FILL. (0.1 to 1 mbgs) | м        |                     |                        |             | Backfill              | 0.1                       | nil   |

| iE           | En               | Vİ              |             |       | BH            | 15         |   | Senio    | or Driller<br>Name: | Nares<br>Chintr<br>i | h<br>nalapud |                    | nu notes.        | -     |
|--------------|------------------|-----------------|-------------|-------|---------------|------------|---|----------|---------------------|----------------------|--------------|--------------------|------------------|-------|
|              |                  | Pro             | oject I     | Ref:  | 20220303      | - SINS     | W Concord NSW, Concord HS PSI and DSI   | Da       | ate Start:          | 21/06                | 2022         | Encountere         | ▼:               | -     |
|              |                  |                 | Locat       | ion:  | 5 Stanley     | Street,    | Concord NSW 2137  |          | e Finish:           | 21/06                | 2022         | Stabilised (       |                  | -     |
|              |                  | Eastir          | ng, Nort    | hing: | 33.864444, 1  | 51.10914   | 42  | Screen   | Length<br>(m):      | -                    |              |                    | neter (m):       | 90 mm |
|              | Drillin          | g/Excavato      | or Comp     | any:  | Structerre Co | nsulting E | Engineers (NSW) Pty Ltd   | Surfac   | e mAHD:             | 7.3                  |              | Filter Pack Gr     | ain Diam<br>(m): | -     |
|              | Drill/Ex         | cavator Rig     | Detail:     |       | Ute mounted   | drill rig  |   | Con      | npletion:           | Backfi               | ill          | Well Pipe          | material:        | -     |
| Depth (mbgs) | Elevation (mAHD) | Drilling Method | Graphic Log | nscs  | Samples       | Analysed   | Material Description  | Moisture | Water Level         |                      |              | iagram<br>licable) | PID (ppm)        | Odour |
|              | •                |                 |             |       |               |            | Grass cover. (0 to 0 mbgs)  |          |                     |                      | T            | ,                  |                  |       |
| E            |                  |                 |             | OL    | BH15/0.2      | Y          | gravelly foreign materially CLAY: well sorted, low plasticity (dark), Dark Brown. Substantial quantities of brick and concrete fragments. FILL. (0 to 0.2 mbgs) | М        |                     |                      |              |                    | 0.2              | nil   |
| 1            | 6.3              |                 |             | OL    | BH15/2.0      | Y          | gravelly CLAY: well sorted, low plasticity (dark), Dark Brown. refusal at 2.0 mbgs. FILL. (0.2 to 2 mbgs)   | М        |                     |                      |              | Backfill           | 0.2              | nil   |



# Appendix C. Previous Sampling Results Tables



#### 1. Soil PFAS, CH, PCBs, Hal Benz



|                          |   |              |               |                |             |                 |  |  |                       |         |  |                 |                  |                 |                     |                              |                  |                                |                                |                        |                                |                        |                     |                        |                     |                     |                   |                    | Herb<br>icide |               |               |               |               |               |               |               |                     |
|--------------------------|---|--------------|---------------|----------------|-------------|-----------------|--|--|-----------------------|---------|--|-----------------|------------------|-----------------|---------------------|------------------------------|------------------|--------------------------------|--------------------------------|------------------------|--------------------------------|------------------------|---------------------|------------------------|---------------------|---------------------|-------------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------------|
|                          |   |              |               |                |             |                 |  | PFOS/  |                       |         |  | c               | hlorin           | ated H          | ydroc               |                              | ıs               |                                |                                |                        | Н                              | alogen                 | ated B              | enzen                  | es                  |                     |                   |                    | s             |               |               |               | PC            | .Bs           |               |               |                     |
|                          |   |              |               |                |             | Perfluorohexane | Perfluorooctanesulfonic<br>acid (PFOS) | Sum of enHealth PFAS<br>(PFHxS + PFOS + PFOA)* | Sum of PFHxS and PFOS |         | 6:2 Fluorotelomer<br>sulfonic acid (6:2 FTS) | Benzal Chloride | Benzotrichloride | Benzyl chloride | Hexachlorobutadiene | Hexachlorocyclopentad<br>ene | Hexachloroethane | 1,2,3,4-<br>tetrachlorobenzene | 1,2,3,5-<br>Tetrachlorobenzene | 1,2,3-trichlorobenzene | 1,2,4,5-<br>tetrachlorobenzene | 1,2,4-trichlorobenzene | 1,2-dichlorobenzene | 1,3,5-Trichlorobenzene | 1,3-dichlorobenzene | 1,4-dichlorobenzene | Hexachlorobenzene | Pentachlorobenzene |               | Arochlor 1016 | Arochlor 1221 | Arochlor 1232 | Arochlor 1242 | Arochlor 1248 | Arochlor 1254 | Arochlor 1260 | PCBs (Sum of total) |
|                          | I                                       |              |               |                |             | μg/kg           | mg/kg                                  | μg/kg  | μg/kg                 | μg/kg r | ng/kg  | mg/kg           | mg/kg            | mg/kg           | mg/kg               | mg/kg                        | mg/kg            |                                |                                | mg/kg                  |                                | mg/kg                  |                     | mg/kg                  | mg/kg               |                     | mg/kg             | mg/kg              |               |               | mg/kg         | mg/kg         | mg/kg         |               | mg/kg         | mg/kg         | mg/kg               |
| EQL                      | <br>able 1B(7) Manag                    | omont Limit  | s in Pos/Dark | dand Ei        | no Soil     | 5               | 0.005                                  | 5  | 5                     | 5 (     | 0.01   | 0.05            | 0.05             | 0.5             | 0.5                 | 0.5                          | 0.5              | 0.5                            | 0.5                            | 0.5                    | 0.5                            | 0.5                    | 0.5                 | 0.5                    | 0.5                 | 0.5                 | 0.5               | 0.5                | 20            | 0.1           | 0.1           | 0.1           | 0.1           | 0.1           | 0.1           | 0.1           | 0.1                 |
|                          | able 1B(7) Manag                        |              |               | dallu, FI      | ile Juli    |                 |  |  |                       |         |  |                 |                  |                 |                     |                              |                  |                                |                                |                        |                                |                        |                     |                        |                     |                     |                   |                    |               |               |               |               |               |               |               |               |                     |
| PFAS NEMP 2              | 020 Ecological dir                      | ect exposure | e             |                |             |                 | 1                                      |  |                       |         |  |                 |                  |                 |                     |                              |                  |                                |                                |                        |                                |                        |                     |                        |                     |                     |                   |                    |               |               |               |               |               |               |               |               |                     |
|                          | 020 Public open s                       |              |               | 1 (1 111 - 4 ) |             |                 |  |  | 1,000                 |         |  |                 |                  |                 |                     |                              |                  |                                |                                |                        |                                |                        |                     |                        |                     |                     |                   |                    |               |               |               |               |               |               |               |               |                     |
|                          | 020 Residential w<br>able 1B(6) ESLs fo |              |               | II (HIL A)     |             |                 |  |  | 7                     |         |  |                 |                  |                 |                     |                              |                  |                                |                                |                        |                                |                        |                     |                        |                     |                     |                   |                    |               |               |               |               |               |               |               |               |                     |
|                          | able 1A(1) HILs Re                      |              | , rille soil  |                |             |                 |  |  |                       |         |  |                 |                  |                 |                     |                              |                  |                                |                                |                        |                                |                        |                     |                        |                     |                     | 10                |                    |               |               |               |               |               |               |               |               | 1                   |
|                          | able 1A(1) HILs Re                      |              |               |                |             |                 |  |  |                       |         |  |                 |                  |                 |                     |                              |                  |                                |                                |                        |                                |                        |                     |                        |                     |                     | 10                |                    |               |               |               |               |               |               |               |               | 1                   |
|                          |   |              |               |                |             |                 |  |  |                       |         |  |                 |                  |                 |                     |                              |                  |                                |                                |                        |                                |                        |                     |                        |                     |                     |                   |                    |               |               |               |               |               |               |               |               |                     |
|                          |   | Field ID     | Date          |                | Matrix Type |                 |  |  |                       |         |  |                 |                  |                 |                     |                              |                  |                                |                                |                        |                                |                        |                     | i                      |                     |                     |                   |                    |               |               |               |               |               |               |               |               |                     |
| 901484                   | S22-Jn0063769                           |              | 21/06/22      | 0.2            | Soil        |                 | <0.005                                 |  | <5                    |         |  |                 |                  |                 |                     |                              |                  | 1                              |                                | 1                      |                                | <0.5                   |                     |                        |                     |                     |                   |                    | <20           | <0.1          |               |               | <0.1          |               |               |               |                     |
| 901484                   | S22-Jn0063770                           |              | 21/06/22      | 0.2            | Soil        |                 | <0.005                                 |  | <5                    | -       |  |                 | <0.05            |                 |                     |                              |                  |                                |                                |                        |                                |                        | <0.5                |                        |                     |                     | <0.5              |                    | <20           | <1            | <1            | <1            | <1            | <1            | <1            | <1            | <1                  |
| 901484<br>901484         | S22-Jn0063771<br>S22-Jn0063772          |              | 21/06/22      | 0.2            | Soil        | <5<br><5        | < 0.005                                |  | <5<br><5              |         |  |                 | <0.05            |                 | <0.5                | <0.5                         |                  | <0.5                           |                                |                        |                                |                        | <0.5                | <0.5                   | <0.5                | <0.5                | <0.5              | <0.5               | <20<br><20    | <0.1          |               | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1                |
| 901484                   | S22-Jn0063772                           |              | 21/06/22      | 0.2            | Soil        | <5              | <0.005                                 |  | <5                    |         |  |                 | <0.05            |                 | <0.5                | <0.5                         |                  | <0.5                           |                                |                        |                                |                        | <0.5                | <0.5                   | <0.5                |                     | <0.5              | <0.5               | <20           | <0.1          | <0.1          |               |               |               | <0.1          | <0.1          |                     |
| 901484                   | S22-Jn0063774                           |              | 21/06/22      | 0.2            | Soil        | <5              | <0.005                                 |  | <5                    |         |  |                 | <0.05            | <0.5            | <0.5                | <0.5                         |                  | <0.5                           | <0.5                           | <0.5                   | <0.5                           | <0.5                   | <0.5                | <0.5                   | <0.5                | <0.5                | <0.5              | <0.5               | <20           | <0.1          | <0.1          |               | <0.1          | <0.1          | <0.1          | <0.1          | <0.1                |
| 901484                   | S22-Jn0063775                           |              | 21/06/22      | 0.2            | Soil        | <5              | < 0.005                                |  | <5                    |         |  |                 | <0.05            | <0.5            | <0.5                | <0.5                         |                  | <0.5                           | <0.5                           |                        |                                | <0.5                   | <0.5                | <0.5                   | <0.5                | <0.5                | <0.5              | <0.5               | <20           | <0.1          | <0.1          |               | <0.1          | <0.1          | <0.1          | <0.1          | <0.1                |
| 901484                   | S22-Jn0063776                           | BH08/0.2     | 21/06/22      | 0.2            | Soil        | <5              | <0.005                                 |  | <5                    | <5 <    | 0.01   | <0.05           | <0.05            | <0.5            | <0.5                | <0.5                         | <0.5             | <0.5                           | <0.5                           | <0.5                   | <0.5                           | <0.5                   | <0.5                | <0.5                   | <0.5                | <0.5                | <0.5              | <0.5               | <20           | <0.1          | <0.1          |               | <0.1          | <0.1          | <0.1          | <0.1          | <0.1                |
| 901484                   | S22-Jn0063777                           | BH09/0.2     | 21/06/22      | 0.2            | Soil        | <5              | <0.005                                 | <5   | <5                    | <5 <    | 0.01   | <0.05           | <0.05            | <0.5            | <0.5                | <0.5                         | <0.5             | <0.5                           | <0.5                           | <0.5                   | <0.5                           | <0.5                   | <0.5                | <0.5                   | <0.5                | <0.5                | <0.5              | <0.5               | <20           | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1                |
| 901484                   | S22-Jn0063778                           | BH10/0.2     | 20/06/22      | 0.2            | Soil        | <5              | <0.005                                 | <5   | <5                    | <5 <    | 0.01   | <0.05           | <0.05            | <0.5            | <0.5                | <0.5                         | <0.5             | <0.5                           | <0.5                           | <0.5                   | <0.5                           | <0.5                   | <0.5                | <0.5                   | <0.5                | <0.5                | <0.5              | <0.5               | <20           | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1                |
| 901484                   | S22-Jn0063779                           | BH11/0.2     | 20/06/22      | 0.2            | Soil        | <5              | <0.005                                 | <5   | <5                    | <5 <    | 0.01   | <0.05           | <0.05            | <0.5            | <0.5                | <0.5                         | <0.5             | <0.5                           | <0.5                           | <0.5                   | <0.5                           | <0.5                   | <0.5                | <0.5                   | <0.5                | <0.5                | <0.5              | <0.5               | <20           | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1                |
| 901484                   | S22-Jn0063780                           |              |               | 2.5            | Soil        |                 |  |  |                       |         |  |                 | <0.05            | <0.5            | <0.5                | <0.5                         |                  | <0.5                           | <0.5                           | <0.5                   | <0.5                           | <0.5                   | <0.5                | <0.5                   | <0.5                | <0.5                | <0.5              | <0.5               | <20           |               | $\vdash$      | $\vdash$      | $\vdash$      | $\vdash$      | $\square$     | _             | _                   |
| 901484                   | S22-Jn0063781                           |              |               | 0.2            | Soil        | <5              | <0.005                                 | <5   | <5                    | <5 <    |  |                 | <0.05            | <0.5            | <0.5                | <0.5                         |                  | <0.5                           | <0.5                           | <0.5                   | <0.5                           | <0.5                   | <0.5                | <0.5                   | <0.5                | <0.5                | <0.5              | <0.5               | <20           | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1                |
| 901484<br>901484         | S22-Jn0063782<br>S22-Jn0063783          |              |               | 0.2            | Soil        |                 | <0.005                                 |  |                       | <5 <    |  |                 | <0.05            | <0.5            | <0.5                | <0.5                         |                  | <0.5                           | <0.5                           | <0.5                   | <0.5                           | <0.5                   | <0.5                | <0.5                   | <0.5                | <0.5                | <0.5              | <0.5               | <20           | <0.1          | 10.1          | -0.1          | 10.1          | -0.1          | 10.1          | 10.1          | -0.1                |
| 901484                   | S22-Jn0063784                           |              |               | 2.5            | Soil        | < 5             | KU.003                                 | <5   | <5                    | <5 <    |  |                 | <0.05            | <0.5            | <0.5                | <0.5                         |                  | <0.5                           | <0.5                           | <0.5                   | <0.5                           | <0.5                   | <0.5                | <0.5                   | <0.5                | <0.5                | <0.5              | <0.5               | <20<br><20    | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1                |
| 901484                   | S22-Jn0063785                           |              | 20/06/22      | 0.2            | Soil        | <5              | <0.005                                 | <5   | <5                    | <5 <    |  |                 | <0.05            | <0.5            | <0.5                | <0.5                         |                  | <0.5                           | <0.5                           | <0.5                   | <0.5                           | <0.5                   | <0.5                | <0.5                   | <0.5                | <0.5                | <0.5              | <0.5               | <20           | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1                |
| 901484                   | S22-Jn0063786                           |              | 20/06/22      | 1              | Soil        |                 |  |  |                       |         |  |                 | <0.05            | <0.5            | <0.5                | <0.5                         |                  | <0.5                           | <0.5                           | <0.5                   | <0.5                           | <0.5                   | <0.5                | <0.5                   | <0.5                | <0.5                | <0.5              | <0.5               | <20           |               |               |               |               |               |               |               |                     |
| 901484                   | S22-Jn0063793                           | BH15/0.2     | 20/06/22      | 0.2            | Soil        | <5              | <0.005                                 | <5   | <5                    | <5 <    | 0.01   | <0.05           | <0.05            | <0.5            | <0.5                | <0.5                         | <0.5             | <0.5                           | <0.5                           | <0.5                   | <0.5                           | <0.5                   | <0.5                | <0.5                   | <0.5                | <0.5                | <0.5              | <0.5               | <20           | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1                |
| 901484                   | S22-Jn0063794                           | BH15/2.0     | 20/06/22      | 2              | Soil        | <5              | <0.005                                 | <5   | <5                    | <5 <    | 0.01   | <0.05           | <0.05            | <0.5            | <0.5                | <0.5                         | <0.5             | <0.5                           | <0.5                           | <0.5                   | <0.5                           | <0.5                   | <0.5                | <0.5                   | <0.5                | <0.5                | <0.5              | <0.5               | <20           | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1                |
| 901484                   | S22-Jn0063789                           |              |               | 0.2            | Soil        | <5              | <0.005                                 | <5   | <5                    | <5 <    | 0.01   | <0.05           | <0.05            | <0.5            | <0.5                | <0.5                         | <0.5             | <0.5                           | <0.5                           | <0.5                   | <0.5                           | <0.5                   | <0.5                | <0.5                   | <0.5                | <0.5                | <0.5              | <0.5               | <20           | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1          | <0.1                |
| 901484                   | S22-Jn0063790                           |              |               | 4.5            | Soil        | <5              | <0.005                                 |  | <5                    |         |  |                 | <0.05            | <0.5            | <0.5                | <0.5                         |                  | <0.5                           | <0.5                           | <0.5                   | <0.5                           | <0.5                   | <0.5                | <0.5                   | <0.5                | <0.5                | <0.5              | <0.5               | <20           | <0.1          | <0.1          |               |               | <0.1          | <0.1          | <0.1          |                     |
| 901484                   | S22-Jn0063791                           |              |               | 0.2            | Soil        | <5              | <0.005                                 |  | <5                    |         |  |                 | <0.05            | <0.5            | <0.5                | <0.5                         |                  | <0.5                           | <0.5                           | <0.5                   | <0.5                           | <0.5                   | <0.5                | <0.5                   | <0.5                | <0.5                | <0.5              | <0.5               | <20           | <0.1          | <0.1          |               |               | <0.1          | <0.1          | <0.1          |                     |
| 901484<br>901484         | S22-Jn0063792<br>S22-Jn0063787          |              |               | 0.2            | Soil        | <5<br><5        | < 0.005                                |  | <5<br><5              |         |  |                 | <0.05            | <0.5            | <0.5                | <0.5                         |                  | <0.5                           | <0.5                           | <0.5                   |                                | <0.5                   | <0.5                | <0.5                   | <0.5                | <0.5                | <0.5              | <0.5               | <20<br><20    | <0.1          | <0.1          |               |               | <0.1          | <0.1          | <0.1          |                     |
| 901484                   | S22-Jn0063788                           | •            |               |                | Soil        | 1.5             | 10.005                                 | - 13   |                       | ,,,     |  |                 | <0.05            |                 |                     |                              | <0.5             |                                |                                |                        | <0.5                           |                        |                     | <0.5                   |                     |                     | <0.5              |                    | <20           | 10.1          | 10.1          | 10.1          | 10.1          | 10.1          | 10.1          | 10.1          | 10.1                |
| Statistics               |   |              |               |                |             |                 |  |  |                       |         |  |                 |                  |                 |                     |                              |                  |                                |                                |                        |                                |                        |                     |                        |                     |                     |                   |                    |               |               |               |               |               |               |               |               |                     |
| Number of Re             |   |              |               |                |             | 21              |  |  | 21                    |         |  | 26              | 26               | 26              | 26                  | 26                           |                  | 26                             |                                | 26                     | 26                             |                        | 26                  | 26                     | 26                  | 26                  | 26                | 26                 | 26            | 21            | 21            |               |               |               | 21            | 21            | 21                  |
| Number of D              |   |              |               |                |             | 0               | 0                                      | 0  | 0                     | 0       | 0  | 0               | 0                | 0               | 0                   | 0                            | 0                | 0                              | 0                              | 0                      | 0                              | 0                      | 0                   | 0                      | 0                   | 0                   | 0                 | 0                  | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 0                   |
| Minimum Co               |   |              |               |                |             |                 | <0.00!                                 |  | <5<br>ND              |         | _  |                 | <0.05<br>ND      |                 | <0.5<br>ND          | _                            | _                | _                              |                                | _                      | _                              | <0.5                   |                     |                        | <0.5<br>ND          |                     |                   |                    | <20<br>ND     |               |               |               | <0.1          |               | <0.1<br>ND    |               | <0.1                |
| Minimum De<br>Maximum Co |   |              |               |                |             | ND<br><5        | ND<br><0.00!                           | ND<br><5                                       | ND<br><5              |         |  |                 |                  |                 |                     | ND<br><0.5                   | _                | ND                             |                                | ND                     |                                | ND<br><0.5             | ND <0.5             |                        | _                   |                     | ND                | ND                 | ND<br><20     | ND<br><1      | ND<br><1      | ND<br><1      |               | ND<br><1      | ND<br><1      | ND<br><1      |                     |
| Maximum De               |   |              |               |                |             | ND              |  | ND   | ND                    | ND ND   | _  |                 |                  |                 |                     | ND                           |                  |                                |                                |                        | ND                             |                        | ND                  |                        | ND                  |                     |                   | ND                 | ND            | ND            |               |               |               |               | ND            |               | ND                  |
| Average Cond             |   |              |               |                |             |                 | 0.002                                  |  |                       | 2.5 0   | _  |                 |                  |                 |                     |                              |                  |                                |                                |                        |                                |                        |                     |                        |                     |                     |                   |                    |               |               | _             |               |               |               |               |               | _                   |
| Median Conc              |   |              |               |                |             | _               | 0.002                                  |  |                       |         | _  |                 |                  |                 |                     |                              | _                | _                              | _                              | _                      | _                              |                        |                     |                        |                     |                     |                   |                    |               |               | _             |               |               |               |               |               |                     |
| Standard Dev             | riation *                               |              |               |                |             | 0               | 0                                      | 0  | 0                     | 0       | 0  | 0               | 0                | 0               | 0                   | 0                            | 0                | 0                              | 0                              | 0                      | 0                              | 0                      | 0                   | 0                      | 0                   | 0                   | 0                 | 0                  | 0             | 0.14          | 0.14          | 0.14          | 0.14          | 0.14          | 0.14          | 0.14          | 0.14                |
| 95% UCL (Stu             | dent's-t) *                             |              |               |                |             | 2.5             | 0.002                                  | 2.5  | 2.5                   | 2.5     | .005   | 0.025           | 0.025            | 0.25            | 0.25                | 0.25                         | 0.25             | 0.25                           | 0.25                           | 0.25                   | 0.25                           | 0.25                   | 0.25                | 0.25                   | 0.25                | 0.25                | 0.25              | 0.25               | 10            | 0.144         | 0.144         | 0.144         | 0.144         | 0.144         | 0.144         | 0.144         | 0.144               |
| % of Detects             | -                                       |              |               |                |             | 0               | 0                                      | 0  | 0                     | 0       | 0  | 0               | 0                | 0               | 0                   | 0                            | 0                | 0                              | 0                              | 0                      | 0                              | 0                      | 0                   | 0                      | 0                   | 0                   | 0                 | 0                  | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 0                   |
| % of Non-Det             | ects                                    |              | applied.      |                |             | 100             | 100                                    | 100  | 100                   | 100     | 100  | 100             | 100              | 100             | 100                 | 100                          | 100              | 100                            | 100                            | 100                    | 100                            | 100                    | 100                 | 100                    | 100                 | 100                 | 100               | 100                | 100           | 100           | 100           | 100           | 100           | 100           | 100           | 100           | 100                 |

<sup>\*</sup> A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

NEPM, NEPM 2013 Table 1B(7) Management Limits in Res/Parkland, Fine Soil

NEPM, 2013, NEPM 2013 Table 7 Rec C HSL for Asbestos in Soil

HEPA, January 2020, PFAS NEMP 2020 Ecological direct exposure HEPA, January 2020, PFAS NEMP 2020 Public open space (HIL C)

HEPA, January 2020, PFAS NEMP 2020 Residential with garden/accessible soil (HIL A)

2013, NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil

2013, NEPM 2013 Table 1A(1) HILs Res A Soil 2013, NEPM 2013 Table 1A(1) HILs Rec C Soil

1

#### 2. Soil Inorganics, Metals



| % Clay*  c2mm Fraction  2mm Fraction  2mm Fraction  Conductivity (1:5 aqueous extract)  Nitrite + Nitrate as N  Ammonia as N  CEC  Chloride  Cyanide Total  Moisture Content (dried @ 103°C)  PH (Lab)  PH (Lab)  TOC  Chromium (hexavalent)  Chromium (hexavalent)  Chromium (III+VI)  Copper  | ron<br>Mercury           | Nickel<br>Zinc                          |
|---|--------------------------|---|
|   | ng/kg mg/kg              | mg/kg mg/kg                             |
| EQL 1 1 10 5 5 0.05 10 1 10 0.1 5 2 0.4 1 5 5   | 20 0.1                   | 5 5                                     |
| NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space (top 2 m only) 1100^ 100^ 450 220^  |                          | 300^ 780                                |
| NEPM 2013 Table 1A(1) HILs Res A Soil 300 100 20 100 6,000  | 40                       | 400 7,40                                |
| NEPM 2013 Table 1A(1) HILs Rec C Soil 600 300 90 300 17,000   | 80                       | 1,200 30,00                             |
|   |                          | , |
| Lab Report N Sample Code Field ID Date Depth Matrix Type  |                          |   |
| 901484   \$22-Jn0063769   \$BH01/0.2   \$21/06/22   \$0.2   \$Soil   \$18   \$31   <5   <5   \$14   <10   <1   \$3,300   \$24   \$3,300   \$5.9   \$5.2   \$310   \$42   \$0.8   <1   \$29   \$96   \$6   | ,000 0.3                 | 45 600                                  |
| 901484 S22-Jn0063770 BH02/0.2 21/06/22 0.2 Soil 4.1 23 14 <5 27 <10 <1 5,200 32 5,214 6.2 10 230 7.6 <0.4 <1 18 44 2  | ,000 1.5                 | 8 240                                   |
| 901484 S22-Jn0063771 BH03/0.2 21/06/22 0.2 Soil 17 21 <5 <5 <2 <10 <1 4,400 26 4,400 5.6 6.5 57 7 <0.4 <1 20 17 3   | 7,000 <0.1               | 6.2 56                                  |
|   | .,000 <0.1               | 6.6 66                                  |
|   | 0,000 <0.1               | 270 100                                 |
|   | 0,000 <0.1               | 54 95                                   |
|   | Asb <0.1                 | <5 13                                   |
|   | 0,000 <0.1               | 7.5 130                                 |
|   | 2,000 <0.1<br>3,000 <0.1 | <5 17<br>8.4 91                         |
|   | 7,000 <0.1               | 6.8 70                                  |
| 901484   S22-Jn0063780   BH11/2.5   20/06/22   2.5   Soil   Soil | <0.1                     | 53 190                                  |
|   | 5,000 <0.1               | 7.6 54                                  |
| 901484   S22-Jn0063782   BH12/2.5   20/06/22   2.5   Soil   | <0.1                     | <5 110                                  |
|   | 3,000 <0.1               | 5.1 62                                  |
| 901484  | <0.1                     | <5 100                                  |
| 901484  | ,000 <0.1                | 17 36                                   |
| 901484 S22-Jn0063786 BH14/1.0 20/06/22 1 Soil < 1 8.5 79 5.6 < 0.4 < 1 50 27  | 0.6                      | 26 88                                   |
| 901484 S22-Jn0063793 BH15/0.2 20/06/22 0.2 Soil 26 9.7 5.6 26 5.4 <5 15 <10 <1 330 18 335.4 7.1 4.7 49 24 <0.4 <1 40 19 5   | 3,000 <0.1               | 9.3 77                                  |
| 901484 S22-Jn0063794 BH15/2.0 20/06/22 2 Soil 10 <5 17 <1 710 16 720 100 15 <0.4 <1 31 18   | <0.1                     | 12 130                                  |
| 901484 S22-Jn0063789 MW01/0.2 20/06/22 0.2 Soil <1 67 14 <5 23 <10 <1 2,000 19 2,014 6.7 6.5 52 18 <0.4 <1 24 17 4  | ,000 <0.1                | 7.9 78                                  |
| 901484 S22-Jn0063790 MW01/4.5 20/06/22 4.5 Soil <5 <5 35 <1 170 19 170 24 19 <0.4 <1 39 7.8   | <0.1                     | <5 13                                   |
|   | 3,000 <0.1               | 7.9 42                                  |
| 901484   S22-Jn0063792   MW02/4.5   20/06/22   4.5   Soil   <5 <5   420 <1   74   18   74   66   11   <0.4   <1   72   320  | <0.1                     | 5.5 210                                 |
|   | 5,000 <0.1               | 17 56                                   |
| 901484   S22-Jn0063788   MW03/4.5   20/06/22   4.5   Soil   | <0.1                     | <5 15                                   |
| Statistics  |                          |   |
| Number of Results 18 5 5 18 21 21 18 21 26 21 18 18 26 26 26 26 26 26 26  | 18 26                    | 26 26                                   |
| Number of Detects 16 5 5 18 8 0 18 6 0 21 26 21 18 18 25 24 2 0 25 25   | 18 3                     | 20 26                                   |
|   | ,000 <0.1                | <5 13                                   |
|   | ,000 0.3                 | 5.1 13                                  |
|   | 0,000 1.5                | 270 600                                 |
| Maximum Detect 31 18 5.6 140 19 ND 30 420 ND 5,200 39 5,214 9.3 10 310 140 0.8 ND 120 320 1   | 0,000 1.5                | 270 600                                 |
| Average Concentration * 13 13 3.8 55 6 2.5 22 29 0.5 1,614 18 1,618 7 3.9 76 18 0.24 0.5 32 37 4  | 9,333 0.14               | 23 105                                  |
| Median Concentration *         12.4         13         5         52.5         2.5         2.5         5         0.5         780         18         780         7         3.9         52         11         0.2         0.5         25         20         3  | 7,000 0.05               | 7.75 77.5                               |
|   | 2,906 0.3                | 53 116                                  |
|   | 6,926 0.238              |   |
|   | 100 12                   | 77 100                                  |
| % of Non-Detects  | 0 88                     | 23 0                                    |

<sup>\*</sup> A Non Detect Multiplier of 0.5 has been applied.

#### **Environmental Standards**

NEPM, NEPM 2013 Table 1B(7) Management Limits in Res/Parkland, Fine Soil NEPM, 2013, NEPM 2013 Table 7 Rec C HSL for Asbestos in Soil HEPA, January 2020, PFAS NEMP 2020 Ecological direct exposure HEPA, January 2020, PFAS NEMP 2020 Public open space (HIL C) HEPA, January 2020, PFAS NEMP 2020 Residential with garden/accessible soil (HIL A) 2013, NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay 2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay 2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil

2013, NEPM 2013 Table 1A(1) HILs Res A Soil

<sup>^</sup> calculated based on average soil characteristics and the NEPM Toolbox calculation spreadsheet, Aged Urban Residential and Open Public Spaces

#### 3. Soil SPOCAS



|  |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                | SPO        | ·CAC     |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
|--|--------------------------------------|-----------------|-----------------|-------------|--------|--------|--------------------|--------------------|--------------|------|--------------|----------|-------------------------|----------------|------------|----------|-----------|--------------------|-------------------|------------|------------|--------------|---------------------|---------------------------------------|--------------------|----------------------|--------|-----------|----------|----------|
|  | 22                                   | 8               |                 |             |        |        |                    |                    |              |      |              | Ε        |                         |                | 320        | e e      |           |                    |                   |            |            |              | _                   |                                       |                    |                      |        | īţ        |          |          |
|  | in g                                 | sing<br>ent S   |                 | Sulfur      | ciu m  |        | acted              | acted              | a, 5-        | ctor | 흥            | alcin    |                         | nlfur<br>nlfur |            | eroxic   | <u>≩</u>  | <b>\</b>           | a ple             |            |            | actec        | actec               | <u>e</u> .                            | e >                | <u>e</u> _           | o o    | Acid      | g        |          |
|  | Acid Neutralisir<br>pacity - Acidity | tralis<br>Lival | 8               | ble S       | Za Za  |        | I Re               | sium               | oxide        | S Fa | er ox        | 98       | 9 E                     | ole S          |            | i.       | acid      | Sulfi              | idisa -           |            |            | g E          | d Re                | lfidic - Titratabli<br>Actual Acidity | atak               | atab                 | oxid   | tral      | y v      | Ē        |
|  | Veut                                 | Neut<br>/ equ   | Cacc            | acta        | cte    | sium   | Acic               | Acic               | Per<br>ble 9 | enes | Ë            | actal    | esiun                   | actal          | tate       | <u> </u> | dity (a   | cidity (s          | le Oxic<br>Sulfur |            |            | - Acid       | - Aci               | F E                                   | - Titrat<br>de Aci | - Titrat<br>lic Acid | Per    | e Ac      | ble Pe   | le Su    |
|  | Cid                                  | Acid N          | as              | Cl Extr     | R<br>R | d Rea  | ≟                  | ≚َخِ               | lity -       | Ë    | Ë            | Ext      | Cl Extracta<br>Magnesiu | Extra          | ing i      | gnes     | Acic      | Acic               | oxid<br>s,        | (KCI)      | н (ох)     | i je         | - idi               | idic                                  | idic               | ig ig                | j.     | atab      | atab     | atab     |
|  | ్రి                                  | Cap Cap         | Ž Ž             | I           | Acic   | A Či   | acio               | acio               | o aci        | ¥    | Car          | <u>5</u> | ×                       | Σ              | Ë          | Σ<br>Σ   | Net       | Net L              | Per               | 표          | 됩          | l ling       | Sulf.               | ns.                                   | Alus<br>Pe Be      | all s                | Suff   | <u>‡</u>  | ļ.       | 量        |
| EQL  | mole H+,                             | /t %S<br>0.02   | % CaCO3<br>0.02 | FACTOR<br>1 | 0.005  | % MG   | mole H+/t<br>0.005 | mole H+/t<br>0.005 | mole H+/t    | -    | 0.005        | 0.005    | 0.005                   | 0.005          | kg CaCO3/t | 0.005    | mole H+/t | % <b>S</b><br>0.02 | 0.02              | 0.1        | 0.1        | % S          | % <b>S</b><br>0.005 | % <b>S</b><br>0.003                   | % <b>S</b><br>0.02 | % <b>S</b><br>0.02   | 0.005  | mole H+/t | MOL H+/T | MOL H+/T |
| NEPM 2013 Table 1B(7) Management Limits in Res/Parkland, Fine Soil   | 10                                   | 0.02            | 0.02            | 1           | 0.005  |        | 0.005              | 0.005              | 10           |      | 0.005        | 0.005    | 0.005                   | 0.005          | 1          | 0.005    | 10        | 0.02               | 0.02              | 0.1        | 0.1        |              | 0.005               | 0.003                                 | 0.02               | 0.02                 | 0.005  | 2         |          |          |
| NEPM 2013 Table 7 Rec C HSL for Asbestos in Soil   |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| PFAS NEMP 2020 Ecological direct exposure  |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| PFAS NEMP 2020 Public open space (HIL C)   |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| PFAS NEMP 2020 Residential with garden/accessible soil (HIL A) NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay  |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space  |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil  |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| NEPM 2013 Table 1A(1) HILs Res A Soil  |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| NEPM 2013 Table 1A(1) HILs Rec C Soil  |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| Inh Danie County Code - Field D - D - V - Code -   |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| Lab Repo Sample Code   Field ID   Date   Depth   Matrix T  | уре                                  |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| 901484 S22-Jn0063769 BH02/0.2 21/06/22 0.2 Soil  |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| 901484 S22-Jn0063771 BH03/0.2 21/06/22 0.2 Soil  |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| 901484 S22-Jn0063772 BH04/0.2 21/06/22 0.2 Soil  |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| 901484 S22-Jn0063773 BH05/0.2 21/06/22 0.2 Soil  |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| 901484 S22-Jn0063774 BH06/0.2 21/06/22 0.2 Soil  |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| 901484 S22-Jn0063775 BH07/0.2 21/06/22 0.2 Soil  |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| 901484 S22-Jn0063776 BH08/ 0.2 21/06/22 0.2 Soil   |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| 901484 S22-Jn0063777 BH09/0.2 21/06/22 0.2 Soil<br>901484 S22-Jn0063778 BH10/0.2 20/06/22 0.2 Soil                             |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| 901484 S22-Jn0063779 BH11/0.2 20/06/22 0.2 Soil  |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| 901484 S22-Jn0063780 BH11/2.5 20/06/22 2.5 Soil  |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| 901484 S22-Jn0063781 BH12/0.2 20/06/22 0.2 Soil  | 230                                  | 0.37            | 1.1             | 2           | 0.22   | 0.018  | 110                | 14                 | <10          | 1.5  | 0.63         | 0.41     | 0.023                   | 0.006          | <1         | 0.041    | <10       | <0.02              | <0.02             | 8.3        | 8.1        | 0.17         | 0.023               | <0.003                                | <0.02              | <0.02                | 0.016  | <2        | <2       | <2       |
| 901484 S22-Jn0063782 BH12/2.5 20/06/22 2.5 Soil  |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| 901484 S22-Jn0063783 BH13/0.2 20/06/22 0.2 Soil  | 170                                  | 0.28            | 0.87            | 2           | 0.16   | 0.016  | 79                 | 13                 | <10          | 1.5  | 0.47         | 0.31     | 0.009                   | 0.014          | <1         | 0.024    | <10       | <0.02              | <0.02             | 8.7        | 7.9        | 0.13         | 0.021               | <0.003                                | <0.02              | <0.02                | 0.024  | <2        | <2       | <2       |
| 901484 S22-Jn0063784 BH13/2.5 20/06/22 2.5 Soil  | 420                                  | 0.50            | 2.4             | 2           | 0.55   | 0.027  | 220                |                    | -10          |      | 0.05         | 0.0      | 0.000                   | 0.040          |            | 0.005    | -40       | .0.02              | 0.00              | 0.0        | 0.5        | 0.50         | 0.005               | 0.000                                 | .0.02              | 0.00                 | 0.004  |           |          |          |
| 901484 S22-Jn0063785 BH14/0.2 20/06/22 0.2 Soil<br>901484 S22-Jn0063786 BH14/1.0 20/06/22 1 Soil                               | 430                                  | 0.69            | 2.1             | 2           | 0.66   | 0.027  | 330                | 22                 | <10          | 1.5  | 0.96         | 0.3      | 0.009                   | 0.013          | <1         | 0.036    | <10       | <0.02              | <0.02             | 9.3        | 8.5        | 0.53         | 0.035               | <0.003                                | <0.02              | <0.02                | 0.024  | <2        | <2       | <2       |
| 901484 S22-Jn0063787 MW03/0.2 20/06/22 0.2 Soil  |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| 901484 S22-Jn0063788 MW03/4.5 20/06/22 4.5 Soil  |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| 901484 S22-Jn0063789 MW01/0.2 20/06/22 0.2 Soil  |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| 901484 S22-Jn0063790 MW01/4.5 20/06/22 4.5 Soil  |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| 901484 S22-Jn0063791 MW02/0.2 20/06/22 0.2 Soil  | 200                                  | 0.33            | 1               | 2           | 0.2    | 0.022  | 99                 | 18                 | 11           | 1.5  | 0.55         | 0.36     | 0.018                   | 0.015          | <1         | 0.04     | <10       | <0.02              | <0.02             | 8.7        | 7.7        | 0.16         | 0.029               | <0.003                                | <0.02              | <0.02                | 0.032  | <2        | <2       | <2       |
| 901484 S22-Jn0063792 MW02/4.5 20/06/22 4.5 Soil  |                                      |                 |                 | 2           | 40.00F | 0.005  | <0.00F             | 4.4                | 10           | 1.5  | 0.22         | 0.36     | 0.036                   | 0.005          |            | 0.034    | -10       | <b>40.03</b>       | z0.00             | 6.5        | F.C        | 40 00F       | 0.007               | <b>40.003</b>                         | <b>40.03</b>       | 40.03                | 0.022  |           |          |          |
| 901484 S22-Jn0063793 BH15/0.2 20/06/22 0.2 Soil<br>901484 S22-Jn0063794 BH15/2.0 20/06/22 2 Soil                               |                                      |                 |                 | 2           | <0.005 | 0.005  | <0.005             | 4.4                | 10           | 1.5  | 0.33         | 0.36     | 0.026                   | 0.005          | <1         | 0.031    | <10       | <0.02              | <0.02             | 6.5        | 5.6        | <0.005       | 0.007               | <0.003                                | <0.02              | <0.02                | 0.022  | <2        | <2       | <2       |
| 322-3110003734 31113/2.0 20/00/22 2 3011   |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| Statistics   |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |
| Number of Results  | 4                                    | 4               | 4               | 5           | 5      | 5      | 5                  | 5                  | 5            | 5    | 5            | 5        | 5                       | 5              | 5          | 5        | 5         | 5                  | 5                 | 5          | 5          | 5            | 5                   | 5                                     | 5                  | 5                    | 5      | 5         | 5        | 5        |
| Number of Detects  | 4                                    | 4               | 4               | 5           | 4      | 5      | 4                  | 5                  | 2            | 5    | 5            | 5        | 5                       | 5              | 0          | 5        | 0         | 0                  | 0                 | 5          | 5          | 4            | 5                   | 0                                     | 0                  | 0                    | 5      | 0         | 0        | 0        |
| Minimum Concentration  | 170                                  | 0.28            | 0.87            | 2           | <0.005 | 0.005  | <0.005             | 4.4                | 10           | 1.5  | 0.33         | 0.3      | 0.009                   | 0.005          | <1         | 0.024    | <10       | <0.02              | <0.02             | 6.5        | 5.6        | <0.005       | 0.007               | <0.003                                | <0.02              | <0.02                | 0.016  | <2        | <2       | <2       |
| Minimum Detect   | 170                                  | 0.28            | 0.87            | 2           | 0.16   | 0.005  | 79                 | 4.4                | 10           | 1.5  | 0.33         | 0.3      | 0.009                   | 0.005          | ND 11      | 0.024    | ND        | ND<br>40.03        | ND<br>40.03       | 6.5        | 5.6        | 0.13         | 0.007               | ND                                    | ND<br>-0.03        | ND<br>40.03          | 0.016  | ND 42     | ND 42    | ND       |
| Maximum Concentration  Maximum Detect  | 430<br>430                           | 0.69            | 2.1             | 2           | 0.66   | 0.027  | 330<br>330         | 22                 | 11<br>11     | 1.5  | 0.96<br>0.96 | 0.41     | 0.026<br>0.026          | 0.015<br>0.015 | <1<br>ND   | 0.041    | <10<br>ND | <0.02<br>ND        | <0.02<br>ND       | 9.3<br>9.3 | 8.5<br>8.5 | 0.53<br>0.53 | 0.035               | <0.003<br>ND                          | <0.02<br>ND        | <0.02<br>ND          | 0.032  | <2<br>ND  | <2<br>ND | <2<br>ND |
| Average Concentration *  | 258                                  | 0.42            | 1.3             | 2           | 0.00   | 0.027  | 124                | 14                 | 7.2          | 1.5  | 0.59         | 0.41     | 0.020                   | 0.013          | 0.5        | 0.041    | 5         | 0.01               | 0.01              | 8.3        | 7.6        | 0.33         | 0.033               | 0.0015                                | 0.01               | 0.01                 | 0.032  | 1         | 1        | 1        |
| Median Concentration *   | 215                                  | 0.35            | 1.05            | 2           | 0.2    | 0.018  | 99                 | 14                 | 5            | 1.5  | 0.55         | 0.36     | 0.018                   | 0.013          | 0.5        | 0.036    | 5         | 0.01               | 0.01              | 8.7        | 7.9        | 0.16         | 0.023               | 0.0015                                | 0.01               | 0.01                 | 0.024  | 1         | 1        | 1        |
| Standard Deviation *   | 118                                  | 0.19            | 0.56            | 0           | 0.25   | 0.0082 | 123                | 6.6                | 3            | 0    | 0.24         | 0.044    | 0.0078                  | 0.0047         | 0          | 0.007    | 0         | 0                  | 0                 | 1.1        | 1.1        | 0.2          | 0.01                | 0                                     | 0                  | 0                    | 0.0057 | 0         | 0        | 0        |
| 95% UCL (Student's-t) *  | 395.9                                | 0.636           | 1.93            | 2           | 0.482  | 0.0254 | 241                | 20.55              | 10.09        | 1.5  | 0.813        | 0.39     | 0.0245                  | 0.0151         | 0.5        | 0.0411   | 5         | 0.01               | 0.01              | 9.318      | 8.642      | 0.386        | 0.033               | 0.0015                                | 0.01               | 0.01                 | 0.0291 | 1         | 1        | 1        |
| % of Detects   | 100                                  | 100             | 100             | 100         | 80     | 100    | 80                 | 100                | 40           | 100  | 100          | 100      | 100                     | 100            | 0          | 100      | 0         | 0                  | 0                 | 100        | 100        | 80           | 100                 | 0                                     | 0                  | 0                    | 100    | 0         | 0        | 0        |
| % of Non-Detects   | 0                                    | 0               | 0               | 0           | 20     | 0      | 20                 | 0                  | 60           | 0    | 0            | 0        | 0                       | 0              | 100        | 0        | 100       | 100                | 100               | 0          | 0          | 20           | 0                   | 100                                   | 100                | 100                  | 0      | 100       | 100      | 100      |
| * A Non Detect Multiplier of 0.5 has been applied.   |                                      |                 |                 |             |        |        |                    |                    |              |      |              |          |                         |                |            |          |           |                    |                   |            |            |              |                     |                                       |                    |                      |        |           |          |          |

<sup>\*</sup> A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

NEPM, NEPM 2013 Table 1B(7) Management Limits in Res/Parkland, Fine Soil

NEPM, 2013, NEPM 2013 Table 7 Rec C HSL for Asbestos in Soil

HEPA, January 2020, PFAS NEMP 2020 Ecological direct exposure

HEPA, January 2020, PFAS NEMP 2020 Public open space (HIL C)

HEPA, January 2020, PFAS NEMP 2020 Residential with garden/accessible soil (HIL A)

2013, NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil 2013, NEPM 2013 Table 1A(1) HILs Res A Soil

#### 4. Soil BTEX,TRH, Solvents



|   |                    |              | BTEX         |                |                           |                |                |                    |         |          |                        |                        | PAH    |                  |                            |                         |               |                |        | Sc                                      | lvents |            |             |              |           |            | TPH/TRH  |                 |                          |                         |               |                        |
|---|--------------------|--------------|--------------|----------------|---------------------------|----------------|----------------|--------------------|---------|----------|------------------------|------------------------|--------|------------------|----------------------------|-------------------------|---------------|----------------|--------|---|--------|------------|-------------|--------------|-----------|------------|----------|-----------------|--------------------------|-------------------------|---------------|------------------------|
|   | Naphthalene (BTEX) | Benzene      | . Toluene    | . Ethylbenzene | Xylene (m & p) Xylene (o) | . Acenaphthene | <b>4</b>       | Anthracene         | ذه د    | Benzo(b+ | . Benzo(g,h,i)perylene | , Benzo(k)fluoranthene | ર્ક 📗  | -                | . Fluoranthene<br>Fluorene | Indeno(1,2,3-c,d)pyrene | . Naphthalene | . Phenanthrene | Pyrene | PAHs (Sum of total) Methyl Ethyl Ketone | Ace    | 67-93 t    | , C10-C14   | , C15-C28    | , C29-C36 | . C6-C10   | C10-     | C16-C34         | ; C10-C36 (Sum of total) | C10-C40 (sum<br>C34-C40 | F1 minus BTEX | , F2 minus Naphthalene |
| EQL   | mg/kg<br>0.5       | mg/kg<br>0.1 | mg/kg<br>0.1 |                | mg/kg mg/kg<br>0.2 0.1    |                | mg/kg m<br>0.5 |                    |         |          | <b>mg/kg</b> 0.5       |                        |        |                  | /kg mg/k<br>.5 0.5         |                         |               | mg/kg   1      |        | <b>g/kg mg/k</b><br>0.5 0.5             |        |            |             | mg/kg<br>50  |           |            |          | g/kg   m<br>.00 | ng/kg mg/<br>50 10       |                         |               | g mg/kg<br>50          |
| NEPM 2013 Table 1B(7) Management Limits in Res/Parkland. Fine Soil  | 0.5                | 0.1          | 0.1          | 0.1            | 0.2 0.1                   | 0.5            | 0.5            | 0.5 0.             | 5 0.5   | 0.5      | 0.5                    | 0.5                    | 0.5    | J.5 U.           | .5 0.5                     | 0.5                     | 0.5           | 0.5            | 0.5    | 0.5 0.5                                 | 0.5    | 20         | 20          | 30           | 50        | 800        | 1.000 3. | 500             | 50 10                    | 10.00                   | 0             | 30                     |
| NEPM 2013 Table 7 Rec C HSL for Asbestos in Soil  |                    |              |              |                |                           |                |                |                    |         |          |                        |                        |        |                  |                            |                         |               |                |        |   |        |            |             |              |           |            |          |                 |                          |                         |               |                        |
| PFAS NEMP 2020 Ecological direct exposure   |                    |              |              |                |                           |                |                |                    |         |          |                        |                        |        |                  |                            |                         |               |                |        |   |        |            |             |              |           |            |          |                 |                          |                         |               |                        |
| PFAS NEMP 2020 Public open space (HIL C)  |                    |              |              |                |                           |                |                |                    |         |          |                        |                        |        |                  |                            |                         |               |                |        |   |        |            |             |              |           |            |          |                 |                          |                         |               | 4                      |
| PFAS NEMP 2020 Residential with garden/accessible soil (HIL A)  |                    | 0714101      | 2 400        |                |                           |                |                |                    |         |          |                        |                        |        |                  |                            |                         | -             |                |        |   |        |            |             |              |           |            |          |                 |                          |                         | 0.1.45        | 200                    |
| NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay NEPM 2013 Table 1B(5) Generic EIL - Urban Res & Public Open Space | 170                | 0.7   1   2  | 3 480        |                |                           |                |                |                    |         |          |                        |                        |        |                  |                            |                         | 5<br>170      |                |        |   |        |            |             |              |           |            |          |                 |                          |                         | 0   150       | 0 280                  |
| NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil   | 170                | 65           | 105          | 125            |                           |                |                |                    | 0.7     |          |                        |                        |        |                  |                            |                         | 170           |                |        |   |        |            |             |              |           |            | 120 1,   | 300             |                          | 5.60                    | 0 180         | 120                    |
| NEPM 2013 Table 1A(1) HILs Res A Soil   |                    | 0.5          | 100          | 123            |                           |                |                |                    | 0.7     |          |                        |                        |        |                  |                            |                         |               |                |        | 300                                     |        |            |             |              |           |            | 120 1,   |                 |                          | 3,000                   | 100           |                        |
| NEPM 2013 Table 1A(1) HILs Rec C Soil   |                    |              |              |                |                           |                |                |                    |         |          |                        |                        |        |                  |                            |                         |               |                |        | 300                                     |        |            |             |              |           | 7          |          |                 |                          |                         |               |                        |
|   | •                  |              |              |                | •                         | •              |                |                    | •       |          |                        |                        | •      | '                | •                          |                         |               | •              |        |   | '      |            |             |              |           |            |          | ,               |                          |                         |               |                        |
| Lab Report Ni Sample Code Field ID Date Depth Matrix T  | уре                |              |              |                |                           |                |                |                    |         |          |                        |                        |        |                  |                            |                         |               |                |        |   |        |            |             |              |           |            |          |                 |                          |                         |               |                        |
| 901484 S22-Jn0063769 BH01/0.2 21/06/22 0.2 Soil   | <0.5               | <0.1         | <0.1         |                | <0.2 <0.1                 |                |                | 8.3 1              |         | 7        | 3                      | 7                      |        |                  | 8 2.4                      |                         | <5            | 22             |        | 150 <0.5                                |        | <20        | 52          | 830          | 430       | <20        |          |                 | L,312 1,45               |                         |               |                        |
| 901484 S22-Jn0063770 BH02/0.2 21/06/22 0.2 Soil   | <0.5               | <0.1         | <0.1         | _              | <0.2 <0.1                 |                |                | 3.7 7.             |         |          | 4.3                    | 8.1                    |        | 1.6 1            |                            |                         | 0.7           | 13             |        | 110 <0.5                                |        |            | 54          | 690          | 510       |            |          |                 | 1,254 1,40               |                         |               | 110                    |
| 901484 S22-Jn0063771 BH03/0.2 21/06/22 0.2 Soil   | <0.5               | <0.1         | <0.1         |                | <0.2 <0.1                 | _              |                |                    | .5 <0.5 |          |                        | <0.5                   |        |                  | 0.5 < 0.5                  |                         | <0.5          |                |        | 0.5 < 0.5                               |        | <20        | <20         | 110          | 130       |            |          |                 | 240 20                   |                         |               | <50                    |
| 901484  | <0.5               | <0.1         | <0.1         |                | <0.2 <0.1                 | <0.5           |                | <0.5 <0            |         | _        | <0.5                   | <0.5                   |        |                  | 0.5 < 0.5                  |                         | <0.5          |                |        | 0.5 <0.5                                |        | <20        | 120         | 840          | 740<br>77 | <20<br><20 |          |                 | 1,700 1,92               |                         |               |                        |
| 901484  | <0.5<br><0.5       | <0.1<br><0.1 |              |                | <0.2 <0.1<br><0.2 <0.1    | <0.5<br><0.5   |                | <0.5 <0<br><0.5 <0 | _       |          | <0.5<br><0.5           | <0.5<br><0.5           |        | 0.5 <0<br>0.5 1  | 0.5 <0.5<br>1 <0.5         |                         | <0.5<br><0.5  | <0.5           |        | 0.5 <0.5<br>2.5 <0.5                    |        | <20<br><20 | <20<br><20  | 55<br>160    | 210       |            |          |                 | 132 110<br>370 44        |                         |               | <50<br><50             |
| 901484 S22-Jn0063775 BH07/0.2 21/06/22 0.2 Soil   | <0.5               | <0.1         |              |                | <0.2 <0.1                 | <0.5           |                |                    | 2 1.3   |          | 0.6                    | 1.6                    |        |                  | .4 <0.5                    |                         | <0.5          | 1              |        | 14 <0.5                                 |        | <20        | 32          | 150          | 190       |            |          |                 | 372 38                   |                         |               | <50                    |
| 901484 S22-Jn0063776 BH08/ 0.2 21/06/22 0.2 Soil  | <0.5               | <0.1         |              |                | <0.2 <0.1                 | <0.5           |                | <0.5 <0            | _       |          | <0.5                   | <0.5                   |        |                  | ).5 <0.5                   |                         | <0.5          | <0.5           |        | 0.5 <0.5                                |        | <20        | 31          | 130          | 120       |            |          |                 | 281 22                   |                         |               |                        |
| 901484 S22-Jn0063777 BH09/0.2 21/06/22 0.2 Soil   | <0.5               | <0.1         |              |                | <0.2 <0.1                 | <0.5           |                | <0.5 <0            |         |          |                        | <0.5                   |        |                  | 0.5 < 0.5                  |                         | <0.5          |                |        | :0.5 <0.5                               |        | <20        | <20         | 76           | 51        |            |          |                 | 127 11                   |                         |               |                        |
| 901484 S22-Jn0063778 BH10/0.2 20/06/22 0.2 Soil   | <0.5               | <0.1         | <0.1         | <0.1           | <0.2 <0.1                 | <0.5           | <0.5 <         | <0.5 <0            | .5 0.5  | <0.5     | <0.5                   | <0.5                   | 0.5 <  | 0.5 1            | 1 <0.5                     | <0.5                    | <0.5          | 0.9            | 1      | 3.9 <0.5                                | <0.5   | <20        | 24          | 140          | 130       | <20        | <50 2    | 20              | 294 22                   | 20 <100                 | ) <20         | <50                    |
| 901484 S22-Jn0063779 BH11/0.2 20/06/22 0.2 Soil   | <0.5               | <0.1         | <0.1         | <0.1           | <0.2 <0.1                 | <0.5           | <0.5           | <0.5 <0            | .5 <0.5 | 5 <0.5   | <0.5                   | <0.5                   | <0.5 < | 0.5 <0           | ).5 <0.5                   | <0.5                    | <0.5          | <0.5           | <0.5   | :0.5 <0.5                               | <0.5   | <20        | <20         | 64           | 74        | <20        | <50 1    | 20              | 138 12                   | 20 <100                 | ) <20         | <50                    |
| 901484 S22-Jn0063780 BH11/2.5 20/06/22 2.5 Soil   | <0.5               | <0.1         |              |                | <0.2 <0.1                 | <0.5           |                | 0.5 <0             |         | _        | <0.5                   | <0.5                   |        |                  | ).5 <0.5                   |                         | <0.5          | 0.5            | 10.0   | 1                                       |        | <20        | <20         | 110          | 66        |            |          |                 | 176 15                   |                         | _             |                        |
| 901484 S22-Jn0063781 BH12/0.2 20/06/22 0.2 Soil   | <0.5               | <0.1         |              |                | <0.2 <0.1                 | <0.5           |                | <0.5 <0            | _       |          |                        | <0.5                   |        |                  | ).5 <0.5                   |                         | <0.5          |                |        | :0.5 <0.5                               | <0.5   | <20        | <20         | 73           | 74        |            |          |                 | 147 13                   |                         |               |                        |
| 901484 S22-Jn0063782 BH12/2.5 20/06/22 2.5 Soil   | <0.5               | <0.1         |              |                | <0.2 <0.1                 | <0.5           |                | <0.5 <0            |         |          | <0.5                   | <0.5                   |        |                  | 0.5 < 0.5                  |                         | <0.5          | <0.5           |        | :0.5                                    |        | <20        | <20         | <50          | <50       |            |          |                 | <50 <10                  |                         |               | <50                    |
| 901484 S22-Jn0063783 BH13/0.2 20/06/22 0.2 Soil<br>901484 S22-Jn0063784 BH13/2.5 20/06/22 2.5 Soil                                  | <0.5<br><0.5       | <0.1<br><0.1 |              |                | <0.2 <0.1<br><0.2 <0.1    | <0.5<br><0.5   |                | <0.5 <0<br><0.5 <0 |         |          | <0.5<br><0.5           | <0.5                   |        |                  | 0.5 < 0.5                  |                         | <0.5<br><0.5  | <0.5           |        | :0.5 <0.5<br>:0.5                       | <0.5   | <20<br><20 | <20<br>52   | <50<br>130   | <50<br>76 |            |          |                 | <50 <10<br>258 23        |                         |               |                        |
| 901484  | <0.5               | <0.1         |              |                | <0.2 <0.1                 | <0.5           |                | <0.5 <0            | _       | _        |                        | <0.5<br><0.5           |        | 0.5 <0<br>0.5 <0 | ).5 <0.5<br>).5 <0.5       |                         | <0.5          | <0.5           |        | :0.5 <0.5                               | <0.5   | <20        | <20         | <50          | <50       |            |          |                 | <50 <10                  |                         |               | 53<br><50              |
| 901484 S22-Jn0063786 BH14/1.0 20/06/22 1 Soil   | <0.5               | <0.1         |              |                | <0.2 <0.1                 | 2.5            |                | 2.7 4.             |         |          | 1.6                    | 5.6                    |        |                  | .4 1.1                     |                         | 0.7           | 6.2            |        | 75                                      | 1 10.5 | <20        | <200        | 1,100        | 1,500     |            |          |                 | 2,600 3,70               | _                       |               |                        |
| 901484 S22-Jn0063793 BH15/0.2 20/06/22 0.2 Soil   | <0.5               | <0.1         |              |                | <0.2 <0.1                 | <0.5           |                | <0.5 <0            |         | _        | <0.5                   | <0.5                   |        | 0.5 <0           |                            |                         | <0.5          |                |        | :0.5 <0.5                               | <0.5   | <20        | <20         | <50          | <50       |            |          |                 | <50 <10                  |                         |               |                        |
| 901484 S22-Jn0063794 BH15/2.0 20/06/22 2 Soil   | <0.5               | <0.1         | <0.1         | <0.1           | <0.2 <0.1                 | <0.5           | <0.5 <         | <0.5 0.            | 5 0.5   | <0.5     | 0.6                    | <0.5                   | <0.5 < | 0.5 0.           | .9 <0.5                    | <0.5                    | <0.5          | <1             | 1.1    | 3.6 <0.5                                | <0.5   | <20        | 36          | 130          | 120       | <20        | <50 2    | 10              | 286 21                   | 10 <100                 | 0 <20         | <50                    |
| 901484 S22-Jn0063789 MW01/0.2 20/06/22 0.2 Soil   | <0.5               | <0.1         | <0.1         | <0.1           | <0.2 <0.1                 | <0.5           | <0.5 <         | <0.5 <0            | .5 <0.5 | 5 <0.5   | <0.5                   | <0.5                   | <0.5 < | 0.5 <0           | ).5 <0.5                   | <0.5                    | <0.5          | <0.5           | <0.5   | :0.5 <0.5                               | <0.5   | <20        | 28          | 130          | 250       | <20        | <50 3    | 00 4            | 408 43                   | 30 130                  | <20           | <50                    |
| 901484 S22-Jn0063790 MW01/4.5 20/06/22 4.5 Soil   | <0.5               | <0.1         | <0.1         | <0.1           | <0.2 <0.1                 | <0.5           | <0.5 <         | <0.5 <0            | .5 <0.5 | 5 <0.5   | <0.5                   | <0.5                   | <0.5 < | 0.5 <0           | ).5 <0.5                   | <0.5                    | <0.5          | <0.5           | <0.5   | :0.5 <0.5                               | <0.5   | <20        | <20         | <50          | <50       | <20        | <50 <    | 100 -           | <50 <10                  | 00 <100                 | 0 <20         | <50                    |
| 901484 S22-Jn0063791 MW02/0.2 20/06/22 0.2 Soil   | <0.5               | <0.1         |              |                | <0.2 <0.1                 | <0.5           |                | <0.5 <0            |         |          | <0.5                   | <0.5                   |        | 0.5 <0           |                            |                         | <0.5          |                |        | :0.5 <0.5                               |        | <20        | <20         | 65           | 77        |            |          |                 | 142 12                   |                         |               |                        |
| 901484 S22-Jn0063792 MW02/4.5 20/06/22 4.5 Soil   | <0.5               | <0.1         |              |                | <0.2 <0.1                 | <0.5           |                | <0.5 <0            |         |          | _                      | <0.5                   |        |                  | 0.5 < 0.5                  |                         | <0.5          |                |        | :0.5 <0.5                               |        | <20        | <20         | 160          | 120       |            |          |                 | 280 25                   | _                       |               | <50                    |
| 901484  | <0.5               | <0.1         |              |                | <0.2 <0.1                 | <0.5           | <0.5           | 0.6 2.             |         | _        | 0.9                    | 3.2                    |        | 0.5 4.           |                            |                         | <0.5          | 1.8            |        | 28 <0.5                                 | <0.5   | <20        | <20         | 170<br><50   | 140       |            |          |                 | 310 27                   | _                       |               |                        |
| 901484   S22-Jn0063788   MW03/4.5   20/06/22   4.5   Soil   | <0.5               | <0.1         | <0.1         | <0.1           | <0.2 <0.1                 | <0.5           | <0.5           | <0.5   <0          | .5 <0.5 | <0.5     | <0.5                   | <0.5                   | <0.5 < | 0.5 <0           | ).5 <0.5                   | <0.5                    | <0.5          | <0.5           | <0.5   | .0.5                                    |        | <20        | <20         | <50          | <50       | <20        | <50 <    | 100             | <50 <10                  | 00 <100                 | / <20         | <50                    |
| Statistics  |                    |              |              |                |                           |                |                |                    |         |          |                        |                        |        |                  |                            |                         |               |                |        |   |        |            |             |              |           |            |          |                 |                          |                         |               |                        |
| Number of Results   | 26                 | 26           | 26           | 26             | 26 26                     | 26             | 26             | 26 2               | 5 26    | 26       | 26                     | 26                     | 26     | 26 2             | 6 26                       | 26                      | 26            | 26             | 26     | 26 21                                   | 21     | 26         | 26          | 26           | 26        | 26         | 26 2     | 26              | 26 26                    | 6 26                    | 26            | 26                     |
| Number of Detects   | 0                  | 0            | 0            | 0              | 0 0                       | 3              |                | 5 6                |         |          | 6                      | 5                      |        |                  | 3                          | 5                       | 2             | 7              |        | 9 0                                     |        | 0          | 9           | 20           | 20        | 0          |          |                 | 20 20                    |                         |               | 4                      |
| Minimum Concentration   | <0.5               | <0.1         | <0.1         | <0.1           | <0.2 <0.1                 | <0.5           | <0.5           | 0.5 0.             | 5 0.5   | <0.5     | <0.5                   | <0.5                   | 0.5 <  | 0.5 <0           | ).5 <0.5                   | <0.5                    | <0.5          | 0.5            | <0.5   | 0.5 <0.5                                | <0.5   | <20        | <20         | <50          | <50       | <20        | <50 <    | 100             | <50 <10                  | 00 <100                 | 0 <20         | <50                    |
| Minimum Detect  | ND                 | ND           | ND           | ND             | ND ND                     | 0.7            | 0.6            | 0.5 0.             | 5 0.5   | 0.9      | 0.6                    | 1.6                    | 0.5    | 0.7 0.           | .9 0.7                     | 0.7                     | 0.7           | 0.5            | 1      | 1 ND                                    | ND     | ND         | 24          | 55           | 51        | ND         | 53 1     | 10              | 127 11                   | 110                     | ND ND         | 53                     |
| Maximum Concentration   | <0.5               | <0.1         |              |                | <0.2 <0.1                 | 2.5            |                | 8.3 1              |         |          | 4.3                    | 8.1                    |        | 1.6 2            | _                          |                         | <5            | 22             |        | 150 <0.5                                |        | <20        | _           | 1,100        |           |            |          |                 | 2,600 3,70               |                         |               |                        |
| Maximum Detect  | ND                 | ND           | ND           | ND             | ND ND                     | 2.5            |                | 8.3 1              |         |          | 4.3                    | 8.1                    |        | 1.6 2            |                            |                         | 0.7           | 22             |        | L50 ND                                  |        | ND         | 120         | 1,100        |           |            |          | _               | 2,600 3,70               |                         | _             | 200                    |
| Average Concentration *   | 0.25               | 0.05         |              | 0.05           | 0.1 0.05                  | 0.37           | _              | 0.81 1.            | _       |          | 0.62                   | 1.2                    |        | .36 2.           |                            |                         | 0.37          | 1.9            |        | 15 0.25                                 |        | 10         | 26          | 210          | 201       | 10         |          |                 | 422 47                   |                         |               | 49                     |
| Median Concentration *  | 0.25               | 0.05         |              | 0.05           | 0.1 0.05                  | 0.25           |                | 0.25 0.2           | _       |          |                        | 0.25                   |        | .25 0.2          |                            |                         |               |                |        | 0.25                                    |        | 10         | 10          | 120          | 98.5      |            |          | _               | 249 20                   |                         |               |                        |
| Standard Deviation * 95% UCL (Student's-t) *  | 0.25               | 0.05         | 0.05         | 0.05           | 0 0<br>0.1 0.05           | 0.45           |                | 1.7 2.             |         |          | 0.96                   | 2.2                    |        |                  | .8 0.45                    |                         | 0.45          | 4.9            |        | 38 0<br>7.68 0.25                       | 0.25   | 10         | 29<br>36.14 | 295<br>308.9 | 314       | 10 (       |          |                 | 614 816<br>527.9 748     |                         |               | 59<br>68.37            |
| % of Detects  | 0.25               | 0.05         | 0.05         | 0.05           | 0.1 0.05                  | 12             |                | 19 2.1             |         |          | 23                     | 1.928                  |        | 4/2 5.1<br>12 3  |                            |                         | 8             | 27             |        | 7.68 0.25<br>35 0                       | 0.25   | 0          | 36.14       | 77           | 77        | 0          |          |                 | 77 77                    |                         |               |                        |
| % of Non-Detects  | 100                | 100          |              |                | 100 100                   |                |                |                    | 7 73    |          | 77                     | 81                     |        |                  | 9 88                       |                         | 92            | 73             |        | 65 100                                  |        | 100        | 65          | 23           | 23        |            |          |                 |                          | 3 73                    |               | 85                     |
| * A Non Detect Multiplier of 0.5 has been applied.  | 1                  |              |              |                |                           |                |                |                    |         |          |                        |                        |        | . , ,            | 1 - 2                      |                         |               |                |        |   | 1      |            | , ,         |              |           |            | -        |                 |                          |                         |               |                        |

<sup>\*</sup> A Non Detect Multiplier of 0.5 has been applied.

#### Environmental Standards

NEPM, NEPM 2013 Table 1B(7) Management Limits in Res/Parkland, Fine Soil

NEPM, 2013, NEPM 2013 Table 7 Rec C HSL for Asbestos in Soil

HEPA, January 2020, PFAS NEMP 2020 Ecological direct exposure HEPA, January 2020, PFAS NEMP 2020 Public open space (HIL C)

HEPA, January 2020, PFAS NEMP 2020 Residential with garden/accessible soil (HIL A)

2013, NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil

2013, NEPM 2013 Table 1A(1) HILs Res A Soil

#### 5. Soil PAH



|                            |   |                           |       |                    |         | BTEX    |              |                |                      |                |            |                   |                 |                       |                      |                      | PAH          |                       |              |          |                       |             |              |              |                     | Solve               | nts          |            |             |            |              |            | TPH/TRH | l       |         |                        |                  |           |
|----------------------------|---|---------------------------|-------|--------------------|---------|---------|--------------|----------------|----------------------|----------------|------------|-------------------|-----------------|-----------------------|----------------------|----------------------|--------------|-----------------------|--------------|----------|-----------------------|-------------|--------------|--------------|---------------------|---------------------|--------------|------------|-------------|------------|--------------|------------|---------|---------|---------|------------------------|------------------|-----------|
|                            |   |                           |       |                    |         |         |              |                |                      |                |            |                   |                 | e                     |                      |                      |              | e e                   |              |          | a l                   |             |              |              |                     |                     |              |            |             |            |              |            |         |         |         | _                      |                  | u l       |
|                            |   |                           |       | Naphthalene (BTEX) | Benzene | Toluene | Ethylbenzene | Xylene (m & p) | Xylene (o)           | Acenaphthylene | Anthracene | Benz(a)anthracene | Benzo(a) pyrene | Benzo(b+j)fluoranther | Benzo(g,h,i)perylene | Benzo(k)fluoranthene | Chrysene     | Dibenz(a,h)anthracene | Fluoranthene | Fluorene | Indeno(1,2,3-c,d)pyre | Naphthalene | Phenanthrene | Pyrene       | PAHs (Sum of total) | Methyl Ethyl Ketone | Acetone      | 67-93      | C10-C14     | C15-C28    | C29-C36      | C6-C10     | C10-C16 | C16-C34 | (Sum of | C10-C40 (Sum of total) | C34-C40          | 8 8       |
|                            |   |                           |       |                    | mg/kg   |         |              |                | ng/kg mg/            |                |            |                   |                 |                       |                      |                      |              |                       |              |          |                       |             |              |              |                     |                     |              |            |             |            |              |            |         |         |         |                        |                  | /kg mg/kg |
| EQL                        | Table 18/7) Management Limits   | in Res/Parkland. Fine Soi |       | 0.5                | 0.1     | 0.1     | 0.1          | 0.2            | 0.1 0.5              | 0.5            | 0.5        | 0.5               | 0.5             | 0.5                   | 0.5                  | 0.5                  | 0.5          | 0.5                   | 0.5          | 0.5      | 0.5                   | 0.5         | 0.5          | 0.5          | 0.5                 | 0.5                 | 0.5          | 20         | 20          | 50         | 50           | 20         | 50 :    | 100     | 50 :    | 100 10                 | .00 20           | 50        |
| NEPM 2013                  | Table 7 Rec C HSL for Asbestos in                                     | ,                         |       |                    |         |         |              |                |                      |                |            |                   |                 |                       |                      |                      |              |                       |              |          |                       |             |              |              |                     |                     |              |            |             |            |              | 800        | 1,000 3 | ,300    |         | 10,                    | ,000             |           |
|                            | 2020 Ecological direct exposure                                       |                           |       |                    |         |         |              |                |                      |                |            |                   |                 |                       |                      |                      |              |                       |              |          |                       |             |              |              |                     |                     |              |            |             |            |              |            |         |         |         |                        |                  |           |
| PFAS NEMP                  | 2020 Public open space (HIL C)  |                           |       |                    |         |         |              |                |                      |                |            |                   |                 |                       |                      |                      |              |                       |              |          |                       |             |              |              |                     |                     |              |            |             |            |              |            |         |         |         |                        |                  |           |
|                            | 2020 Residential with garden/ac                                       | . ,                       |       |                    |         |         |              |                |                      |                |            |                   |                 |                       |                      |                      |              |                       |              |          |                       |             |              |              |                     |                     |              |            |             |            |              |            |         |         |         |                        |                  |           |
|                            | Table 1A(3) Rec C Soil HSL for Va<br>Table 1A(3) Res A/B Soil HSL for |                           |       | E 0.7              | 1 2 3   | 490     |              |                |                      |                |            |                   |                 |                       |                      |                      |              |                       |              |          |                       | 5           |              |              |                     |                     |              |            |             |            |              |            |         |         |         |                        | 0.1.1            | 150 280   |
|                            | Table 1B(5) Generic EIL - Urban I                                     |                           |       | 170                | 1 2 3   | 460     |              |                |                      |                |            |                   |                 |                       |                      |                      |              |                       |              |          |                       | 170         |              |              |                     |                     |              |            |             |            |              |            |         |         |         |                        | Ull              | 150 280   |
|                            | Table 1B(6) ESLs for Urban Res. F                                     |                           | -     | 170                | 65      | 105     | 125          |                |                      |                |            |                   | 0.7             |                       |                      |                      |              |                       |              |          |                       | 170         |              |              |                     |                     |              |            |             |            |              |            | 120 1   | .300    |         | 5./                    | 600 18           | 0 120     |
| NEPM 2013                  | Table 1A(1) HILs Res A Soil   |                           |       |                    |         |         |              |                |                      |                |            |                   |                 |                       |                      |                      |              |                       |              |          |                       |             |              |              | 300                 |                     |              |            |             |            |              |            |         |         |         |                        |                  |           |
| NEPM 2013                  | Table 1A(1) HILs Rec C Soil   |                           |       |                    |         |         |              |                |                      |                |            |                   |                 |                       |                      |                      |              |                       |              |          |                       |             |              |              | 300                 |                     |              |            |             |            |              |            |         |         |         |                        |                  |           |
|                            |   |                           |       |                    |         |         |              |                |                      |                |            |                   |                 |                       |                      |                      |              |                       |              |          |                       |             |              |              |                     |                     |              |            |             |            |              |            |         |         |         |                        |                  |           |
| -                          |   | Date Depth Mat            |       |                    |         |         |              |                |                      |                | -          |                   |                 |                       |                      |                      | -            | -                     |              | -        |                       |             |              |              |                     |                     |              |            |             | -          | -            | _          |         |         |         |                        |                  |           |
| 901484                     | S22-Jn0063769 BH01/0.2  |                           |       | <0.5               | <0.1    | <0.1    | <0.1         |                | <0.1 0.7             |                | _          |                   | 9.6             | 7                     | 3                    | 7                    | 12           | 1.3                   | 28           |          |                       | <5          | 22           | 27           | 150                 | <0.5                | <0.5         | <20        | 52          |            | 430          | <20        |         |         | 1,312 1 |                        |                  |           |
| 901484                     | S22-Jn0063770 BH02/0.2  |                           |       | <0.5               | <0.1    | <0.1    | <0.1         |                | <0.1 0.7             |                |            | _                 | 9.3             | 6.9                   | 4.3                  | 8.1                  | 9.1          | 1.6                   | 19           |          |                       | 0.7         | 13           | 19           | 110                 | <0.5                | <0.5         | <20        | 54          | 690        | 510          |            |         | ,000 1  |         |                        | 90 <2            |           |
| 901484                     | S22-Jn0063771 BH03/0.2  |                           |       | 0.5                | <0.1    | <0.1    | <0.1         |                | <0.1 <0.             |                |            |                   | <0.5            | <0.5                  | <0.5                 | <0.5                 | <0.5         | <0.5                  | <0.5         |          |                       |             |              | <0.5         | <0.5                | <0.5                | <0.5         | <20        | <20         | 110        | 130          | <20        |         |         |         |                        | 100 <2           |           |
| 901484                     | S22-Jn0063772 BH04/0.2  |                           |       | <0.5<br><0.5       | <0.1    | <0.1    | <0.1<br><0.1 |                | <0.1 <0.             |                | _          |                   | <0.5<br><0.5    | <0.5                  | <0.5<br><0.5         | <0.5                 | <0.5<br><0.5 | <0.5                  | <0.5         |          |                       |             |              | <0.5         | <0.5                | <0.5                | <0.5         | <20<br><20 | 120<br><20  | 840        | 740<br>77    | <20<br><20 |         | ,300 1  |         |                        | 20 <2<br>100 <2  |           |
| 901484<br>901484           | S22-Jn0063773 BH05/0.2<br>S22-Jn0063774 BH06/0.2                      |                           |       | (0.5               | <0.1    | <0.1    | <0.1         |                | <0.1 <0.<br><0.1 <0. |                | _          |                   | <0.5            | <0.5<br><0.5          | <0.5                 | <0.5<br><0.5         | 0.5          | <0.5                  | 1            |          |                       | <0.5        | <0.5         | <0.5         | <0.5<br>2.5         | <0.5<br><0.5        | <0.5<br><0.5 | <20        | <20         | 55<br>160  | 210          | <20        |         |         |         |                        | 100 <2<br>.50 <2 |           |
| 901484                     | S22-Jn0063775 BH07/0.2  |                           |       | (0.5               | <0.1    | <0.1    | <0.1         |                | <0.1 <0.             |                | _          |                   | 1.3             | 0.9                   | 0.6                  | 1.6                  | 1.6          | <0.5                  | 2.4          |          |                       | <0.5        |              | 2.3          | 14                  | <0.5                | <0.5         | <20        | 32          | 150        | 190          | <20        |         |         |         |                        | 10 <2            |           |
| 901484                     | S22-Jn0063776 BH08/ 0.2   |                           |       | <0.5               | <0.1    | <0.1    | <0.1         |                | <0.1 <0.             |                |            |                   | <0.5            | <0.5                  | <0.5                 | <0.5                 | <0.5         | <0.5                  | <0.5         |          |                       | <0.5        |              | <0.5         | <0.5                | <0.5                | <0.5         | <20        | 31          | 130        | 120          | <20        |         |         |         |                        | 100 <2           | -         |
| 901484                     | S22-Jn0063777 BH09/0.2  |                           |       | <0.5               | <0.1    | <0.1    | <0.1         |                | <0.1 <0.             |                | _          |                   | <0.5            | <0.5                  | <0.5                 | <0.5                 | <0.5         | <0.5                  | <0.5         |          |                       |             |              | <0.5         | <0.5                | <0.5                | <0.5         | <20        | <20         | 76         | 51           | <20        |         |         |         |                        | 100 <2           |           |
| 901484                     | S22-Jn0063778 BH10/0.2  | 20/06/22 0.2 Soil         |       | <0.5               | <0.1    | <0.1    | <0.1         | <0.2           | <0.1 <0.             |                | <0.5       | <0.5              | 0.5             | <0.5                  | <0.5                 | <0.5                 | 0.5          | <0.5                  | 1            |          |                       | <0.5        | 0.9          | 1            | 3.9                 | <0.5                | <0.5         | <20        | 24          | 140        | 130          | <20        |         | 220     |         |                        | 100 <2           | 0 <50     |
| 901484                     | S22-Jn0063779 BH11/0.2  | 20/06/22 0.2 Soil         | l <   | <0.5               | <0.1    | <0.1    | <0.1         | <0.2           | <0.1 <0.             | 5 <0.5         | <0.5       | <0.5              | <0.5            | <0.5                  | <0.5                 | <0.5                 | <0.5         | <0.5                  | <0.5         | <0.5     | <0.5                  | <0.5        | <0.5         | <0.5         | <0.5                | <0.5                | <0.5         | <20        | <20         | 64         | 74           | <20        | <50     | 120     | 138     | 120 <1                 | 100 <2           | .0 <50    |
| 901484                     | S22-Jn0063780 BH11/2.5  | 20/06/22 2.5 Soil         | l <   | <0.5               | <0.1    | <0.1    | <0.1         | <0.2           | <0.1 <0.             | 5 <0.5         | 0.5        | <0.5              | <0.5            | <0.5                  | <0.5                 | <0.5                 | <0.5         | <0.5                  | <0.5         | <0.5     | <0.5                  | <0.5        | 0.5          | <0.5         | 1                   |                     |              | <20        | <20         | 110        | 66           | <20        | <50     | 150     | 176     | 150 <1                 | 100 <2           | 0 <50     |
| 901484                     | S22-Jn0063781 BH12/0.2  |                           |       | <0.5               | <0.1    | <0.1    | <0.1         |                | <0.1 <0.             |                |            |                   | <0.5            | <0.5                  | <0.5                 | <0.5                 | <0.5         | <0.5                  | <0.5         |          |                       |             |              | <0.5         | <0.5                | <0.5                | <0.5         | <20        | <20         | 73         | 74           | <20        |         |         |         |                        | 100 <2           |           |
| 901484                     | S22-Jn0063782 BH12/2.5  |                           |       | <0.5               | <0.1    | <0.1    | <0.1         |                | <0.1 <0.             |                |            |                   | <0.5            | <0.5                  | <0.5                 | <0.5                 | <0.5         | <0.5                  | <0.5         |          |                       | <0.5        |              | <0.5         | <0.5                |                     |              | <20        | <20         | <50        | <50          | <20        |         |         |         |                        | 100 <2           |           |
| 901484                     | S22-Jn0063783 BH13/0.2  |                           |       | <0.5               | <0.1    | <0.1    | <0.1         |                | <0.1 <0.             |                |            |                   | <0.5            | <0.5                  | <0.5                 | <0.5                 | <0.5         | <0.5                  | <0.5         |          |                       |             |              | <0.5         | <0.5                | <0.5                | <0.5         | <20        | <20         | <50        | <50          | <20        |         |         |         |                        | 100 <2           | -         |
| 901484<br>901484           | S22-Jn0063784 BH13/2.5  |                           |       | <0.5<br><0.5       | <0.1    | <0.1    | <0.1<br><0.1 |                | <0.1 <0.<br><0.1 <0. | _              |            |                   | <0.5<br><0.5    | <0.5<br><0.5          | <0.5<br><0.5         | <0.5<br><0.5         | <0.5<br><0.5 | <0.5                  | <0.5         | _        |                       | <0.5        |              | <0.5         | <0.5                | <0.5                | <0.5         | <20<br><20 | 52<br><20   | 130<br><50 | 76<br><50    | <20<br><20 |         |         |         |                        | 100 <2<br>100 <2 |           |
| 901484                     | S22-Jn0063785 BH14/0.2<br>S22-Jn0063786 BH14/1.0                      |                           |       | <0.5               | <0.1    | <0.1    | <0.1         |                | <0.1 2.5             |                | _          |                   | 6.3             | 3.7                   | 1.6                  | 5.6                  | 7.4          | 0.7                   | 14           |          |                       | 0.7         | 6.2          | <0.5<br>15   | 75                  | <0.5                | <0.5         | <20        | <200        |            | 1,500        |            |         | ,100    |         | 3,700 1,6              |                  |           |
| 901484                     | S22-Jn0063793 BH15/0.2  |                           |       | <0.5               | <0.1    | <0.1    | <0.1         |                | <0.1 <0.             |                | _          |                   | <0.5            | <0.5                  | <0.5                 | <0.5                 | <0.5         | <0.5                  | <0.5         |          |                       | <0.5        |              | <0.5         | <0.5                | <0.5                | <0.5         | <20        | <20         | <50        | <50          | <20        |         |         |         |                        | 100 <2           |           |
| 901484                     | S22-Jn0063794 BH15/2.0  |                           |       | <0.5               | <0.1    | <0.1    | <0.1         |                | <0.1 <0.             |                | _          |                   | 0.5             | <0.5                  | 0.6                  | <0.5                 | <0.5         | <0.5                  | 0.9          |          |                       | <0.5        | <1           | 1.1          | 3.6                 | <0.5                | <0.5         | <20        | 36          | 130        | 120          | <20        |         |         |         |                        | 100 <2           |           |
| 901484                     | S22-Jn0063789 MW01/0.2  | 20/06/22 0.2 Soil         | I <   | <0.5               | <0.1    | <0.1    | <0.1         | <0.2           | <0.1 <0.             | 5 <0.5         | <0.5       | <0.5              | <0.5            | <0.5                  | <0.5                 | <0.5                 | <0.5         | <0.5                  | <0.5         | <0.5     | <0.5                  | <0.5        | <0.5         | <0.5         | <0.5                | <0.5                | <0.5         | <20        | 28          | 130        | 250          | <20        | <50     | 300     | 408     | 430 13                 | .30 <2           | 0 <50     |
| 901484                     | S22-Jn0063790 MW01/4.5  | 20/06/22 4.5 Soil         | l <   | <0.5               | <0.1    | <0.1    | <0.1         | <0.2           | <0.1 <0.             | 5 <0.5         | <0.5       | <0.5              | <0.5            | <0.5                  | <0.5                 | <0.5                 | <0.5         | <0.5                  | <0.5         | <0.5     | <0.5                  | <0.5        | <0.5         | <0.5         | <0.5                | <0.5                | <0.5         | <20        | <20         | <50        | <50          | <20        | <50 <   | <100    | <50 <   | <100 <1                | 100 <2           | 0 <50     |
| 901484                     | S22-Jn0063791 MW02/0.2  | 20/06/22 0.2 Soil         | l <   | <0.5               | <0.1    | <0.1    | <0.1         | <0.2           | <0.1 <0.             | 5 <0.5         | <0.5       | <0.5              | <0.5            | <0.5                  | <0.5                 | <0.5                 | <0.5         | <0.5                  | <0.5         | <0.5     | <0.5                  | <0.5        | <0.5         | <0.5         | <0.5                | <0.5                | <0.5         | <20        | <20         | 65         | 77           | <20        | <50     | 120     | 142 :   | 120 <1                 | 100 <2           | 0 <50     |
| 901484                     | S22-Jn0063792 MW02/4.5  |                           |       | <0.5               | <0.1    | <0.1    |              |                | <0.1 <0.             |                | _          |                   | <0.5            | <0.5                  | <0.5                 |                      |              | <0.5                  | <0.5         |          |                       | <0.5        |              | <0.5         | <0.5                | <0.5                | <0.5         | <20        | <20         |            | 120          | <20        |         |         |         |                        | 100 <2           |           |
| 901484                     | S22-Jn0063787 MW03/0.2  |                           |       | <0.5               | <0.1    | <0.1    |              |                | <0.1 <0.             |                | _          |                   | 3.2             | 2.5                   | 0.9                  |                      |              | <0.5                  | 4.3          |          |                       | <0.5        | 1.8          | 4.5          | 28                  | <0.5                | <0.5         | <20        | <20         |            | 140          | <20        |         |         |         |                        | 100 <2           | -         |
| 901484                     | S22-Jn0063788 MW03/4.5  | 20/06/22 4.5 Soil         | I   < | <0.5               | <0.1    | <0.1    | <0.1         | <0.2           | <0.1 <0.             | 5   <0.5       | <0.5       | <0.5              | <0.5            | <0.5                  | <0.5                 | <0.5                 | <0.5         | <0.5                  | <0.5         | <0.5     | <0.5                  | <0.5        | <0.5         | <0.5         | <0.5                |                     |              | <20        | <20         | <50        | <50          | <20        | <50   < | <100    | <50   < | <100   <1              | 100   <2         | 0 <50     |
| Statistics                 |   |                           |       |                    |         |         |              |                |                      |                |            |                   |                 |                       |                      |                      |              |                       |              |          |                       |             |              |              |                     |                     |              |            |             |            |              |            |         |         |         |                        |                  |           |
| Number of                  | Results   |                           |       | 26                 | 26      | 26      | 26           | 26             | 26 26                | 26             | 26         | 26                | 26              | 26                    | 26                   | 26                   | 26           | 26                    | 26           | 26       | 26                    | 26          | 26           | 26           | 26                  | 21                  | 21           | 26         | 26          | 26         | 26           | 26         | 26      | 26      | 26      | 26 2                   | 26 26            | 5 26      |
| Number of                  | Detects   |                           |       | 0                  | 0       | 0       | 0            |                | 0 3                  |                | 5          | 6                 | 7               | 5                     | 6                    | 5                    | 7            | 3                     | 8            | 3        |                       | 2           | 7            | 8            | 9                   | 0                   | 0            | 0          | 9           | 20         | 20           | 0          |         |         |         |                        | 7 0              |           |
| Minimum C                  | oncentration  |                           | <     | <0.5               | <0.1    | <0.1    | <0.1         | <0.2           | <0.1 <0.             | 5 <0.5         | 0.5        | 0.5               | 0.5             | <0.5                  | <0.5                 | <0.5                 | 0.5          | <0.5                  | <0.5         | <0.5     | <0.5                  | <0.5        | 0.5          | <0.5         | <0.5                | <0.5                | <0.5         | <20        | <20         | <50        | <50          | <20        | <50 <   | 100     | <50 <   | <100 <1                | 100 <2           | 0 <50     |
| Minimum D                  | etect   |                           |       | ND                 | ND      | ND      | ND           | ND             | ND 0.:               | 0.6            | 0.5        | 0.5               | 0.5             | 0.9                   | 0.6                  | 1.6                  | 0.5          | 0.7                   | 0.9          | 0.7      | 0.7                   | 0.7         | 0.5          | 1            | 1                   | ND                  | ND           | ND         | 24          | 55         | 51           | ND         | 53 :    | 110     | 127 :   | 110 1:                 | 10 NI            | D 53      |
| Maximum (                  | oncentration  |                           | <     | <0.5               | <0.1    | <0.1    | <0.1         | <0.2           | <0.1 2.              | 2              | 8.3        | 12                | 9.6             | 7                     | 4.3                  | 8.1                  | 12           | 1.6                   | 28           | 2.4      | 4.3                   | <5          | 22           | 27           | 150                 | <0.5                | <0.5         | <20        | <200        | 1,100      | 1,500        | <20        | <500 2  | ,100 2  | 2,600 3 | ,700 1,6               | 600 <2           | 0 <500    |
| Maximum E                  |   |                           |       | ND                 | ND      | ND      | ND           |                | ND 2.                |                | 8.3        |                   | 9.6             | 7                     | 4.3                  | 8.1                  | 12           | 1.6                   | 28           |          |                       | 0.7         | 22           | 27           | 150                 | ND                  | ND           | ND         |             | 1,100      | -            | ND         |         | _       | 2,600 3 |                        | 600 NI           |           |
| Average Co                 |   |                           |       | 0.25               | 0.05    | 0.05    | 0.05         |                | 0.05 0.3             |                |            |                   | 1.4             | 1                     | 0.62                 | 1.2                  |              | 0.36                  | 2.9          |          |                       | 0.37        |              | 2.9          | 15                  | 0.25                | 0.25         | 10         | 26          |            | 201          | 10         |         |         |         |                        | 49 10            |           |
| Median Cor                 |   |                           |       | 0.25               | 0.05    | 0.05    | 0.05         |                | 0.05 0.2             |                |            |                   | 0.25            | 0.25                  | 0.25                 | 0.25                 |              | 0.25                  | 0.25         | _        |                       |             |              |              | 0.25                | 0.25                | 0.25         | 10         | 10          | 120        | 98.5         | 10         |         |         |         |                        | 50 10            |           |
| Standard De<br>95% UCL (St |   |                           |       | 0                  | 0.05    | 0.05    | 0.05         | -              | 0 0.4                |                |            | _                 | 2.7             | 1.9                   | 0.96                 | 1 928                | 3.1<br>2.521 | 0.34                  | 6.8<br>5.163 |          | 1.1<br>1.061 (        |             |              | 6.7<br>5.148 | 38<br>27.68         | 0.25                | 0.25         | 0<br>10    | 29<br>36.14 |            | 314<br>306.6 | 10         |         |         |         | 814 30<br>748.2 25     | 09 0             | 59 68.37  |
| % of Detect                |   |                           |       | 0                  | 0.05    | 0.05    | 0.05         |                | 0 12                 |                | 19         | _                 | 2.2/1           | 1.055                 | 23                   | 1.928                | 2.521        | 12                    | 31           | 12       | 19                    | 8           | 27           | 31           | 35                  | 0.25                | 0.25         | 0          | 35          | 77         | 77           | 0          |         |         |         | 77 2                   |                  |           |
| % of Non-D                 |   |                           |       | 100                | 100     | 100     | 100          |                | 100 88               |                |            | 77                | 73              | 81                    | 77                   | 81                   | 73           | 88                    | 69           | 88       |                       | 92          | 73           | 69           | 65                  | 100                 | 100          | 100        | 65          | 23         | 23           | 100        |         | _       |         | 23 7                   |                  |           |
|                            | ect Multiplier of 0.5 has been an                                     |                           |       |                    |         |         |              |                |                      | - 52           | 01         |                   | , ,,            |                       |                      |                      |              |                       | 33           |          | <u>-</u>              | J-          |              |              |                     |                     |              |            |             |            |              |            |         |         |         |                        |                  | - 00      |

<sup>\*</sup> A Non Detect Multiplier of 0.5 has been applied.

#### **Environmental Standards**

NEPM, NEPM 2013 Table 1B(7) Management Limits in Res/Parkland, Fine Soil NEPM, 2013, NEPM 2013 Table 7 Rec C HSL for Asbestos in Soil HEPA, January 2020, PFAS NEMP 2020 Ecological direct exposure HEPA, January 2020, PFAS NEMP 2020 Public open space (HIL C) HEPA, January 2020, PFAS NEMP 2020 Residential with garden/accessible soil (HIL A) 2013, NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil

2013, NEPM 2013 Table 1A(1) HILs Res A Soil

#### 6. Soil Asbestos



|  |                                |                      |          |         |             | Asbe              | stos                          |               |              |                     |                              |  | Asbes                 | tos        |            |           |                                    |                                   |          |                            |          |                  |                                |                            |
|--|--------------------------------|----------------------|----------|---------|-------------|-------------------|-------------------------------|---------------|--------------|---------------------|------------------------------|--|-----------------------|------------|------------|-----------|------------------------------------|-----------------------------------|----------|----------------------------|----------|------------------|--------------------------------|----------------------------|
|  |                                |                      |          |         |             | & Bonded Asbestos | Friable Asbestos (FA &<br>AF) | ACM - Comment | AF - Comment | % Analysed Material | տ Approximate Sample<br>Mass | Comment<br>As bestos Reported<br>Result  | % Extraneous Material | % lron (%) | m Mass ACM | m Mass AF | <sup>σα</sup> Mass Asbestos in ACM | <sup>σα</sup> Mass asbestos in AF |          | m Mass Asbestos in FA & AF | Mass FA  | Organic Fibres - | Respirable Fibres -<br>Comment | Synthetic Fibres - Comment |
| EQL  |                                | C-11/D1              | 1.000    |         |             |                   | ,                             |               |              | 0.1                 |                              |  | 0.1                   | 0.01       | •          |           | •                                  | •                                 |          | •                          | •        |                  |                                |                            |
| NEPM 2013 Table 7 Rec C H:<br>NEPM 2013 Table 7 Rec C H: |                                |                      |          | asbesto | ıs)         | 0.02%             | 0.001%                        |               |              |                     |                              |  |                       |            |            |           |                                    |                                   |          |                            |          |                  |                                |                            |
| Lab Report Number  | Sample Code                    | Field ID             | Date     | Donth   | Matrix Type |                   |                               |               |              |                     |                              |  |                       |            |            |           |                                    |                                   |          |                            |          |                  |                                |                            |
| 901484   | S22-Jn0063769                  |                      | 21/06/22 |         | Soil        | 0                 | 0                             | -             | -            |                     | 523                          | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.  |                       | 61         | 0          | 0         | 0                                  | 0                                 | 0        | 0                          | 0        | -                | -                              | -                          |
| 901484   | S22-Jn0063770                  | вн02/0.2             | 21/06/22 | 0.2     | Soil        | 0                 | 0                             | -             | -            |                     | 584                          | No asbestos detected at the reporting<br>limit of 0.001% w/w.* Organic fibre<br>detected. No trace asbestos detected.  |                       | 2          | 0          | 0         | 0                                  | 0                                 | 0        | 0                          | 0        | -                | -                              | -                          |
| 901484   | S22-Jn0063771                  | вн03/0.2             | 21/06/22 | 0.2     | Soil        | 0                 | 0                             | -             | -            |                     | 433                          | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.  |                       | 3.7        | 0          | 0         | 0                                  | 0                                 | 0        | 0                          | 0        | -                | -                              | -                          |
| 901484   | S22-Jn0063772                  | вн04/0.2             | 21/06/22 | 0.2     | Soil        | 0                 | 0                             | -             | -            |                     | 366                          | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.  |                       | 4.1        | 0          | 0         | 0                                  | 0                                 | 0        | 0                          | 0        | -                | -                              | -                          |
| 901484   | S22-Jn0063773                  | вн05/0.2             | 21/06/22 | 0.2     | Soil        | 0                 | 0                             | -             | -            |                     | 589                          | No asbestos detected at the reporting<br>limit of 0.001% w/w.* Organic fibre<br>detected. No trace asbestos detected.  |                       | 18         | 0          | 0         | 0                                  | 0                                 | 0        | 0                          | 0        | -                | -                              | -                          |
| 901484   | S22-Jn0063774                  | вн06/0.2             | 21/06/22 | 0.2     | Soil        | 0                 | 0                             | -             | -            |                     | 383                          | No asbestos detected at the reporting<br>limit of 0.001% w/w.* Organic fibre<br>detected. No trace asbestos detected.  |                       | 13         | 0          | 0         | 0                                  | 0                                 | 0        | 0                          | 0        | -                | -                              | -                          |
| 901484   | S22-Jn0063775                  | вн07/0.2             | 21/06/22 | 0.2     | Soil        | 0.0383            | 0                             | -             | -            |                     | 596                          | ACM: Chrysotile and crocidolite asbestos<br>detected in fibre cement fragments.<br>Approximate raw weight of ACM = 4.6g<br>Total estimated asbestos content in ACM = 0.23g* Total estimated asbestos<br>concentration in ACM = 0.0388 w/w*<br>Organic fibre detected. No trace asbestos<br>detected. |                       | 1          | 4.5676     | 0         | 0.2284                             | 0                                 | 0        | 0                          | 0        | -                | -                              | -                          |
| 901484   | S22-Jn0063776                  | внов/ 0.2            | 21/06/22 | 0.2     | Soil        | 0                 | 0                             | -             | -            |                     | 434                          | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.  |                       | 7          | 0          | 0         | 0                                  | 0                                 | 0        | 0                          | 0        | -                | -                              | -                          |
| 901484   | S22-Jn0063777                  | вно9/0.2             | 21/06/22 | 0.2     | Soil        | 0                 | 0                             | -             | -            |                     | 503                          | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.  |                       | 3.2        | 0          | 0         | 0                                  | 0                                 | 0        | 0                          | 0        | -                | -                              | -                          |
| 901484   | S22-Jn0063778                  | вн10/0.2             | 20/06/22 | 0.2     | Soil        | 0                 | 0                             | -             | -            |                     | 530                          | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.  |                       | 2.4        | 0          | 0         | 0                                  | 0                                 | 0        | 0                          | 0        | -                | -                              | -                          |
| 901484   | S22-Jn0063779                  |                      | 20/06/22 |         | Soil        | 0                 | 0                             | -             | -            |                     | 535                          | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.  |                       | 3.7        | 0          | 0         | 0                                  | 0                                 | 0        | 0                          | 0        | -                | -                              | -                          |
| 901484   | S22-Jn0063780<br>S22-Jn0063781 |                      | 20/06/22 |         | Soil        | 0                 | 0                             |               | -            | 82                  | 561                          | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre  | 18                    | 5.5        | 0          | 0         | 0                                  | 0                                 | 0        | 0                          | 0        | _                | -                              | _                          |
| 901484   | S22-Jn0063782                  | BH12/2.5             | 20/06/22 | 2.5     | Soil        |                   |                               |               |              |                     |                              | detected. No trace asbestos detected.  |                       |            |            |           |                                    |                                   |          |                            |          |                  |                                |                            |
| 901484   | S22-Jn0063783                  | BH13/0.2             | 20/06/22 | 0.2     | Soil        | 0                 | 0                             | -             | -            | 69                  | 637                          | No asbestos detected at the reporting<br>limit of 0.001% w/w.* Organic fibre<br>detected. No trace asbestos detected.  | 31                    | 1.8        | 0          | 0         | 0                                  | 0                                 | 0        | 0                          | 0        | -                | -                              | -                          |
| 901484   | S22-Jn0063784                  | BH13/2.5             | 20/06/22 | 2.5     | Soil        |                   |                               |               |              |                     |                              | No asbestos detected at the reporting  |                       |            |            |           |                                    |                                   |          |                            |          |                  |                                |                            |
| 901484   | S22-Jn0063785<br>S22-Jn0063786 | ·                    | 20/06/22 |         | Soil        | 0                 | 0                             | -             | -            | 97                  | 767                          | limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.  | 2.8                   | 2.1        | 0          | 0         | 0                                  | 0                                 | 0        | 0                          | 0        | -                | -                              | -                          |
| 901484   | S22-Jn0063793                  |                      |          |         | Soil        | 0                 | 0                             |               |              | 63                  | 536                          | No asbestos detected at the reporting  | 37                    | 58         | 0          | 0         | 0                                  | 0                                 | 0        | 0                          | 0        |                  |                                |                            |
| 901484   | S22-Jn0063794                  | BH15/0.2<br>BH15/2.0 | 20/06/22 |         | Soil        |                   | 0                             |               |              |                     | 330                          | limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.  | 37                    | 30         |            |           |                                    |                                   | 0        |                            | -        |                  |                                |                            |
| 901484   | S22-Jn0063789                  | MW01/0.2             | 20/06/22 | 0.2     | Soil        | 0                 | 0                             | -             | -            |                     | 490                          | No asbestos detected at the reporting<br>limit of 0.001% w/w.* Organic fibre<br>detected. No trace asbestos detected.  |                       | 40         | 0          | 0         | 0                                  | 0                                 | 0        | 0                          | 0        | -                | -                              | -                          |
| 901484   | S22-Jn0063790                  | MW01/4.5             | 20/06/22 | 4.5     | Soil        |                   |                               |               |              |                     |                              |  |                       |            |            |           |                                    |                                   |          |                            |          |                  |                                |                            |
| 901484   | S22-Jn0063791                  |                      |          |         | Soil        | 0                 | 0                             | -             | -            | 72                  | 726                          | No asbestos detected at the reporting limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.  | 28                    | 28         | 0          | 0         | 0                                  | 0                                 | 0        | 0                          | 0        | -                | -                              | -                          |
| 901484   | S22-Jn0063792                  | MW02/4.5             | 20/06/22 | 4.5     | Soil        |                   |                               |               |              |                     |                              | No asbestos detected at the reporting  |                       |            |            |           |                                    |                                   |          | $\dashv$                   |          |                  |                                |                            |
| 901484   | S22-Jn0063787<br>S22-Jn0063788 |                      |          |         | Soil        | 0                 | 0                             | -             | -            |                     | 596                          | limit of 0.001% w/w.* Organic fibre detected. No trace asbestos detected.  |                       | 3.5        | 0          | 0         | 0                                  | 0                                 | 0        | 0                          | 0        | -                | -                              | -                          |
|  |                                |                      | ,,,      |         | 1,,=        | -                 |                               |               |              |                     |                              | 1  | -                     |            |            |           |                                    |                                   |          |                            |          |                  |                                |                            |
| Statistics Number of Results                             |                                |                      |          |         |             | 18                | 18                            |               |              | 5                   | 18                           |  | 5                     | 18         | 18         | 18        | 18                                 | 18                                | 18       | 18                         | 18       |                  |                                |                            |
| Number of Detects  |                                |                      |          |         |             | 18                | 18                            |               |              | 5                   | 18                           |  | 5                     | 18         | 18         | 18        | 18                                 | 18                                | 18       | 18                         | 18       |                  |                                |                            |
| Minimum Concentration Minimum Detect                     |                                |                      |          |         |             | 0                 | 0                             |               |              | 63                  | 366                          |  | 2.8                   | 1          | 0          | 0         | 0                                  | 0                                 | 0        | 0                          | 0        |                  |                                |                            |
| Maximum Concentration                                    |                                |                      |          |         |             | 0.0383            | 0                             |               |              | 63<br>97            | 366<br>767                   |  | 37                    | 61         | 4.5676     |           | 0.2284                             |                                   | 0        |                            | 0        |                  |                                |                            |
| Maximum Detect   |                                |                      |          |         |             | 0.0383            | 0                             |               |              | 97                  | 767                          |  | 37                    | 61         | 4.5676     | 0         | 0.2284                             | 0                                 | 0        | 0                          | 0        |                  |                                |                            |
| Average Concentration *                                  |                                |                      |          | _       |             | 0.0021            | 0                             |               |              | 77                  | 544<br>535.5                 |  | 23                    | 14<br>3.9  | 0.25       | 0         | 0.013                              | 0                                 | 0        | $\overline{}$              | 0        |                  |                                |                            |
| Median Concentration * Standard Deviation *              |                                |                      |          |         |             | 0.009             | 0                             |               |              | 72<br>13            | 105                          |  | 13                    | 19         | 1.1        | 0         | 0.054                              | 0                                 | 0        | 0                          | 0        |                  |                                |                            |
| 95% UCL (Student's-t) *                                  |                                |                      |          |         |             | 0.00583           | 0                             |               |              | 89.29               | 587                          |  | 36.13                 | 22.31      | 0.695      | 0         | 0.0348                             | 0                                 | 0        | 0                          | 0        |                  |                                |                            |
| % of Detects % of Non-Detects                            |                                |                      |          |         |             | 100               | 100                           |               |              | 100                 | 100                          |  | 100                   | 100        | 100<br>0   | 100       | 100                                | 100                               | 100<br>0 | $\rightarrow$              | 100<br>0 |                  |                                |                            |
| * A Non Detect Multiplier of                             | f 0.5 has been ap              | olied.               |          | -       | 1           |                   | U                             |               |              |                     | U                            | 1  |                       | U          | U          | U         | U                                  | U                                 | U        | J                          | J        |                  |                                |                            |

Environmental Standards

NEPM, NEPM 2013 Table 18(7) Management Limits in Res/Parkland, Fine Soil

NEPM, 2013, NEPM 2013 Table 7 Rec C HSL for Asbestos in Soil

HEPA, January 2020, PFAS NEMP 2020 Ecological direct exposure

HEPA, January 2020, PFAS NEMP 2020 Public poen space (HL C)

HEPA, January 2020, PFAS NEMP 2020 Public open space (HL C)

HEPA, January 2020, PFAS NEMP 2020 Residential with garden/accessible soil (HIL A)

2013, NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1B(6) ESL for Urban Res, Fine Soil

2013, NEPM 2013 Table 1A(1) HILs Res A Soil

2013, NEPM 2013 Table 1A(1) HILs Rec C Soil

#### 7. Soil Phenols



|                              |                                |               |                |       |             |                                  |                         |                         |                      |                      |                     |                      |                  |                  | Phen          | nols                           |                                    |                             |               |                     |                     |                      |                     |                                |                                    |
|------------------------------|--------------------------------|---------------|----------------|-------|-------------|----------------------------------|-------------------------|-------------------------|----------------------|----------------------|---------------------|----------------------|------------------|------------------|---------------|--------------------------------|------------------------------------|-----------------------------|---------------|---------------------|---------------------|----------------------|---------------------|--------------------------------|------------------------------------|
|                              |                                |               |                |       |             | 3&4-Methylphenol<br>(m&p-cresol) | . 2,4,5-Trichlorophenol | . 2,4,6-Trichlorophenol | , 2,4-Dichlorophenol | . 2,4-Dimethylphenol | , 2,4-Dinitrophenol | . 2,6-Dichlorophenol | , 2-Chlorophenol | . 2-Methylphenol | 2-Nitrophenol | 4,6-Dinitro-2-<br>methylphenol | 4,6-Dinitro-o-cyclohexyl<br>phenol | 4-chloro-3-<br>methylphenol | 4-Nitrophenol | Cresol Total        | . Pentachlorophenol | . Tetrachlorophenols | . Phenol            | Phenols (Total<br>Halogenated) | Phenols (Total Non<br>Halogenated) |
| EQL                          | I                              |               |                |       |             | mg/kg<br>0.4                     | mg/kg<br>1              | mg/kg                   | <b>mg/kg</b><br>0.5  | <b>mg/kg</b><br>0.5  | mg/kg<br>5          | <b>mg/kg</b><br>0.5  | mg/kg            | mg/kg<br>0.2     | mg/kg<br>1    | mg/kg<br>5                     | mg/kg<br>20                        | mg/kg<br>1                  | mg/kg<br>5    | <b>mg/kg</b><br>0.5 | mg/kg<br>1          | mg/kg<br>10          | <b>mg/kg</b><br>0.5 | mg/kg<br>1                     | mg/kg<br>20                        |
| NEPM 2013 Table 1B(7) Mana   | <br>agement Limits in          | n Res/Parklan | d Fine Soil    |       |             | 0.4                              | 1                       | 1                       | 0.5                  | 0.5                  | 5                   | 0.5                  | 0.5              | 0.2              | 1             | 5                              | 20                                 | 1                           | 5             | 0.5                 |                     | 10                   | 0.5                 | 1                              | 20                                 |
| NEPM 2013 Table 7 Rec C HS   |                                |               | lu, i ilic son |       |             |                                  |                         |                         |                      |                      |                     |                      |                  |                  |               |                                |                                    |                             |               |                     |                     |                      |                     |                                |                                    |
| PFAS NEMP 2020 Ecological of |                                |               |                |       |             |                                  |                         |                         |                      |                      |                     |                      |                  |                  |               |                                |                                    |                             |               |                     |                     |                      |                     |                                |                                    |
| PFAS NEMP 2020 Public oper   | n space (HIL C)                |               |                |       |             |                                  |                         |                         |                      |                      |                     |                      |                  |                  |               |                                |                                    |                             |               |                     |                     |                      |                     |                                |                                    |
| PFAS NEMP 2020 Residential   |                                | •             |                |       |             |                                  |                         |                         |                      |                      |                     |                      |                  |                  |               |                                |                                    |                             |               |                     |                     |                      |                     |                                |                                    |
| NEPM 2013 Table 1A(3) Rec (  |                                |               |                |       |             |                                  |                         |                         |                      |                      |                     |                      |                  |                  |               |                                |                                    |                             |               |                     |                     |                      |                     |                                |                                    |
| NEPM 2013 Table 1A(3) Res A  |                                |               |                |       |             |                                  |                         |                         |                      |                      |                     |                      |                  |                  |               |                                |                                    |                             |               |                     |                     |                      |                     |                                |                                    |
| NEPM 2013 Table 1B(5) Gene   |                                |               | pen Space      |       |             |                                  |                         |                         |                      |                      |                     |                      |                  |                  |               |                                |                                    |                             |               |                     |                     |                      |                     |                                |                                    |
| NEPM 2013 Table 1B(6) ESLs   |                                | ne Soil       |                |       |             |                                  |                         |                         |                      |                      |                     |                      |                  |                  |               |                                |                                    |                             |               | 400                 | 100                 |                      | 2.000               |                                |                                    |
| NEPM 2013 Table 1A(1) HILS   |                                |               |                |       |             |                                  |                         |                         |                      |                      |                     |                      |                  |                  |               |                                |                                    |                             |               | 400                 | 120                 |                      | 3,000               |                                |                                    |
| NEPM 2013 Table 1A(1) HILS   | Rec C Soil                     |               |                |       |             |                                  |                         |                         |                      |                      |                     |                      |                  |                  |               |                                |                                    |                             |               | 4,000               | 120                 |                      | 40,000              |                                |                                    |
| Lab Report Number            | Sample Code                    | Field ID      | Date           | Denth | Matrix Type |                                  |                         |                         |                      |                      |                     |                      |                  |                  |               |                                |                                    |                             |               |                     |                     |                      |                     |                                |                                    |
| 901484                       | S22-Jn0063769                  |               | 21/06/22       |       | Soil        | <0.4                             | <1                      | <1                      | <0.5                 | <0.5                 | <5                  | <0.5                 | <0.5             | <0.2             | <1            | <5                             | <20                                | <1                          | <5            | <0.5                | <1                  | <10                  | <0.5                | <1                             | <20                                |
| 901484                       | S22-Jn0063770                  |               | 21/06/22       |       | Soil        | 0.4                              | <1                      | <1                      | <0.5                 | <0.5                 | <5                  | <0.5                 | <0.5             | <0.2             | <1            | <5                             | <20                                | <1                          | <5            | <0.5                | <1                  | <10                  | <0.5                | <1                             | <20                                |
| 901484                       | S22-Jn0063771                  |               | 21/06/22       |       | Soil        | <0.4                             | <1                      | <1                      | <0.5                 | <0.5                 | <5                  | <0.5                 | <0.5             | <0.2             | <1            | <5                             | <20                                | <1                          | <5            | <0.5                | <1                  | <10                  | <0.5                | <1                             | <20                                |
| 901484                       | S22-Jn0063772                  |               | 21/06/22       |       | Soil        | <0.4                             | <1                      | <1                      | <0.5                 | <0.5                 | <5                  | <0.5                 | <0.5             | <0.2             | <1            | <5                             | <20                                | <1                          | <5            | <0.5                | <1                  | <10                  | <0.5                | <1                             | <20                                |
| 901484                       | S22-Jn0063773                  |               | 21/06/22       |       | Soil        | <0.4                             | <1                      | <1                      | <0.5                 | <0.5                 | <5                  | <0.5                 | <0.5             | <0.2             | <1            | <5                             | <20                                | <1                          | <5            | <0.5                | <1                  | <10                  | <0.5                | <1                             | <20                                |
| 901484                       | S22-Jn0063774                  |               | 21/06/22       | 0.2   | Soil        | <0.4                             | <1                      | <1                      | <0.5                 | <0.5                 | <5                  | <0.5                 | <0.5             | <0.2             | <1            | <5                             | <20                                | <1                          | <5            | <0.5                | <1                  | <10                  | <0.5                | <1                             | <20                                |
| 901484                       | S22-Jn0063775                  | BH07/0.2      | 21/06/22       | 0.2   | Soil        | <0.4                             | <1                      | <1                      | <0.5                 | <0.5                 | <5                  | <0.5                 | <0.5             | <0.2             | <1            | <5                             | <20                                | <1                          | <5            | <0.5                | <1                  | <10                  | <0.5                | <1                             | <20                                |
| 901484                       | S22-Jn0063776                  | BH08/ 0.2     | 21/06/22       | 0.2   | Soil        | <0.4                             | <1                      | <1                      | <0.5                 | <0.5                 | <5                  | <0.5                 | <0.5             | <0.2             | <1            | <5                             | <20                                | <1                          | <5            | <0.5                | <1                  | <10                  | <0.5                | <1                             | <20                                |
| 901484                       | S22-Jn0063777                  | BH09/0.2      | 21/06/22       | 0.2   | Soil        | <0.4                             | <1                      | <1                      | <0.5                 | <0.5                 | <5                  | <0.5                 | <0.5             | <0.2             | <1            | <5                             | <20                                | <1                          | <5            | <0.5                | <1                  | <10                  | <0.5                | <1                             | <20                                |
| 901484                       | S22-Jn0063778                  | BH10/0.2      | 20/06/22       | 0.2   | Soil        | <0.4                             | <1                      | <1                      | <0.5                 | <0.5                 | <5                  | <0.5                 | <0.5             | <0.2             | <1            | <5                             | <20                                | <1                          | <5            | <0.5                | <1                  | <10                  | <0.5                | <1                             | <20                                |
| 901484                       | S22-Jn0063779                  | BH11/0.2      | 20/06/22       | 0.2   | Soil        | <0.4                             | <1                      | <1                      | <0.5                 | <0.5                 | <5                  | <0.5                 | <0.5             | <0.2             | <1            | <5                             | <20                                | <1                          | <5            | <0.5                | <1                  | <10                  | <0.5                | <1                             | <20                                |
| 901484                       | S22-Jn0063780                  | BH11/2.5      | 20/06/22       | 2.5   | Soil        | <0.4                             | <1                      | <1                      | <0.5                 | <0.5                 | <5                  | <0.5                 | <0.5             | <0.2             | <1            | <5                             | <20                                | <1                          | <5            | <0.5                | <1                  | <10                  | <0.5                | <1                             | <20                                |
| 901484                       | S22-Jn0063781                  | BH12/0.2      | 20/06/22       | 0.2   | Soil        | <0.4                             | <1                      | <1                      | <0.5                 | <0.5                 | <5                  | <0.5                 | <0.5             | <0.2             | <1            | <5                             | <20                                | <1                          | <5            | <0.5                | <1                  | <10                  | <0.5                | <1                             | <20                                |
| 901484                       | S22-Jn0063782                  | BH12/2.5      | 20/06/22       | 2.5   | Soil        | <0.4                             | <1                      | <1                      | <0.5                 | <0.5                 | <5                  | <0.5                 | <0.5             | <0.2             | <1            | <5                             | <20                                | <1                          | <5            | <0.5                | <1                  | <10                  | <0.5                | <1                             | <20                                |
| 901484                       | S22-Jn0063783                  | BH13/0.2      | 20/06/22       | 0.2   | Soil        | <0.4                             | <1                      | <1                      | <0.5                 | <0.5                 | <5                  | <0.5                 | <0.5             | <0.2             | <1            | <5                             | <20                                | <1                          | <5            | <0.5                | <1                  | <10                  | <0.5                | <1                             | <20                                |
| 901484                       | S22-Jn0063784                  | BH13/2.5      | 20/06/22       | 2.5   | Soil        | <0.4                             | <1                      | <1                      | <0.5                 | <0.5                 | <5                  | <0.5                 | <0.5             | <0.2             | <1            | <5                             | <20                                | <1                          | <5            | <0.5                | <1                  | <10                  | <0.5                | <1                             | <20                                |
| 901484                       | S22-Jn0063785                  | BH14/0.2      | 20/06/22       | 0.2   | Soil        | <0.4                             | <1                      | <1                      | <0.5                 | <0.5                 | <5                  | <0.5                 | <0.5             | <0.2             | <1            | <5                             | <20                                | <1                          | <5            | <0.5                | <1                  | <10                  | <0.5                | <1                             | <20                                |
| 901484                       | S22-Jn0063786                  | BH14/1.0      | 20/06/22       | 1     | Soil        | <0.4                             | <1                      | <1                      | <0.5                 | <0.5                 | <5                  | <0.5                 | <0.5             | <0.2             | <1            | <5                             | <20                                | <1                          | <5            | <0.5                | <1                  | <10                  | <0.5                | <1                             | <20                                |
| 901484                       | S22-Jn0063793                  | BH15/0.2      | 20/06/22       | 0.2   | Soil        | <0.4                             | <1                      | <1                      | <0.5                 | <0.5                 | <5                  | <0.5                 | <0.5             | <0.2             | <1            | <5                             | <20                                | <1                          | <5            | <0.5                | <1                  | <10                  | <0.5                | <1                             | <20                                |
| 901484                       |                                | <del>-</del>  | 20/06/22       |       | Soil        | <0.4                             | <1                      | <1                      | <0.5                 | <0.5                 | <5                  | <0.5                 | <0.5             | <0.2             | <1            | <5                             | <20                                | <1                          | <5            | <0.5                | <1                  | <10                  | <0.5                | <1                             | <20                                |
| 901484                       |                                |               |                |       | Soil        | <0.4                             | <1                      | <1                      | <0.5                 | <0.5                 | <5                  | <0.5                 | <0.5             | <0.2             | <1            | <5                             | <20                                | <1                          | <5            | <0.5                | <1                  | <10                  | <0.5                | <1                             | <20                                |
| 901484                       | S22-Jn0063790                  |               |                |       | Soil        | <0.4                             | <1                      | <1                      | <0.5                 | <0.5                 | <5                  | <0.5                 | <0.5             | <0.2             | <1            | <5                             | <20                                | <1                          | <5            | <0.5                | <1                  | <10                  | <0.5                | <1                             | <20                                |
| 901484                       |                                | <u> </u>      |                |       | Soil        | <0.4                             | <1                      | <1                      | <0.5                 | <0.5                 | <5                  | <0.5                 | <0.5             | <0.2             | <1            | <5                             | <20                                | <1                          | <5            | <0.5                | <1                  | <10                  | <0.5                | <1                             | <20                                |
| 901484                       | S22-Jn0063792                  |               |                |       | Soil        | <0.4                             | <1                      | <1                      | <0.5                 | <0.5                 | <5                  | <0.5                 | <0.5             | <0.2             | <1            | <5                             | <20                                | <1                          | <5            | <0.5                | <1                  | <10                  | <0.5                | <1                             | <20                                |
| 901484<br>901484             | S22-Jn0063787<br>S22-Jn0063788 |               |                |       | Soil        | <0.4                             | <1<br><1                | <1<br><1                | <0.5<br><0.5         | <0.5<br><0.5         | <5<br><5            | <0.5<br><0.5         | <0.5<br><0.5     | <0.2             | <1<br><1      | <5<br><5                       | <20<br><20                         | <1<br><1                    | <5<br><5      | <0.5<br><0.5        | <1<br><1            | <10<br><10           | <0.5<br><0.5        | <1<br><1                       | <20<br><20                         |
| Statistics                   | 322-3110003788                 | 101000374.3   | 20/00/22       | 7.3   | 3011        | 10.4                             | \1                      | \1                      | 10.5                 | <b>VO.</b> 3         | \ \                 | <b>VO.</b> 3         | <b>VO.</b> 3     | NO.2             | \1            | \ \                            | 120                                | \1                          |               | <b>VO.</b> 5        |                     | 110                  | <b>VO.</b> 3        | \1                             | 120                                |
| Number of Results            |                                |               |                |       |             | 26                               | 26                      | 26                      | 26                   | 26                   | 26                  | 26                   | 26               | 26               | 26            | 26                             | 26                                 | 26                          | 26            | 26                  | 26                  | 26                   | 26                  | 26                             | 26                                 |
| Number of Detects            |                                |               |                |       |             | 1                                | 0                       | 0                       | 0                    | 0                    | 0                   | 0                    | 0                | 0                | 0             | 0                              | 0                                  | 0                           | 0             | 0                   | 0                   | 0                    | 0                   | 0                              | 0                                  |
| Minimum Concentration        |                                |               |                |       |             | 0.4                              | <1                      | <1                      | <0.5                 | <0.5                 | <5                  | <0.5                 | <0.5             | <0.2             | <1            | <5                             | <20                                | <1                          | <5            | <0.5                | <1                  | <10                  | <0.5                | <1                             | <20                                |
| Minimum Detect               |                                |               |                |       |             | 0.4                              | ND                      | ND                      | ND                   | ND                   | ND                  | ND                   | ND               | ND               | ND            | ND                             | ND                                 | ND                          | ND            | ND                  | ND                  | ND                   | ND                  | ND                             | ND                                 |
| Maximum Concentration        | -                              |               |                |       |             | 0.4                              | <1                      | <1                      | <0.5                 | <0.5                 | <5                  | <0.5                 | <0.5             | <0.2             | <1            | <5                             | <20                                | <1                          | <5            | <0.5                | <1                  | <10                  | <0.5                | <1                             | <20                                |
| Maximum Detect               |                                |               |                |       |             | 0.4                              | ND                      | ND                      | ND                   | ND                   | ND                  | ND                   | ND               | ND               | ND            | ND                             | ND                                 | ND                          | ND            | ND                  | ND                  | ND -                 | ND                  | ND                             | ND                                 |
| Average Concentration *      |                                |               |                |       |             | 0.21                             | 0.5                     | 0.5                     | 0.25                 | 0.25                 | 2.5                 | 0.25                 | 0.25             | 0.1              | 0.5           | 2.5                            | 10                                 | 0.5                         | 2.5           | 0.25                | 0.5                 | 5                    | 0.25                | 0.5                            | 10                                 |
| Median Concentration *       |                                |               |                |       |             | 0.2                              | 0.5                     | 0.5                     | 0.25                 | 0.25                 | 2.5                 | 0.25                 | 0.25             | 0.1              | 0.5           | 2.5                            | 10                                 | 0.5                         | 2.5           | 0.25                | 0.5                 | 5                    | 0.25                | 0.5                            | 10                                 |
| Standard Deviation *         |                                |               |                |       |             | 0.039                            | 0                       | 0                       | 0                    | 0                    | 0                   | 0                    | 0                | 0                | 0             | 0                              | 0                                  | 0                           | 0             | 0                   | 0                   | 0                    | 0                   | 0                              | 10                                 |
| 95% UCL (Student's-t) *      |                                |               |                |       |             | 0.221                            | 0.5                     | 0.5                     | 0.25                 | 0.25                 | 2.5                 | 0.25                 | 0.25             | 0.1              | 0.5           | 2.5                            | 10                                 | 0.5                         | 2.5           | 0.25                | 0.5                 | 5                    | 0.25                | 0.5                            | 10                                 |
| % of Detects                 |                                |               |                |       |             | 4                                | 100                     | 100                     | 100                  | 100                  | 100                 | 100                  | 100              | 100              | 100           | 100                            | 100                                | 100                         | 100           | 100                 | 100                 | 100                  | 100                 | 100                            | 100                                |
| % of Non-Detects             | 0.5.5                          | 1:            |                |       |             | 96                               | 100                     | 100                     | 100                  | 100                  | 100                 | 100                  | 100              | 100              | 100           | 100                            | 100                                | 100                         | 100           | 100                 | 100                 | 100                  | 100                 | 100                            | 100                                |
| * A Non Detect Multiplier of | U.5 has been app               | iied.         |                |       |             |                                  |                         |                         |                      |                      |                     |                      |                  |                  |               |                                |                                    |                             |               |                     |                     |                      |                     |                                |                                    |

<sup>\*</sup> A Non Detect Multiplier of 0.5 has been applied.

#### **Environmental Standards**

NEPM, NEPM 2013 Table 1B(7) Management Limits in Res/Parkland, Fine Soil

NEPM, 2013, NEPM 2013 Table 7 Rec C HSL for Asbestos in Soil

HEPA, January 2020, PFAS NEMP 2020 Ecological direct exposure

HEPA, January 2020, PFAS NEMP 2020 Public open space (HIL C)

HEPA, January 2020, PFAS NEMP 2020 Residential with garden/accessible soil (HIL A)

2013, NEPM 2013 Table 1A(3) Rec C Soil HSL for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1A(3) Res A/B Soil HSL for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1B(6) ESLs for Urban Res, Fine Soil

2013, NEPM 2013 Table 1A(1) HILs Res A Soil 2013, NEPM 2013 Table 1A(1) HILs Rec C Soil

#### 9. Water Phenols, CH, HB and Herb



Halogenated Benzenes

|   |                              | 3&4-Methylphenol<br>(m&p-cresol) | 2,4,5-Trichlorophenol | . 2,4,6-Trichlorophenol | 2,4-Dichlorophenol | 2,4-Dimethylphenol | 2,4-Dinitrophenol | . 2,6-Dichlorophenol | 2-Chlorophenol | 2-Methylphenol | 2-Nitrophenol | 4,6-Dinitro-2-<br>methylphenol | 4,6-Dinitro-o-cyclohexyl<br>phenol | 4-chloro-3-<br>methylphenol | 4-Nitrophenol     | Cres ol Total | . Pentachlorophenol | . Tetrachlorophenols | Phenol | Phenols (Total<br>Halogenated) | Phenols (Total Non<br>Halogenated) | Benzal Chloride | Benzotrichloride | Benzyl chloride            | . Hexachlorobutadiene | Hexachlorocyclopentadi<br>ene | Hexachloroethane | 1,2,3,4-<br>tetrachlorobenzene | 1,2,3,5-<br>Tetrachlorobenzene | 1,2,3-trich lorobenzene | 1,2,4,5-<br>tetrachlorobenzene | 1,2,4-trich lorobenzene | 1,2-dichlorobenzene | 1,3,5-Trichlorobenzene | 1,3-dichlorobenzene | 1,4-dichlorobenzene | Hexachlorobenzene | . Pentachlorobenzene | Dinoseb              |
|---|------------------------------|----------------------------------|-----------------------|-------------------------|--------------------|--------------------|-------------------|----------------------|----------------|----------------|---------------|--------------------------------|------------------------------------|-----------------------------|-------------------|---------------|---------------------|----------------------|--------|--------------------------------|------------------------------------|-----------------|------------------|----------------------------|-----------------------|-------------------------------|------------------|--------------------------------|--------------------------------|-------------------------|--------------------------------|-------------------------|---------------------|------------------------|---------------------|---------------------|-------------------|----------------------|----------------------|
|   |                              | μg/L                             | μg/L                  | μg/L                    | μg/L               | μg/L               | mg/L              | μg/L                 | μg/L           | μg/L           | μg/L          | μg/L                           | μg/L                               | μg/L                        | μg/L              | mg/L          | μg/L                | μg/L                 | μg/L   | mg/L                           | mg/L                               | μg/L            | μg/L             | mg/L                       | μg/L                  | μg/L                          | μg/L             | mg/L                           | mg/L                           | μg/L                    | μg/L                           | μg/L                    | μg/L                | μg/L                   | μg/L                | μg/L                | μg/L              | μg/L                 | μg/L                 |
| EQL   |                              | 6                                | 10                    | 10                      | 3                  | 3                  | 0.03              | 3                    | 3              | 3              | 10            | 30                             | 100                                | 10                          | 30                | 0.01          | 10                  | 30                   | 3      | 0.01                           | 0.1                                | 0.1             | 0.1              | 0.005                      | 5                     | 5                             | 5                | 0.005                          | 0.005                          | 5                       | 5                              | 5                       | 5                   | 5                      | 5                   | 5                   | 5                 | 5                    | 100                  |
| ANZG (2018) Freshwater 95% LOSP Toxicant DGVs   |                              |                                  |                       | 20                      | 160                |                    | 0.045             |                      | 490            |                |               |                                |                                    |                             |                   |               | 10                  |                      | 320    |                                |                                    |                 |                  |                            |                       |                               | 360              | 0.004                          | 0.005                          | 10                      | 7                              | 170                     | 160                 | 13                     | 260                 | 60                  | 0.1               | 2                    |                      |
| ANZG (2018) Marine Water 95% LOSP Toxicant DGVs   |                              |                                  |                       |                         |                    |                    |                   |                      |                |                |               |                                |                                    |                             |                   |               | 22                  |                      | 400    |                                |                                    |                 |                  |                            |                       |                               |                  | 0.004                          | 0.005                          |                         | 5                              | 80                      |                     | 13                     |                     |                     | 0.1               | 2                    |                      |
| PFAS NEMP 2020 Freshwater 95%   |                              |                                  |                       |                         |                    |                    |                   |                      |                |                |               |                                |                                    |                             |                   |               |                     |                      |        |                                |                                    |                 |                  |                            |                       |                               |                  |                                |                                |                         |                                |                         |                     |                        |                     |                     |                   |                      |                      |
| PFAS NEMP 2020 Interim Marine 95%   |                              |                                  |                       |                         |                    |                    |                   |                      |                |                |               |                                |                                    |                             |                   |               |                     |                      |        |                                |                                    |                 |                  |                            |                       |                               |                  |                                |                                |                         |                                |                         |                     |                        |                     |                     |                   |                      |                      |
| NEPM 2013 Table 1C GILs, Fresh Waters   |                              |                                  |                       | 3                       | 120                |                    | 0.045             |                      | 340            |                |               |                                |                                    |                             |                   |               | 3.6                 |                      | 320    |                                |                                    |                 |                  |                            |                       |                               | 290              |                                |                                | 3                       |                                | 85                      | 160                 |                        | 260                 | 60                  |                   |                      |                      |
| NEPM 2013 Table 1C GILs, Marine Waters  |                              |                                  |                       |                         |                    |                    |                   |                      |                |                |               |                                |                                    |                             |                   |               | 11                  |                      | 400    |                                |                                    |                 |                  |                            |                       |                               |                  |                                |                                |                         |                                | 20                      |                     |                        |                     |                     |                   |                      |                      |
| NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion<br>NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Cla |                              |                                  |                       |                         |                    |                    |                   |                      |                |                |               |                                |                                    |                             |                   |               |                     |                      |        |                                |                                    |                 |                  |                            |                       |                               |                  |                                |                                |                         |                                |                         |                     |                        |                     |                     |                   |                      |                      |
| NEPIVI 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Cia  | dy                           |                                  |                       |                         |                    |                    |                   |                      |                |                |               |                                |                                    |                             |                   |               |                     |                      |        |                                |                                    |                 |                  |                            |                       |                               |                  |                                |                                |                         |                                |                         |                     |                        |                     |                     | $\overline{}$     |                      |                      |
| 902403 S22-JI0001340 MW01 28/06/22 6<br>902403 S22-JI0001341 MW02 28/06/22 3  | Matrix Typ<br>Water<br>Water | <6<br><6<br><6                   | <10<br><10            | <10<br><10              | <3                 | <3                 | <0.03             | <3                   | 3 3            | <3<br><3<br><3 | <10<br><10    | <30<br><30<br><30              | <100<br><100                       | <10<br><10                  | <30<br><30<br><30 |               | <10<br><10          | <30<br><30<br><30    | <3     | <0.01                          | <0.1                               | <0.1            | <0.1             | <0.005<br><0.005<br><0.005 | <5<br><5              | <5<br><5<br><5                | <5<br><5<br><5   | <0.005<br><0.005<br><0.005     | <0.005<br><0.005<br><0.005     | <5<br><5<br><5          | <5<br><5                       | <5<br><5                | <5<br><5<br><5      | <5<br><5               | <5<br><5            | <5<br><5<br><5      | <5<br><5          | <5<br><5             | <100<br><100<br><100 |
| 902403   S22-310001342   MW03   26/06/22   2  | Water                        | <0                               | <10                   | <10                     | <3                 | <3                 | <0.03             | <3                   | <3             | < 5            | <10           | <30                            | <100                               | <10                         | <30               | <0.01         | <10                 | <30                  | <3     | <0.01                          | <0.1                               | <0.1            | <0.1             | <0.005                     | <5                    | (5)                           | <5               | <0.005                         | <0.005                         |                         | <5                             | <5                      |                     | <5                     | <5                  | - 45                | <5                | <5                   | <100                 |
| Number of Results   |                              | 3                                | 3                     | 3                       | 3                  | 3                  | 3                 | 3                    | 3              | 3              | 3             | 3                              | 3                                  | 3                           | 3                 | 3             | 3                   | 3                    | 3      | 3                              | 3                                  | 3               | 3                | 3                          | 3                     | 3                             | 3                | 3                              | 3                              | 3                       | 3                              | 3                       | 3                   | 3                      | 3                   | 3                   | 3                 | 3                    | 3                    |
| Number of Detects   |                              | 0                                | 0                     | 0                       | 0                  | 0                  | 0                 | 0                    | 0              | 0              | 0             | 0                              | 0                                  | 0                           | 0                 | 0             | 0                   | 0                    | 0      | 0                              | 0                                  | 0               | 0                | 0                          | 0                     | 0                             | 0                | 0                              | 0                              | 0                       | 0                              | 0                       | 0                   | 0                      | 0                   | 0                   | 0                 | 0                    | 0                    |
| Minimum Concentration   |                              | <6                               | <10                   | <10                     | <3                 | <3                 | <0.03             | <3                   | <3             | <3             | <10           | <30                            | <100                               | <10                         | <30               | <0.01         | <10                 | <30                  | <3     | <0.01                          | <0.1                               | <0.1            | <0.1             | <0.005                     | <5                    | <5                            | <5               | <0.005                         | <0.005                         | <5                      | <5                             | <5                      | <5                  | <5                     | <5                  | <5                  | <5                | <5                   | <100                 |
| Minimum Detect  |                              | ND                               | ND                    | ND                      | ND                 | ND                 | ND                | ND                   | ND             | ND             | ND            | ND                             | ND                                 | ND                          | ND                | ND            | ND                  | ND                   | ND     | ND                             | ND                                 | ND              | ND               | ND                         | ND                    | ND                            | ND               | ND                             | ND                             | ND                      | ND                             | ND                      | ND                  | ND                     | ND                  | ND                  | ND                | ND                   | ND                   |
| Maximum Concentration   |                              | <6                               | <10                   | <10                     | <3                 | <3                 | <0.03             | <3                   | <3             | <3             | <10           | <30                            | <100                               | <10                         | <30               | <0.01         | <10                 | <30                  | <3     | <0.01                          | <0.1                               | <0.1            | <0.1             | <0.005                     | <5                    | <5                            | <5               | <0.005                         | <0.005                         | <5                      | <5                             | <5                      | <5                  | <5                     | <5                  | <5                  | <5                | <5                   | <100                 |
| Maximum Detect  |                              | ND                               | ND                    | ND                      | ND                 | ND                 | ND                | ND                   | ND             | ND             | ND            | ND                             | ND                                 | ND                          | ND                | ND            | ND                  | ND                   | ND     | ND                             | ND                                 | ND              | ND               | ND                         | ND                    | ND                            | ND               | ND                             | ND                             | ND                      | ND                             | ND                      | ND                  | ND                     | ND                  | ND                  | ND                | ND                   | ND                   |
| Average Concentration *   |                              | 3                                | 5                     | 5                       | 1.5                | 1.5                | 0.015             | 1.5                  | 1.5            | 1.5            | 5             | 15                             | 50                                 | 5                           | 15                | 0.005         | 5                   | 15                   | 1.5    | 0.005                          | 0.05                               | 0.05            | 0.05             | 0.0025                     | 2.5                   | 2.5                           | 2.5              | 0.0025                         | 0.0025                         | 2.5                     | 2.5                            | 2.5                     | 2.5                 | 2.5                    | 2.5                 | 2.5                 | 2.5               | 2.5                  | 50                   |
| Median Concentration *  |                              | 3                                | 5                     | 5                       | 1.5                | 1.5                | 0.015             | 1.5                  | 1.5            | 1.5            | 5             | 15                             | 50                                 | 5                           | 15                | 0.005         | 5                   | 15                   | 1.5    | 0.005                          | 0.05                               | 0.05            | 0.05             | 0.0025                     | 2.5                   | 2.5                           | 2.5              | 0.0025                         | 0.0025                         | 2.5                     | 2.5                            | 2.5                     | 2.5                 | 2.5                    | 2.5                 | 2.5                 | 2.5               | 2.5                  | 50                   |
| Standard Deviation *  |                              | 0                                | 0                     | 0                       | 0                  | 0                  | 0                 | 0                    | 0              | 0              | 0             | 0                              | 0                                  | 0                           | 0                 | 0             | 0                   | 0                    | 0      | 0                              | 0                                  | 0               | 0                | 0                          | 0                     | 0                             | 0                | 0                              | 0                              | 0                       | 0                              | 0                       | 0                   | 0                      | 0                   | 0                   | 0                 | 0                    | 0                    |
| 95% UCL (Student's-t) *   |                              | 3                                | 5                     | 5                       | 1.5                | 1.5                | 0.015             | 1.5                  | 1.5            | 1.5            | 5             | 15                             | 50                                 | 5                           | 15                | 0.005         | 5                   | 15                   | 1.5    | 0.005                          | 0.05                               | 0.05            | 0.05             | 0.0025                     | 2.5                   | 2.5                           | 2.5              | 0.0025                         | 0.0025                         | 2.5                     | 2.5                            | 2.5                     | 2.5                 | 2.5                    | 2.5                 | 2.5                 | 2.5               | 2.5                  | 50                   |
| % of Detects  |                              | 0                                | 0                     | 0                       | 0                  | 0                  | 0                 | 0                    | 0              | 0              | 0             | 0                              | 0                                  | 0                           | 0                 | 0             | 0                   | 0                    | 0      | 0                              | 0                                  | 0               | 0                | 0                          | 0                     | 0                             | 0                | 0                              | 0                              | 0                       | 0                              | 0                       | 0                   | 0                      | 0                   | 0                   | 0                 | 0                    | 0                    |
| % of Non-Detects  |                              | 100                              | 100                   | 100                     | 100                | 100                | 100               | 100                  | 100            | 100            | 100           | 100                            | 100                                | 100                         | 100               | 100           | 100                 | 100                  | 100    | 100                            | 100                                | 100             | 100              | 100                        | 100                   | 100                           | 100              | 100                            | 100                            | 100                     | 100                            | 100                     | 100                 | 100                    | 100                 | 100                 | 100               | 100                  | 100                  |
| * A Non Detect Multiplier of 0.5 has been applied.  |                              |                                  |                       |                         |                    |                    |                   |                      |                | ,,,,           |               |                                |                                    |                             |                   |               |                     |                      |        |                                |                                    |                 | -                |                            |                       |                               |                  |                                |                                |                         |                                |                         |                     |                        |                     | , ,,                |                   |                      |                      |

Environmental Standards

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs
ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs
HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%
HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%
2013, NEPM 2013 Table 1C GILS, Fresh Waters
2013, NEPM 2013 Table 1C GILS, Marine Waters
2013, NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Clay
2013, NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Clay

### 10. Water Hydrocarbons, PCBs



|                            |                   |           |                                |                    |         |         | BTEX         |        |            |              |                                |            |                   |                 |                       |                      |                      | PAH      |                       |              |          |             |              |        |                     |               |               | P                              | CBs      |  |                                      | So             | vents   |        |          |        |         |        | TP      | PH      |                        |                        |         |                                       | 7        |
|----------------------------|-------------------|-----------|--------------------------------|--------------------|---------|---------|--------------|--------|------------|--------------|--------------------------------|------------|-------------------|-----------------|-----------------------|----------------------|----------------------|----------|-----------------------|--------------|----------|-------------|--------------|--------|---------------------|---------------|---------------|--------------------------------|----------|--|--------------------------------------|----------------|---------|--------|----------|--------|---------|--------|---------|---------|------------------------|------------------------|---------|---------------------------------------|----------|
|                            |                   |           |                                |                    |         |         |              |        |            |              |                                |            | Ī                 |                 |                       |                      |                      |          | a                     |              |          | שַ          |              |        |                     |               |               |                                |          |  |                                      | 33             |         |        | $\top$   | $\top$ | $\top$  | T      |         |         |                        |                        |         |                                       | 1        |
|                            |                   |           |                                | Naphthalene (BTEX) | Benzene | Toluene | Ethylbenzene | Xylene | Xylene (o) | Xylene Total | Acenaphthene<br>Acenaphthylene | Anthracene | Benz(a)anthracene | Benzo(a) pyrene | Benzo(b+j)fluoranthen | Benzo(g,h,i)perylene | Benzo(k)fluoranthene | Chrysene | Dibenz(a,h)anthracene | Fluoranthene | Fluorene | Naphthalene | Phenanthrene | Pyrene | PAHs (Sum of total) | Arochlor 1016 | Arochlor 1221 | Arochlor 1232<br>Arochlor 1242 | Arochlor | Arochlor 1254                                    | Arochlor 1260<br>PCBs (Sum of total) | Methyl Ethyl K | Acetone | 6-93   | <u> </u> |        | C29-C36 | C6-C10 | C10-C16 | C16-C34 | C10-C36 (Sum of total) | C10-C40 (Sum of total) | C34-C40 | F1 minus BTEX<br>F2 minus Naphthalene |          |
|                            |                   |           |                                |                    |         | μg/L    |              |        |            |              | g/L μg/                        |            |                   |                 |                       |                      |                      |          |                       | μg/L με      |          |             |              | μg/L   |                     |               |               |                                |          |  | ıg/L μg/                             |                | mg/     |        |          |        |         |        | mg/L    |         |                        |                        |         | ng/L mg/L                             |          |
| EQL                        |                   |           |                                | 0.01               | _       | 1       |              |        |            | 3 :          | 1 1                            | 1          | _                 |                 | 0.001                 | 1                    | 1                    | 1        |                       | 1            | 1 1      | . 1         |              | 1      | 1                   | 5             | 5 5           | 5 5                            | _        |  | 5 5                                  | 5              | 0.00    | 5 20   | 50       | 100    | 100     | 0.02   | 0.05    | 0.1     | 100                    | 100                    | 0.1     | 0.02 0.05                             |          |
| ANZG (2018) Freshwater 95  | 5% LOSP Toxicant  | DGVs      |                                |                    |         | 180     |              | - 3    | 350        |              |                                | 0.4        |                   | 0.2             |                       |                      |                      |          |                       | 1.4          |          |             | 2            |        |                     |               |               | 0.6                            |          | 0.03   |                                      |                |         |        |          |        |         | 4      |         |         |                        |                        |         |                                       | 4        |
| ANZG (2018) Marine Water   | 95% LOSP Toxica   | nt DGVs   |                                | 0.07               | 700     | 180     | 80           |        |            |              |                                | 0.4        |                   | 0.2             |                       |                      |                      |          |                       | 1.4          |          | 70          | 2            |        |                     |               |               |                                |          |  |                                      |                |         |        |          | 4      |         | 4      | $\perp$ |         |                        |                        |         |                                       | 4        |
| PFAS NEMP 2020 Freshwat    | er 95%            |           |                                |                    |         |         |              |        |            |              |                                |            |                   |                 |                       |                      |                      |          |                       |              |          |             |              |        |                     |               |               |                                |          |  |                                      |                |         |        |          |        |         |        |         |         |                        |                        |         |                                       | 4        |
| PFAS NEMP 2020 Interim M   |                   |           |                                |                    |         |         |              |        |            |              |                                |            |                   |                 |                       |                      |                      |          |                       |              |          |             |              |        |                     |               |               |                                |          |  |                                      |                |         |        |          |        |         |        |         |         |                        |                        |         |                                       | 4        |
| NEPM 2013 Table 1C GILs, I | Fresh Waters      |           |                                | 0.016              | 950     |         |              |        | 350 5      | 50           |                                |            |                   |                 |                       |                      |                      |          |                       |              |          | 16          |              |        |                     |               |               | 0.3                            |          | 0.01   |                                      |                |         |        |          |        |         |        |         |         |                        |                        |         |                                       | 4        |
| NEPM 2013 Table 1C GILs, I |                   |           |                                | 0.05               | 500     |         |              |        |            |              |                                |            |                   |                 |                       |                      |                      |          |                       |              |          | 50          |              |        |                     |               |               |                                |          |  |                                      |                |         |        |          |        |         |        |         |         |                        |                        |         |                                       | 4        |
| NEPM 2013 Table 1A(4) Res  | s HSL A & B GW fo | r Vapoui  | r Intrusion, Clay              |                    | 5000    | )       |              |        |            |              |                                |            |                   |                 |                       |                      |                      |          |                       |              |          |             |              |        |                     |               |               |                                |          |  |                                      |                |         |        |          |        |         |        |         |         |                        |                        |         |                                       | 4        |
| NEPM 2013 Table 1A(4) Red  | c HSL C GW for Va | pour Inti | rusion, Clay                   |                    |         |         |              |        |            |              |                                |            |                   |                 |                       |                      |                      |          |                       |              |          |             |              |        |                     |               |               |                                |          |  |                                      |                |         |        |          |        |         |        |         |         |                        |                        |         |                                       | 4        |
| Lab Report Sample Code     | 1 1               | Ta<br>(m  | ater<br>ble<br>bgs) Matrix Typ |                    |         |         |              |        |            |              |                                |            |                   |                 |                       |                      |                      |          |                       |              |          |             |              |        |                     |               |               | -                              |          |  |                                      | 1              |         |        |          |        |         |        |         |         |                        |                        |         |                                       |          |
| 902403 S22-Jl0001340       | MW01 28/06        | /22       | 6 Water                        | <0.02              | l <1    | <1      | <1 <         | <2     | <1 <       | <3 <         | 1 <1                           | <1         | <1                | <1              | <0.001                | <1                   | <1                   | <1       | <1                    | <1 <         | :1 <     | 1 <1        | <1           | <1     | <1                  | <5            | <5 <          | <5 <5                          | <5       | <5   | <5 <5                                | <5             | <0.00   | 05 <20 | 50> ل    | 100    | <100    | <0.02  | <0.05   | <0.1    | 100                    | <100                   | <0.1 <  | 0.02 < 0.05                           | 4        |
| 902403 S22-Jl0001341       | MW02 28/06        | /22       | 3 Water                        | <0.02              | l <1    | <1      | <1 <         | <2     | <1 <       | <3 <         | 1 <1                           | <1         | <1                | <1              | <0.001                | <1                   | <1                   | <1       | <1                    | <1 <         | 1 <      | 1 <1        | <1           | <1     | <1                  | <5            | <5 <          | <5 <5                          | <5       | <5   | <5 <5                                | <5             | <0.00   | 05 <20 | ) 90     | 1,10   | 300     | <0.02  | 0.17    | 1.2     | 1,490 1                | 1,470                  | 0.1 <   | 0.02 0.17                             |          |
| 902403 S22-Jl0001342       | MW03 28/06        | /22       | 2 Water                        | <0.03              | l <1    | <1      | <1 -         | <2     | <1 <       | <3 <         | 1 <1                           | <1         | <1                | <1              | <0.001                | <1                   | <1                   | <1       | <1                    | <1 <         | 1 <      | 1 <1        | <1           | <1     | <1                  | <5            | <5 <          | <5 <5                          | <5       | <5   | <5 <5                                | <5             | <0.00   | 05 <20 | ) <50    | ) <100 | <100 م  | <0.02  | <0.05   | <0.1    | <100 ·                 | <100                   | <0.1    | :0.02 <0.05                           |          |
| Statistics                 |                   |           |                                |                    |         |         |              |        |            |              |                                |            |                   |                 |                       |                      |                      |          |                       |              |          |             |              |        |                     |               |               |                                |          |  |                                      |                |         |        |          |        |         |        |         |         |                        |                        |         |                                       |          |
| Number of Results          |                   |           |                                | 3                  | 3       | 3       | 3            | 3      | 3          | 3 :          | 3 3                            | 3          | 3                 | 3               | 3                     | 3                    | 3                    | 3        | 3                     | 3            | 3 3      | 3           | 3            | 3      | 3                   | 3             | 3 3           | 3 3                            | 3        | 3  | 3 3                                  | 3              | 3       | 3      | 3        | 3      | 3       | 3      | 3       | 3       | 3                      | 3                      | 3       | 3 3                                   | 1        |
| Number of Detects          |                   |           |                                | 0                  | 0       | _       | -            | -      | _          |              | 0 0                            | 0          | 0                 | 0               | 0                     | 0                    | 0                    |          |                       |              |          | 0           |              | 0      |                     |               |               | 0 0                            |          | 0  | 0 0                                  |                | 0       |        |          |        |         | 0      | 1       | 1       |                        |                        | 1       | 0 1                                   | 1        |
| Minimum Concentration      |                   |           |                                | <0.03              | + -     |         | -            |        |            |              | 1 <1                           | _          | <1                | -               | <0.001                | + -                  | <1                   | _        |                       | <1 <         |          | 1 <1        |              | + -    | -                   |               |               | 5 <5                           | _        | 1  | <5 <5                                | _              | _       | 05 <20 | _        | _      | _       |        | <0.05   |         |                        |                        |         | 0.02 <0.05                            | ١        |
| Minimum Detect             |                   |           |                                | ND                 |         | _       |              |        |            | _            | ID ND                          |            | +                 | ND              | ND                    | ND                   | ND                   |          |                       |              | ID N     |             |              | 1 1    |                     | _             | ND N          |                                | _        | <del>                                     </del> | ND ND                                | _              | ND      |        | _        | _      |         |        | 0.17    |         |                        |                        |         | ND 0.17                               | $\dashv$ |
| Maximum Concentration      |                   |           |                                | <0.03              | _       | <1      |              | -      | _          | <3 <         |                                | _          | <1                |                 | <0.001                | +                    | <1                   |          |                       |              | _        | 1 <1        | _            | 1 1    | _                   |               |               | 5 <5                           |          |  | <5 <5                                |                |         | 05 <20 |          |        |         |        |         |         |                        |                        |         | 0.02 0.17                             | _        |
| Maximum Detect             |                   |           |                                | ND                 |         | ND      |              |        | ND N       |              | ID ND                          |            | _                 | ND              | ND                    | ND                   | ND                   |          |                       |              | ID N     |             | _            |        |                     |               |               | ID ND                          | _        | _  | ND ND                                | _              | ND      |        |          |        | _       |        | 0.17    |         | <del></del>            |                        |         | ND 0.17                               | _        |
| Average Concentration *    |                   |           |                                |                    | _       |         |              | _      |            | 1.5 0        | _                              |            | +                 |                 | 0.0005                | +                    | 0.5                  |          | -                     | 0.5 0        | _        | 5 0.5       | _            | 0.5    |                     |               |               | .5 2.5                         |          | 1  | 2.5 2.5                              |                |         | 25 10  |          |        |         |        |         |         |                        |                        |         | 0.01 0.073                            | _        |
| Median Concentration *     |                   |           |                                | 0.00               | _       |         |              |        |            |              | .5 0.5                         |            | +                 |                 | 0.0005                |                      | 0.5                  |          |                       | 0.5 0        |          | 5 0.5       |              |        |                     |               |               | .5 2.5                         | _        | _  | 2.5 2.5                              |                | _       | 25 10  |          |        |         |        | 0.025   |         |                        |                        |         | 0.01 0.025                            | _        |
| Standard Deviation *       |                   |           |                                | 0                  | 0       | 0       |              |        |            |              | 0 0                            | 0          | 0                 | 0               | 0                     | 0                    | 0                    |          |                       | 0 (          |          |             |              | 0      | 0                   |               |               | 0 0                            | 0        |  | 0 0                                  | 0              | 0       | 0      | _        |        |         |        | + + +   |         | 817                    |                        |         | 0 0.084                               | _        |
| 95% UCL (Student's-t) *    |                   |           |                                | 0.00               |         | _       |              | -      |            |              | .5 0.5                         |            | 0.5               | 0.5             | 0.0005                | + -                  | _                    |          | _                     | 0.5 0        |          |             |              | _      | -                   |               |               | _                              |          |  | 2.5 2.5                              | 2.5            | _       | 25 10  | _        |        |         |        |         |         |                        |                        |         | 0.01 0.214                            | _        |
| % of Detects               |                   |           |                                | 0.00.              | 0       | 0       |              |        |            | 0 (          |                                | 0.5        | 0                 | 0               | 0                     | 0                    | 0                    |          |                       | 0 (          | 0 0      |             | 0.5          | 0      | 0                   | 0             | 0 (           |                                | 0        | 0  | 0 0                                  | 0              | 0.002   | 0      | 33       |        | 33      | 0.01   |         | 33      |                        |                        |         | 0 33                                  | _        |
| % of Non-Detects           |                   | -         |                                | _                  | 100     | + -     | 100 1        | -      | -          | -            |                                | + -        | 100               | 100             | 100                   | 100                  | 100                  | -        | -                     | -            |          | -           | _            | -      | 100                 | -             |               | -                              |          | <del>                                     </del> | 100 100                              | 100            | _       | 100    |          |        |         |        |         |         | 33                     |                        |         | 100 67                                | 1        |
| , a d. Holl Beteets        |                   |           |                                | 130                | 100     | 100     | 00 1         | _55    | -50   1    |              | -5   -00                       | 100        | 100               | 100             |                       | 100                  | 100                  |          | _00                   | _55   1      |          | 00          |              | 100    | _00                 | _00           | -55   10      |                                |          | 100  |                                      |                | 100     |        |          |        |         |        |         | ٠,      |                        |                        |         |                                       |          |

<sup>\*</sup> A Non Detect Multiplier of 0.5 has been applied.

#### **Environmental Standards**

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs HEPA, January 2020, PFAS NEMP 2020 Freshwater 95% HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95% 2013, NEPM 2013 Table 1C GILs, Fresh Waters

2013, NEPM 2013 Table 1C GILs, Marine Waters

2013, NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Clay

| TABLE 1. Criteria Excee   | dances               |     |   |              |
|---|----------------------|-----|---|--------------|
|   |                      |     | Perfluorooctanesulfo<br>nic acid (PFOS) | Ammonia as N |
|   |                      |     | mg/L                                    | μg/L         |
|   |                      | LOD | 0.000000                                | 5            |
|   |                      | LOR | 0.0000002                               | 5            |
| ANZG (2018) Freshwater 95% LOSP Toxicant DGVs   | (March 2021)         | LUR | 0.0000002                               | 900          |
| ANZG (2018) Freshwater 95% LOSP Toxicant DGV  | ,                    | LUR | 0.0000002                               | -            |
| , ,   | Vs (March 2021)      | LOR | 0.00013                                 | 900          |
| ANZG (2018) Marine Water 95% LOSP Toxicant DG   | Vs (March 2021)      | LOR |   | 900          |
| ANZG (2018) Marine Water 95% LOSP Toxicant DG PFAS NEMP 3.0 Draft (Marine 95% Species Protect                                       | Vs (March 2021)      | LOR |   | 900          |
| ANZG (2018) Marine Water 95% LOSP Toxicant DG PFAS NEMP 3.0 Draft (Marine 95% Species Protect NEPM 2013 Table 1C GILs, Fresh Waters | Vs (March 2021) ion) | LOR |   | 900          |

| Lab Report N | umbei Sample Code | Field ID | Date     |           |        |
|--------------|-------------------|----------|----------|-----------|--------|
| 315215       | 315215-1          | MW04     | 25/01/23 | 0.0000032 | 440    |
| 315215       | 315215-2          | MW05     | 25/01/23 | 0.000008  | 230    |
| 315215       | 315215-3          | MW06     | 25/01/23 | 0.0000110 | 7,800  |
| 306283       | 306283-1          | MW01     | 20/09/22 | 0.0000710 | 41     |
| 306283       | 306283-2          | MW02     | 20/09/22 | 0.0001600 | 10,000 |
| 306283       | 306283-3          | MW03     | 20/09/22 | 0.0001700 | 17     |
| 902403       | S22-JI0001340     | MW01     | 28/06/22 | 0.0000070 | 90     |
| 902403       | S22-JI0001341     | MW02     | 28/06/22 | <0.000001 | 8,700  |
| 902403       | S22-JI0001342     | MW03     | 28/06/22 | 0.0001800 | 30     |
|              |                   |          |          |           |        |

<sup>\*</sup> A Non Detect Multiplier of 0.5 has been applied.

LOR = Laboratory limit of reporting

#### **Environmental Standards**

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

2013, NEPM 2013 Table 1C GILs, Marine Waters

2013, NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Clay

| Upgradient Groundwater Invest<br>Concord High School Version :<br>On behalf of School Infrastruct  |  |              |                    |  |   |  |   |  |   |   |  |   |   |  |  |  |   |   |   |  |  |  |   |   |   |   |  |   |  |  |   |   |   | i  | Εn   | vi ıl  | integrit   | ty.   |
|--|--|--------------|--------------------|--|---|--|---|--|---|---|--|---|---|--|--|--|---|---|---|--|--|--|---|---|---|---|--|---|--|--|---|---|---|--|--|--|--|---|
| TABLE 2.   | PFAS   |              |                    |  |   |  |   |  |   |   |  |   |   |  |  |  |   |   |   |  |  |  |   |   |   |   |  |   |  |  |   |   |   |  |  |  |  |   |
|  |  |              |                    | 10.2 Fluorobiomer<br>suffonic acid (10.2<br>FTS)                                 | 4:2 Fluo rot elomer<br>suffonic acid (4:2<br>FTS)     | 8.2 Fluo not alom er<br>suffonio acid (8.2<br>FTS)                                 | N-Ethyl<br>perfluo roo ctane<br>suffo namide                              | Netryl-<br>perfluo roo ctan esuffo<br>namidoacetic acid<br>NPFOSAA           | N.<br>ethylperfluorooctanes<br>uffonamidoethanol<br>(NE IFO SE)     | N-Methyl<br>perfluo roo ctan e<br>suffo namid e<br>(NMeFO SA)           | N-<br>methysperfluo rooctan<br>e sulfonamidoacetic<br>acid (MMeFOSAA)        | N-<br>Methylperfluoroodan<br>esulfonamidoethanol<br>(N-MeFOSE)          | Perfluorobutane<br>sulfonic acid (PFBS)                                       | Perfluorobutanolo<br>acid (PFBA)   | Perfluorodecanesuifo<br>nic acid (PFDS)                            | Perfluorodecano ic<br>acid (PF DA)                                 | Perfluorododecanoic<br>acid (PF DoDA)                           | Perfluorohaptane<br>sulfonic acid (PFHpS)                                   | Perfluorohaptanoic<br>acid (PFHpA)                                | Perfluorohaxane<br>sulfonic acid (PFHxS)                               | Perfluorohaxanoic<br>acid (PFHxA)                                      | Perfluorononanesulfo<br>nic acid (PFNS)                  | Perfluoronomanoic<br>acid (PFNA)  | Perfluoro octane<br>sull'onamide (FOSA)                               | Perfluorooctanesulfo<br>nic acid (PFOS)   | Perfluoro pentane<br>sulfonic acid (PFPeS)                              | Perfluoropentanoic<br>acid (PFP aA)                              | Perfluoropropanesulf<br>onic acid (PFPrS)   | Perfluorobstradecanol<br>c acid (PF TeDA)                          | Perfluorofridecanoic<br>acid (PF TrDA)                     | Perfluoroundecanolo<br>acid (PF UnDA)                         | Sum of en Health<br>PFAS (PFHxS + PFOS<br>+ PFOAY         | Sum of PFAS   | Sum of PFAS (WA<br>DER List)                                     | Sum of PFHxS and<br>PFOS   | Sum of US EPA PFAS<br>(PFOS + PFOA)*                             | 6.2 Fluo not alom or<br>suffonic acid (6.2<br>FTS)   | Perfluorooctanole<br>acid (PFOA)  |
|  |  |              |                    | µg/L   | µg/L  | mg/L   | µg/L  | µg/L   | µg/L  | µg/L  | µg/L   | µg/L  | µg/L  | µg/L   | µg/L   | µg/L   | pg/L  | µg/L  | µg/L  |  | µg/L   | mg/L   | µg/L  | µg/L  | mg/L  | µg/L  | pg/L   | mg/L  | µg/L   | µg/L   | µg/L  | µg/L  |   |  |  | µg/L   | mg/L   | mg/L  |
| ANZG (2018) Fresh  |  |              | LOR                |  | 0.001   | 0.0000004  | 0.005   | 0.002  | 0.005   | 0.005   | 0.002  | 0.005   | 0.0004  | 0.002  | 0.001  | 0.001  | 0.001   | 0.001   | 0.0004  | 0.0002   | 0.0004 (   | 0.000001   | 0.001   | 0.005   | 0.0000002   | 0.001   | 0.001  | 0.000001  | 0.001  | 0.001  | 0.001   | 0.001   | 0.0002  | 1.005  | 0.0002   | 0.0002   | 0.0000004  | 0.0000002   |
|  | ne Water 95% LOSE  |              |                    |  |   |  | _   |  |   |   |  |   |   |  |  |  |   |   |   | _  | _  | _  |   |   |   | -   |  |   |  |  |   |   | =   |  | _  | _  |  |   |
| PFAS NEMP 2020 F   |  | TOROGEN D    | OF S (MISSION 20)  |  |   |  | _   |  |   |   |  |   |   |  |  |  |   |   |   |  | _  |  |   |   | 0.00013   |   |  |   |  |  |   |   |   |  |  |  |  | 0.22  |
| PFAS NEMP 2020 I   |  |              |                    |  |   |  |   |  |   |   |  |   |   |  |  |  |   |   |   |  |  |  |   |   | 0.00013   |   |  |   |  |  |   |   |   |  |  |  |  | 0.22  |
|  | 1C GILs. Fresh Wat   | ers          |                    |  |   |  |   |  |   |   |  |   |   |  |  |  |   |   |   |  |  |  |   |   | 223013  |   |  |   |  |  |   |   |   |  |  |  |  |   |
|  | 1C GILs, Marine Wa   |              |                    |  |   |  |   |  |   |   |  |   |   |  |  |  |   |   |   |  |  |  |   |   |   |   |  |   |  |  |   |   |   |  |  |  |  |   |
| NEPM 2013 Table 1  | 1A(4) Res HSLA & I   | B GW for W   | apour Intrusion,   | Clay   |   |  |   |  |   |   |  |   |   |  |  |  |   |   |   |  |  |  |   |   |   |   |  |   |  |  |   |   |   |  |  |  |  |   |
| NEPM 2013 Table 1  | 1A(4) Rec HSL C G  | W for Vapou  | ır Intrusion, Clay | 4  |   |  |   |  |   |   |  |   |   |  |  |  |   |   |   |  |  |  |   |   |   |   |  |   |  |  |   |   |   |  |  |  |  |   |
|  |  |              |                    |  |   |  |   |  |   |   |  |   |   |  |  |  |   |   |   |  |  |  |   |   |   |   |  |   |  |  |   |   |   |  |  |  |  |   |
| Lab Report Numbe   |  | Field ID     |                    |  |   |  |   |  |   |   | _  |   |   | _  |  |  | _   | _   | _   |  |  | _  |   |   |   |   | _  |   |  |  |   | _   |   | _  | _  |  |  |   |
| 315215   | 315215-1   | MW04<br>MW05 | 25/01/23           | <0.002   | <0.001  | <0.0000004   | <0.1  | <0.002   | <0.5  | <0.05   | <0.004   | <0.05   | 0.002<br><0.0004  | <0.02  | <0.002   | <0.002   | <0.005  |   |   |  | 0.003  | _  | <0.001  | <0.02   | 0.0000032   |   | 0.005<br><0.004  |   | <0.05  | <0.01  | <0.002  |   | 0.029   |  | 0.006  |  | <0.0000004<br><0.0000004   | 0.0000088   |
| 315215<br>315215   | 315215-2<br>315215-3   | MW06         | 25/01/23           | <0.002   | <0.001  | <0.0000004   | <0.1  | 0.004  | <0.5  | <0.05   | <0.004   | <0.05   | 0.004   | <0.02  | <0.002   | <0.002   | <0.005  |   |   |  | <0.004   | _  | <0.001  | <0.02   | 0.0000008   | <0.001  | <0.004   |   | <0.05  | <0.01  | <0.002  | -   | 0.003   |  |  |  | <0.0000004   | 0.0000010   |
| 306283   | 306283.1   | MWOO         | 20/09/22           | <0.002   | <0.001  | <0.0000004   | <0.1  | <0.004   | <0.5  | <0.05   | <0.002   | <0.05   | 0.004   | 0.044  | <0.002   | <0.002   | <0.005  |   |   |  | 0.008  | _  | 0.004   | < 0.01  | 0.0000710   |   | 0.130  |   | <0.05  | <0.01  | <0.002  | -   | 0.610   |  |  | 0.160  | 0.000  | 0.0000087   |
| 306283   | 305283.2   | MW02         | 20/09/22           | <0.002   | <0.001  | <0.0000004   | <0.1  | <0.002   | <0.5  | <0.05   | <0.002   | <0.05   | 0.007   | <0.020   | <0.002   | <0.002   | <0.005  |   |   |  | 0.013  | _  | <0.001  | <0.01   | 0.00000710  | 0.004   | 0.022  |   | <0.05  | <0.01  | <0.002  |   | 0.260   |  |  | 0.180  | 0.000  | 0.0000160   |
| 306283   | 306283.3   | MWW23        | 20/09/22           | <0.002   | <0.001  | < 0.0000004  | <0.1  | <0.002   | <0.5  | <0.05   | <0.002   | <0.05   | 0.016   | 0.053  | <0.002   | <0.002   | < 0.005   |   |   |  | 0.140  |  | 0.004   | <0.01   | 0.0001700   |   | 0.170  |   | <0.05  | <0.01  | <0.002  |   | 1.100   |  |  | 0.440  | 0.000  | 0.0002600   |
| 902403   | S22-JI0001340  | MW01         | 28/06/22           | <0.001   | <0.001  | <0.000001  | <0.005  | <0.005   | <0.005  | <0.005  | <0.005   | <0.005  | 0.005   | 0.012  | <0.001   | <0.001   | < 0.001   |   |   |  |  | <0.000001  | <0.001  | <0.005  | 0.0000070   | 0.003   | 0.043  | 0.000   | <0.001   | <0.001   | <0.001  | 0.035   |   |  |  |  | <0.000005  | 0.0000170   |
| 902403   | S22-JI0001341  | MW02         | 28/06/22           | <0.001   | <0.001  | <0.000001  | <0.005  | <0.005   | < 0.005   | <0.005  | <0.005   | < 0.005   | <0.001  | 0.014  | <0.001   | <0.001   | < 0.001   | <0.001  | 0.005   | 0.015  | 0.007 <  | <0.000001  | <0.001  | <0.005  | < 0.000001  | < 0.001   | 0.026  | <0.000001   | <0.001   | <0.001   | <0.001  | 0.025   | 0.077   | 0.077  | 0.015  | 0.010  | <0.000005  | 0.0000100   |
| 902403   | S22-JI0001342  | MW03         | 28/06/22           | <0.001   | <0.001  | < 0.000001   | <0.005  | <0.005   | <0.005  | <0.005  | <0.005   | < 0.005   | <0.001  | 880.0  | < 0.001  | < 0.001  | < 0.001   | 0.032   | 0.200   | 0.082  | 0.160 <  | <0.000001  | 0.005   | <0.005  | 0.0001800   | 0.038   | 0.280  | 0.000   | <0.001   | <0.001   | <0.001  | 0.602   | 1.415   | 1.330  | 0.262  | 0.520  | <0.000005  | 0.0003400   |
|  |  |              |                    |  |   |  | •   | •  |   |   |  |   |   |  |  | •  |   |   |   |  |  |  |   |   |   | •   |  |   |  |  |   | _   |   | _  |  |  |  |   |
| Statistics   |  |              |                    |  |   |  |   |  |   |   |  |   |   |  |  |  |   |   |   |  |  |  |   |   |   |   |  |   |  |  |   |   |   |  |  |  |  |   |
|  |  |              |                    |  |   |  |   |  |   |   |  |   |   |  | 6  | 6  | 6   | 6   | 6   | 6  | 6  | 3  | 6   | 6   | 6   | 6   | 6  | 3   | 6  | 6  | 6   | 3   |   |  |  | 6  | 6  | 6   |
| Number of Results  |  |              |                    | 6  | 6   | 6  | 6   | 6  | 6   | 6   | 6  | 6   | 6   | 6  |  |  |   |   |   |  |  |  |   |   |   |   |  |   |  |  |   |   |   |  |  |  |  |   |
| Number of Detects  | s  |              |                    | 0  | 0   | 0  | 0   | 0  | 0   | 0   | 0  | 0   | 4   | 5  | 0  | 0  | 0   | 4   | 6   | 6  | 6  | 0  | 3   | 0   | 5   | 5   | 6  | 2   | 0  | 0  | 0   | 3   |   |  | 6  | 6  | 3  | 6   |
| Number of Detects<br>Minimum Concentr  | s  |              |                    | 0<br><0.001  | 0<br><0.001   | 0<br><0.0000004  | 0<br><0.005   | 0<br><0.002  | 0<br><0.005   | 0<br><0.005   | 0<br><0.002  | 0<br><0.005   | 4<br><0.001   | 5<br>0.012   | 0 <0.001   | 0<br><0.001  | 0 <0.001  | 4<br><0.001   | 0.004   | 0.011  | 0.007 <  | <0.000001  | <0.001  | <0.005  | <0.000001   | <0.001  | 0.022  | <0.000001   | <0.001   | <0.001   | <0.001  | 0.025   | 0.077   | 0.077  | 0.015  | 0.01   | 0.000002   | 0.00001   |
| Number of Detects<br>Minimum Concentr<br>Minimum Detect  | tration  |              |                    | 0<br><0.001<br>ND  | 0<br><0.001<br>ND                                     | 0<br><0.0000004<br>ND  | 0<br><0.005<br>ND   | 0<br><0.002<br>ND  | 0<br><0.005<br>ND   | 0<br><0.005<br>ND   | 0<br><0.002<br>ND  | 0<br><0.005<br>ND   | 4<br><0.001<br>0.005  | 5<br>0.012<br>0.012  | 0<br><0.001<br>ND  | 0<br><0.001<br>ND  | 0<br><0.001<br>ND   | 4<br><0.001<br>0.006  | 0.004<br>0.004  | 0.011  | 0.007 <  | <0.000001<br>ND  | <0.001<br>0.004   | <0.005<br>ND  | <0.000001   | <0.001  | 0.022  | <0.000001<br>0.000002   | <0.001<br>ND   | <0.001<br>ND   | <0.001<br>ND  | 0.025   | 0.077   | 0.077  | 0.015  | 0.01   | 0.000002<br>0.000002   | 0.00001<br>0.00001  |
| Number of Detects<br>Minimum Concentr<br>Minimum Detect<br>Maximum Concent   | tration  |              |                    | 0<br><0.001<br>ND<br><0.002  | 0<br><0.001<br>ND<br><0.001                           | 0<br><0.0000004<br>ND<br><0.000001   | 0<br><0.005<br>ND<br><0.1   | 0<br><0.002<br>ND<br><0.005  | 0<br><0.005<br>ND<br><0.5   | 0<br><0.005<br>ND<br><0.05  | 0<br><0.002<br>ND<br><0.005  | 0<br><0.005<br>ND<br><0.05  | 4<br><0.001<br>0.005<br>0.02  | 5<br>0.012<br>0.012<br>0.088   | 0<br><0.001<br>ND<br><0.002  | 0<br><0.001<br>ND<br><0.002  | 0<br><0.001<br>ND<br><0.005                                     | 4<br><0.001<br>0.006<br>0.032   | 0.004<br>0.004<br>0.2   | 0.011<br>0.011<br>0.085  | 0.007 <<br>0.007<br>0.16 <   | <0.000001<br>ND<br><0.000001                             | <0.001<br>0.004<br>0.005  | <0.005<br>ND<br><0.01   | <0.000001<br>0.000007<br>0.00018  | <0.001<br>0.003<br>0.038  | 0.022<br>0.022<br>0.28   | <0.000001<br>0.000002<br>0.00001  | <0.001<br>ND<br><0.05  | <0.001<br>ND<br><0.01                                      | <0.001<br>ND<br><0.002  | 0.025<br>0.025<br>0.602                                   | 0.077 (<br>0.077 (<br>1.415   | 0.077<br>0.077<br>1.33   | 0.015<br>0.015<br>0.262  | 0.01<br>0.01<br>0.52   | 0.000002<br>0.000002<br><0.000005  | 0.00001<br>0.00001<br>0.00034   |
| Number of Detects<br>Minimum Concentr<br>Minimum Detect<br>Maximum Concent<br>Maximum Detect   | s tration  |              |                    | 0<br><0.001<br>ND<br><0.002<br>ND  | 0<br><0.001<br>ND<br><0.001<br>ND                     | 0<br><0.0000004<br>ND<br><0.000001<br>ND   | 0<br><0.005<br>ND<br><0.1<br>ND   | 0<br><0.002<br>ND<br><0.005<br>ND  | 0<br><0.005<br>ND<br><0.5<br>ND                                     | 0<br><0.005<br>ND<br><0.05<br>ND  | 0<br><0.002<br>ND<br><0.005<br>ND  | 0<br><0.005<br>ND<br><0.05<br>ND  | 4<br><0.001<br>0.005<br>0.02<br>0.02  | 5<br>0.012<br>0.012<br>0.088<br>0.088                                      | 0<br><0.001<br>ND<br><0.002<br>ND                                  | 0<br><0.001<br>ND<br><0.002<br>ND                                  | 0<br><0.001<br>ND<br><0.005<br>ND                               | 4<br><0.001<br>0.006<br>0.032<br>0.032                                      | 0.004<br>0.004<br>0.2<br>0.2                                      | 0.011<br>0.011<br>0.085<br>0.085                                       | 0.007 <<br>0.007<br>0.16 <<br>0.16                                     | <0.000001<br>ND<br><0.000001<br>ND                       | <0.001<br>0.004<br>0.005<br>0.005   | <0.005<br>ND<br><0.01<br>ND   | <0.000001<br>0.000007<br>0.00018<br>0.00018   | <0.001<br>0.003<br>0.038<br>0.038                                       | 0.022<br>0.022<br>0.28<br>0.28                                   | <0.000001<br>0.000002<br>0.00001<br>0.00001                                       | <0.001<br>ND<br><0.05<br>ND  | <0.001<br>ND<br><0.01<br>ND                                | <0.001<br>ND<br><0.002<br>ND                                  | 0.025<br>0.025<br>0.602<br>0.602                          | 0.077 (<br>0.077 (<br>1.415<br>1.415  | 0.077<br>0.077<br>1.33<br>1.33                                   | 0.015<br>0.015<br>0.262<br>0.262                                   | 0.01<br>0.01<br>0.52<br>0.52                                     | 0.000002<br>0.000002<br><0.000005<br>0.0000044   | 0.00001<br>0.00001<br>0.00034<br>0.00034                                    |
| Number of Detects<br>Minimum Concentr<br>Minimum Detect<br>Maximum Concent<br>Maximum Detect<br>Average Concentra  | s tration tration  |              |                    | 0<br><0.001<br>ND<br><0.002<br>ND<br>0.00075                                     | 0<br><0.001<br>ND<br><0.001<br>ND<br>0.0005           | 0<br><0.0000004<br>ND<br><0.000001<br>ND<br>0.00000035                             | 0<br><0.005<br>ND<br><0.1<br>ND<br>0.026                                  | 0<br><0.002<br>ND<br><0.005<br>ND<br>0.0018                                  | 0<br><0.005<br>ND<br><0.5<br>ND<br>0.13                             | 0<br><0.005<br>ND<br><0.05<br>ND<br>0.014                               | 0<br><0.002<br>ND<br><0.005<br>ND<br>0.0018                                  | 0<br><0.005<br>ND<br><0.05<br>ND<br>0.014                               | 4<br><0.001<br>0.005<br>0.02<br>0.02<br>0.0081                                | 5<br>0.012<br>0.012<br>0.088<br>0.088<br>0.037                             | 0<br><0.001<br>ND<br><0.002<br>ND<br>0.00075                       | 0<br><0.001<br>ND<br><0.002<br>ND<br>0.00075                       | 0<br><0.001<br>ND<br><0.005<br>ND<br>0.0015                     | 4<br><0.001<br>0.006<br>0.032<br>0.032<br>0.013                             | 0.004<br>0.004<br>0.2<br>0.2<br>0.074                             | 0.011<br>0.011<br>0.085<br>0.085<br>0.045                              | 0.007 < 0.007<br>0.16 < 0.16<br>0.075 0                                | ND<br>ND<br><0.000001<br>ND<br>0.0000005                 | <0.001<br>0.004<br>0.005<br>0.005<br>0.0024                                 | <0.005<br>ND<br><0.01<br>ND<br>0.0038                                 | <0.000001<br>0.000007<br>0.00018<br>0.00018<br>0.000098                                       | <0.001<br>0.003<br>0.038<br>0.038<br>0.012                              | 0.022<br>0.022<br>0.28<br>0.28<br>0.11                           | <0.000001<br>0.000002<br>0.00001<br>0.00001<br>0.000042                           | <0.001<br>ND<br><0.05<br>ND<br>0.013                               | <0.001<br>ND<br><0.01<br>ND<br>0.0028                      | <0.001<br>ND<br><0.002<br>ND<br>0.00075                       | 0.025<br>0.025<br>0.602<br>0.602<br>0.22                  | 0.077 (<br>0.077 (<br>1.415<br>1.415<br>0.6                                       | 0.077<br>0.077<br>1.33<br>1.33<br>0.52                           | 0.015<br>0.015<br>0.262<br>0.262<br>0.14                           | 0.01<br>0.01<br>0.52<br>0.52<br>0.22                             | 0.000002<br>0.000002<br><0.000005<br>0.0000044<br>0.0000028  | 0.00001<br>0.00001<br>0.00034<br>0.00034<br>0.00012                         |
| Number of Detects Minimum Concentr Minimum Detect Maximum Concent Maximum Detect Average Concentra Median Concentrat                                       | tration fration ration*  |              |                    | 0<br><0.001<br>ND<br><0.002<br>ND<br>0.00075<br>0.00075                          | 0<br><0.001<br>ND<br><0.001<br>ND                     | 0<br><0.0000004<br>ND<br><0.000001<br>ND<br>0.00000035<br>0.00000035               | 0<br><0.005<br>ND<br><0.1<br>ND<br>0.026                                  | 0<br><0.002<br>ND<br><0.005<br>ND<br>0.0018<br>0.00175                       | 0<br><0.005<br>ND<br><0.5<br>ND<br>0.13<br>0.12625                  | 0<br><0.005<br>ND<br><0.05<br>ND<br>0.014<br>0.01375                    | 0<br><0.002<br>ND<br><0.005<br>ND<br>0.0018<br>0.00175                       | 0<br><0.005<br>ND<br><0.05<br>ND<br>0.014<br>0.01375                    | 4<br><0.001<br>0.005<br>0.02<br>0.02<br>0.0081<br>0.00595                     | 5<br>0.012<br>0.012<br>0.088<br>0.088<br>0.037<br>0.029                    | 0<br><0.001<br>ND<br><0.002<br>ND<br>0.00075                       | 0<br><0.001<br>ND<br><0.002<br>ND<br>0.00075                       | 0<br><0.001<br>ND<br><0.005<br>ND<br>0.0015                     | 4<br><0.001<br>0.006<br>0.032<br>0.032<br>0.013<br>0.008                    | 0.004<br>0.004<br>0.2<br>0.2<br>0.074<br>0.0415                   | 0.011<br>0.011<br>0.085<br>0.085<br>0.045<br>0.0375                    | 0.007 < 0.007<br>0.16 < 0.16<br>0.075 0<br>0.0635 0                    | <0.000001<br>ND<br><0.000001<br>ND                       | <0.001<br>0.004<br>0.005<br>0.005<br>0.0024<br>0.00225                      | <0.005<br>ND<br><0.01<br>ND<br>0.0038<br>0.00375                      | <0.000001<br>0.000007<br>0.00018<br>0.00018<br>0.000098<br>0.00001155                         | <0.001<br>0.003<br>0.038<br>0.038<br>0.012<br>0.0085                    | 0.022<br>0.022<br>0.28<br>0.28<br>0.11<br>0.0865                 | <0.000001<br>0.000002<br>0.00001<br>0.00001<br>0.000042<br>0.000002               | <0.001<br>ND<br><0.05<br>ND<br>0.013<br>0.01275                    | <0.001<br>ND<br><0.01<br>ND<br>0.0028<br>0.00275           | <0.001<br>ND<br><0.002<br>ND<br>0.00075<br>0.00075            | 0.025<br>0.025<br>0.602<br>0.602<br>0.22<br>0.035         | 0.077 (<br>0.077 (<br>1.415 (<br>1.415 (<br>0.6 (<br>0.435 (                      | 0.077<br>0.077<br>1.33<br>1.33<br>0.52<br>0.139                  | 0.015<br>0.015<br>0.262<br>0.262<br>0.14<br>0.155                  | 0.01<br>0.01<br>0.52<br>0.52<br>0.22<br>0.17                     | 0.000002<br>0.000002<br><0.000005<br>0.0000044<br>0.0000028<br>0.0000025                             | 0.00001<br>0.00001<br>0.00034<br>0.00034<br>0.00012<br>0.0000555            |
| Number of Detects Minimum Concentr Minimum Detect Maximum Concent Maximum Detect Average Concentra Median Concentrat Standard Deviation                    | rration  tration  ration   tration   tration |              |                    | 0<br><0.001<br>ND<br><0.002<br>ND<br>0.00075<br>0.00075                          | 0<br><0.001<br>ND<br><0.001<br>ND<br>0.0005<br>0.0005 | 0<br><0.0000004<br>ND<br><0.000001<br>ND<br>0.00000035<br>0.00000035               | 0<br><0.005<br>ND<br><0.1<br>ND<br>0.026<br>0.02625                       | 0<br><0.002<br>ND<br><0.005<br>ND<br>0.0018<br>0.00175                       | 0<br><0.005<br>ND<br><0.5<br>ND<br>0.13<br>0.12625<br>0.14          | 0<br><0.005<br>ND<br><0.05<br>ND<br>0.014<br>0.01375<br>0.012           | 0<br><0.002<br>ND<br><0.005<br>ND<br>0.0018<br>0.00175<br>0.00082            | 0<br><0.005<br>ND<br><0.05<br>ND<br>0.014<br>0.01375<br>0.012           | 4<br><0.001<br>0.005<br>0.02<br>0.02<br>0.0081<br>0.00595                     | 5<br>0.012<br>0.012<br>0.088<br>0.088<br>0.037<br>0.029<br>0.031           | 0<br><0.001<br>ND<br><0.002<br>ND<br>0.00075<br>0.00075            | 0<br><0.001<br>ND<br><0.002<br>ND<br>0.00075<br>0.00075            | 0<br><0.001<br>ND<br><0.005<br>ND<br>0.0015<br>0.0015           | 4<br><0.001<br>0.006<br>0.032<br>0.032<br>0.013<br>0.008<br>0.014           | 0.004<br>0.004<br>0.2<br>0.2<br>0.074<br>0.0415<br>0.083          | 0.011<br>0.011<br>0.085<br>0.085<br>0.045<br>0.0375<br>0.034           | 0.007 < 0.007<br>0.16 < 0.16<br>0.075 0<br>0.0635 0<br>0.067           | ND<br>ND<br>0.000001<br>ND<br>0.000005<br>0.000005       | <0.001<br>0.004<br>0.005<br>0.005<br>0.0024<br>0.00225<br>0.0021            | <0.005<br>ND<br><0.01<br>ND<br>0.0038<br>0.00375<br>0.0014            | <0.000001<br>0.000007<br>0.00018<br>0.00018<br>0.00098<br>0.0001155<br>0.000083               | <0.001<br>0.003<br>0.038<br>0.038<br>0.012<br>0.0085<br>0.014           | 0.022<br>0.022<br>0.28<br>0.28<br>0.11<br>0.0865<br>0.1          | <0.000001<br>0.000002<br>0.00001<br>0.00001<br>0.0000042<br>0.000002<br>0.0000051 | <0.001<br>ND<br><0.05<br>ND<br>0.013<br>0.01275<br>0.013           | <0.001<br>ND<br><0.01<br>ND<br>0.0028<br>0.00275<br>0.0025 | <0.001<br>ND<br><0.002<br>ND<br>0.00075<br>0.00075            | 0.025<br>0.025<br>0.602<br>0.602<br>0.22<br>0.035<br>0.33 | 0.077 (<br>0.077 (<br>1.415 (<br>1.415 (<br>0.6 (<br>0.435 (<br>0.55 (            | 0.077<br>0.077<br>1.33<br>1.33<br>0.52<br>0.139<br>0.71          | 0.015<br>0.015<br>0.262<br>0.262<br>0.14<br>0.155<br>0.11          | 0.01<br>0.01<br>0.52<br>0.52<br>0.22<br>0.17<br>0.21             | 0.000002<br>0.000002<br><0.000005<br>0.0000044<br>0.0000028<br>0.0000025<br>0.0000084                | 0.00001<br>0.00001<br>0.00034<br>0.00034<br>0.00012<br>0.0000555<br>0.00014 |
| Number of Detects Minimum Concentr Minimum Detect Maximum Concentr Maximum Detect Average Concentra Median Concentrat Standard Deviation 95% UCL (Student) | rration  tration  ration   tration   tration |              |                    | 0<br><0.001<br>ND<br><0.002<br>ND<br>0.00075<br>0.00075                          | 0<br><0.001<br>ND<br><0.001<br>ND<br>0.0005<br>0.0005 | 0<br><0.0000004<br>ND<br><0.000001<br>ND<br>0.00000035<br>0.00000035               | 0<br><0.005<br>ND<br><0.1<br>ND<br>0.026<br>0.02625                       | 0<br><0.002<br>ND<br><0.005<br>ND<br>0.0018<br>0.00175                       | 0<br><0.005<br>ND<br><0.5<br>ND<br>0.13<br>0.12625<br>0.14          | 0<br><0.005<br>ND<br><0.05<br>ND<br>0.014<br>0.01375<br>0.012           | 0<br><0.002<br>ND<br><0.005<br>ND<br>0.0018<br>0.00175<br>0.00082            | 0<br><0.005<br>ND<br><0.05<br>ND<br>0.014<br>0.01375<br>0.012           | 4<br><0.001<br>0.005<br>0.02<br>0.02<br>0.0081<br>0.00595<br>0.0081<br>0.0148 | 5<br>0.012<br>0.012<br>0.088<br>0.088<br>0.037<br>0.029<br>0.031<br>0.0623 | 0<br><0.001<br>ND<br><0.002<br>ND<br>0.00075                       | 0<br><0.001<br>ND<br><0.002<br>ND<br>0.00075<br>0.00075            | 0<br><0.001<br>ND<br><0.005<br>ND<br>0.0015<br>0.0015           | 4<br><0.001<br>0.006<br>0.032<br>0.032<br>0.013<br>0.008<br>0.014<br>0.0249 | 0.004<br>0.004<br>0.2<br>0.2<br>0.074<br>0.0415<br>0.083<br>0.142 | 0.011<br>0.011<br>0.085<br>0.085<br>0.045<br>0.0375<br>0.034<br>0.0729 | 0.007 < 0.007<br>0.16 < 0.16<br>0.075 0<br>0.0635 0<br>0.067<br>0.13 0 | ND<br>ND<br><0.000001<br>ND<br>0.0000005                 | <0.001<br>0.004<br>0.005<br>0.005<br>0.0024<br>0.00225<br>0.0021<br>0.00417 | <0.005<br>ND<br><0.01<br>ND<br>0.0038<br>0.00375<br>0.0014            | <0.000001<br>0.000007<br>0.00018<br>0.00018<br>0.00098<br>0.0001155<br>0.000083               | <0.001<br>0.003<br>0.038<br>0.038<br>0.012<br>0.0085<br>0.014<br>0.0239 | 0.022<br>0.022<br>0.28<br>0.28<br>0.11<br>0.0865<br>0.1<br>0.196 | <0.000001<br>0.000002<br>0.00001<br>0.00001<br>0.000042<br>0.000002               | <0.001<br>ND<br><0.05<br>ND<br>0.013<br>0.01275<br>0.013           | <0.001<br>ND<br><0.01<br>ND<br>0.0028<br>0.00275<br>0.0025 | <0.001<br>ND<br><0.002<br>ND<br>0.00075<br>0.00075            | 0.025<br>0.025<br>0.602<br>0.602<br>0.22<br>0.035<br>0.33 | 0.077 (<br>0.077 (<br>1.415 (<br>1.415 (<br>0.6 (<br>0.435 (<br>0.55 (<br>1.053 ( | 0.077<br>0.077<br>1.33<br>1.33<br>0.52<br>0.139<br>0.71<br>1.706 | 0.015<br>0.015<br>0.262<br>0.262<br>0.14<br>0.155<br>0.11<br>0.235 | 0.01<br>0.01<br>0.52<br>0.52<br>0.22<br>0.17<br>0.21 (0.397 0.00 | 0.000002<br>0.000002<br><0.000005<br>0.0000044<br>0.0000028<br>0.0000025<br>0.0000084<br>.0000035058 | 0.00001<br>0.00001<br>0.00034<br>0.00034<br>0.00012<br>0.0000555<br>0.00014 |
| Number of Detects Minimum Concentr Minimum Detect Maximum Concent Maximum Detect Average Concentra Median Concentrat Standard Deviation                    | rration  tration  ration   tration   tration |              |                    | 0<br><0.001<br>ND<br><0.002<br>ND<br>0.00075<br>0.00075<br>0.00027<br>0.00097529 | 0<br><0.001<br>ND<br><0.001<br>ND<br>0.0005<br>0.0005 | 0<br><0.0000004<br>ND<br><0.000001<br>ND<br>0.00000035<br>0.00000035<br>0.00000016 | 0<br><0.005<br>ND<br><0.1<br>ND<br>0.026<br>0.02625<br>0.02625<br>0.02677 | 0<br><0.002<br>ND<br><0.005<br>ND<br>0.0018<br>0.00175<br>0.00082<br>0.00243 | 0<br><0.005<br>ND<br><0.5<br>ND<br>0.13<br>0.12625<br>0.14<br>0.238 | 0<br><0.005<br>ND<br><0.05<br>ND<br>0.014<br>0.01375<br>0.012<br>0.0239 | 0<br><0.002<br>ND<br><0.005<br>ND<br>0.0018<br>0.00175<br>0.00082<br>0.00243 | 0<br><0.005<br>ND<br><0.05<br>ND<br>0.014<br>0.01375<br>0.012<br>0.0239 | 4<br><0.001<br>0.005<br>0.02<br>0.02<br>0.0081<br>0.00595                     | 5<br>0.012<br>0.012<br>0.088<br>0.088<br>0.037<br>0.029<br>0.031           | 0<br><0.001<br>ND<br><0.002<br>ND<br>0.00075<br>0.00075<br>0.00027 | 0<br><0.001<br>ND<br><0.002<br>ND<br>0.00075<br>0.00075<br>0.00027 | 0<br><0.001<br>ND<br><0.005<br>ND<br>0.0015<br>0.0011<br>0.0024 | 4<br><0.001<br>0.006<br>0.032<br>0.032<br>0.013<br>0.008<br>0.014           | 0.004<br>0.004<br>0.2<br>0.2<br>0.074<br>0.0415<br>0.083          | 0.011<br>0.011<br>0.085<br>0.085<br>0.045<br>0.0375<br>0.034           | 0.007 < 0.007<br>0.16 < 0.16<br>0.075 0<br>0.0635 0<br>0.067           | ND<br>0.000001<br>ND<br>0.000005<br>0.000005<br>0.000005 | <0.001<br>0.004<br>0.005<br>0.005<br>0.0024<br>0.00225<br>0.0021            | <0.005<br>ND<br><0.01<br>ND<br>0.0038<br>0.00375<br>0.0014<br>0.00488 | <0.000001<br>0.000007<br>0.00018<br>0.00018<br>0.00098<br>0.0001155<br>0.000083<br>0.00016619 | <0.001<br>0.003<br>0.038<br>0.038<br>0.012<br>0.0085<br>0.014           | 0.022<br>0.022<br>0.28<br>0.28<br>0.11<br>0.0865<br>0.1          | <0.000001 0.000002 0.00001 0.00001 0.000042 0.000002 0.0000051 0.000012777        | <0.001<br>ND<br><0.05<br>ND<br>0.013<br>0.01275<br>0.013<br>0.0238 | <0.001<br>ND<br><0.01<br>ND<br>0.0028<br>0.00275<br>0.0025 | <0.001<br>ND<br><0.002<br>ND<br>0.00075<br>0.00075<br>0.00027 | 0.025<br>0.025<br>0.602<br>0.602<br>0.22<br>0.035<br>0.33 | 0.077   0.077   1.415   1.415   0.6   0.435   0.55   1.053   100                  | 0.077<br>0.077<br>1.33<br>1.33<br>0.52<br>0.139<br>0.71<br>1.706 | 0.015<br>0.015<br>0.262<br>0.262<br>0.14<br>0.155<br>0.11<br>0.235 | 0.01<br>0.01<br>0.52<br>0.52<br>0.22<br>0.17<br>0.21             | 0.000002<br>0.000002<br><0.000005<br>0.0000044<br>0.0000028<br>0.0000025<br>0.0000084                | 0.00001<br>0.00001<br>0.00034<br>0.00034<br>0.00012<br>0.0000555<br>0.00014 |



| On behalf of School Infrastructure New South Wales |             |                 |              |          |               |                  |          |        |              |         |                          |                   |        | VI III  | IIII10V | auloi |
|--|-------------|-----------------|--------------|----------|---------------|------------------|----------|--------|--------------|---------|--------------------------|-------------------|--------|---------|---------|-------|
| TABLE 3. Metals ar                                 | nd Ind      | organic         | S            |          |               |                  |          |        |              |         |                          |                   |        |         |         |       |
|  |             |                 | Ammonia as N | Chloride | Cyanide Total | Nitrogen (Total) | Sulphide | Lead   | Arsenic      | Cadmium | Chromium<br>(hexavalent) | Chromium (III+VI) | Copper | Mercury | Nickel  | Zinc  |
|  |             |                 | μg/L         | mg/L     | mg/L          | μg/L             | mg/L     | mg/L   | mg/L         | mg/L    | mg/L                     | mg/L              | mg/L   | mg/L    | mg/L    | mg/L  |
|  |             | LOR             | 5            | 1        | 0.005         | 200              | 0.1      | 0.001  | 0.001        | 0.0001  | 0.005                    | 0.001             | 0.001  | 0.00005 | 0.001   | 0.001 |
| ANZG (2018) Freshwater 95% LOSP Toxicant           | DGVs (Ma    | arch 2021)      | 900          |          |               |                  |          | 0.0034 | 0.024 (III)  | 0.0002  | 0.001                    |                   | 0.0014 | 0.0006  | 0.011   | 0.008 |
| ANZG (2018) Marine Water 95% LOSP Toxica           | ant DGVs (I | March 2021)     | 910          |          |               |                  |          | 0.0044 | 0.0023 (III) | 0.0055  | 0.0044                   |                   | 0.0013 | 0.0004  | 0.07    | 0.015 |
| PFAS NEMP 2020 Freshwater 95%                      |             |                 |              |          |               |                  |          |        |              |         |                          |                   |        |         |         |       |
| PFAS NEMP 2020 Interim Marine 95%                  |             |                 |              |          |               |                  |          |        |              |         |                          |                   |        |         |         |       |
| NEPM 2013 Table 1C GILs, Fresh Waters              |             |                 |              |          | 0.007         |                  |          | 0.0034 |              | 0.0002  | 0.001                    |                   | 0.0014 | 0.00006 | 0.011   | 0.008 |
| NEPM 2013 Table 1C GILs, Marine Waters             |             |                 |              |          | 0.004         |                  |          | 0.0044 |              | 0.0007  | 0.0044                   |                   | 0.0013 | 0.0001  | 0.007   | 0.015 |
| NEPM 2013 Table 1A(4) Res HSL A & B GW f           | or Vapour I | Intrusion, Clay |              |          |               |                  |          |        |              |         |                          |                   |        |         |         |       |
| NEPM 2013 Table 1A(4) Rec HSL C GW for V           | apour Intru | sion, Clay      |              |          |               |                  |          |        |              |         |                          |                   |        |         |         |       |

| Lab Report Number | Sample Code   | Field ID | Date     |        |       |         |        |       |         |         |          |         |         |       |          |       |       |
|-------------------|---------------|----------|----------|--------|-------|---------|--------|-------|---------|---------|----------|---------|---------|-------|----------|-------|-------|
| 315215            | 315215-1      | MW04     | 25/01/23 | 440    |       |         |        |       |         |         |          |         |         |       |          |       |       |
| 315215            | 315215-2      | MW05     | 25/01/23 | 230    |       |         |        |       |         |         |          |         |         |       |          |       |       |
| 315215            | 315215-3      | MW06     | 25/01/23 | 7,800  |       |         |        |       |         |         |          |         |         |       |          |       |       |
| 306283            | 306283-1      | MW01     | 20/09/22 | 41     |       |         |        |       | 0.01    | 0.004   | < 0.0001 | < 0.005 | 0.011   | 0.009 | <0.00005 | 0.009 | 0.03  |
| 306283            | 306283-2      | MW02     | 20/09/22 | 10,000 |       |         |        |       | 0.008   | 0.027   | < 0.0001 | < 0.005 | 0.031   | 0.029 | <0.00005 | 0.005 | 0.14  |
| 306283            | 306283-3      | MW03     | 20/09/22 | 17     |       |         |        |       | 0.001   | < 0.001 | < 0.0001 | < 0.005 | 0.002   | 0.002 | <0.00005 | 0.002 | 0.015 |
| 902403            | S22-JI0001340 | MW01     | 28/06/22 | 90     | 1,200 | < 0.005 | <200   | < 0.1 | < 0.001 | 0.001   | <0.0002  | < 0.005 | < 0.001 | 0.004 |          |       | 0.064 |
| 902403            | S22-JI0001341 | MW02     | 28/06/22 | 8,700  | 660   | < 0.005 | 18,000 | < 0.1 | < 0.001 | 0.009   | <0.0002  | 0.024   | 0.012   | 0.002 | < 0.0001 | 0.005 | 0.086 |
| 902403            | S22-JI0001342 | MW03     | 28/06/22 | 30     | 59    | < 0.005 | 200    | < 0.1 | < 0.001 | < 0.001 | <0.0002  | <0.005  | < 0.001 | 0.006 | <0.0001  | 0.003 | 0.030 |

## Statistics

| Number of Results       |  | 3      | 3     | 3      | 3      | 3    | 3      | 3      | 3       | 3      | 3      | 3     | 3        | 3      | 3     |
|-------------------------|--|--------|-------|--------|--------|------|--------|--------|---------|--------|--------|-------|----------|--------|-------|
| Number of Detects       |  | 3      | 3     | 0      | 2      | 0    | 3      | 2      | 0       | 1      | 3      | 3     | 0        | 3      | 3     |
| Minimum Concentration   |  | 30     | 59    | <0.005 | 200    | <0.1 | 0.001  | <0.001 | <0.0001 | <0.005 | 0.002  | 0.002 | <0.00005 | 0.002  | 0.015 |
| Minimum Detect          |  | 30     | 59    | ND     | 200    | ND   | 0.001  | 0.004  | ND      | 0.024  | 0.002  | 0.002 | ND       | 0.002  | 0.015 |
| Maximum Concentration   |  | 8,700  | 1,200 | <0.005 | 18,000 | <0.1 | 0.01   | 0.027  | <0.0001 | 0.024  | 0.031  | 0.029 | <0.00005 | 0.009  | 0.14  |
| Maximum Detect          |  | 8,700  | 1,200 | ND     | 18,000 | ND   | 0.01   | 0.027  | ND      | 0.024  | 0.031  | 0.029 | ND       | 0.009  | 0.14  |
| Average Concentration * |  | 2,940  | 640   | 0.0025 | 6,100  | 0.05 | 0.0063 | 0.01   | 0.00005 | 0.0097 | 0.015  | 0.013 | 0.000025 | 0.0053 | 0.062 |
| Median Concentration *  |  | 90     | 660   | 0.0025 | 200    | 0.05 | 0.008  | 0.004  | 0.00005 | 0.0025 | 0.011  | 0.009 | 0.000025 | 0.005  | 0.03  |
| Standard Deviation *    |  | 4,988  | 571   | 0      | 10,306 | 0    | 0.0047 | 0.014  | 0       | 0.012  | 0.015  | 0.014 | 0        | 0.0035 | 0.068 |
| 95% UCL (Student's-t) * |  | 11,350 | 1,602 | 0.0025 | 23,474 | 0.05 | 0.0143 | 0.0348 | 0.00005 | 0.0306 | 0.0397 | 0.037 | 0.000025 | 0.0113 | 0.177 |
| % of Detects            |  | 100    | 100   | 0      | 67     | 0    | 100    | 67     | 0       | 33     | 100    | 100   | 0        | 100    | 100   |
| % of Non-Detects        |  | 0      | 0     | 100    | 33     | 100  | 0      | 33     | 100     | 67     | 0      | 0     | 100      | 0      | 0     |
|                         |  |        |       |        |        |      |        |        |         |        |        |       |          |        |       |

<sup>\*</sup> A Non Detect Multiplier of 0.5 has been applied.

LOR = Laboratory limit of reporting

#### **Environmental Standards**

ANZG, March 2021, ANZG (2018) Freshwater 95% LOSP Toxicant DGVs (March 2021)

ANZG, March 2021, ANZG (2018) Marine Water 95% LOSP Toxicant DGVs (March 2021)

HEPA, January 2020, PFAS NEMP 2020 Freshwater 95%

HEPA, January 2020, PFAS NEMP 2020 Interim Marine 95%

2013, NEPM 2013 Table 1C GILs, Fresh Waters

2013, NEPM 2013 Table 1C GILs, Marine Waters

2013, NEPM 2013 Table 1A(4) Res HSL A & B GW for Vapour Intrusion, Clay

2013, NEPM 2013 Table 1A(4) Rec HSL C GW for Vapour Intrusion, Clay